

B. N. Kuzyk, Yu. V. Yakovets

CIVILIZATIONS:

Theory, History, Dialogue and the Future



Volume V
Civilizations:
The History and Future

Textbook

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Kuzyk, Boris Nikolaevich – Dr. Sc. (Economics), Professor,
Corresponding Member of the Russian Academy of Sciences,
Directors of the Institute for Economic Strategies

Yakovets, Yuri Vladimirovich – Dr.Sc. (Economics), Academician
of the Russian Academy of Natural Sciences, President of the Pitirim
Sorokin – Nikolai Kondratieff International Institute, Professor of
the Russian Academy of Public Service under the President of the
Russian Federation

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Volume V
Civilizations:
The History and Future

Textbook

Part One

A Theory of Civilizations

Part two

A History of Civilizations

Part three

The Future of Civilizations

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Preface to Textbook

Diversity of Civilizations and Process of Globalization

As many words used by historians, the word «civilization» is not an easy one, and puts to must of us many difficulties. But history is not mathematics, and is not always able to give a precise definition of its own concepts: most of them are common words taken from the natural languages, and keep a large margin of imprecision and elasticity. The best is always to take advantage of this flexibility, and to let us decide ourselves what are the meaning(s) we intend to give to the words we use, for the needs of our purpose. Civilizations occupy an ambiguous position, between reality and representation: let us accept, as a provisory assumption, that the differences between them, and the coherence that are commonly attributed from inside or from outside to each of them, may always be submitted to discussion.

I would limit myself to put, as an introduction, three main questions: Why? How? Can the teaching of the past and the future of civilizations may be more efficiently planned and organized at an international level? Such are the core issues in a foreword to the textbook about the past and future of civilizations written by two outstanding representatives of modern Russian civilizational school (Professors Boris Kuzyk and Yuri Yakovets). It is being published in Russian, English and Arabic.

We live, and our students of today will live even more in the future, in a « global world », or, more exactly, in a “more global” one, i.e. in a world of which one main feature (but not the only one) is already and will be an always increasing and quicker circulation of ideas, people, goods, capital and information across the planet, and a parallel increasing interaction between the different parts of the world. But circulation and interaction don't mean per se unification: unity is and will be only one part and one level of the story, and will coexist with an increasing perception of multi-level diversity, and with an increasing will to protect this very diversity.

Teaching history has been used, from the 19th century up to today, as a key sector of elementary and secondary education. Even if it was

progressively opened in the high schools to a wider knowledge of what had happened at a broader international level, both continental and intercontinental, the core of this teaching was related from the early beginning to the national history of every country: as such, it was viewed and organized as playing a fundamental role in the unification of the various nation states and in the identification of all the citizens to their country, whatever could be the differences of their social and cultural status. It was used, and is still used today, as an instrument to build a more coherent collective national identity.

This role given to the teaching of history explains by itself the contents of this teaching. A preference was quite always given to the political side of the story, so that the emergence of the nation as an independent entity could be described as the necessary point of arrival of a long and difficult historical process.

It does not mean that other aspects of historical evolution were systematically ignored: art and culture, religion, economy, social transformations had their own place in this teaching of history, but not a central one. They were used either as a general framework or to explain specific categories of military conflict where religion and political interests plaid together, like during the expansion of Islam in direction of western Mediterranean or after, during the Crusades, or still during the Reformation period that divides western European Christian world in two parts, but also in two opposite groups of states, protestant and catholic. Or they could be used also to reinforce the global dimension of a moment of political supremacy: Versailles and the classic French art were a part of the glory of Louis XIV, and identified to him.

An exception was made for the civilizations of the past, of which the political entities have disappeared time ago, but that are still present and up to a certain point alive between us through what they have left to us or what archeological research has rediscovered about them: religious, military and urban monuments, religions, languages, literatures, traditions, but also technical innovations like writing, i.e. the use to write, for specific uses, certain kinds of information. Seen from Western Europe, the selection of these civilizations that took place in the teaching of history is quite interesting to underline: first of all it was Rome and Greece which Europe, between the 15th century for Rome and the 18th – 19th century, decided to identify as its own origins, even if Medieval Europe was born from the victory of the barbarian invaders on Rome, and if a full millennium of Byzantine history was excluded from the Greek heritage, that was limited to the Ancient Greece. To these two main civilizations of the past, that constituted the core of the classic education elaborated

and formalized during the early modern period, were added between 18th and 19th century the civilizations of the Near East (Egypt) and Middle East (Mesopotamia) that developed between the 3rd and the 1st millennium BC, that were overcome by Greek and Roman military expansion, and to which were attributed three main innovations, considered as three main fundamental and correlated stages in the long run historical progress: the techniques of permanent agriculture, the invention of the State with its political leaders, its army, its administration, and the invention of writing. This last invention was considered as particularly important for historians, who had accepted the identification between history and writing: as a student I was taught for this very reason that «history started with Sumer» — the title of a book that had a great success at this time. That would look as a nonsense today: the «scientific revolution» of archeology has cut the privileged link between history and writing and eliminated the border between history, protohistory and prehistory: every material object can become a document, and give us more sound information about the past than a written text.

It is useless to underline that, in this perspective, India and China had quite nothing to do: their presence in European handbooks was strictly related to the chronology of their direct relations with Europe and the Mediterranean world. Genghis Khan and Mongol expansion, Marco Polo, and Vasco de Gama as the starting point of Eastwards European expansion. The books written by specialists on the history of their civilizations were destined either to scholars or/and to an educated public that would broaden the range of the knowledge that he had learnt at the University (see, for example, the serial «Destins du monde», directed by Lucien Febvre).

I would not say that this way of teaching history has lost today any kind of importance and interest. It remains necessary. But I would only underline that it is now insufficient, because it does not fit anymore with our needs and even less with the needs of our students. They will go on living for a while in a world organized in national states that are in competition between them, and try with difficulty to build up a new international and — so we hope — peaceful order. But they will live also, as we already started living, in a more global world, that needs other instruments of understanding. History can no more be written and taught from the point of view of one country or even of one particular civilization. We have to invent new ways of writing and teaching it.

The answer to this question is not evident, and the task is difficult. Many habits need to be changed, and the majority of our profession is quite conservative. Many colleagues are used to teach in a traditional

way, and feel also unable or not trained for that, often because they have not the range and amount of knowledge that would become necessary to teach so different things in a so different way. We need to remember the French example. In the early 1960, F.Braudel had convinced the Minister of Education of the time to change the programs of history of the last year of the high school (17/18 years) and to dedicate it entirely to the great civilizations of the present, with their historical background. It was the period of the cold war, of the emergence of the Third World as a political alternative to the division of the world in two groups of countries with two different forms of organization of economy and society. As the leaders of the administration of the Ministry were saying that this program was impossible to teach, Braudel decided to write, with the help of three younger colleagues, the Handbook (published in 1963). I was a young professor teaching in a high school at this time and I could see the reactions of my colleagues: they kept the book for themselves, saying that it was too difficult for the students (but useful for them to organize their teaching), and selected other handbooks, that were only an adaptation of the former ones, to be bought by the students. The first result was an editorial failure, then, after a strong resistance of the staff of the Ministry, this new program was abandoned two or three years later. The Handbook of Braudel disappeared completely in France, but it was translated in several foreign languages with the title «History of the present time». It was reprinted in France only after Braudel's death in the late 1980 with the title «Grammar of the Civilizations», and I wrote the introduction. This book was published in Moscow in 2008, and the Russian speaking readers have now an opportunity to become familiar with it.

Saying that, I would not say that the Braudel model is still valid as such today, but that we have quite a lot to learn from the way he decided to procede. His main hypotheses were four. The first is that the world is today (for him : 1960) divided between a limited number of great civilizations that occupy a certain territory, of which the limits have been stabilized time ago, and did not change, or very slowly. The second is what we can call civilization is a more or less stable set of interrelations between culture, politics, economy, techniques, social organization, religion, etc: it does not mean that they do not change, but that their changes are very slow, much slower than the rhythm of the political and military events, but also that the relative importance of the various components of a civilization may change (for example, for Braudel, religions like Christianity and Islam have occupied the territory of anterior civilizations, the Roman Empire for the first, the Near and Middle East for the second).

The third hypothesis is that, even if we have always to start from the present, the past always explains the present, and helps to understand it better: civilizations can be understood only in the long run, i.e. looking to the totality of their history.

The fourth hypothesis was already formulated in Braudel's book on the Mediterranean: the civilizations are not permanent human entities closed on themselves and isolated against any kind of external influence. They always communicate and exchange with the other ones. And, at every moment of the time, a civilization may be defined by three different things: what it gives and transfers to the others, what it borrows and receives from the same, and adapts for its own needs, but also what it refuses to receive and to what it says no. These refusals cannot be used today as an argument in favor of the thesis of collisions of civilizations, but they are only a part of a much broader and more complex game, of which the very quick process of modernization of China today, but also of India, would be very interesting examples to study.

From 1963, many things have changed. At a upper level, the map has been deeply reshaped, with the fall of the Iron curtain in Europe, the quick process of internationalization of the economies, and the emergence of countries like China, India, Brazil or South Africa, in which all agree to see the main actors of the 21st centuries.

But at an inferior level the concept itself of civilization is more and more criticized by all people who underline that the success of great civilizations was made possible by the elimination or the marginalization of a large number of local «cultures»: «cultures», in the way in which the word is used by the anthropologists, and opposed by them to the word «civilization», were the main and the first victims of the process of unification imposed from the top by the expanding civilizations. We all know the huge number of languages that disappear every year: this destruction puts in danger the cultural diversity of mankind, as necessary to it than the biological, animal or vegetal diversity.

First observation: to start from the present has the first advantage to start from what our students know and are in contact with, and on which they receive permanent flows of information from the different medias: books and magazines, movies and videos, but also, and more and more, the web, that is for them the main source of information about what is not a matter of teaching neither at school nor at the University and where the books they can find in the library are destined to specialists, and not written for them. We need to use this huge amount of information, of images, of music, of texts, etc., and teach our students how to use it. A large part of the information exists already on the web,

and web is the ideal support for teaching programs that would illustrate all the different aspects of a single civilization: art, culture, religion, daily life, family life, material life, feast and ceremonies, interpersonal and social relations, etc., putting in evidence the specificity of each civilization and the differences and convergences with the others. We will need to elaborate specific teaching products for the web, but not enough to be able to compete with the huge quantity of information already available through Google and other websites. For that, we need to fix guide-lines and research programs that could start from the web and be further developed in a critical way through research in the libraries. For the main ambition for teaching is always to create more an autonomous critical capacity than passive knowledge.

Second proposal: this situation has another advantage, i.e. the possibility to explain to the students that they may have in the same time several identities, without any obligation to make a choice between them. They may be both the citizens of a global world, the citizens of their country, but also of their city or of their village, the members of their family but also of many other social networks. They already live, and will live in the future in a multi-level world

It should be noted once more that the term “civilization” poses a certain duality. It has at least two meanings. The first is dynamic and denotes a set of transformations imposed by the elites with a greater or less success on the masses in certain moments of the history. It contrasts not so much civilizations to barbarism but with “rudeness” and “wildness”. The second is static and rests on two contrapositions which the Greeks mixed when they denoted all their neighbors by the word “barbarians” but eventually start to discern them keeping such definition only with their neighbors (and enemies) the Persians. The first contraposition is between civilization and barbarism (implies the relation of supremacy of the relevant civilization over another). The second contraposition is on the equality of an individual civilization with the other or several others (based on the mere statement of their differences).

The first contraposition persistently feeds the enduring prejudice still alive: arrogance when the other civilization is viewed as wild. One can't but mention also the fact that various “processes” of civilizations dominated in the history of the 19th and 20th centuries and that they continue also now. They contributed the fundamental inner transformation of the contents of most civilizations: urbanization, industrialization, mass literacy and the secondary and higher education process, transformation of relation between sexes and ages (attention to the issues of childhood, pension-based economic independence of elderly people), increase in

the life span due to hygiene (education), improvements in nutrition and medicine, training in policy and dissemination of political democracy.

Thus, the world “civilization” is polysemantic. We’ve got used to it as professional historians. The terms we use even if they have a conceptual meaning still do not contain, as I said before, the categoricity of a mathematical definition. Even if they belong to the scientific language, they always originate from the ordinary language and their polysemanticity concurrently has also its advantages and restrictions. But basic critics have come from other social sciences. Their representatives like to stress that civilizations are historical constructions and for the most part of them relatively recent ones. I believe it is necessary to discern at least two aspects. From one side they allow conveniently group under a single name in a single context of historical and traditional stability— different realities ascending more or less deeply into the past (such as language, religion and beliefs, social and economic organizations, family structures, technology, and writing). But these realities never stopped transforming and evolving, their nature is different, and they have between them no cause and effect relations. Their transformation by the elements of another civilization participates in the process of invention of tradition by more than one point.

From another side the term “culture” is also dual as it served in the past and serves also for denoting, in contraposition, the higher levels of civilizations, and namely: its artistic and literature culture. In the German language the word “Bildung” is also used along with the term “Kultur”. To such “elitist” use of the notion culture the Polish archeologists contrast the term “material culture” which Braudel preferred translated into French as “material civilization”. Nevertheless, one thing is clear: many anthropologists do not accept the term “civilization” and believe that the historians denotes by such name both special cultures concurrently dominating and all-embracing that eventually won the field over the other cultures and reduced then to the rank of local and primitive cultures, and the cultures that took up the place of the preceding civilizations that died or disappeared as a result of the defeat on the battlefield or through any other reason.

All these semantic limitations are useful to keep in mind even if we consider another side of the problem –the process we call globalization. The today’s world is marked by it and according to some it represents a new historical stage in a long process of unification. Such stage might lead to the decline of the yesterday’s winner we continue denoting as “civilizations” (and we affiliate ourselves with them) and to the emergence of a new superior and single civilization, not on the level of large regional ensembles as before but on a world scale. Such prospect could

tear off the links between today and yesterday. Therefore it is necessary to work out together the response which we would like giving to our students. This response is in developing the knowledge of the diversity of human communities already established, and the awareness that this diversity is the very condition for communication and dialogue. It is a concurrent rich legacy comparable with our genetic heritage and a factor of meaning because that links us to a much longer history : an history that does not start with the invention of writing and the formation of the first states, but with help of archaeology, may be extended to the long adventure of human kind in the world.

The complexities we have to withstand are numerous. We have to make clear even more in teaching that we educate the youth who have been brought up in a world that is quite different from the one we grew in and who imagine the future – their future based on their recent experience and not on our knowledge of the past. Therefore we should proceed from the present and show to them that, whichever the breaks of today are, such process fits well into the flow of historic continuum originating from a faraway past. And that this past is always alive in us and them, in our and in their ways of thinking and believing, in our and in their relations with the others, in terms which we and they use, in values we and they share, and in time and space reference points which we and they use for localization of our actions.

There is also the second path, which could “smooth” the consequences of modern globalization and underline that it is not something new, but just a stage of a longer process. Globalization of today concerns only a small part of the world population; it involves only some parts of our way of life where continuity is at least equally important as the breaks and where other processes occur that go in the opposite direction. One of them is the process of consolidation and strengthening of national states, especially of newly created ones as they need self-assertion; an other one is the process of the identity growth of national minorities which national states has attempted to “neutralize”.

If we consider globalization as the quick growth process of the volumes and speed of the distribution of goods, information, people and capital in all directions, then today’s globalization is characterized by a speeding up and increase of the previous process which first manifested itself on the regional level, and then beginning from the late 15th century – on the world level : i.e. when Spanish, Portuguese and Italian sea-men established contacts between two worlds that had no direct knowledge of each other before (the Old Euro-asiatic and the New American World) and created a base for a unified world sea circulation. Thus vari-

ous land and sea routes already existed were united (Central Asia, East and Southeastern Asia, Sub-Sahara Africa, the Mediterranean, Europe, etc.) which were completed by Trans-Atlantic and Trans-Pacific roads.

Today's globalization concerns directly only some parts of the world population: first of all, the poorest who have to emigrate or to accept crummy salaries to survive. Second, social and economic elite generating benefit from globalization. Internet is accessible for a small number of people for the time present, and the overwhelming number of our movements, purchases, daily contacts, our private and family life continue going on at the local level.

However, diverse reverse processes are also observed: a slow establishing of a new world balance multi-polar type, strengthening of national states mentioned above and the reaffirmation of the identity issues of ethnic, religious and national minorities. The general factor withstanding globalization appears to become search by individual and groups for their identity and their own special place.

Going further in our speculation it should be noted that civilizations we refer to are not closed construction. Basically they are the product of an historical creation and are formed as a result of numerous exchanges with the external world; they gave, borrowed, distributed, rejected, and agreed sometimes to take up what they earlier rejected. But these civilizations went their own ways. For instance, China if compared with the European or Islamic civilizations.

The Chinese civilization was identified with the space which became the state since a long time ago (two centuries BC) and within a long period of time despite wars and political divisions. It tried to compensate by the centralization the problems that arose from the enormous size of its space and from its relations with his neighbors that were aggressive at times. It has received a lot from the outside: Buddhism, Islam, cultural and material values. The Mongolian rule had on its history an important influence. But the Chinese civilization had also a significant influence on its neighbors (Korea, Japan, etc.); it exported Diasporas first to South-eastern Asia, then worldwide.

Europe, like also the Islamic world, represents a certain unity although partial. The Roman Empire with its five century existence was limited to the southern and western side of the European continent, but it extended to the southern coast of the Mediterranean Sea. Europe as it developed after the fall of the Roman Empire and during the last 15 recent centuries was a different Europe (plurality of languages and cultures) and disunited. The unity of its civilization which was implemented as a rule was always a unity from the "top": trade, religion (with

the reservation as it was divided into two and then into three variants of Christianity — Catholicism, Orthodoxy, and Protestantism), culture of elites. Braudel suggested that in each period of its history European space was determined by the original “echo” of cultural innovation (Roman art, Gothic, Baroque, etc.). This echo expanded then eastwards, including also Russia in Europe during the 17th-18th centuries. It rooted on the opposite shore of Atlantic and in the very heart of the Pacific Ocean but failed to extend its influence on the rest of the world and to unify it politically. Today’s unification process significantly advanced in terms of economy faces the resistance of national particularism.

The same is valid for Islam. Its political unity continued even less and its one was quickly slowed down when Islam overstepped the boundaries of the linguistic Arabic world towards Sub-Sahara Africa on the one side, and Asia — from the other. Today the non-Arabic Islam exceeds demographically Arabic Islam. The Quran is read there but often not understood by most of the local muslim believers.

If these various paths are compared without prejudices, then it could also be better understood what is the civilization, and specific features of each of them. Civilizations developed in a parallel way, influencing each other; they have learnt to respect each other after a long lack of dialogue, after many and many wars, and they are now developing new forms of interaction.

We can only hope that these large civilizations we speak about and which have divided the world between themselves (but many others quite entirely disappeared as autonomous entities) represent only one of the levels of our diversity. The diversity we want to save today from oblivion and death invites us to a double travel — in time and space. Not by chance religion today (or the affiliation with a religion) has become one of the key elements in struggling for diversity and resistance to globalization. Religion is commonly described as the hard core of civilization. But this identification often represents a forced simplification that identifies religion with fundamentalism and integristism while for instance the European societies described as “Christians” are to a significant extent secularized and partially secular.

It remains for us to think about the other contents of such identity and diversity, to take in consideration its rich diversity and complexity and to open it to exchange and dialogue. And, first of all, to recall that at the scale of the Old World (Asia and Europe) we are the witnesses of return to the balance that existed until the 18th century.

Maurice Aymard (EHESS/FMSH, Paris)

Foreword

A STEP FORWARD IN SOCIAL SCIENCIES*

* The Foreword to the monograph of B.N. Kuzyk and Yu.V. Yakovets
“Civilizations: Theory, History, Dialogue and the Future”.
M.: INES, 2006

At the threshold of centuries and millennia the problem of civilizations — their essence and stages of their historical path, their future and interaction — has come to the foreground both in socio-political life of the planet and social sciences. It is not by chance. Contemporary humanity being understood as a global civilization sees one of the most complicated, contradictory historical period rich in unexpected turns and tragedies. The fundamentals of the industrial civilization that has prevailed during the last centuries are shattering; a new civilization whether technogenic or humanistically-noospheric is being laid down. A sensual decaying socio-cultural order is also being replaced by fundamentally other order — integral or ideational. The fifth generation of local civilizations is underway. Its fate is unclear yet: whether it takes the path of a self-destructive clash which grains are ripening in terrorism or the path of dialogue and partnership in the settlement of global challenges of the 21st century.

The responses to these questions of vital significance for all humanity should be provided by science, first of all a new branch of social science — science about civilizations (civiliography) that is completing its establishment. In the formation of this science the cornerstones have been laid by leading scientists from all over the world. We note with satisfaction that among such scientists of international recognition as Francois Guizot, Henry Buckle, Oswald Spengler, Arnold Toynbee, Fernand Braudel there are such names of the Russian researchers as A. Metlinsky (the reader may find this book on the theory of civilizations published in 1838 in the supplement to this edition), N.Ya. Danilevsky, Pitirim Sorokin, E.B. Chernyak (his book “Civiliography. Science about Civilizations” appeared in 1996), and finally the authors of this work whose books devoted to this problem have already been published in Russia and the USA.

What is the specifics of this voluminous treatise “Civilizations: Theory, History, Dialogue, and the Future” submitted to the readers’ approval?

First, this is a **fundamental treatise**. Logic and structure of a new branch of knowledge that was born at the interface of many social sciences (philosophy and history, sociology and economy, demography and ecology, political science and culturology, ethics and religious study) is for the first time ever represented here in full. The research into the theory of civilizations, cyclical-genetic regularities of their dynamics and interaction is combined with solid vision of its tremendous historical path that has already been lasting more than 10 thousand years, change of historical super cycles, world civilizations, generations of local civilizations, and also combined with large views on future, scenario-based approach to the forecast of dynamics of civilizations in space of the 21st century. The book addresses the structure of the civilizational genotype in all its aspects – demographic and ecological, technological and economic, geopolitical and all components making spiritual life. A theoretical, historical and statistical analysis is supported by pioneer cliometric measurements of dynamics of civilizations using relatively new tools as strategic and geocivilizational matrices, situation analysis and forecast. This proves one more that civiliography is not a private, but summary synthetic branch of knowledge crowning the pyramid of social sciences.

Second, this is a **treatise innovative by its nature**. The originators have put forward a number of new theoretical postulates: on three-dimensionality of civilizations (global, world, and local); cyclical-genetic regularities of their development, structure of the civilizational genotype; a humanistically-noospheric nature of the post-industrial world civilization; a concurrent formation of the fifth, more differentiated generation of local civilizations; a determinative nature of evolution of the system of civilizational values; tendency towards the formation of the World Confederation of states and civilizations and many other ideas.

Third, this is indeed an **encyclopedic work** – by its breadth of coverage of scientific and historical materials, presentation of the views of scientists from various countries on the problem under study, by number of research and generalization methods. There is no doubt that it will be actively used by scientists of various specialities and professors, post-graduates and students, political and public figures, promoting a transmission of the rich heritage of the Russian and world public thought that has been accumulated for centuries to next generations.

Fourth, let's also mention such feature of the work offered for the readers as the book in itself is the **invitation to dialogue and**

partnership among civilizations — and not only for scientists and cultural workers, but also for statesmen, politicians, public figures and churchmen. The book is penetrated with the idea of dialogue and interaction among civilizations at all stages of their historical road; it advances an optimistic view on the future of civilizations and indicates specific milestones on this road. Its concurrent publication in Russian and English, placement on the internet also contributes to dialogue, and it means that it will be available for thousands of people in many countries of the world and will promote a fuller understanding of not only past and future of humanity, but better mutual understanding between nations and civilizations.

Admittedly, it would be naive to regard this work as the last word in a new branch of knowledge. Quite the contrary, it incites speculation, discussions and search for new ideas. But its incontestable advantage is that it is a noticeable landmark on the path to cognition of the most complicated and most significant field of social relations.

A.D. Nekipelov

Academician, Vice-President of the Russian Academy of Sciences

Introduction

**A NEW CENTURY —
A NEW VISION
OF THE PAST
AND FUTURE**

What is this textbook about? They usually write textbooks so that to set forth a body of known, generally accepted points about regularities of the structure and dynamics of this or that field of the outworld being the subject of study, in logically articulate, teachable form. The textbooks are often domain-specific and tailored for a certain level of education (schools, higher institutions, adult education) and in such sense they are the most convenient and prevailing form of transmitting a scientific heritage and practical experience to new generations. A basic emphasis in using such textbooks is laid on learning and memorizing a generally accepted system of truths.

But other type of a textbook also exists. In the transitional periods the accumulated body of knowledge and practical experience is devaluated to a great extent. Many textbooks go out of date, turns out unfit in conditions drastically changed. The field of knowledge becomes loose. Everybody has to re-educate oneself. Other textbooks are required for that, **textbooks of a new generation** as it may be said.

First, they are oriented at the fundamentally new scientific truths making their way, more adequate to a new picture of the world, changed conditions of life. Admittedly, there is a certain risk: a new system of views is being shaped, not yet established, some of hypothesis formulated might not be further corroborated or adjusted. But one should not wait. It is a strong need in textbooks which will help the millions to give meaning to the occurring changes, to adapt faster to them.

Second, the textbooks of new type are targeted not so much at the memorizing of the known but at a creative search of the new, they become an invitation to thinking, pushing the educatee to a critical revision of accumulated experience, cognition of new regularities, foresight of the future based on cognition of the past and present.

Third, as everybody has study and re-educate oneself, new textbooks are not highly tailored at first, they are meant for a wide circle of educatees in various links of continuous education. Only then when

new ideas will go through facings of life, more targeted textbooks will be required.

Fourth, this textbooks is not limited to history, it is in actual fact of a cross-disciplinary nature summarizing the ideas about the past and future of civilization, archeology, history, futurology, sociology, politology, cultural studies representing a civiliography — a new branch of knowledge arisen at the interface of many social sciences. We support the statement of Fernand Braudel, the first-string historian of the 20th century who wrote in the textbook “History of Civilizations”: Contemporary history should become a junction of various sciences about human. These various sciences consider and explain the contemporary world in general making the occurring events understandable.” He deemed also it is necessary to look into the future in studying history: “When the matter in question is the present-day world which appear to use with a series of opportunities than to identify its prime problems means to envision solutions, i.e. to determined among all opening opportunities exactly those which would become realities of tomorrow.” Proceeding from such approach we’ve dedicated nearly a third of the book to the future of civilizations.

Fifth, as the methods themselves and teaching aids suffer radical changes in the transitional periods, new textbooks are oriented at a more efficient technology of education process. Under conditions of information revolution these are computers, video technology, television, multimedia, and Internet.

The book offered to readers is just the textbook of such type. How is it different from conventional textbooks on history?

First, the textbook is not an ordered description of events occurring in the world but an attempt to discover the sense of history, general and special in dynamics of material and spiritual world, economy and policy, relations of the peoples of the world. It is anticipated that the reader already knows basic events of national and world history, he needs to give meaning to internal logic of such events.

History is multi-link as a science. It includes studying the development of all humanity (world history), its individual stages (history, of antiquity, middle ages, etc.), separate countries, various lines in activity (history of economy, arts, science, wars, etc.). There is the top of pyramid of historical sciences — philosophy of history. The textbook on the philosophy of history, more abstract among historical sciences is in actual fact before you. Its aim is to awake the reader’s attention to the in-depth reasons and springs of historical action, a desire to discover its roots, logic of history, and maybe argue with certain findings

and hypothesis of the authors, work out and test own view on the lessons of history on historical materials.

The reader is offered to approach studying of philosophy of history as science helping to identify regularities and tendencies in the development of world and local and global civilizations, understand reasons of rises and crises of various peoples, historical roots in radical changes occurring new, foresee their changes in future. A study of the past becomes a powerful factor thereby in surmounting the present-day state of crisis in scientific cognition of social consciousness worldwide, shaping a new view on history and prospects for future development. It is hard not to agree with the conclusions of Fernand Braudel, the first-string historian of the 20th c.: “I’d like that specialists in social sciences would see in history exclusively the mean of cognition and research. Isn’t the present more than a half in the grip of the past insistently seeking to survive? Doesn’t the past provide through its regularities, differences and similarities the key necessary for any serious understanding of the present?” (12, P.11) Let’s use such key!

Second. The theory of cyclical dynamics and sociogenetics, concept of historical cycles of various length — from the Kondratieff half-century cycles to many century civilizational cycles and millennium supercycles underlies the textbook. It enables to refuse from a conventional division of the past, present and future of humanity into five socio-historical formations with an indefinite far beginning (primitive communal system) and endless completion (communist formation). The count of history dates back to the Neolithic civilizations and is represented as a regular with ever increasing speed alternation of world civilizations with the change of the epicenters, uneven wave-like development of local civilizations; such tendency will also persist in future. From this approach the end of the 20th — beginning of the 21st cc. is a transitional period from industrial to post-industrial civilization, establishment of the fifth generation of a local civilization and integral socio-cultural system with the transitional periods of aggravating contradictions, chaos inherent to it and a new society aborning in throes.

The elements of a new approach to dynamics of historical process were worked out by N.D. Kondratieff, A.L. Chizhevsky, A. Toynbee, F. Braudel, N.A. Berdyaev and P. Sorokin in the past. However, the dominance of utilitarian ideological doctrines has not afforded an opportunity to a new approach to get recognition and widespread in teaching world and national history. With the downfall first of all of the prevailing dogmas space is opening for assimilating new paradigms of his-

torical process, for development of a new branch in social sciences — science about civilizations (civiliography) synthesizing the achievements of many social sciences.

Third. The approach giving the priority to the development of material productive forces and class struggle is surmounted in the textbook. The authors proceed from the development of human, his spiritual life — science, culture, education materializing in the instruments and subjects of labor, in economic and social relations underlie dynamics of society. Such cross-disciplinary approach helps to get rid of one-sided assessments, contributes to a multi-dimensional vision of historical processes and phenomena, in the rising significance of consciousness and activity of people in transformation of society.

Fourth. It is proposed to surmount an artificial gap in studying world and national history. The world progress is single in interaction of historical fates of various peoples. In studying the history as a pulsation of word civilizations attention is paid both to their overall rhythm and identifying features and originality of dynamics of local civilizations, their interaction, and mutual penetration. This will help to avoid the extremes: ignoring general regularities and tendencies of movement (from one historical step to another) of humanity as a single multi-plicate integrity or attempts of an everyday copying of handwriting and historical experience of one countries in other conditions without considering originality of their dynamics and historical fate (that is highly topical for understanding of the past and choice of the paths in future for Russia).

Finally, *fifth.* The textbook is intended for the students of the senior classes of schools, students, educationalists, and also for those who is care for self-education. The textbook is oriented at the system of continuous humanitarian education and I hope it will contribute to the rise of overall historical and political culture, development of independent thinking.

Studying of history, understanding of regularities in historical process, emergence, dynamics and interaction of civilizations help more efficient activity of peoples, states and international organizations, social movements, foster the adoption of more well-grounded decisions, foresight of their possible effect. As any other science history services as one of tools of cognition and transformation of the world, foresight of the effect of our decisions and actions.

This textbook is based on the monograph “Civilizations: Theory, History, Dialogue and the Future” (in two volumes) published in Russian and English in 2006 and presented in the UN Dag Hammarskjöld Library (October 2006) and at the UNESCO headquarters (November 2007).

The picture of the world is changing dynamically for several years passed since that.

The global economy and financial crisis of 2008-2009 against the background of global demographic, energy-ecological, technological, geopolitical and socio-cultural crises corroborates our major finding that the industrial society has mainly exhausted its potential of development and that the humanity stands on the threshold of the utmost deep civilizational revolution. Such revolution will result in the establishment of the post-industrial humanistically noospheric world civilization (we call it integral), the fifth generation of the local civilizations, noospheric energy-ecological mode of production and consumption, integral economic and socio-cultural system, and the multi-polar world order based on dialogue and partnership of civilizations.

Our approach has become the base for the Global Forecast “Future of Civilizations” for 2050 worked out by Russian and Kazakhstan scientists led by the authors of this textbook, including recommendations for a long-term strategy of partnership of civilizations for an adequate answer to the challenges of the new century.

One of such recommendations is to establish the Global Innovative Internet-University which primary activity will be to study the theory, history and the future of civilizations based on such textbook published in Russian, English and Arabic. We hope that it will help the generation of the 20s of the 21st century who will have to undertake an enormous transformation of society to perform better the historical mission accrued to it.

*B.N. Kuzyk
Yu.V. Yakovets
June 2009*

PART ONE

**A THEORY
OF CIVILIZATIONS**

The main subject-matter of this textbook is civilizations. But this is not a mere research into an intricate and contradictory history how they emerged, their stages of development relations and outlooks. The authors have endeavored to solve a fundamental task – to uncover deep-seated regularities of statics, cyclical dynamics, genetics and interaction between civilizations in all its aspects and forms of manifestation – global, world and local. It is logical to begin our long, unbeaten track from inquiring into the theory of civilizations, its contents and specifics and general sociological regularities of cyclical dynamics and sociogenetics, role of dialogue and partnership of civilizations in solving global contradictions of the 21st century. The first four chapters of this textbook which make the contents of its first part address it.

Chapter 1

THE FOUNDATIONS OF THE CONTEMPORARY THEORY OF CIVILIZATIONS



Raphael Sanzio. The School of Athens

When human first comes into the world, a name is immediately given to such human and human usually goes with such name through all the stages of his life cycle identifying himself in the overall mass of same individuals. Other fate awaits the social systems and scientific categories identifying them: millennia may pass until their nature is cognized and this or that place is assigned in the system of scientific categories. All the more so the cognition process has not been completed yet, and the different content is meant by one and the same term. The said relates in full to the concept of civilization: as a social system, it, according to nowadays views, exists about ten millennia, and they started to use the term itself as a scientific category only a couple of centuries ago, and the disputes about its content have not ceased until now. This reminds an old Indian proverb about blind men who were trying to give a definition to an elephant. One, taking a leg, likened it to a tree trunk; another, by feeling a trunk came to the conclusion that an elephant is similar to a thick flexible rope; the third by setting against a belly of the elephant, insisted that it is similar to a soft wall. There was something in what each of them said, but they have not formed a general idea about an elephant, and more so about how it moves. The same picture is observed with cognition of such an utmost intricate and dynamic social category as civilization.

1.1. Civilizations: From Multi-Dimensional Reality to Scientific Categories

Civilization as the objective reality, as an object of cognition, is three-dimensional in our understanding, appears in three different dimensions, aspects inseparably connected with each other in terms of the content, space and time.

This is first of all world-wide *global civilization* common to all mankind expressing the unity of the human race, its historical fate from that turning point when man changed from appropriating household (hunting, gathering) to reproduction (cattle raising, farming). It is when he began to make his own history and since that we may speak about the existence of *society* as such, the unity of material and spiritual reproduction.

This process known in science as the Neolithic Revolution developed approximately in the 8th millenium B.C., in a comparatively narrow area to the north from the equator where climate conditions were extremely favorable for farming. Then it is expanded to all continents subordinating itself and transforming all oecumene (a populated part of the planet) and it completed only in the 20th century only when globalization made obvious the unity of the destiny of a proliferous Homo sapiens species in the planetary habitation.

It may be said that the formation process of the global civilization has been expanded for centuries and is being finalized nowadays. Although the recognized classics of the theory of local civilization as **N.D. Danilevsky**, **O. Spengler**, **A. Toynbee**, and also certain contemporary scholars negate that the world, global civilization exists, nevertheless it does exist reflecting the unity of the human kind and its historical destiny on the Earth planet, and unity of their vital interests. It is really so despite all diversity of races, civilizations, peoples, nations, ethnoses and all contradictions thereof.

Therefore global civilization, content, regularities, stages and tendencies in its formation and development, multiply structure, forms and mechanisms of interaction between its components and elements, development outlooks — all the said is the scope of the prime part of the science about civilizations — civiliography.

However, global civilization does not emerge immediately in a ready, completed form. For ten millennia of its existence, it has passed certain

stages in its formation and development, changing its internal structure and the look. This affords ground to us for proposing as an object of study the second part of the civilizational science, the theory of **world civilizations**. They include the stages changing regularly each other of formation and development of global civilization which differ from each other by its socio-cultural system, number, structure and dynamics of population, level of effects on natural-ecological processes, technological and economic mode of production, and socio-political order.

We replace the formation division proposed by **K. Marx** with the civilizational division of the world history. The latter's fault was the exaggeration of the role of production (economic) relations and underestimation of the significance of the socio-cultural sphere in the development of mankind. While the new theory enables to identify the spiral of historical progress, its rhythmic and to evaluate, based on the data obtained, the essence of going changes now, outlooks for the development of world civilizations in the 21st and millennia ahead.

Finally, the third aspect of the civilization concept is **local civilizations** constituting large communities of peoples, ethnoses and nations united through the unity of socio-cultural values, historical destinies, economic and geopolitical interests, expressing the diversity and variability of the structure of global and world civilization. Periodically there is *generational change of local civilizations*, their composition, forms and connections change. Then clashes begin between them, thus violating the process of dialogue among them and mutual enrichment. Local civilizations embody richness and diversity of mankind as a unified system, guarantee its stability and ensure expedient variability when such epochs change, transmission of cultural heritage and enrichment of mankind's social genotype. From time to time some local civilizations leave the historical arena, and others emerge again, thirds divide, fourths unite. Each of them has its life cycle, its destiny, but they form together a rich gamut of the multi-color world of the global civilization.

Thus, we can offer *a triune definition of the essence of civilization* as a complex and man-valued social phenomenon. *A global civilization* is a humanity at the highest stage of its development in all diversity of its elements, spheres and types of activity.

World civilization is a certain stage in the formation and development of a global civilization under the achieved level of factors determining such development.

Local civilization is a large forming part of a global civilization uniting a group of interrelated peoples, ethnoses, states with a common system of civilizational values and historical fate.

1.2. Contents of the Theory of Civilizations

There are a lot of definitions of civilizations. Not going into discussions let's proceed now to the expounding on our vision of this problem. The foundations of the theory of civilizations in the form it appears before us as a result of many-year researches, reflections and discussions (49, paragraph 1.5). Of course, we fully realize that our understanding is not a completion stage at all in cognition of such complicated category as civilization, and constitutes only one of consistent steps on the long path of cognition. Let's base our reasoning on the following logic:

- ➔ **The content of the concept** of civilization, its differentiation in there categories — global, world and local civilizations;
- ➔ **The structure** of civilizations, succession and interrelation of their major elements, “pyramid” of civilizations;
- ➔ **Development of civilizations in historical time**, their change by stages of life cycle and periods;
- ➔ **Evolement of civilizations in space**, a stage by stage spread on the populated part of the Earth (oecumene) and outside it;
- ➔ **A civilizational approach** to history and future of civilizations, its difference from other approaches;
- ➔ **Place of the theory of civilizations in the system of sciences** in the post-industrial paradigm being formed, in a more general sense — integralism.

1.2.1. The Concept and Types of Civilizations

Civilizations is the highest level of organization and development of human society, highest both in a logic and historical aspect. Society as a totality of interconnected, interactive individuals consists of a number of hierarchical levels.

The primary social unit, a cell, brick on which all structure of society is based is **family**. It is exactly here reproduction of the major atom of all social universe — man is made, its biosocial genotype forms, a larger part of the end product made is consumed. The decay of family, decrease of its role in society constitutes the prime sign of crisis that hit society, and all civilization.

The second level comprises the **unions of people**. They may be established either for joint residence (villages, cities) or joint produc-

tion activity (enterprises, institutions) or joint social-political activity (trade unions, political parties, etc.).

The third level comprises *ethnoses, nations*. Although, these forms of interaction among people residing on a more or less ample territory are different by nature, but they have similar structuring signs – communion of language, order of life, traditions, historical experience, and beliefs.

The fourth level – *states* that unite several ethnoses or nations and have characteristic, recognized institutes – boundaries, state power, nationality, economic and cultural space, and its history.

Finally, **the fifth highest element** in the structure of society is *civilization* that unites all humanity being at a certain level of development or its large part. Civilizations may coincide in their boundaries with the state, but it is not always the case. The main point in civilization is a certain system of values worked out and supported by long historical experience, general or similar conditions of existence and development.

In their turn, we consider civilizations in a three-dimensional space-temporal aspect (Fig. 1.2):

➔ **global civilization** is a part (or all) humanity that reached the level of civilizational development and passing through certain levels, stages of life cycle;

➔ **local civilizations** as the prime integral parts of global community that differ in the system of civilizational values, conditions of dwelling and activity, and historical experience. They also pass through certain stages of a historical path – change of generations of local civilizations and phases of a life cycle of each civilization and each of their generation;

➔ **world civilizations** as major stages in the development of the global civilization and cycles of generations of local civilizations, period in the development of humanity as a uniform mega system.

Each of the said types of civilizations fulfils its function in the formation and dynamics of civilizations. At the initial stage (after the Neolithic revolution) a narrow field of a global civilizations forms. It gradually expands, its differentiation occurs into local civilizations. By lapse of time their number increases, and its body changes in the general historical flow of dynamics of the global civilization. The system of civilizations evolves continuously, and qualitative leaps in its development recurrently occurs and find its expression in the change of world civilizations and generations of local civilizations.

1.2.2. The Structure of Civilizations

Civilization is a complex, multi-layer higher social organization. Its structure may be represented in the form of a “*pyramid*” of *civilizations* comprising several “floors” and many “apartments” (Fig. 1.1).

The top of this pyramid is occupied by *spiritual sphere* that forms and transmits the system of civilizational values from generation to generation that is the main point that distinguishes one civilizations from another.

The spiritual sphere (or the sphere of spiritual reproduction) includes the following elements:

➡ *science* — the level of cognition of regularities of nature and society and skill of their use for the development of technological, economic and ecological modes of production, in socio-political structure of society;

➡ *culture* — esthetic perception of nature and society, their harmony in dynamics, sense of beauty;

➡ *education* — methods of conveying accumulated knowledge and experience, scientific and cultural heritage permitting the oncoming generation to perceive a social genotype, adapt to the environment and changes in it;

➡ *ethics* — the system of rules of human behavior in society, ethical accounts of acts, compliance with social standards;

➡ *religion* — ideas of man and society about the world, system of goals and motives for people’s activity based on their ethical standards and relations with other denominations.

All these elements are closely connected, intertwined and differ from civilization to civilization, change from period to period.

A socio-political system that characterizes the forms and modes of union and differentiation of people by large social groups (social stratification), ethnical and national identity, forms of political activity, and state-legal structure is found on a lower “floor”. This system changes regularly as a result of wars and revolutions.

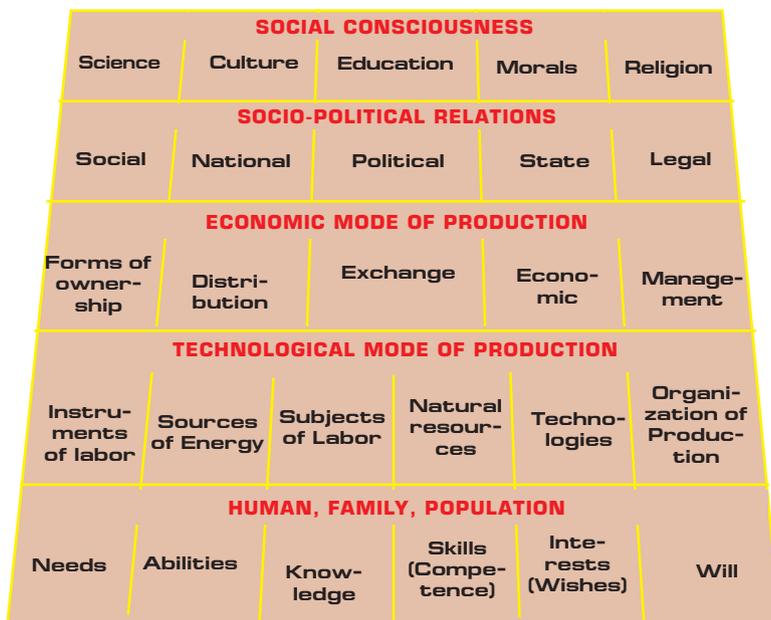
Economic mode of production makes the third “floor”. Its major institutes include:

➡ forms of *ownership*, appropriation of means of production and products produced;

➡ modes of *distributions* of product produced (including surplus) between various social groups;

➡ forms of *exchange*, development of the market with all its categories (money, price, credit, etc.);

Figure 1.1.

'Pyramid' of Civilization

➔ dynamics of the *structure* of economy by functional purpose of products produced (reproduced structure) and by other criteria;

➔ forms and methods of *management* of economic activity.

The structure and nature of such “floor” is determined in many ways by a ***technological mode of production*** that follows it. The latter includes the following elements:

➔ *instruments of labor*, the system of tools (machinery), buildings, structures, transportational routes, etc.;

➔ *sources of energy* both in production activity and everyday life;

➔ *goods of labor* – natural and processed;

➔ *technologies*, modes of uniting manpower with the instruments and goods of labor using power sources;

➔ social, sectoral and trade *division of labor* in productive activity;

➔ forms of *organization of production*, its specialization, concentration, cooperation, and diversification.

The efficiency level of production, extent of satisfaction of human demands depends on interaction among all these elements.

The foundation of the pyramid of civilization is **population** – its size, rates of dynamics (birthrate, death-rate, and natural increase), family structure, sex-age structure, migration, level of demands and extent of their satisfaction (level and quality of life). The resulting effect of functioning and dynamics of civilizations manifests itself on a lower “floor”.

However, one more floor is found below this “floor” that determines outward conditions where civilizations function – **nature and ecology**, scale of territory of civilization; climate conditions, density of population (demographic pressure on the environment), endowment with various natural resources, level of environmental pollution and interference in biosphere processes. It is here that the area of interaction between nature and civilization is found, area of their co-evolution.

As is evident each of “floors” of civilizations fulfils its functions and has its structure. But they constantly interact and transform concordantly and balanced thus expressing the essence of the **law of proportionality in the structure and dynamics of civilization**, strict harmony in their development. A breach of this law, especially in the transitional periods, impairs effectiveness of civilizational system.

1.2.3. The Evolvement of Civilizations in Time

Civilization is a changeable category, continuously transforming. Its evolvement in time may be traced in three aspects:

Each civilization has its **life cycle**. It consists of several stages:

- ➔ *nascence* (in the depths of preceding society);
- ➔ *establishment* in the epicenter, diffusion (in space) and improvement by structure;
- ➔ *maturity*, full implementation of the potential inherent to it;
- ➔ *crisis*, decay (giving way to the next civilization);
- ➔ existence in the remnant, *relict state* at the next stage of development of society, in a new civilizational system.

Life cycles are inherent to both local, world, and global civilizations. Not all local civilizations pass through all stages of their life cycle, evolving in time in full scale. A cycle of some of them is terminated due to natural catastrophes (it was the case with the Minoan civilizations and legendary Atlantis) or clashes with other cultures (pre-Columbian civilizations of Central and South America, and the Scythian proto-civilization).

Dynamics in time finds its expression in a regular **change of generations of local civilizations** changing by their nature and structure. The

1st generation emerged on the planet at the end of the 4th — beginning of the 3rd millennium B.C. when the formation of the “pyramid” of civilization completed — a socio-political “floor” was built (classes, state, and law emerged) and economic “floor” changed radically (private property emerged and market with the institutes inherent to it — in the expanded form). Local civilizations changes each other and at the threshold of the 21st c. time came to form its regular, fifth generation.

Global civilization evolves in time through a ***change of world civilizations***. Their countdown runs from the Neolithic revolution, establishment of productive economy and a gradual sophistication of the structure of society. We call the first four millennia of that period *the Neolithic world civilization*, although it was more likely a proto-civilization in the nascent “pyramid” still incomplete. Only at the next stage, with the formation of the 1st generation of local civilizations and “completion” of all its “floors” and “apartments”, it is possible to speak about the existence of world and global civilization in its full scope. According to our classification early class, ancient, medieval, early industrial and industrial world civilizations changed each other. At the end of the 20th c. time came for the formation of the post-industrial civilization and this rhythm will continue in future.

It will be observed one more change of a global civilization in time — ***change of historical super cycles*** uniting the triad of allied world civilizations and one-two generations of local civilizations. Super cycles are the largest of the element of temporal dynamics of civilizations. The first historical super cycle (end of the 4th millennium B.C. — middle of the 1st c. A.D.) united the Neolithic, early class and ancient world civilizations and the 1st and 2nd generations of local respectively. Its chronological framework — the Second historical super cycle (6th — 20th cc.) included the Medieval, early industrial and industrial world civilizations, 3rd and 4th generations of local. The third super cycle begins in the 21st c., only its first levels are known — post-industrial world civilization and the 5th generation of local civilizations.

*The inquiry into the history of civilizations has made us to draw a conclusion that **compression of historical time is regular**. Each next step in the history of civilizations (world, generations of local) is characterized by a shorter life cycle, speedup of the historical advance rate, quickening of the pulse of cyclical dynamics of society. While a temporal space of the first world civilizations and generation of local made several millennia, then the latter — only several centuries. Such tendency seems to persist in future.*

1.2.4. Diffusion of Civilization in Space

The history of civilizations began on a relatively small area of the firm land to the north of the equator on the Afro-Eurasian continent and to the north and south of the equator — in America. The other populated part of the earth (oecumene) was still at the pre-civilizational stage of development, and ample territories were uninhabited at all.

Stage by stage, one world civilization by another civilizational space was extending, ties between separate local civilizations expanded and strengthened. The development of transport roads (river, sea, land) conduced to it, the emergence of new means of vehicles — horses and camels, river and sea vessels, steam-engines and steamboats, motor cars and aircraft. The age of the Great Geographical Discoveries in the period of the early industrial civilizations ended with the inclusion of nearly all territory of the earth in the global civilizational space (except Antarctica, some regions of the far north, separate regions of primeval tropical forests and deserts). It embraced all oecumene and left the boundaries of the planet — space conquering began.

However, it does not mean that civilization distributed throughout the earth as an even and homogeneous “layer”. The congelations of civilizational energy — *vanguard civilizations* — exist on the planet. They are followed by (in the second echelon) allied, close by their level of development. Lagging behind civilizations which are late for one-two rhythms are climbing the second step are found on the periphery of the progress. The fourth echelon — less-developed civilizations and countries which are unable unassisted to wrest out from the sucking down bog of the backwardness.

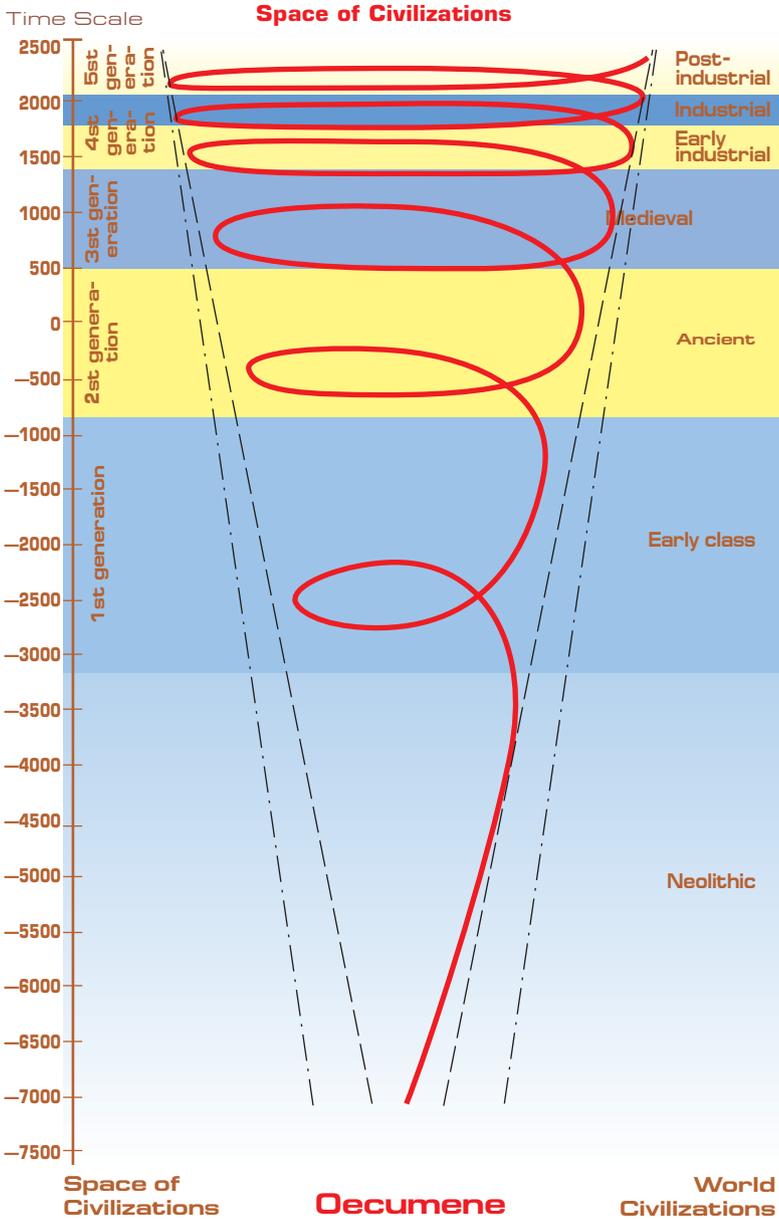
Consequently, the territory of the Earth, global civilizational space is a varicolored “quilt” in each specific period of time, in which civilizations on various stages of development are tightly “stitched together”. The color of such “quilt” changes from time to time as either one or other civilizations take up becoming the leaders of a civilizational advance, and other retreats to the second, third echelon.

The unity of space-temporal dynamics of civilization may be pictorially represent as a *spiral of civilizational progress* (Fig. 1.2), which whorls expand in space and change in time.

The first whorl of the spiral covers the life cycle of the Neolithic civilization. It is the longest by its duration — covering (in the epicenter) more than four and a half millennia — nearly a half of all historical time. The genotype of civilization was formed that period, and the outlines of the “pyramid” of civilizations were gradually taking shape, its “floors” and “apartments” become occupied.

Figure 1.2.

Spiral of civilizational dynamics



The second whorl began from the second half of the 4th millennia B.C. when the 1st generation of local civilizations formed, classes, states, law, private property, and market emerged. All “floors” and “apartments” had been already occupied, the system of civilizations – world, local, and global formed (although they settled on a small part of the oecumene – about 15–20%).

The third whorl includes the period of the prevalence of the ancient world civilization and the 2nd generation of local civilizations when their geographical range expanded to 35% of the oecumene, the first world empires sprang up. This is the peak of the development of the first historical super cycle.

A transition to the **fourth whorl** of the spiral – medieval world civilization and the third generation of local – turned to be hard and long as it coincided with the change of historical super cycles. The center of a civilizational progress shifted to the East (India, China), the western European civilization that was in a permanent state of a military conflict with a newly emerged Moslem and other civilizations began to form. The latter was also aggressive in their turn (the conquest of nearly all Eurasia by the Mongolians). The ideational socio-cultural system prevailed, the dominance of world religions consolidated in the spiritual and political spheres.

The start of the **fifth whorl** of civilizational spiral was marked by a transition of humanity to the early industrial world civilization, manufactory, technological mode of production, beginning of the development of industrial capital, classes of capitalist wage workers, the first bourgeois revolutions (Netherlandish and English) and formation of the bourgeois democracy as a political system – after the period of absolutism in the vanguard countries. The fourth generation of local generations formed. While by population size and GDP output the Chinese and Indian civilizations prevailed that time, but in actual fact the leadership was taken by young and aggressive western European which developed at the priority rates. In the period of the Great Geographical Discoveries it conquered a larger part of the world and destroyed the pre-Columbian civilizations of America. The great scientific revolution of the 15th–17th cc. evolved exactly in Europe, it embraced the bright achievements of the Renaissance, the overturns of the Reformation and Enlightenment of prime significance for the spiritual sphere occurred. Only Eurasian (Russian Empire) and the Moslem (Ottoman Empire) were able to resist the West.

The top of the second historical super cycle was reached at the **sixth whorl** of the civilizational spiral, in the period of the industrial world civilization, bloom, and then decline of the 4th generation

of local civilizations, triumph of the sensual, socio-cultural system. The industrial revolution transformed technological and economic spaces, it speeded up many times the economic growth rates that became one of the factors of a rapid growth of the population size. The Independence War in North America and the Great French Revolution opened the path to radical transformations of the socio-political system and establishment of bourgeois democracy. All these events were accompanied by a train of wars and revolutions happened at the end of the 18th — beginning of the 19th cc. and the 20th c. The decline of the industrial civilization was marked by the establishment of totalitarian states, and a deep crisis of culture. In the 19th c. a colonial system of imperialism sprang up that involved many ancient civilizations. The 20th century is characterized by a series of national-liberation revolutions, disintegration of the system of imperialism, and by the end of the century — the world system of socialism, liquidation of the bipolar world. The planet is hit by a deep-seated civilizational crisis associated with the end of the second historical super cycle.

At the threshold of the 21st c. the **seventh whorl** of the civilizational spiral that will likely include the space of two centuries begins and leading to the radical transformation of the global civilization at the beginning of the third historical super cycle. A humanistically-noospheric post-industrial civilization and the fifth generation of local civilizations are underway, There are signs that a sensual socio-cultural system prevailing in the West is being replaced by a harmoniously integral in its western, eastern and Russian modifications.

At the beginning of the seventh whorl the global civilization encountered three epochal challenges. The first of them — demographic: depopulation, aging of population is observed in most countries. The second — ecological: prime power and other natural resources are nearly exhausted, a threat of a global ecological catastrophe has arisen. Globalization, its neoliberal model tosses the third challenge to humanity, when an abyss between the rich and poor nations and civilizations becomes already insurmountable. A scientific-technological revolution evolving nowadays and formation of the integral socio-cultural system create prerequisites for settlement of the said contradictions, for a worthy response to the challenges of the century. To what extent such prerequisites will be used, on a timely manner and the essence of such response depends whether the global civilization will enter a regular **eighth whorl** of the civilizational spiral in the 23rd century or humanity will come to an end.

1.2.5. A Civilizational Approach to the History and Future of Humanity

The theory of civilizations is a part of the nucleus of the *post-industrial paradigm of social science* that will establish as a result of the great scientific revolution evolving in the 21st c. and a new picture of always changing world being formed now. A civilizational approach to the history and future of humanity as a major component of *integralism* is coming to replace liberal and Marxist formation approaches that prevailed in the period of the heyday and decline of the industrial civilization (in the 19th–20th centuries) and with its seeming antagonism had common roots and features as integral parts of the industrial scientific paradigm.

What are the basic distinctions of such approaches?

First, both liberalism and Marxism proceed from the *primacy of economy* in the structure and dynamics of society – property and market, Homo Economicus (liberalism), productive forces, relations of production as a basis (Marxism). A civilizational approach establishes the priority of spiritual sphere – science, culture, education, ethics, and religion, the *priority of the system of civilizational values* that determine motivation of human activity in all its aspects. It is the principle the “pyramid” of civilization is based, logic of interaction and dynamics of all its “floors” and “apartments”.

Second, both liberalism, and Marxism take as a base the *linear-progressive trajectory of the development of society*, its direct ascend from step to step. Despite all scientific schools of liberalism and Marxism give attention to the study of cycles and crises, they do so only for proving that deviations from a direct development make exceptions. The theory of civilizations, on the contrary, lays stress on the recognition of *cyclical-genetic regularities* in the dynamics of society, its fundamental bases necessarily inherent to it in the past, present and future. These regularities are deemed not deviations from the norm, but the norm,. Therefore the inquiries into the cycles and crises in all spheres of society and at all stages of its development are the cornerstone of the theory of civilizations.

Third, the effect of the differences referred to above is a various approach of the formation and civilization theories to *periodization of the history of humanity*. Liberalism distinguishes a pre-history, pre-market stage of development, and the history proper when the establishment and diffusion of capitalist market economy and bourgeois democracy occurred; the end of the history when these systems

triumphed all over the world. There is nowhere to move further and needn't. Marxist historical materialism is based on the theory of socio-economic formations changing each other: primitive-community lasted for million years, slave; feudal; capitalist; communist that begins from socialism and will establish itself forever. This is also the end of history, but dishing up in a new form unlike liberalism.

Integralism proceeds from the assumption that a civilizational stage in the development of humanity (beginning of its history) began from the Neolithic revolution; that the rhythm of historical process finds its expression in a regular change of historical super cycles, world civilizations, generations of local civilizations, socio-cultural system; that the regularities of sociogenetics – inheritance, variation and selection underlie such cyclical dynamics.

Finally, fourth, the said three trends of a socio-economic thought have fundamentally different *ideas of future of society*. Both liberalism, and Marxism views future as a complete implementation and final triumph of the ideals exercised by them – either capitalist market economy and bourgeois democracy or unified and monotonous communist society that surmounted all social differences where “there will be a total flow of wealth ” and the principle will be implemented “from each according to his abilities – to each according to his needs” and each kitchen lady will administer society.

On the contrary, the advocates of integralism are sure that cycles and crises, a regular change of historical super cycles, world civilizations and generations of local civilizations will persist until human society exists. The same way new challenges of time will arise and the need to provide adequate responses to them, civilizational diversity will persist. Humanity is not to be quiet in future too: risks will be modified, but not disappear, and people have to exert every effort so that to minimize them.

1.2.6. A Place of the Theory of Civilizations in the System of Sciences

The last question remains to answer: what place the theory of civilizations will occupy in the system of sciences, first of social?

The theory of civilizations has mainly a fundamental nature, is included in the fundamental researches. The applied researches are built on them, and not only in the field of social and human, but natural, engineering and ecological sciences.

The basic action field and use of the theory of civilizations — **social sciences** as it makes, as it has already been mention above, a part of the nucleus of the post-industrial paradigm of social science, integralism as a modern expression of such paradigm. However, this theory does not claim an exclusive place in the system of social sciences at all implying the existence of other trends and schools (synergetics, etc.). Being a key element in such sciences as history (first of all the philosophy of history) and archeology, the theory of civilizations is also used in the system of economic, political, cultural and other social sciences.

The theory of civilizations occupies the leading positions in the fundamental, and in particular, applied researches in the field of **human sciences** — linguistics, art criticism, ethnography, etc. How objects of these sciences will develop is impossible to understand failing to gain an understanding of the essence of change of civilizations, content and interrelation of their elements (spiritual sphere, demographic and socio-political factors).

Knowledge of the theory of civilizations is also necessary for development of **ecological sciences**, awareness of the role of a natural-ecological factor and the formation of noosphere.

Engineering sciences also has an allied field with the theory of civilizations, especially in the issues of study and use of a technological factor in the development of society, regularities, prerequisites and consequences of the change of technological modes of production, technological orders and generations of technology.

Knowledge of the theory of civilizations is also important for representatives of **natural sciences** who study cyclical-genetic regularities of the development of science, changes in scientific paradigms, specifics in the diffusion of new knowledge and formation of knowledge-based society in various local civilizations.

Thus, based on first of all social sciences the theory of civilizations is basically of *interdisciplinary nature*, it penetrates into all branches of knowledge, its understanding is necessary for scientists and specialists of any sciences, although, of course, in various scope and various aspects.

It follows from the said that the theory and history of civilizations should take one of the leading places in the **system of education** — both general and trade education, and continuous and distance learning. It is necessary not only work out dedicated textbooks on the theory, history and future civilizations (in various languages and various structure for different countries and civilizations), but also incorporate special sections in the textbooks on other specialties. Sites and portals on the Internet should be constructed covering these prob-

lems. All this would allow making civilizational knowledge more accessible for new generations.

It appears that this work package should take salience in the programs of the World Decade of development of education proclaimed by the UNESCO. This will conduce only to a more profound assimilation and diffusion of a new paradigm of social science, but to the development of mutual understanding, dialogue and cooperation of civilizations, fostering tolerance, prevention of international terrorism, establishment of the humanistically-noospheric post-industrial civilization.



Checklist and tasks to Chapter 1

1. What is civilization? How is this concept different from concept of 'ethnos', 'nation', and 'state'?

2. What is the difference in the concepts:

a) Local civilization; b) World civilization; c) Global civilization?

Draw a diagram describing interaction between these concepts.

3. What is the structure of civilization? Draw a 'pyramid of civilization' and show interaction between its separate 'floors' and 'apartments'.

4. How does the evolvement of civilization in time occur?

Show the periodicity in change of generations of local civilizations, world civilizations, historical super cycles in dynamics of global civilization.

5. Demonstrate how the law of compression of historical time manifests itself with an example.

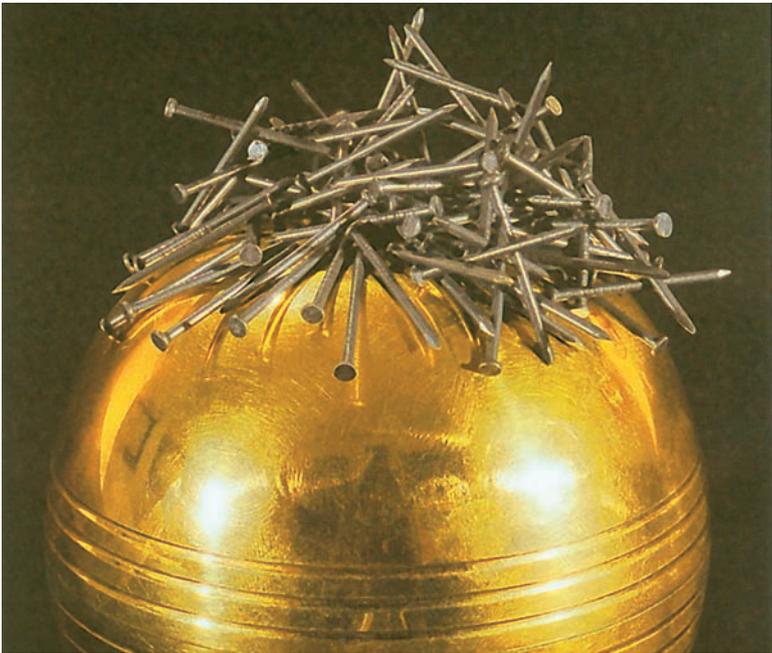
6. How do civilizations evolve in space?

Did civilizations cover all inhabited space of the earth from the very beginning of their history? Show on the geographical map spaces of diffusion of modern civilizations.

7. What is the difference between a civilizational approach to history and future of humanity from the formation-based approach?

Chapter 2

CIVILIZATIONAL CYCLES AND CRISES



Panaiotis Takis Vasilakis. The Magnetic Sphere. 1992

The world of civilizations is non-uniform and variable. World civilizations come to change each other. Local civilizations flicker if the historical space from time to time. A change of stages in dynamics of the global civilization occurs. It seems that the entire variegated picture is full of uncertainty that it is chaos, a set of occasional events, and zig-zags of the historical progress. A researcher's task is to identify internal regularities in cyclical dynamics of civilizations behind all such intricacies in order to examine the stages of development and change of civilizations in the past and to foresee their fate with a rather high extent of reliability in future relying upon tendencies and regularities identified. This is the key problem now of the development of the theory of civilizations.

2.1. Regularities in Cyclical Dynamics of Social Systems

Let's start with a brief description of regularities in socio-cyclical dynamics as identified in writings of **Nikolai Kondratieff**, **Pitirim Sorokin**, **Alexander Bogdanov**, **Wesley Mitchell**, **Joseph Schumpeter**, **Fernand Braudel**, and representatives of the modern school of Russian cyclism.

1. *Cyclicity is a common form of developing social systems.* One cannot find any system of the society — in the range from a family to the global civilization — that would not be governed by the laws of cyclical dynamics, passing through the phases of initiation, assimilation, dissemination (diffusion), maturity, crisis, and transition to a new turn of the development spiral or into a relict state. Cyclicity of dynamics is measurable though features no well-shaped mathematical certainty similar to the movement cycles of celestial bodies, seasonal or daily cycles. A social system's path of cyclical dynamics is overlapped with a mutual influence of various types of cycle, and sporadic fluctuations, which modify the duration of cycles, the depth of fluctuations by phase, etc. Therefore, regularities in cyclical dynamics of social systems operate as trends, they are full of unexpected deviations and twists, and are much less predictable than cycles and crises in dynamics of the physical (natural) systems. However, cycles and crises of a society are cognizable and predictable, and accounting of the same in governmental economic and social strategies, in corporate and institutional operations improve the efficiency of the social systems' dynamics.

2. Crises are an ubiquitous component of cyclical dynamics of the social systems. They serve painful though necessary phase of cyclical dynamics, performing useful functions:

➔ destruct obsolete system components that nevertheless predominate still, which have exhausted the potential and prevented the system development (*a destructive function*);

➔ create conditions to establish and disseminate a new system or new components of the existing system that have already shaped though suppressed by obsolete, conservative components (*a creative function*);

➔ refine from obsolete components and enrich with new ones of the system (or super-system) genotype and its transfer to the next generation (*a successive function*).

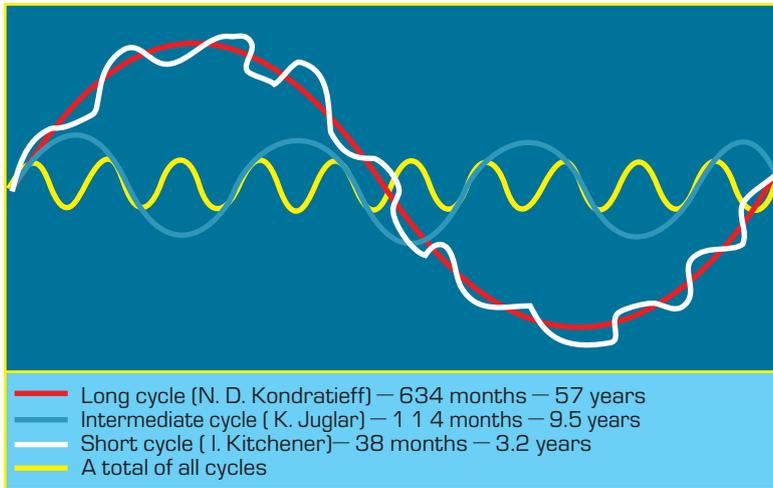
A crisis is an impulse, push for a further progress, and a chaos which a new order originates from according to Iliya Prigojin.

Crises can be of a different depth and duration, depending on a nature of the cycle which phase they present. Crises are predictable and amenable to a regulatory impact from the society — in terms of a prior prediction of the dates when a crisis phase is coming, correct diagnostics of the same, and passing through this cycle phase as soon and with as least losses as possible rather than a transition to the development free of crises (as some people understand the development steadiness), at the cost of purposeful and prompt innovative refreshment of the social system. In other words, the point is a peculiar “social medicine” relying upon a theory of crises and a methodology of anti-crisis governance (although “anti” is not an adequate word here and leaves a room for Utopian expectations to get rid of crises).

Multiple attempts to override crises having declared the same to be a social disease specific to capitalism only and replaced it with planned governmental control over the development of economy and social processes have not resulted in any good outcome: crises were driven inward, not overcome and, finally, resulted in the collapse of the super-centralized socialist system.

3. Crises in cyclical dynamics of social systems are overcome with revolutions, reforms, and innovations. *Revolutions* in technology, economy, socio-political, and socio-cultural sectors (science, culture, education, ethics, religion) are the most acute, painful, and destructive form of social transformation; social revolutions can be accompanied with bloodsheds and substantial destructions, though these can take a softer shape (“velvet revolutions”). Revolutions are accompanied with major changes in of the system genotype or

Figure 2.1.

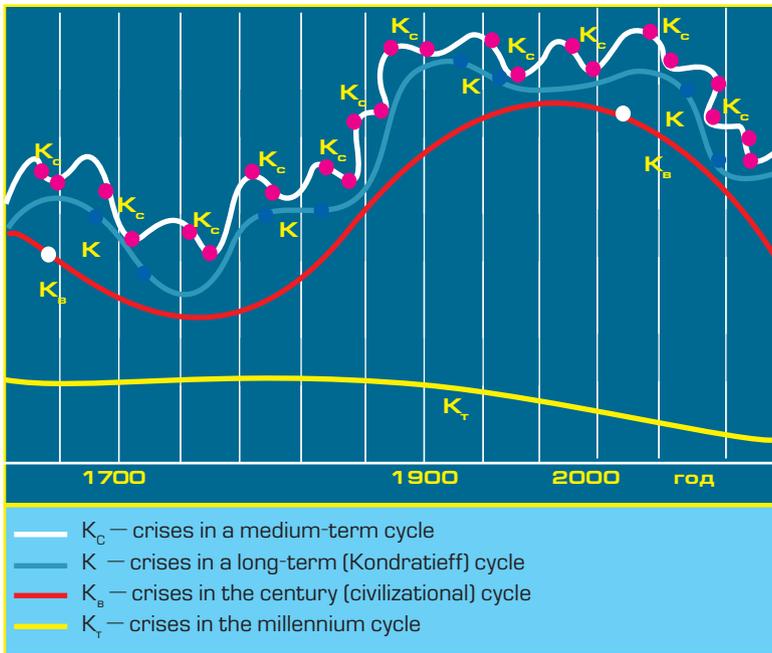
Interaction of Economic Cycles according to J. Schumpeter

destruction of the same and replacement with another system with its own genotype. *Reforms* mean a systematic, rather soft, and less painful substitution of a system's obsolete components. *Innovations* permit to substitute a system's obsolete components for new, progressive, more efficient ones, and adapt to the varying conditions. However, both revolutions and reforms cannot be continuous and endless, while decreasing a system's vital functions. A painful period of revolutionary transformations is followed by a long period of evolutionary development when new system components can implement their potential capabilities. Continuous revolutions and reforms undermine a system, reduce a system's efficiency, and sometimes can result in its downfall. It is necessary to change the forms of transformation at different cycle phases.

4. Cycles and crises of a different duration and in various social systems interact. This interaction takes three shapes as follows: resonant (amplifying a range of fluctuations, exacerbating a crisis); damping (damping a range of fluctuations and alleviating crisis phenomena); deforming (disturbing a cycle pattern, interrupting its normal course, for example, a war impact on an economic cycle).

Cycles of a different duration overlap each other, that is mid-term, long-term (Kondratieff's), and very-long-term (civilization)

Figure 2.2.
Interaction of cycles of various duration



cycles. Regularity of interaction among the economic cycles of a different duration was first shown in the works of **N.D. Kondratieff**. “Long-term cycles of economic conditions are identified in the same single process of economic development and depression dynamics. That’s why mid-term cycles appear as if these are strung onto the waves of long-term cycles” (41, P.379).

Following him, the same regularity was described by Joseph Schumpeter [130] (Fig. 2.1). Interaction between cycles and crises is shown in Figure 2.2.

Cycles and their crisis phases interact regionally — in interrelated countries and civilizations. Cycles and crises influence each other in various sectors such as demography and environment protection, technology and economy, governmental and political, and socio-cultural sectors.

5. Every cycle offers its own pattern, regional epicenter, and leading industries. For example, a long-term technological cycle features a set of fundamental disciplines (a technology core) and

applied disciplines of transformation (material production equipment, weapons, and service sector). A very-long-term cycle being a technological mode of production is implemented through a change of technological styles (long-term cycles). Each technological style emphasizes a cluster of leading, most quickly developing industries where the advantages of a new system manifest themselves primarily. When cycles change, those industries can recede into the background or, having transformed, be in the leading cluster still.

Every cycle features its geographical epicenter — a country or a cluster of countries where a revolution occurs initially and then spreads to countries coming next; some countries and civilizations can lag behind and be on a margin of the progress. Also, an epicenter country showcases leading regions.

6. *Cycles and crises are individual and unique as well as regular and predictable at the same time.* A society features no uniformity or strict, mathematically well-defined periodicity and duration of cycles and crises. A society's movement offers no templates or standard values. Every cycle is individual, unique in all the diversity of its predetermining forces, duration of phases, depth and effects of crises disturbances. At the same time, behind this mixed character and diversity, one can see common advancement features and trends which provide an opportunity to classify cycles and crises, identify movement regularities of the same and, most importantly, predict to a certain extent of reliability all of cyclical fluctuations and crisis disturbances in the short- and long-run, diagnose the nature, pattern, duration, and potential effects of each specific crisis and phase of a cycle, and undertake activities in order to prevent an "overheating" of the system at the end of an upswing phase and go through a cruel though inevitable crisis phase as soon as possible, at the cost of as low losses and distresses of the society as practicable.

In this case, it is possible to provide an analogy with human physiology and medicine. Physiology studies the eurhythmics of a human's normal operation during a period of his or her life cycle, the patten and interaction of its subsystems and bodies, fluctuations in a rhythm of daily and annual cycles, and life cycle phases. Medicine studies deviations from a hymn's normal operation as a system, his or her subsystems and bodies, identifies the ways to diagnose and treat diseases. It is not able to cancel those deviations from a standard at all, as these are innumerable, though it helps to find and diagnose the same in time, and suggest some ways of treatment and

prevention. The same tasks are typical of “crisis science” a kind of social medicine that has not evolved adequately still. Social scientists have dealt more with “social anatomy”, and studies of equilibrium than with a research into various crisis situations and “exit paths” from these, “social medicine”.

It is not worth setting a Utopian problem to overcome cyclical fluctuations and crises as diseases specific to a certain type of the societal development, i.e. capitalism. Such problems have been set both in Marxist and liberal literature repeatedly and failed every time. Such terms as an “anti-cyclical” or “anti-crisis” strategy, which are used commonly at a governmental or corporate tier, as well as a “sustainable development” understood as a uniform straight-line movement, are equally Utopian ones. It is impossible to cancel cycles and crises as it is impossible to overcome a daily or annual rhythm of the Earth movement, although a path of cyclical dynamics in the society is indeed much bizarre and hardly predictable than in the nature.

Prediction of cycles and crises is a most complicated branch of social science and practice, which has been underdeveloped still. However, the problem could be solved well by science fitted with understanding of regularities in cyclical dynamics and practices based on this science.

7. General regularity in cyclical dynamics of social systems is a shorter duration of cycles and crises, and acceleration of pulse of the historical progress. While the first stages of the society’s history measured duration of life cycles of world civilizations (Neolithic and Early Class ones) in thousand years, now it is measured in centuries. One can see a trend towards a shorter duration of life cycles and phases in dynamics of local civilizations. Also, the duration of transition crisis periods tends to be shorter. It’s quite another matter that the historical time compaction is a non-linear process, and it comprises opposite elements as well. For instance, as the average human life duration increases, a cycle of change, refreshment of symbolic generation extends; it is 30 to 35 years now, while the same was 20 to 25 years and even shorter at initial stages of the history. Nevertheless, a historical time compaction process has its own limits — hardly is it possible to predict that a period to change world civilizations by the end of the third millennium will contract to a few decades. Every cycle in a society’s dynamics must take advantage of its potential before the time will come to replace it with a next cycle. Any deceleration of the replacement will result in a slowdown of the progress, stagnation, decay and, sometimes, in the downfall of a social system.

On the contrary, an attempt to accelerate a transition artificially, results in an “abortion”, long-lasting crisis. It was the case when attempts to implement some communism principles were undertaken in Russia and China.

The above list of regularities in cyclical dynamics is far from being full or comprehensive one. Our knowledge of cycles and crises are incomplete, and it will expand and enrich as this most important component of a post-industrial scientific paradigm will evolve during forthcoming decades.

2.2. Cycles and Crises in Dynamics of Local Civilizations

Every local civilization features its own fortune, its own unique path of cyclical dynamics that is interrupted with crises phases differing in a duration and depth from time to time. One can distinguish several varieties of cycle and crisis in this colored picture – a bobbling boiler of historical civilization fortunes.

1. A local civilization life cycle comprises a period from its origination to the termination of a life track. This cycle consists of several phases: origination; establishment; diffusion; rise, efflorescence; maturity with growing elements of obsolescence; crisis; relict condition, removal from the historical arena or a transition to a new spiral of historical dynamics.

The local civilization life cycle duration as such is quite dissimilar. Of the fourth generation civilizations existing now, the **first echelon** consists of Indian and Chinese. They are the most ancient and are four or five thousand years old. During that long period they have passed through a number of historical epochs, rises and falls, and are now in a revival phase again following a long-lasting stagnation period. They have been part of all local civilization generations, while transforming and modifying every time after a hard and long-lasting transition period.

The **second echelon** is civilizations with a shorter history, which established as part of the third generation and absorbed relicts of the previous generation civilizations. These include, first and foremost, West European civilization being a successor to Greek and Roman antique civilization of the second generation; Eastern European civilization, which fortune have been bound with Western

European one in many respects (and, judging upon appearing trends, these can merge); Eurasian civilization that is 13 centuries old and facing a half-decay period now, while maintaining the core being Russian civilization; Muslim civilization that absorbed relicts, having modified the heritage, of Ancient Egyptian and Persian civilizations, and faces now a period of passionate rise; African civilization facing a hard transition period, which composition is mixed.

The **third echelon** in terms of age is the youngest fourth generation civilizations originating from the Western European: North American, Latin American, and Oceanic ones. Their emergence was based on destruction of the preceding civilizations in North and South America and they show a mixed nature in many respects, having absorbed some fragments of various civilizations. The above three civilizations see a phase of upswing, especially North American one that occupied leading positions in the world as soon as early in the 20th century, and claiming for the total leadership in the 21st century with a unipolar arrangement of the world. The Oceanic civilization just begins its life cycle.

Many local civilizations which left the historical arena featured life cycles of a different length. Perhaps, the longest track was typical of Ancient Egyptian civilization that measured three thousand years and went through several rises and crisis transition epochs in its history. Civilizations of Mesopotamia, Elamite, Persian civilization, pre-Columbian civilizations of the New World (those of Inca, Maya, and Aztec) had rather a long period of their cycle. A vivid flash was the fortune of the Mongolian civilization, which occupied most of Eurasia during several centuries and then continued in the history of Kazan, Astrakhan, and Crimean Khanates.

Cycles and crises in dynamics of the Russian civilization were researched into by **B.N. Kuzyk, A.I. Ageev** and other scientists. They have identified 400-year and long-term 80 year cycles; a transition from one cycle to another is accompanied by crises of various depth [45].

A life cycle of every local civilization – both existing now and left in the historical past, both ancient and junior is original and inimitable. However, this comprises inevitably the periods of origination (establishment), rise, and crisis. Sometimes, a civilization fails to go through an entire life cycle – it is destroyed or absorbed by a stronger civilization at initial phases of its cycle, in such case one can speak about a *proto-civilization*.

2. Local civilizations are dynamic in terms of space. They are in a state of territorial expansion during upswing periods, extend their boundaries, conquer neighboring areas and, sometimes, subordinate

adjacent civilizations to establish global empires. When in a phase of crisis condition and collapse, civilizations contract like a pebble-leather, lose a part of their area, global empires collapse and, sometimes, a civilization itself becomes part or falls under the influence of a stronger and more aggressive civilization (as it happened to Roman Empire, Byzantium, ancient civilizations of America, and most recently, to Eurasian civilization after the USSR disintegration).

One should note also that local civilizations often have no well-defined regional boundaries, and they do not embrace the inhabited part of the globe. There are some areas at a state civilization development stage, as well as adjacent areas being a kind of road crossing and a field of confrontation between civilizations. Vietnam can provide an example. Early in the Common Era it was under the influence of Buddhism of Indian civilization and then subordinated to Chinese civilization for a thousand of years. Following a number of independent development centuries, it became a colony of Western European civilization. After the World War II (when its area saw a collision between Western and European civilizations), it became an arena of confrontation between the USA and the USSR before it gained independence. At present, hardly one can speak about an independent Vietnamese civilization as various segments and fields of interaction between different civilizations are observed there.

3. *Cycles and crises of local civilization generations* is a phenomenon that is limited in time more definitely, though less distinctive in terms of mix and sequence of phases, as a generation comprises a set of local civilizations existing during a certain historical time and expressing specific features of the contemporary global civilization, As in case of human generations, this is rather a symbolic though real notion carrying a certain pattern, and changing origination, diffusion, maturity and crisis phases.

The **first generation** of local civilizations originated more than five thousand years ago and lasted for about two thousand years. Its composition was rather indefinite and diverse. It is possible to mention here ancient civilizations of Egypt, China, Mesopotamia, and Cretan-Mycenaean civilization late in the period. It is possible to classify civilizations of New World as the first generation, though with a shift in time. The first generation phases of rise and maturity fall to the 2nd millennium B.C. Early in the 1st millennium B.C., most of its civilizations were in a crisis phase.

The first half of the 1st millennium B.C. saw the origination of the **second generation** of local civilizations adequate to the antiquity period. The life cycle of the generation extended to about middle of the

1st millennium, though some civilizations (for example, Byzantine) existed for some centuries longer. The period of rise in this generation of local civilizations fell on late 2nd millennium B.C., and a number of them went through several periods of rise and fall, e.g. Greek and Roman one, which mean a short period of Alexandria and a long period of the classic Roman Republic, and then the Empire. However, as early as in the 3rd and 4th centuries A.D., most of the second generation civilizations faced a crisis that extended for several centuries.

The middle of the 1st millennium A.D. saw the start in an establishment period of the **third generation** of local civilizations such as Western European, Muslim, and Russian (later Eurasian) ones. Chinese and Indian civilizations achieved their utmost potency: in 1000 they accounted for 22% and 28% of the global population, and 23% and 29% of the world GDP, and in 1500, 24% and 25% of the population, and 25 and 24% of the global GDP, respectively [120. P. 258]

The 15th century saw the start in establishment of **forth generation** of local civilizations; its life cycle embraced the periods of early industrial and industrial world civilizations and came to the end late in the 20th century.

Firstly, the leadership was gained by Western European civilization: while it accounted for 13.1% of the global population and 17.8% of the global GDP in 1500, then these figures turned out to be 12.8% and 23% by 1820, and 14.7% of the population and 22% of the GDP by 1870. Then North American civilization captured the leadership: a share of the USA was 0.2% in the world the population and 0.1% in the GDP, 1.89% in 1820, and 5.4% and 19% in 1913. As regards Chinese, Indian, and African civilizations, it was the time of crisis and stagnation and drastic reduction in their percentages of the global GDP [Ibid.].

However, as early as in the 20th century some increasing symptoms of a crisis were observed in the fourth generation of local civilizations, which manifested themselves as two world wars running mostly on an intra-civilization basis, i.e. between major powers of Western European civilizations with the involvement of Eurasian, Japanese, and Indian ones.

A post-war period of “cold war” was seen as a confrontation between the two civilizations, i.e. Western (headed by the USA) and Eurasian (the USSR) ones, a commencing revival process of other civilizations, e.g. Chinese, Indian, and African, resulting from a collapse of the colonial system established by Western European powers. The bipolar world was on the edge of a nuclear war and struggled for an influence in the “third world” where the most of the mankind resided.

A geopolitical and geocivilizational picture of the world changed abruptly late in the 20th century. The “cold war” end and the mortal enemy image loss resulted in a crisis of the fourth generation of civilization and intensified centrifugal trends. The first victim of the crisis appeared to be a disintegration of Eurasian civilization represented by the USSR being the core of a pole of the bipolar world and maintaining a vast influence area within the CEMA framework as well as in a number of socialism-oriented developing countries. The second victim, although this fact is less obvious and acknowledged, appears to be Western civilization. It is losing the former unity, differentiates into several civilizations, which realize their own interests to a growing extent, such as Western European, North American, Latin American, and Oceanic ones. Both activity and independence are growing of Chinese, Indian, Japanese, and Muslim civilizations; the latter faces a passionate rise period in its confrontation with the West by all means, including terrorism. We see that the **fifth generation of local civilizations** is established facing its origination phase. The generation will establish for at least the first half of the 21st century, following which a maturity phase will come.

4. *The system of local civilizations goes through a crisis phase in its five thousand-year dynamics early in the 21st century.* It faces two challenges gaining increasingly apparent features. First of all, it is a **challenge of globalization**. With its neoliberal pattern that is prevailing now, and drive towards a unipolar world, global empire where the single superpower left predominates, a threat to the preservation of civilization diversity turns to be real. The threat was expressly pronounced by A.A. Zinovieff, a Russian philosopher, who stated that the time of civilizations had elapsed, that these were dissolving in the global super-society, conceded to “another kind and a higher level of social organization, and integrated into “new social organization of a global scale” [79, P. 24].

A trend towards dilution of specific civilization features is actually observed. This is promoted not only by the global market unity, but also an attempt to build and inflict a global information space (Internet, telecommunication systems) on young generations of all civilizations, offering a western system of values and boilerplate English language.

However, those people who have recognized the threat and focused on self-identification and inherent benefits of the fourth generation civilization stand against the threat, Along with the globalization, a localization process, i.e. expansion of diversity in civilizations and cultures, is in progress. This was stated in international documents 2001 – a UN Resolution, “Global Agenda for Dialogue among Civilizations”, and a UNESCO Declaration on Preservation of Cultural Diversity.

A struggle between the two trends seems to last for several decades. However, there is no doubt about the outcome of the struggle: a drive towards the preservation of civilizational and cultural diversity and a principle of diversity in the unity and a unity in the diversity will get the better. The mankind will never be a boilerplate ruck. A process will prevail, which some refer to as glocalization, i.e. discordant, dynamic diversity. For a loss of diversity in the society (as biological diversity in the nature) invites stagnation, degeneration, and downfall of the mankind, a loss of the source and impetus of its progress from stage to stage, from cycle to cycle, going through rise and crisis phases, radical innovative refreshment periods.

Another challenge of the 21st century is **a threat of clash between civilizations**, which was expressed clearly by **Samuel Huntington**, and caused an outburst of resentment all around the world. However, the threat is quite realistic, and it stems from impersonal roots. It is not only a growing comprehension of interests specific to each civilization, but also a divergence of these interests during transitional crisis epochs.

Stratification, a certain level of differentiation inside a common system, i.e. a level fluctuating with cycle phases, aggravating during a crisis period and recovering in a maturity phase, is inevitable and progressive, as it determines the society's dynamics, is a prime mover and impetus of its transition from phase to phase, from cycle to cycle. However, when stratification turns out to be excessive, then it degrades into polarization, a system loses its steadiness and movement power and can perish. According to A.A. Bogdanov, a system in this state appears to be disorganized, when a whole is less than the sum of its parts, a growing percentage of the system's power is spent for a struggle among its components, which all can be harmful for the system. A response to the challenge seems to take as much as the first half of the 21st century.

2.3. Cyclicity in Dynamics of World Civilizations

In our understanding of this notion, world civilizations are major stages of the society's development history, which origin we date, as **N.N. Moiseyev** did, to the Neolithic revolution. "The Neolithic revolution was the origin of all the civilizations existing now... Following the Neolithic revolution... the modern history start-

ed – the history of a “producing” civilization, better to say, civilizations!” [65, P. 32, 37).

Every world civilization goes through certain phases of its life cycle:

- ➔ origination in advanced countries in the previous cycle entails and preceding world civilization;
- ➔ establishment within the framework of a transition period in confrontation with obsolete components of a civilization escaping in the history;
- ➔ diffusion over countries and continents, expansion of potential capabilities contained in it;
- ➔ maturity, predominance in the most parts of the world;
- ➔ transformation of local civilizations existing at previous historical progress stages;
- ➔ exhaustion of most of a movement power, a state of stagnation transforming into a crisis phase;
- ➔ gradual escapement from the historical scenes, constriction of its habitat;
- ➔ existence in a relict, subordinate state in countries and local civilizations lagging behind advanced civilizations and countries for some reasons.

Therefore, a pattern of the global civilization at every historical point of time offers a three-, if not more, layered structure; civilizations and countries representing predominating, forthcoming, escaping and, Sometimes, relict world civilizations.

Along with that, the historical time counts in advances countries of predominating civilizations.

We distinguish the following world civilizations changing each other:

- ➔ **Neolithic civilization** (8-4th millennia B.C.) which structure had not yet established totally local civilizations just started establishing at the end of the period;
- ➔ **Early class civilization** (late in the 4th millennium to early in the 1st millennium B.C.) when the civilization structure had established totally and the greatest number of innovations had been implemented, which defined the society's image;
- ➔ **Antique civilization** (early in the 1st millennium B.C. to the mid-1st millennium A.D.) that had reached the highest peaks of the spiritual life (“axial age”) and the governmental and legal sector (Roman Empire, Roman law);
- ➔ **Medieval civilization** (6th – 15th cc.) when the third generation of local civilizations had started establishing, the leader-

ship had been gained by Western European and Oriental (Chinese, Indian, Muslim) civilizations, and the reign of religions, an ideational socio-cultural order had been observed.

➔ **Early Industrial civilization** (the 16–18th cc.) – the predominance of Western European, Chinese, Indian and Russian civilizations, the establishment and diffusion of the fourth generation of local civilizations, capitalism, a sensitive socio-cultural order, first bourgeois revolutions;

➔ **Industrial civilization** (second half of the 18th century – late 21st century) that had started from the industrial revolution, French bourgeois revolution, and independence of the USA, with the predominance of Western civilization opposed by Russian one, the establishment and disintegration of a colonial system of the colonialism, and a socialist experiment covering a substantial part of the world;

➔ **Postindustrial civilization** (early 21st century – assumingly late 22nd c.), which distinctive features seem to be a humanitarian and noospheric nature, the globalization of economic, sociopolitical, and information processes, a prevailing trend towards depopulation, the establishment of a new scientific paradigm, and the establishment of an integral socio-cultural system.

A life cycle of every world civilization provides its own peak where its typical features are disclosed to a greatest extent possible and a potential embedded in its genotype is implemented; and a long transition period by the end, which expresses a total civilizational crisis, exhaustion of a predominant world civilization's potential, and its gradual curtailment under an aggressive pressure of the next civilization that perceives and modifies a heritage accumulated by previous civilizations relating to a new stage of the historical progress (a world civilization genotype).

Therefore, **civilizational crises are of the two types**: a crisis phase in a life cycle of every specific local civilization, while these can differ by time and depth in various civilizations; a predominant world civilization crisis at the latest phase of its life cycle, at the end of a transition to the next stage of the society's historical evolution. Let's refer to the first type as a **local civilizational** crisis and the **second as a world civilizational** crisis. The latter comprises a number of interrelated local crises, first and foremost, in civilizations being advanced ones at the historical stage.

Each of local and world crises provides its own pattern. It includes a number of interrelated components such as demographic, environmental, technological, economic, governmental-political, and so

cio-cultural ones, while a component can play a leading role in a crisis and entail the others. For example, a demographic component played a crucial role in a crisis of the medieval civilization when the European population numbers dropped from 73 to 43 million people as a result of a plague epidemic (Black Death) during a century between 1300 and 1400; this was also a main cause of a crisis in Mongolian civilization. Important causes of a crisis in Industrial civilization appeared to be a demographic explosion and environmental contradictions during the second half of the 20th century. A most drastic environmental crisis late in Mesolithic era turned out to be a major factor of the Neolithic revolution and the emergence of the first world civilization. A technological factor was the content of the industrial revolution and a shift from Early Industrial world civilization to Industrial one. A crisis of an economic, sociopolitical and socio-cultural system manifests itself clearly during transition periods when world civilizations change each other. One can foresee that civilization cycles and crises will persist in future, when successive world civilizations change each other at an accelerated pace, unless the distracted mankind crosses out the historical progress as a result of a nuclear war, a collision between civilizations, a global environmental or technological disaster.

2.4. Historical Super Cycles in the Development of a Global Civilization

The utmost form in a society's dynamics of cyclical processes that we investigate are *cyclical fluctuations in the development of global civilization* as a single system subject to common regularities of the systems evolution.

The *life cycle of the mankind* as Homo Sapiens that has been lasting for 40 thousand years can be split into several phases:

➡ *origination* (about 30 millennia) when a man had not yet lost contact with the belly stalk of his mother nature, existed at the cost of hunting, fishing, picking like other species of the live nature; this is rather a pre-history than a history of the human society;

➡ *establishment of a reproducing society* when a man cut the belly stalk connecting him directly with the mother nature, when a society's entire structure established — a pyramid of civilization and

every floor of the pyramid was assimilated and occupied. The point is the first historical super cycle (this notion was first introduced in 1005 – see 15, P. 87) which embraces a triad of ancient (Neolithic, Early Class, Antique) civilizations. The period ended in the “axial time” during which a civilization structure established;

➔ *diffusion, i.e. dissemination outwards and inwards* as a result of the second historical super cycle – a triad of Medieval, Early Industrial, and Industrial civilizations, which embraced almost all the oecumene (the inhabited part of the globe) and transformed all the aspects of the society’s life.

If we follow that logic, then one can expect that, **starting from the 21st century, the mankind (society) enters a maturity phase of its life cycle, the third historical super cycle to embrace the three successive evolution periods of the world civilizations** and will last for 500 or 600 years (in view of historical time compaction). Indeed, this is only a suggestion, a hypothesis with a great uncertainty extent, as a lot of unpredictable factors can arise, which will influence the path of historical dynamics and the mankind fortune.

A change of historical super cycles is accompanied with civilization crises of a surprising length and depth. When a society’s genotype transforms radically, then its fortune changes as well. Let’s refer to such civilization cycles as *super-historical* ones. Each of those realizes in deepest civilization cycles of local and world civilizations accompanies with a radical rearrangement of the global civilization.

The emergence of the first historical super cycle was preceded with a deepest and longest crisis late in Mesolithic era and early in Neolithic era, which has been described above. A shift from the first historical super cycle to the second one had taken a great part of the first millennium (4 or 5 hundred years) and had been accompanies with a drop in the world population numbers, a change in leading local civilizations, an intense rearrangement of all the society’s pattern. A global crisis that started late in the 20th century promises at least the same depth and radical changes, which is related to a transition to the third historical super cycle and an integral socio-cultural system; this crisis, a transformation period, will take probably a prevailing space of the 21st century and will be accompanies with changes, most of which are impossible to predict right now. It is possible only to state for sure the following: a society of the 22nd and 23rd centuries will differ from the industrial society of the 19th and 20th centuries much greater than the latter differed from the Early Industrial society of the 15-17th centuries.

Which way and when the life cycle of the mankind as a single mega system will end? According to the above logic, the fourth historical super cycle in the second half of the 3rd millennium (if it is possible to look so bravely into a remoter future) will be a phase of decline, a crisis of the mankind as a global social system. Whether this phase will end in the mankind's degradation and death or will be a starting point, an impulse to a new spiral of its history — there is no definite answer to the question still. Let's leave it to the generations to come, if the mankind is destined to continue its existence and evolution. Our capability and our commitment are to point to a potential historical alternatives. They will make their own choice.

Apart from super historical there are also ***world and local civilizational crises***.

A specific feature of the present era starting from the late 20th century is that it sees all the three types of interacting civilization crises which have been predetermined with a shift towards the third historical super cycle, postindustrial world civilization, and towards the fourth generation of local civilizations. This results in a tuning effect, a special length, depth, and painfulness of transformations occurring within the society, calls scientists to comprehend the essence, predict forthcoming changes and effects, and a n informed, purposeful choice. It is necessary to consolidate the efforts of all civilizations and social forces to go through a critical segment of the historical track with a lower risk, minimal loss and distress.

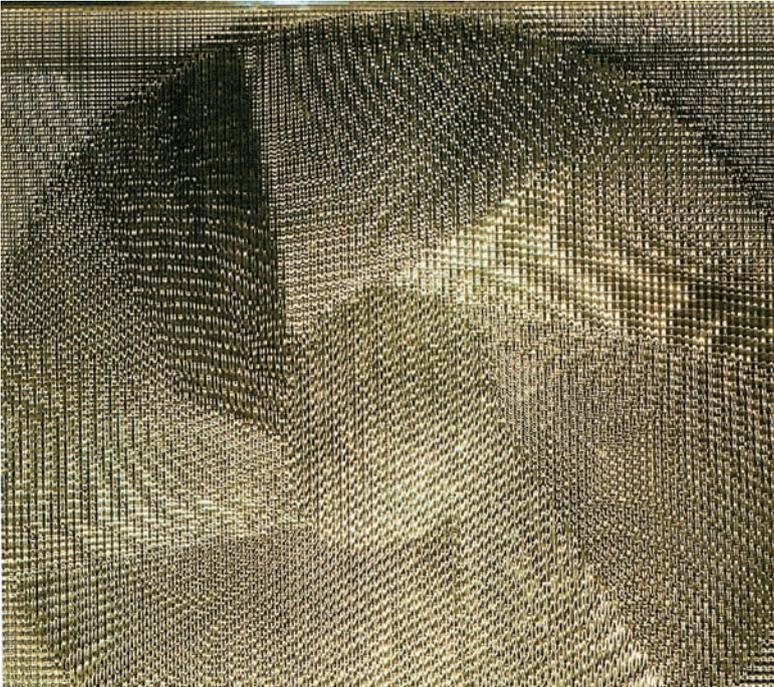


Checklist and tasks to Chapter 2

1. Are cycles and crises unavoidable in dynamics of civilizations? Can be crises surmounted and even sustainable development of economy and society be ensured?
2. How do cycles and crises manifest themselves in dynamics of local civilizations? Illustrate your answer with an example of own civilization.
3. What are manifestations of cycles and crises in dynamics and change of world civilizations? Consider a specific example of an industrial world civilization.
4. Describe historical super cycles in dynamics of a global civilization. Does a change of historical super cycles occur at the turn of the 20-21st centuries? Reason your answer.
5. Will cycles and crises persist in dynamics of civilizations in the 21st century?

Chapter 3

CIVILIZATIONAL SOCIOGENETICS



Heinz Mack. The Silver Sun. 1965

The world and national socioeconomic thought has accumulated a considerable volume of knowledge of history, development and prospects for the world and local civilizations. However, the theory of civilization development is considered to be unfinished until the basic principles of the cyclical and genetic mechanism of these complex social systems, which cause these systems to appear, cyclical fluctuations, regular crises resulting in the conversion of civilization into an absolutely new state (a new coil of the historic spiral) or cause them to disappear from the historic scene, remain unknown. In other words, **it is necessary to understand the mechanism of civilizational self-development** and realization of the genetic triad – heredity, variability and selection in the cyclical civilizational development.

The cornerstones in the establishment of sociogenetics were laid by Pitirim Sorokin and Nikolai Kondratieff as far back as in the 20-30s of the 20th c. However, this top of the theory of cognition of society remained unwinnable. Only in the 90s this branch of social sciences began to be actively developed. Time has come to complete it with one more edge – research into genetic regularities in dynamics of civilizations.

3.1. Sociogenetics as the Cognition Top of Regularities in Dynamics of Society

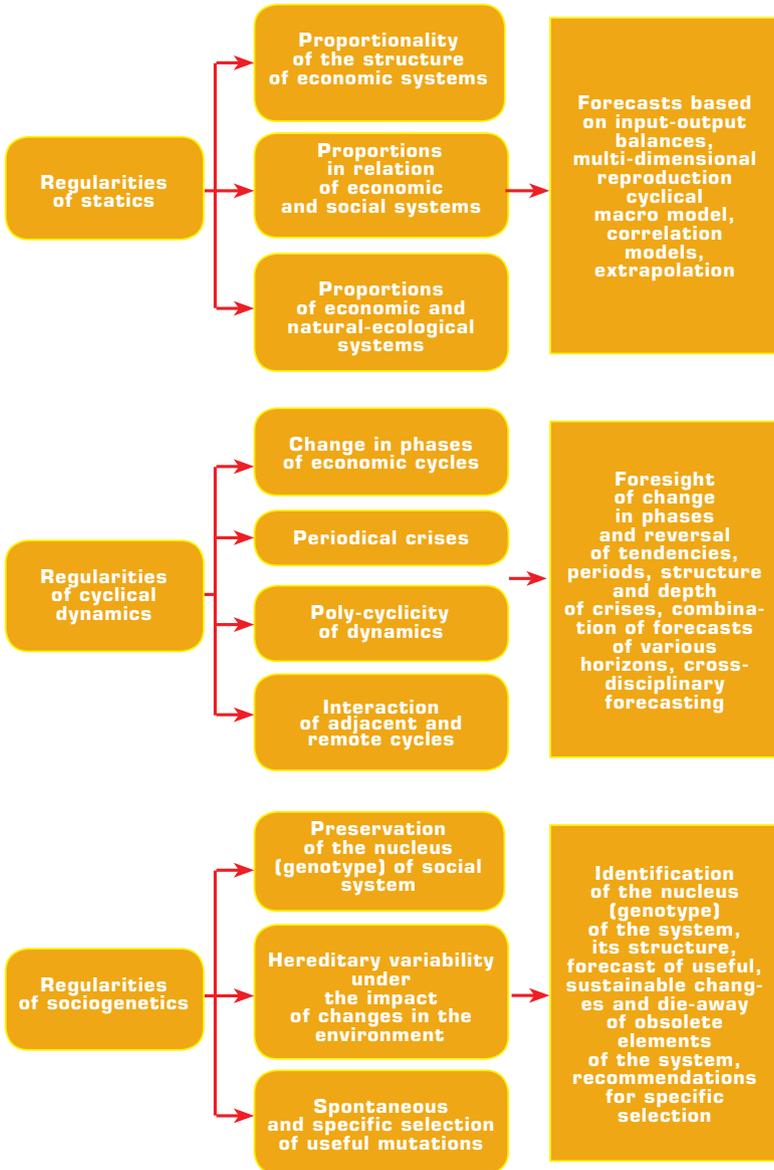
N.D. Kondratieff while in the Butyrskaya Prison in 1930 continued to develop his ideas. In one of his writings he noted three levels of nomographic (abstract) science as follows: statics, dynamics and genetics: Without having a clear idea of economic genetics, the modern methodology of economic science determines and tends to formulate only the concepts of economic statics and dynamics” [42. p. 275).

Being in Suzdalsky political prison, N.D. Kondratieff outlined a grandiose plan in order to prepare manuscripts for his five monographs, writing in his letter dated 7 November, 1934: “the theory of trend; large market cycles; minor cycles and crises; the basic principles of economic statics and dynamics; and, finally, the fifth work related to the synthetic theory of socio-economic genetics or the development” [42. P. 520].

He managed to write only his first book — “Theory of Trend”, the manuscript of which was destroyed after he was executed by shooting, and created a macro model of economic dynamics that Kondratieff himself considered to be a scientific discovery. If he had implemented his plan, it would have been a valuable contribution to the theory of economic dynamics and genetics for both the Russian and world sciences. This would considerably change the course of further research and brought the formation time of post-industrial paradigm of social science forward. Stalin’s repressions had crippled not only the Russian socio-economic thought but the world one as well.

According to N.D. Kondratieff, science comprises three parts — three sequential stages of perception: statics, dynamics and genetics (*Figure 3.1*). **Statics** deals with a structure (ratio) of functioning and correlations of the system, whether it is in a quiescent state or in the period of the quite even evolutionary development. **Dynamics** studies cycles and crises taking place in the period of development of the system, disturbance and renewal of the balance, correlation between cycles and crises of different duration in the related or distant fields. **Genetics** is aimed at studying the mechanism of heredity, variability and selection during the development of systems, composition of their

Figure 3.1.
Regularities of statics, cyclical dynamics and sociogenetics



genotype (the hereditary nucleus), the mechanism and results of its renewal and enhancement and the range within which the genotype can change in crisis situations.

Genetics is the top, utmost of scientific cognition. Natural sciences, primarily, biology, reached this level only in the 20th century, although Mendel, a monk from Czechia, established the laws of heredity on the basis of his observation of a pea at the end of the 19th century.

Unfortunately, the USSR considered sociogenetics to be contrary to vulgar Marxism prevailing at that time, and halted its development for more than fifty years. Only in the 90s this problem aroused the interest again. **A.I. Subetto**, who published several works related to systems genetics [87] and was rewarded with a medal named after N.D. Kondratieff, has been a pioneer in this field. In 1993, the V Interdisciplinary Discussion “Sociogenetics: principles, contents, prospects” was held, the report on this issue was released, a long-range research project was drawn up. However, this project had not been implemented, so the research was carried out only in respect of individual directions. At the same time they made an attempt to apply the laws of sociogenetics to the study of development of civilizations, which was reflected in the monograph “Near the Cradle of New Civilization” by **Yu.V. Yakovets** [117]. **B.N. Kuzyk**, and **Yu.V. Yakovets** showed socio-genetic principles of the development of consumer market in their monograph “Russia 2050: Strategy for Innovative Breakthrough” [248. P. 248-300].

Still, one is forced to accept the fact that sociogenetics, which is considered to be a specific, unifying and most advanced science, is still at the stage of formation, although **Nikolai Kondratieff**, **Pitirim Sorokin** and modern Russian researchers made an outstanding contribution to it. Meanwhile, sociogenetics, along with the theory of cyclical dynamics and in its development, ranks very high in the upcoming post-industrial scientific paradigm. **It is evident that more than ten decades will pass before sociogenetics will become a fully formed (but developing) branch of social sciences.** For this purpose we will have to find solutions to a number of complicated problems:

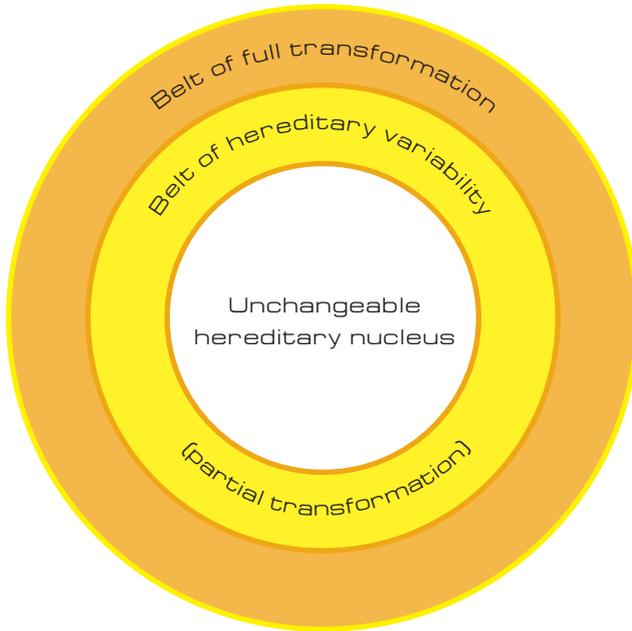
➡ *The essence of the social genotype* (the hereditary nucleus) of various systems of a society, including local, world and universal (global) civilizations;

➡ *The principles and mechanism of transferring the social genotypes* from one generation to another, including a change of world civilizations and generations of local civilizations;

➡ *The principles of hereditary variability*, renewal and enhancement of the genotype, as applied to changes in internal and external

Figure 3.2.

Transformation diagram of social system



conditions of the development as well as changes in the genotype of the world and local civilizations;

➡ *The mechanism of selection* of necessary and real changes in a system, the principles and motive forces of innovative renewal of a society, formation of the new world and local civilizations.

In what follows we will deal with only a *geo-civilizational* aspect of the socio-genetic problems, as applied to heredity, variability and selection (an innovative renewal) in terms of the development of the world and local civilizations and a change of stages of life cycle of the global civilization. This is the first problem to be further developed and balanced against other branches of sociogenetics – the science of the 21st century, an important constituent part of the post-industrial paradigm of social science, which has to be created, included into our educational system and practically used for long-term forecasting and strategic planning.

It is also necessary to solve the problem of *the genetic structure of civilizations*, proportion and composition of its constituent elements – the hereditary nucleus, an area of hereditary variability and an area of

Figure 3.3.

Transformation depth of social system



complete transformation (*Figure 3.2*) as well as the degree of the transformation of civilization in the period of a change of different kinds of cycles – medium-term, long-term (Kondratieff's cycles), super long-term (civilization cycles) and the thousand year long historic super cycles (*Figure 3.3*). It is clear that the degree of transformations (they can be also called a transformation intensity factor) can be measured only crudely and is not intended to be accurate.

3.2. Heredity: Social Genotype of Civilizations

Any system in wild life and a society exists and properly functions until its hereditary nucleus and genotype that determines its essence, distinguishing features, proportion and interaction between elements constituting genotype itself remains intact. The disclosure of the genotype and the hereditary nucleus of social systems, including human beings whose genotype is of biosocial nature, and their families as well as the global community and all the humankind with all diversity of its elements is the most significant advancement of scientific cognition of a society.

One is forced to accept that the genotype of civilizations – *both world and local ones* – *has not been thoroughly described in scientific literature*. We will make the first attempt to study this complicated problem, but without aspiring to the final solution.

In our opinion, **the structure of the civilization genotype** (if the matter concerns local civilizations) can include eight primary elements (a kind of social chromosome).

1. Natural and ecological environment where the civilization forms and exists. This environment includes:

➡ Environmental conditions in an area where civilization appears and develops, i.e. a torrid, cold or temperate climate, level and seasonal fluctuations in temperature, abundance or shortage of precipitations, etc. It is not accidental that the first generation of local civilizations appeared in the 4th-5th Millennia BC in a hot narrow area to the north of the equator which was the most favorable for formation and development of the society. **A.L. Chizhevsky** wrote: “If we analyze the conditions under which civilizations appear and develop, we will see that the greatest centers of intellectual life of the humankind were initially concentrated in areas with a maximum temperature. It refers to the Chinese, Babylonian, Egyptian, Indian, Antique and Arabian cultures” [106. P. 21) Only thousand years later the civilization area extended to the north and south, almost over all the land of the planet;

➡ Abundance, sufficiency or shortage of *natural resources* for people’s activity. The matter concerns the diversity of flora and fauna, land, fish and water resources, forest, available minerals, etc. Civilizations appeared and started developing primarily in areas where there were natural conditions for a high rate of labor productivity. The effect that this factor produced on the development of civilizations was studied by **Henry Buckle** who said about two groups of factors determin-

ing the conditions for appearance and development of civilizations: the first group are physical factors that find their expression in climate, food, soil and “general look of nature”, and the second group are the factor of intellectual growth and development – in other words, the level of knowledge of the laws of nature and their technological adaptation [20. V. 1. Ch. 2]. The first civilizations appeared in valleys near large rivers where there were fertile lands and water to irrigate them;

➡ the level of *environmental safety*, exposure to natural disasters such as flooding, earthquake, volcano eruptions, drought, etc.

➡ the extent of an effect produced by people’s activity on environment and the ability of the latter for self-reproduction and overcoming an adverse effect produced by this activity.

The natural and ecological factor primarily determines the distinguishing features and natural environment where the civilization appears and develops but it can not be considered the main factor that influences the formation of a genotype of the civilization.

2. A demographic component of the genotype of civilization is mainly concerned with a natural and ecological one, influences both nature and society and, as a result, is dual in nature but works independently. In this case the following should be distinguished:

➡ *Population and rate of its change*, the critical minimum level of the number of people that is necessary to establish large-scale complicated society; sufficient density of population, its concentration in cities, etc. Dispersion and the low rate of population growth delayed the start of formation of civilizations in north-east Eurasia for thousand years;

➡ *Race structure of population* (that is mainly dependent on natural factors);

➡ *Conditions for reproduction of population*, its gender and age structure, nature and structure of families;

➡ *National and ethnic structure of population*, linguistic structure, presence of the prevailing (dominant) nation (ethnic group), closeness of national and ethnic contacts;

➡ *Migration characteristics* of the population structure: comparative homogeneity and stability (for example, the present Japanese, Chinese or Indian civilizations) or formation due to an inflow of immigrants from other civilizations (for example, the North American, Latin American, Oceanic civilizations) “smelted” into one and indivisible people in the “melting pot” or containing enclaves of people belonging to different civilizations (this process is underway in some countries of the Western European and Eurasian civilizations).

In the course of time, as the population and its density increased and divided into different civilizations, the influence of the demographic constituent of the genotype became stronger. According to calculations made by **A. Maddison**, in the 1st Millennium A.D. the average annual rate of population growth was only 0.01% and varied from 0.09% in Japan, 0.07% in Africa and Latin America, 0.06% in the USA and the former USSR to the zero rate in Western Europe, China and India, but in the following five hundred years (1000–1500) the rate of the population growth increased a ten times — up to 0.1% in the world, and differentiation ranged from 0.17% in the former USSR, 0.16% in Western Europe and 0.15% in Eastern Europe to 0.07% in Africa and 0.08% in India. Then the rate of population growth in the world increased from one epoch to another (0.27% in 1500–1820, 0.40% in 1820–1870, 0.80% in 1870–1913, 0.93 in 1913–1950). The acme was attained in 1950–1973, when the average annual rate of population growth amounted to 1.93%, and differentiation ranged from 2.73 in Latin America and 2.37 in Africa to 0.71% in Western Europe. A sea change on demographic trends started in the last quarter of the 20th century: 1.62% on average in the world and differentiation ranging from 2.69% in Africa, 2.05% in India and 1.96% in Latin America up to 0.32% in Western and Eastern Europe, 0.54% in the former USSR and 0.55% in Japan [126. p. 257]. This tendency will be strong in the 21st century in accordance with the medium variant of the UN population forecast, the rate of population growth in the world will decrease in 2045–2050 up to 0.33% (a little higher the numbers of 1500–1820), with differentiation ranging from 1.08% in Africa, 0.41% in the USA, 0.26% in India, 0.20% in Latin America to 0.86% in Russia, 1.11% in Ukraine, 0.56% in Japan, 0.80% in Italy, 0.15% in Germany, 0.37% in China [133]. In our opinion, if this tendency remains at the same level, the general world population will have returned to 6 billion people (the level of 2000) by the end of the 22nd century. Demographic trends, growth and depopulation will be more and more important for local civilization as well as the whole humankind — global civilization.

3. A technological component of the genotype of civilization implies a certain technological standard (that changes from one epoch to another, during the transition to the next technological mode of the production and technological structure within the limits of this mode) of the development of productive forces of civilization and all their elements: certain means of production and technologies of their functioning, power and raw material resources, forms of industrial engineering, a skill level of employees. The technological standard of civilization determines com-

petitive capacity of goods, labor productivity, living standard of population, the position of civilization in the world technological environment – either its leading role or its lag. But this is not to imply that all branches and regions of civilization are of similar technological nature. On the contrary, there is direct evidence of a technological gap between industries and regions, a technological multi-pattern nature of economy. However, this gap does not go beyond its own bounds: leading branches and regions act as a kind of the motor that pulls those who are lagging behind. We can determine the average technological standard of each civilization and its dynamic development in respect of each epoch and classify civilizations according to this factor. During the periods of transition there is a frequent change of technological leaders. For example, at the beginning of the 21st century the North-American, Western European, Japanese and Oceanic (only in respect of Australia) civilizations are considered to be technological leaders, while the African and Moslem ones (except for the Near Eastern countries which export oil products) – lagging; other civilizations can be considered to be at the medium level.

4. An economic component of the genotype of civilization includes several elements that change from one epoch to another, along with economic modes of production:

➡ *The level of economic development* that finds its expression in manufacturing the gross domestic product (GDP) per capita;

➡ *The prevailing form of ownership* of natural resources and other means of production (state ownership, private property in one or another form, communal or public ownership, etc.); the ways of realization of the prevailing forms of ownership;

➡ *The prevailing forms of exchange*, the ratio of commodity output to the total output, a stage of the development of market mechanisms and commodity-money relations, the ratio of market sectors to non-market ones;

➡ *Nature and forms of distribution* of the manufactured product, the level of economic stratification of a society (economic polarization);

➡ *The role of the Government in function and development of economy*, appropriation of means of production, rent and other constituents of net income, the control of domestic economy, intergovernmental and inter-civilizational relationships, working out and implementing a long-term strategy, and the degree of the planned development of economy.

The North American, Japanese, Western European and Oceanic (in respect of Australia and New Zealand) civilizations refer to rich and economically developed; poor (developing) civilizations having a low level of average income per capita include the African (to the south

of Sahara but except for South Africa), Indian, Buddhist (except for South Korea, Singapore and Thailand), Moslem (except for Saudi Arabia and other countries which export oil products); other civilizations can be considered to be at the middle level.

In each civilization there is economic heterogeneity, the presence of difference types of ownership and economic structures, a different ratio of market sectors to non-market ones; with these ratios changing from one epoch to another during the periods of a change of the world civilizations and Kondratieff cycles.

The civilization progress finds its expression in acceleration in the rates of economic growth from one epoch to another and a change in the civilization share of the world GDP, especially, during the industrial epoch. (*Table 3.1*)

The civilization share of the world GDP has changed as well. In the pre-industrial epoch China and India (in 1 A.D. their share accounted for 57% of the world GDP, in 1000 A.D. – 51.6%, in 1500 – 29.3%, in 1700 – 46.7%), but by 1913 their share decreased up to 14.3%, by 1973 – by 7.7%; the Western European civilization was the first which emerged as a leader (from 21.9% in 1700 to 33% in 1913), the next were the North American (the USA's share increased from 0.1% in 1700 to 18.9% in 1913 and 27.3 in 1950) and the Japan (an increase from 2.9% in 1600 to 7.8% in 1973) civilizations [126. P. 261]. The economic constituent of the genotype of local civilizations changes at different stages of their life cycle; periods of prosperity alternate with periods of stagnation and crisis; their share in the world economic environment also changes, for example, the Eurasian civilization (the former USSR) took the unprecedented step backwards due to non-liberal market reforms and collapse of the civilization.

5. A social structure of civilization is not less significant. Society is divided into different classes and social strata which are of difference importance for reproduction and appropriation of the manufactured product and management. From the moment when the early-class civilization (since the 4th-3rd Millennia BC) appeared, several social classes typical of each civilization can be distinguished:

➡ *Ruling class* that includes the rulers of states and the nobility, major owners, religious and military leaders, rich businessmen;

➡ *Middle class* that includes officials, army officers, scientists, doctors, culture workers, independent manufacturers, builders, land-owners, traders, middle and minor businessmen, ministers of religion;

➡ *Prevailing class* that includes peasants, craftsmen, workers, small traders, low-rank officials, soldiers;

Table 3.1.

Dynamics of GDP Growth Rates *

Regions		1- 1000	1000- 1500	1500- 1820	1820- 1870	1870- 1913	1913- 1950	1950- 1973	1973 - 2001
World as whole	a ¹	0.01	0.15	0.32	0.93	2.11	1.82	4.90	3.05
	b ²	0.00	0.05	0.05	0.54	1.30	0.88	2.92	1.41
Western Europe	a	-0.01	0.29	0.40	1.68	2.11	1.19	4.79	2.21
	b	-0.01	0.13	0.14	0.98	1.33	0.76	4.05	1.88
Eastern Europe	a	0.03	0.19	0.41	1.41	2.33	0.86	4.86	1.01
	b	0.00	0.04	0.10	0.63	1.39	0.60	3.81	0.68
Former USSR	a	0.06	0.22	0.47	1.61	2.40	2.15	4.84	-0.42
	b	0.00	0.04	0.10	0.63	1.06	1.76	3.35	-0.96
USA	a			0.86	4.20	3.94	2.84	3.93	2.94
	b			0.36	1.34	1.82	1.61	2.45	1.86
Latin America	a	0.07	0.09	0.23	1.22	3.48	3.42	5.38	2.89
	b	0.00	0.01	0.16	-0.03	1.82	1.43	2.58	0.91
Japan	a	0.10	0.18	0.31	0.41	2.44	2.21	9.29	2.71
	b	0.01	0.03	0.09	0.19	1.48	0.88	8.06	2.14
China	a	0.00	0.17	0.41	-0.37	0.56	-0.02	5.02	6.72
	b	0.00	0.06	0.00	-0.25	0.10	-0.62	2.86	5.32
India	a	0.00	0.12	0.19	0.38	0.97	0.23	3.51	5.12
	b	0.00	0.04	-0.01	0.00	0.54	-0.22	1.40	3.01
Africa	a	0.07	0.07	0.15	0.75	1.32	2.57	4.43	2.89
	b	0.00	-0.01	0.00	0.35	0.57	0.92	2.00	0.19

* [126. — P. 260, 261, 263].

1a — GDP growth rates BBII, %, in comparable prices;

2b — GDP growth rates per capita.

➡ *Lower class* that includes slaves, serfs, untouchables, those deprived of rights and personally dependent.

As the social structure of civilization changed from one epoch to another, the economic and political one changed as well. After the slavery in North and South America and, then, the caste order in Indian had been prohibited, the lower class practically ceased to exist. Nowadays, a three-tier social structure is typical of all civilizations, although in some places there can be seen some relics and facts of personal dependence.

However, each civilization has its own peculiarities and distinguishing features typical of the social constituent of its genotype. For example, the social structure of the North American, Western European and Oceanic (in respect of Australia and New Zealand) civilizations significantly differs from that of the Chinese, Indian, Moslem or African civilizations; the social structure of the Eurasian civilization dramatically changed twice: at the beginning and at the end of the 20th century.

6. A governmental political component of the genotype of civilization includes the following basic elements:

- ➡ *a state structure*, form of political power (monarchy, parliamentary or presidential republic, tyranny, totalitarian regime, etc.);
- ➡ a degree of *democracy* and citizens' participation in solving major problems, forms of self-government, etc.;
- ➡ *a legal structure*, legislative control over different parts of life of society, the degree of independence of the judicial system;
- ➡ *a political structure*, existence and competitive struggle of parties representing the interests of different social strata;
- ➡ Existence of a *civil society* and the institutions representing it, the degree of control over the state machinery.

The state-political constituent is the most complicated and rapidly changing constituent of the genotype of civilization. A change of forms of the state structure was showed as early as in "The State" by **Plato**. Accumulation of the democratic principles and involving more and more people in the decision-making process is considered to be the historic trend in the dynamic development of civilizations. However, in this case there is also some instability during the periods of political coups and revolutions. In some civilizations and countries the political constituent did not undergo any changes during the long period of time (for example, the North American and Oceanic civilizations), while in the others (the Eurasian and Western European civilizations) this constituent frequently changed and was characterized by some instability. From the end of the 20th century there was a tendency towards approximation of the state-political structures in different civilizations, although they still significantly differ.

7. A socio-cultural component (the field of spiritual life) is one of the most important elements of the hereditary nucleus of local civilization. This component comprises the following elements:

- ➡ *Nature and the level of scientific knowledge*, a composition and development of scientific schools changing each other, originality of philosophic thinking, civilizational peculiarities in the enhancement of scientific paradigms;

➡ *Diversity of cultures* in respect of civilizations as well as their internal structure (national and ethnic variety), differences in art and architectural styles, literary and musical heritage, aesthetic valuations;

➡ The existing system of assimilation of knowledge and culture by the next generation by means of the *educational system*, training and retraining of personnel, the established pedagogic schools and traditions;

➡ *The system of ethic values* as well as standards of people's activity and behavior in a family or society which are partly regulated by law but more general in nature and directly connected with the prevailing type of religion;

➡ *Religious ideology*, the ruling or prevailing confession and religious institutions that put religious principles into practice. Some contemporary civilizations have the only one confession (Moslem), other civilizations have many collaborating and confronting religions (the West-European, Eurasian, African civilizations), while the others are indifferent to religious faith (the Japanese and Chinese civilizations).

Arnold Toynbee considered that religious affiliation was a constituent feature of civilization. In doing so, he distinguished the Orthodox and Christian, Moslem and Indian civilizations [90. p. 133]. **N.N. Moissejev** had another point of view. He thought that it was the business of civilization itself to choose a kind of religion appropriate to its spiritual system: "In contrast to Toynbee, I do not think that the religion forms civilizations, it is civilizations that assimilate those moral principles and religious ideology which is consistent with civilizational traditions of the people to the greatest extent. In other words, the civilization chooses the right religion and adapts it for its needs and ideals" [65. p. 105].

This approach is based on the following arguments. Firstly, local civilizations had been appeared three thousand years before the monotheistic world religions originated, and, initially, all the civilizations passed through the period of polytheism. Secondly, according to **Karl Jaspers**, the reason why the world monotheistic religions appeared in the Axial Age was connected with the crisis point in the development of civilizations of the second generation, which became one of the reasons for formation of the third generation. Thirdly, the formation of the fifth generation of local civilizations at the turn of the third millennium is associated with an increase in a number of various religions and a dialog among confessions.

8. A historic component of the genotype of local civilizations represents the historic experience that they accumulated in respect of the

understanding of community of vital interests of the peoples as well as relationships with other civilizations. These relationships are differentiated: from a dialog, collaboration and partnership to confrontation and conflicts that sometimes resulted in a collapse or absorption of the weaker civilization. The historic experience was a kind of binding force which emphasize the importance and interaction of all the constituent parts of the genotype of local civilization, its maintenance and enhancement at different stages of the life cycle of civilization.

The structure of the genotype of local civilization is illustrated in *Figure 3.4*.

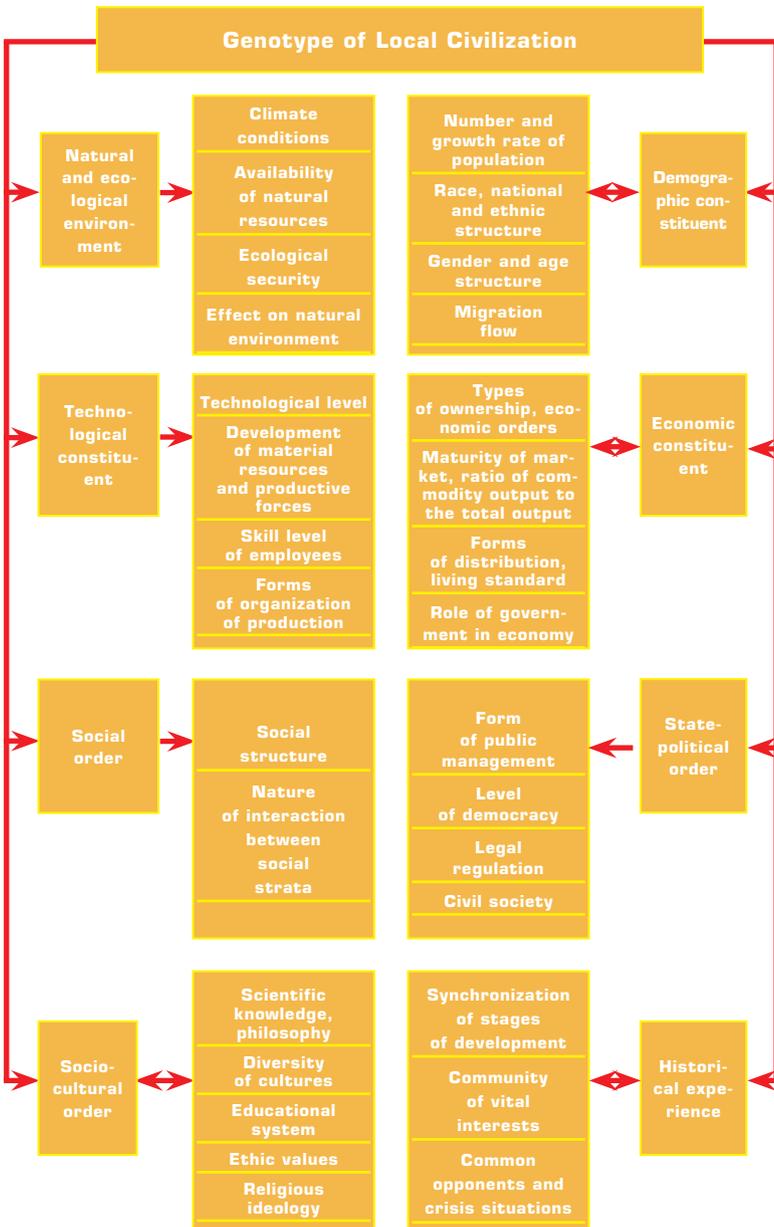
The genotype **of the world civilization** slightly differs from that of the local civilization. The genotype of the world civilization is a crucial stage in the history of the development of the global civilization – of the whole humankind at a certain stage of its life cycle. Like **N.N. Moiseyev**, we start keeping a chronicle of the history of global civilization from the Neolithic revolution, the formation of reproducing economy and the beginning of social division of a society (on the basis of social division of labor) that took place about ten thousand years ago, when Homo Sapiens were threatened with extinction due to the major ecocatastrophe in the late Mesolithic epoch and had to carry out epochal innovations such as cattle breeding, agriculture and, then, handicraft and building.

During the period of the first world civilization – the *Neolithic* one – the genotype of the world civilizations only started developing. It comprises natural and climatic, demographic, technological, partly economic and socio-cultural components. However, at that time there was no social division, state and law. Local civilizations did not start to exist yet. Therefore, the first thousand years of the history can be considered a stage of the origin of the global civilization, its two components – the world and local civilizations – and their genotypes.

These genotypes completely formed and started interacting between each other during the period of *the early class world civilization* (approximately, from the middle of the 4th up to the beginning of the 1st Millennium BC). At that time there was a series of major events: the society divided into social classes, commodity-money relations developed, state and law started existing, socio-cultural life underwent some significant changes (the revolution of moral standards supported by religions; creation of the written language; providing the basic framework of scientific knowledge and education), people began to acquire their historic experience. The first generation of local civi-

Figure 3.4.

Structure of the Local Civilization Genotype



lizations that developed primarily in cities (“city revolution”) came into existence and passed through all the stages of its life cycle. This epoch is characterized by a great number of dramatic changes in social life and epochal innovations that laid down the foundation for the development of society for many thousand years. Using the methodology by **Karl Jaspers**, we can say that it was the *first Axial Age*. It was the period when the genotype of both the world and local civilizations constituting the matrix structure of the dynamically developing global civilization completely formed.

During the next world civilizations: the ancient (the beginning of the 1st Millennium BC – the middle of the 1st Millennium of A.D.), medieval (4th–13th c), early industrial (14th–the middle of the 17th c), industrial (the middle of the 18th – the end of the 20th c.) and post-industrial (developing from the beginning of the 21st c. and having an expected period of life cycle up to the end of the 22nd c), these genotypes were developing, enhancing and getting renewed. They were mutually complementary in general environment of transition of the humankind from one stage to another, through the cycles of different duration and crises of a different extent.

So what is the difference between the genotype of the world civilization and that of the local one? Basically, it comprises the same eight components as the genotype of local civilizations but with reference to a certain stage of human society, which offers the potential for the clearer understanding of qualitative and quantitative characteristics of the level of the development of each component. However, in this case there are two elements, two components: the *definite composition of local civilizations* representing a civilizational diversity at a certain stage of the historic progress, and *geo-civilizational space* that is a part of the inhabited area extending from stage to stage and occupied by civilizations (a civilizational belt) in contrast to the areas where civilizations did not form completely or just started to exist. In doing so, it is necessary to take into account a *multi-layer nature of geo-civilizational space*: along with the prevailing world civilization and all its typical hereditary characteristics, the area is partly occupied by dying and ousted world civilizations as well as the relic ones which have become a thing of the past a long time ago; at the same time there is a number of areas having the germ of new incipient civilization that is coming to take the place of the prevailing one.

The composition of local civilizations is also of multi-layer nature. Some civilizations are the leaders in assimilation and distribution of

the basic principles of the prevailing world civilization. The others are trying to catch up with, they are in the second league, gradually assimilating the main components of the prevailing civilization. The third ones turn out to be in the rearguard, mainly representing the dying world civilization. At the same time there are local civilizations that refer to different generations.

Local civilizations are of the same multi-layer nature. Sometimes these civilizations can demonstrate the very queer combinations and zigzags. For example, in North America before the civil war in the middle of the 19th century, the prevailing industrial order went with the relic slave-owning system which was a thing of the past a long time ago. As for modern Oceania, Australia and New Zealand, which are now in the period of transition to the post-industrial world civilization, coexist with such countries as Polynesia, Micronesia and Melanesia that have still preserved relics of the primitive society typical of the Neolithic civilization.

However, one should not take the global civilizational area as a number of separate elements. This is the developing *unified system, the relationships between separate elements of which are becoming closer and closer with the course of each historical epoch*. The more synchronizing global cycles (although each element of this system has its own cyclical rhythm) act in this area; sometimes this system goes through the periods of crises involving a bigger or smaller part of the geo-civilizational area (although their behavior significantly differs in each part of this environment).

Consequently, the socio-genetic principle of heredity influences the multidimensional civilizational area by means of handing over the following three types of modified and enhanced hereditary genotypes: the world, global type that represents the unity of the humankind and passes through certain stages of its historic development; the world civilizations representing the essence of these stages; local civilization representing the diversity of separate elements of the humankind and specific nature of its dynamic development — unity through diversity. Graphically it can be presented as a giant spiral with the very complicated structure, the individual coils of which comprise of intertwining threads of local civilizations. The direction of this spiral represents the general trend of the historic development of the humankind (the world or global civilizations) increasing the speed from stage to stage of its life cycle.

3.3. Variability: Transformation of the Genotype of Civilizations

It is not to be supposed that the hereditary genotype of either local or world civilization will remain intact over hundred and thousand years — the whole life cycle allotted by the history. Although the composition of abovementioned “social chromosomes” remains intact, each chromosome undergoes more or less great periodical changes and transformations. Some elements die, the others appear. This process is absolutely essential for the adaptation of civilization to the changing external and internal conditions of its development. Therefore, the genotype is considered to be a permanently changing hereditary nucleus of civilization which is transmitted to the next generation in the less or more modified form. It is the essence of the hereditary variability as a principle of sociogenetics.

Factors causing variability — both internal and external ones. *Internal factors* are associated with the development of civilization in the course of time, a change in stages of its life cycle — appearance, formation, development, maturity, aging, a general crisis — and going through the same stages in a new cycle (as it was with the Chinese or Indian civilizations) — or absorption by other civilization or disappearance from the historic scene and existence in the relic form (as it happened to a great number of the ancient civilizations). An effect produced by external factors is the other reason for transformation. These factors include a change of natural and ecological environment caused by territorial expansion (as it was with the short-lived Mongolian civilization occupying the most part of Eurasia), major natural disasters and ecocatastrophes; wars, conflicts between civilizations, etc. changing the geopolitical structure of the world; appearance and assimilation of the world religions and ideological tendencies drastically changing its spiritual life.

The principles of variability work in harmony with cyclical dynamics of local civilizations and a change of world civilizations. As a social system, each civilization has its own genotype (this genotype works while this civilization exists) which produces a considerable effect on the composition and the hereditary genotype of the group of local civilizations existing in the same historic period. **A. Toynbee** discovered *37 local civilizations in three generations* and gave the detailed description of 24. However, this does not mean that this list is completed. New archeological finds and historical data enable us to make this list fuller. Furthermore, not a few *protocivilizations* with the genotype not completed through those or these reasons existed.

The first generation of local civilizations similar to the early class world civilization (the end of the 4th – the beginning of the 1st Millennium BC). These civilizations occupied the narrow area to the north of the equator; often they did not go through the whole life cycle, so we have little information about them. In Central and South America civilizations of the first generation (Mayan, Aztec, Incas) developed in the later historical period – until the 16th century when they were almost destroyed during the conflicts with the aggressive West European civilization of the third generation. In that period the genotype of local civilizations was unstable; this social institution itself went through the stage of origination and formation.

A number of civilizations of the *second generation* existing during the period of the ancient world civilization (approximately from the beginning of the 1st Millennium BC up to the middle of the 1st Millennium A.D., but some civilizations – for example, Byzantine – even longer) and local civilizations decreased, the genotype became more stable. Some civilizations move up from the first generation to the next one, radically transforming their genotype (Indian and Chinese civilizations), others appear again (the ancient Greco-Roman, Persian, mixed Greco-Scythian civilizations). The area occupied by civilizations (a civilizational belt) extended towards north and south; civilizations established manifold relations and a system of trade, technological and cultural exchange, which accelerated the civilizational process. However, the isolation of the American continents was impeding this process in the New World.

In the middle of the 1st Millennium A.D. the civilizations of the second generation found themselves in a state of long-term crisis and went through the period of transition that lasted for several centuries. At the same time there was a process of origination of the *third generation* of local civilizations – the Byzantine, West European and Eurasian civilizations, and, from the 7th c., the Moslem one which spread rapidly across North Africa, Persia, some part of Volga region and penetrated into Pyrenees. This period was associated with a short-lived upturn of the Mongolian civilization in the 12th-14th cc., which spread across the most part of the Eurasian continent over the shortest historic time, conquered other older civilizations and assimilated cultural heritage of the Chinese civilization. The life cycle of the Byzantine civilization, which preserved the heritage of the Greco-Roman antiquity and, along with the Arab world, handed over the main part of this heritage to the West European civilization, turned out to be quite long. The Slavic (future Eurasian) civilization that was of mixed nature in many respects started developing in Eastern Europe.

The fourth generation of local civilizations originated in the period of the early industrial world civilization in the 15th–17th cc. and occupied the area of the industrial civilization up to the end of the 20th c. According to **A. Toynbee**, it included five ‘living societies’:

- ➔ Western society united by Western Christianity (Catholicism, Protestantism);
- ➔ Orthodox Christian or Byzantine society that occupies South-Eastern Europe and Russia;
- ➔ Islamic society – from North America and the Middle East to the Great Wall of China;
- ➔ Indian society that occupies the tropical sub continental region of India;
- ➔ Far-Eastern society that occupies subtropical and temperate regions of South-Eastern Asia. (13, p. 133)

However, this classification suffers from some disadvantages. It is based on the religious principle, although this principle is not always realized; the Far-Eastern society does not have any common religion and includes only the ancient Chinese and Buddhist civilizations and the relatively young Japanese one. The Moslem civilization includes also Indonesia. Africa with its great civilizational past (except for North Africa) was not taken into account at all. In addition to this, it is not likely to be reasonable to reduce the Orthodox Christian society to the Byzantine past. It can be admitted that the civilizational area of the early industrial and industrial epochs was more diverse and changeable than that described by A. Toynbee. In contrast to him, we also believe that not one but two generations of local civilizations existed in the period from the 6th to the 20th cc.: the third generation of civilizations of the Middle Ages (the 6th–14th cc) and the 4th – early industrial and industrial world civilizations (the 15th–20th cc.).

The new aggressive West European civilization has become the main agent in geo-civilizational environment. It spread its influence over the most part of the inhabited area, destroyed ancient civilizations in Central, South and North America, conquered India, Africa, Australia and most of the Moslem countries, established control over China. The Eurasian (the Russian Empire and, then, the USSR) and Japanese civilizations remained the small islands of independence.

No other civilization has ever spread and produced an effect on the transformation of the genotypes of other civilizations to such a great and global extent as the West European one did. All the elements of the genotype of the Western civilization underwent radical transformations as well, especially, after the industrial and bourgeois-democratic

revolutions (revolutions in Netherlands, England, France and North America). The pace of the historic progress and changes in the existing genotype of both the world and local civilizations sharply increased.

However, the Western civilization itself was not homogeneous. The apparent contradictions in the civilization still persisted, some long wars broke out, especially in the 20th c., in the period of the decline of the world industrial civilization, when the two most bloody wars in the history of a world war broke out and invention of nuclear weapons brought the human-kind to the brink of self-destruction — the last epochal anti-innovation.

Fortunately, the civilizations managed to avoid their end. When the cold war as well as the contradiction between two world systems came to the end, *civilizational diversity* has become of a great importance again. The foundations for this process were laid down in the course of national liberation wars and movements that took place after the Second World War and when the colonial system of Imperialism ceased to exist and the free countries started recovering their original civilizational values (In doing so, the influence of the Western civilization with its specific genotype became less strong). Civilizational features and interactions started playing the crucial role, which almost brought civilizations to the brink of new conflicts. **S. Huntington** was the one who gave the most thorough description of this process [121].

The process of formation of the *fifth generation of local civilizations* started under these circumstances. Differentiation and transformation of the civilizational genotypes has formed the basis for this process. The Western civilization that previously acted as a single whole has fallen into the parent West European and daughter North American, Latin American and Oceanic civilizations. The ancient Chinese and Indian civilizations are going through the period of their revival. This was preceded by the upturn of the Japanese civilization that has become one of the leaders in the industrial field. After the USSR had ceased to exist, the Eurasian civilization represented by the USSR as one of the super powers turned out to be in a state of half-disintegration, and some features of the East European civilization drifting towards the West European civilization became evident. The Moslem civilization, the binding force of which is considered the Islam itself and which is very different in nature, has exerted their activity again and is becoming more and more aggressive. After the short post-war period of the upturn, the African civilization (to the south of Sahara) is also in decline. Thus, the matter concerns twelve local civilizations of the fifth generation; although they are at the different stages of their life cycle, all of them are more and more aware of their interests in geo-civilizational environment (16.

p. 23–28). This is the way the principle of variability of the genotype of local civilizations works under existing conditions.

There is a possibility that the process of differentiation of the new generation of local civilization still is not over. If the confrontation of the North American civilization and the Moslem one becomes less tense, the latter will fall into the Arab, Persian (Iranian), Indo-Moslem and Indonesian civilizations, with no differentiation of their common Islamic values.

To the less extent the genotypes recover and improve within **historic epochs** (civilizational cycles) and during the periods of a change of long-term cycles (in the industrial epoch — Kondratieff's cycles). The ratio of technological order to the economic one as well as a political structure changes, wars and revolutions happen, new art styles appear, etc.

The principle of variability also works in respect of the **world civilizations** in the full course of their life to assure their adaptation to external and internal factors of the development. The genotype of each following civilization is formed during the period of transition. It absorbs and transforms useful elements of the dying civilization and, then, replenishes them with new elements typical of the developing world civilization. In doing so, there is a possibility that the epicenters of the civilizations progress, leading countries and civilizations will change. The degree of renewal of the genotype during the periods of a change of civilizations cycles (during the period of crisis common to the whole civilization) is of the greatest importance. Nevertheless it is also preserved and handed over through the heritage to new world and local civilizations. At the same time, changes in the genotype of individual local civilizations are more significant, as their composition can be changed too. Crucial epochs, in which there are radical changes of the genotypes of world and local civilizations, can last centuries and gradually shorten in the course of time.

The process of *globalization* that finds its express in a tendency towards smoothing over the differences between civilizations with the prevailing neo-liberal model is a new stage in the development of the genotype of the world (global) civilization at the turn of the millennium. It formed the basis for the idea that civilizations became a thing of the past and they will disappear in a united global super society — a kind of global “man hill” [172. p. 24]. There is a process of thrusting a set of values typical of the Western civilization upon other civilizations. This is a kind of “civilizational colonialism” which is similar to the colonial empires established by the West in the 15th-19th cc. It is the North American civilization but not the West European one who is playing the leading role now.

However, the tendency towards unification posing a direct threat to civilizational and cultural diversity is temporary and hardly ever manages to become prevailing. The genotypes of local civilizations have the many thousand year history, stability and the ability for adaptation to any changing conditions. However, the genotype of the post-industrial world civilization as an information technological society was diagnosed incorrectly; this is an attempt to bring the order and system of values of the late industrial society into the 21st century. Actually, as the research shows (16), the priority change in a state of Human beings and rational co-evolution of nature and society will be the distinguishing features of the humanistic and noospheric society, which requires a change of the model, principles and mechanism of globalization and carrying out it for the sake of most humankind and on the basis of a dialog, cooperation and partnership between civilizations that renew and enhance their genotype in conformity with new conditions and problems in the development of the humankind. To some extent, this process is associated with the model of globalization used by the European Union.

3.4. Selection: Mechanism of Development and Change Civilizations

During the periods of transition and civilizational crises (either at the moment of a change of world civilizations or at the crucial stages of dynamic development of local civilizations) the elements started moving in a more chaotic way, the challenges of the epoch are required to be met, the influence of the **socio-genetic principle of selection** increases, which, according to **Ilya Prigozhin**, results in an establishment of a new order — a new world or local civilization or a new stage of their life cycle — from the chaos.

The natural selection prevails in the dynamic development of nature (although, nowadays the influence produced by people's activity on the biosphere has increased.), while the **artificial selection is typical of the dynamic development of a society**. It is people and social strata (classes, groups, states) who carry out this selection in accordance with their own goals and interests. It is possible to distinguish two types of this selection: a *purpose-oriented* selection including the previously set goals and well-defined ways of their achievement and a

spontaneous selection existing under conditions of market competition and conflicts between social and political forces, the outcome of which is unknown in advance or even opposite to the expected ones.

What social powers carry out a selection in the dynamics of civilizations — local and the world ones?

First of all, this is the *members of intellectual elite* (scientific or art elite) who start seeing the contradictions in a society earlier than the other members of a society and do their best in order to find the ways to solve these problems, offering a broad range of alternative ways of the future development of a society. Many of these ideals and ways of their achievement turn out to be utopian and unachievable, while the others are reactionary and calling back to the past “Golden Age”, generally making people feel dissatisfaction with the present situation and find something new.

Social strata representing the elements of the future but incipient society are the first who respond to these signs; they are suppressed by the ruling classes whose interests are connected with the prevailing civilizational system that has already exhausted its potential. These strata include engineers, businessmen, politicians and public figures who assimilate new ideas and try to realize them.

New generations of people are the main motive forces of civilizational selection. The law of change of generation plays the leading role. This is a symbolic generation — a group of people born approximately in the same period of time and brought up under the influence of the same social and political changes and historic events — but not a demographic understanding of the generation (a group of people born in the same year) and a genealogical notion of the change of a generation (genealogical tree) [239. p. 4–6] It is 15–20% of the most talented and bright members of the generation who represent its interests and meet challenges of the epoch but not its arithmetical mean and characteristics, that are the essence of the generation.

The law of change of generation is likely the main mechanism of heredity, variability and selection. As **Arthur Schlesinger-young** [232] showed, each following generation spends the first fifteen years of its life cycle to assimilate the heritage of the previous generation and to modify it in conformity with its interests and changed conditions of the development; next fifteen years — to improve and secure its own contribution to hand it over in the fullest form to the next generation.

The gap between generations in the period of selection, handing over and assimilation of the heritage is not too wide at the evolutionary stage of the development of both the world and local civilizations. However, this gap sharply increases at the crisis stage, the gap between genera-

tion and the range of choice of alternative variants is getting wider and wider. According to **A.A. Bogdanov**, the system becomes disorganized, and a little effort is required to change significantly its motion path.

Unions of intellectual and social powers and new generation, which are interested in progressive changes, form the basis for the establishment ***institutions of a civil society*** to put these changes into practice: public movements, political parties, religious currents, etc. which are striving to come to power to make it the instrument of transformation of a society.

The government plays a contradictory role in the mechanism of the civilizational selection. Representing interests of the ruling classes and prevailing orders, it tries to freeze the existing order, opposes the changes and impedes selection. However, after the regime is overthrown in a coup, the government becomes a useful instrument of civilizational selection and establishes some new elements by means of law (for example, as it was with Napoleon's code after the French Revolution). However, it can also become reactionary and implement large anti-innovations (as it was with Russia in the 90s).

Selection in respect of the dynamic development of the world, local and global civilizations is carried out by means of ***the principle of periodic innovative renewal of a society***. Sometimes the innovative waves of different height and duration go through all the components of the civilizational genotypes, transform their structure, wash away everything outdated and replenish them with new elements adapted to the changed external and internal conditions of the development. Innovative waves are preceded by the crisis state of civilization that considerably exhausted its potential. An innovative wave helps the civilization to overcome the crisis, so it reaches an absolutely new stage of the development. If local civilization fails to develop or chooses a wrong way of its development (for example, it carries out a wave of anti-innovations), it disappears from the historic scene, giving a way to the higher system with the transformed genotype (as it was with the Eurasian civilization at the end of the 20th c).

Cluster of epochal innovations forms the basis for formation of the next world civilization or a new generation of local civilization once per several centuries. **Simon Kuznets**, the Nobel Prize winner, disclosed the role of epochal innovations: "The major breakthroughs in the development of human knowledge that have become main resources for long-term economic knowledge and widely spread across the world can be called epochal innovations. The changeable course of economic history can be divided into economic epochs determined by typical growth characteristics [70. p. 105].

We are considering the composition and role of epochal innovations in a broader sense, in respect of all components of the civilizational genotype which are radically transformed when transiting to a new historic epoch.

The Neolithic revolution that happened ten thousand years ago and epochal innovations of which became social division of labor (assimilation of agriculture, and cattle breeding and, then, handicraft and building), a city revolution, barter, property inequality and a written language, can be considered the first such an upheaval in the history of society. The first world civilization with its own specific genotype — the Neolithic — appeared; all the necessary prerequisites for the first generation of local civilizations were created by the end of the late Stone Age.

Epochal innovations of the early class civilization: assimilation of smelting and the use of metals (copper, bronze, gold), irrigating agriculture, origination of classes, state and law, formation of multi-pattern economy, commodity production and large social institutions — local civilizations of the first generation.

The next cluster of epochal civilizations refers to the time of the ancient world civilization. These epochal innovations include assimilation and distribution of iron tools of labor that considerably extended civilization area; ocean shipping; origination of democracy in city states and world empires; appearance of abstract sciences and world religions in Axial Age.

Epochal innovations of the medieval civilization include such innovations as a three-field system, fire-arms, the feudal order and organization of handicraft on the workshop base in cities, book-printing and universities, formation of the third generation of local civilizations.

The early industrial civilization is characterized as an epoch of manufactories, great geographic discoveries, discovery and development of America (with epochal anti-innovation — destruction of local civilizations), formation of Capitalism, parliamentary democracy, first bourgeois revolutions, an upheaval in science and the Renaissance in art, formation of the fourth generation of local civilizations.

The highest wave of epochal innovations was in the period of the industrial civilization. The following innovations formed the basis for it: industrial revolution; “breakthrough in the evolutionary development of science, which provided a greater potential for the technological development than the previously existing one”[Ibid. P. 108]; formation of engineering industry that significantly changed all branches of production; an upheaval in the power engineering — the use of steam-power, electric power and, then, atomic energy; revolu-

tion in computer engineering in the second half of the 20th c.; world market and monopoly domination; world wars and weapons of annihilation; the advance of science and universal schooling; prevalence of the fourth generation of local civilizations where the West prevails. All these innovations drastically changed the civilizational genotypes.

Cluster of epochal innovations of the post-industrial civilization have started developing since the end of the 20th c. and will be admittedly existing for two centuries. Expected epochal innovations of this period are as follows: humanization and environmentalization (noospherization) of the economy and society as a whole; globalization and strengthening of the multi-polar world order without wars on the basis of a dialogue and partnership between civilizations (which enables us to avoid the greatest global anti-innovation — a conflict between civilizations); supra government (civilizational and global) unions; formation of an integral socio-economic and socio-cultural order; differentiation of local civilizations and development of their fifth generation with its own specific genotype.

Regular renewal and enhancement of the genotype of the world (global) civilization, its motion path from one epoch to another, realization of its potential is the result of clusters of epochal civilizations. However, it is necessary to note that there is a growing hazard of the fact that the humankind can create such epochal anti-innovations which will interrupt its life cycle.

Along with clusters of epochal innovations within civilizational cycles there are less high but more numerous widespread **waves of basic innovations** that do not result in such drastic transformations of the genotype but extend an area of transformation of epochal innovations and form the basis for formation of new economic and technological orders, new generations of equipment and technologies, more effective methods of organization of production and political order, new art styles, etc. Such waves are initiated by crisis phases of long-term Kondratieff's and medium-term cycles and result in the partial renewal and enhancement of the civilizational genotype.

Social powers — scientists and engineers, businessmen and politicians, teachers and doctors and social institutions driven by them are the initiators and motive forces of innovative transformations. However, these transformations are fiercely opposed by conservationists and some institutes interested in preserving the existing order and formed genotype. This opposition can be very helpful, as it enables us to test all suggested innovations and to select the most effective and viable ones. In addition to this, such opposition makes it possible to correct excessive “speeding-up” during revolutions and epochal innovations.

Carrying out epochal and basic innovations, the basis that they form to renew and enhance the civilizational genotype, selection of their most vital and effective transformations – is the result of the following processes: competition in economy, political and ideological opposition, contradiction between innovations and conservatism. The result of this struggle can not be predicted in advance; a great number of innovations end in failure, and others call us to the past. The role of science is to foresee imminent innovations in the civilizational genotype in proper time, to determine their orientation, nature, motive forces, resources and efficiency on the basis of understanding of the principles and mechanisms of sociogenetics in order that the society overcome crisis stages in the dynamic development of the world and local civilizations in the shorter period of time and with smaller losses and pain and avoid anti-innovations, it will pay for which too high price. Thus, the development of sociogenetics, including its civilizational aspect, study of the cyclical and genetic principles of the dynamic development of civilization and elaboration of effective mechanisms of the use of these principles in long-term socio-economic forecasting is our urgent task.



Checklist and tasks to Chapter 3

1. What is sociogenetics and when it originated? What place it takes in the system of sciences about society?
2. Draw a diagram of the system of regularities of sociogenetics and show their link between them and regularities of cyclical dynamics.
3. How does the regularity of heredity manifest itself in dynamics and change of civilizations? Draw a diagram of the genotype of civilizations.
4. What role does the hereditary variability play in dynamics of civilizations, their adaptation to changes in the conditions of development? Show on examples.
5. Who and how select useful changes in dynamics of civilizations? What is the difference in spontaneous and special selection?
6. What is the relation of heredity, variability and selection in dynamics of civilizations? Demonstrate this by an example of own civilization or civilization known to you.

Chapter 4

DIALOGUE AMONG CIVILIZATIONS



Peter Breugel Sr. Tower of Babel. circa 1564 z.

A global movement for dialogue among civilizations headed by the UN has become an epochal innovation of the beginning of the 21st century. It sets new objectives before the theory of civilizations: to reveal the essence of such dialogues from the scientific point of view and to find out its place in the interaction that has been formed for millennia among local civilizations. What are the spheres and institutions of the dialogue among civilizations, its major participants? How should we come from the dialogue to the partnership and alliance of the civilizations in the course of solution of global problems of the 21st century, how should we overcome centuries-old mutual misunderstanding and hostility? The answers to these not simple questions are suggested in this chapter.

4.1. The Content of the Dialogue among Civilizations

The world of local civilizations is not only various and changeable. It is notable for an extremely wide scope and diversity of interrelation and interaction among them – from confrontation and conflicts to cooperation and partnership. One of the central places in the system of interactions is occupied by the *Dialogue among civilizations* – a comparatively new geopolitical category which has won recognition and become widely spread since the end of the 20th century. It was then on November 1, 1998 that the Resolution of the UN General Assembly proclaiming 2001 the Year of Dialogue among Civilizations under the aegis of the UNO was adopted on the initiative of **M. Khatami**, President of the Islamic Republic of Iran, and supported by other countries, including Russia. **Kofi Annan**, UN Secretary-General entrusted a group of scientists and statesmen from 17 countries (Prof. **S.P. Kapitza** from Russia) to make a report on this issue which was discussed on November 7-8, 2001 at the plenary meeting of the UN General Assembly; there was adopted the Resolution “Global Agenda for the Dialogue among Civilizations.” It determined the main purposes, principles and programme of action on these problems for decades ahead. This resolution pointed out that “all civilizations celebrate the unity and diversity of humankind and are enriched and have evolved through dialogue with other civilizations” and that “globalization is not only an economic, financial and technological process which could offer great benefit but that it also presents the challenge of preserving and celebrating the rich intellectual and cultural diversity of humankind and of civilizations” The document emphasizes “the need to acknowledge and respect the richness of all civilizations and to seek common ground among civilizations in order to address comprehensively common challenges facing humanity.” The representatives of the countries, that signed the resolution, were united in the idea that “dialogue among civilizations is a process between and within civilizations, founded on inclusion and a collective desire to learn, uncover and

examine assumptions, unfold shared meaning and core values and integrate multiple perspectives through dialogue”. This is a quite broad definition of the dialogue among civilizations, which opens for a civilized society a field for working out a scientific concept of the dialogue among civilizations as a foundation for the system of practical actions. The Programme of Action outlines a number of specific measures in this direction: “advancement of research and scholarship to achieve an objective understanding of the characteristics of each civilization and the differences, as well as ways and means to enhance constructive interaction and understanding among them”; “reinvigorating and encouraging of translation and dissemination of basic manuscripts and books and studies representing different cultures and civilizations”; “sponsorship of conferences, symposiums and workshops to enhance mutual understanding, tolerance and dialogue among civilizations”. The preparation and publication of this monograph in several languages which will be then presented and discussed at the conferences in various countries, are meant for the attainment of specific tasks set by the Programme of Action.

What is understood under the dialogue among civilizations?

The concept of *dialogue* itself (from the Greek *dialogos* – talk, conversation) is not new. Its origin dates back to ancient Greece, it was used in the philosophical papers of Plato, became widespread in dramaturgy, scientific and political literature. The **dialogue** means communication between two and more people so that to achieve understanding. In practice the dialogue requires the development of openness of words and thoughts and also respect to various prospects”. The dialogue is not simply a talk, verbal communications between people; a talk may be directed at exchanging hostile views or insults. The dialogue is an exchange of thoughts and sharing of experience aimed at mutual understanding, a sincere clearing up of differences in views, traditions, ways of life and finding new approaches. The dialogue implies the equality and mutual respect of its participants. Its aim is not merely to enrich knowledge or impose own approaches on an interlocutor, but a search for common approaches to the solution of existing and newly arisen problems and contradictions; the dialogue has a constructive, not destructive character.

The foregoing features and characteristics of the dialogue refer to the dialogue among people, two or more individuals, including scholars expressing various theoretical views, concepts, and positions. However, this also refer to relations between large social groups – social strata, public organizations, political parties, states, cultures, and

civilizations. It is clear that they have to communicate through real people who express most completely specific interests of each of these social institutions.

Speaking about dialogue of civilizations, we mean first of all an exchange of ideas and notions between representatives of local civilizations – both one and several co-existing generations; in a broad sense it is also a dialogue between exponents of interests of world civilizations replacing each other. Such exponents may include scholars, political figures, people of culture, public (non-governmental) organizations as well as tourists and people representing various civilizations. The referred to UN Resolution outlines a wide circle of participants in such dialogue:

“Participation in dialogue among civilizations shall be global in scope and shall be open to all, including:

- ➡ People from all civilizations;
- ➡ Scholars, thinkers, intellectuals, writers, scientists, people of arts, culture and media and the youth, who play an instrumental role in initiation and maintenance of dialogue among civilizations;
- ➡ Individuals from civil society and representatives of non-governmental organizations, as instrumental partners in promoting dialogue among civilizations” [Ibid. P.16].

Consequently, the matter in question does not refer to a narrow circle of officials representing international organizations and the state machinery of countries included in this or that civilization, but it refers to the widest, mass movement changing the consciousness of millions, eliminating hostility and a lack of understanding among nations and civilizations. This movement expressing the results of development of culture of world and tolerance is the prime tool undermining the roots of enmity and clash among civilizations, origins of international terrorism.

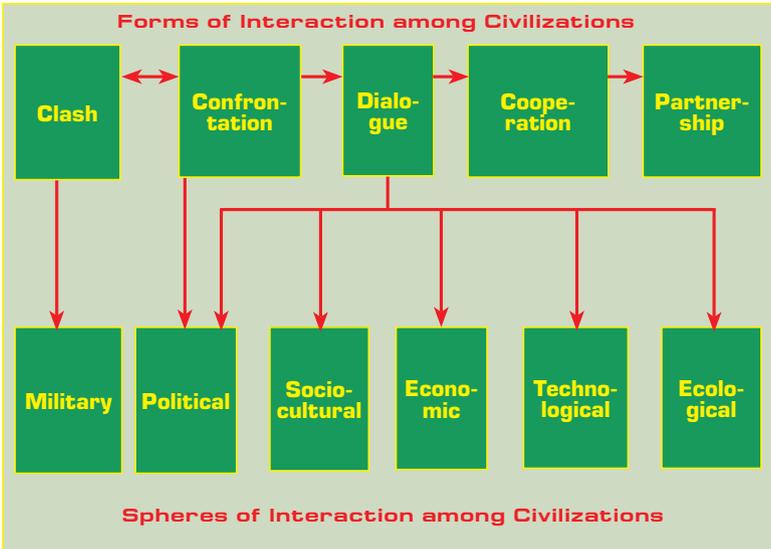
In this regard, it is important to understand the place of the dialogue in the system of interaction among civilizations.

We distinguish ***the following forms of such interaction*** (Fig. 4.1):

- ➡ *clash among civilizations*, which is a military conflict at various levels – from a world up to regional war. It may end with either the establishment of a new balance between belligerent powers or with the conquest or even destruction of a defeated civilization, its disappearance from the historical scene, inclusion of its remains into the structure of a victorious civilization (as it was a case, for instance, with the inclusion of the Persian civilization into the Moslem one or the downfall of ancient American civilizations;

Figure 4.1

Forms and Spheres of Interaction among Local Civilizations



➡ *confrontation* among civilizations, which is their antagonism in the geocivilizational space which may last for centuries, sometimes developing into conflicts. As an example one could take the confrontation of the Eurasian and Western civilizations in the Cold War period accompanied by their indirect collisions in Korea and Viet Nam;

➡ *dialogue* between civilizations in various aspects, which gradually extends mutual understanding among them, promotes the slackening of hostility, increasing tolerance and readiness for cooperation. Relations between the Eurasian and Japanese civilizations after World War II may be adduced as an example.

➡ *cooperation* of civilizations, which helps settle common problems on a mutually beneficial base: in military conflicts (for instance, between the Eurasian, North American and a part of Western European civilizations during World War II), in solving common strategic objectives (for example, non-proliferation of nuclear weapons), in environmental catastrophes, etc. The UN and other international organizations serve as a field for such cooperation;

➡ *partnership* of civilizations, which is the supreme form of cooperation on a long-term, stable, mutually beneficial base given

a wide field of common interests that does not eliminate their differences in certain fields. The interaction among the Western European and North American civilizations in the post-war period may serve as an example of such partnership.

What is *the role of the dialogue* among civilizations in relation to other forms of their interaction?

1. *Dialogue undermines socio-cultural bases for the clash of civilizations* in any form of manifestation — from wars to international terrorism. It helps better understanding of the essence of another civilization, communion of interests and the main values of all local civilizations within the global one; it promotes the development of culture of peace as opposed to the cult of war. The development of the dialogue among civilizations since the 80s has contributed a lot to ceasing the Cold War, moving away the threat, according to **Pitirim Sorokin**, of self-cremation of mankind in the flames of the world thermonuclear war. At present the dialogue among civilizations is a prime tool to prevent clash among them and spreading of epidemic of terrorism. This was emphasized by the UN Secretary-General **Kofi Annan** in his address at the UN General Assembly of November 9, 2001: “The Dialogue among Civilizations is a central pillar of the global response to conflict and violence of every kind, particularly when it is based on bigotry and intolerance. With this Dialogue taking place in every part of the world, appeals to war will be met with appeals to compromise. Hatred will be met with tolerance. Violence will be met with resolve. A dialogue among civilizations is humanity’s best answer to humanity’s worst enemies... Such dialogue has, throughout history, fostered understanding and compromise, and can do so even more in a world that is ever smaller and more closely linked. It can support and sustain every effort at peace, and every attempt to resolve conflicts between and within nations”.

2. *Dialogue helps overcome the confrontation of civilizations* arising on the basis of differences between the systems of values, inability to understand the importance of any culture and civilization, their diversity forming a many-colored palette of global civilization and increasing its vital force, its ability to adapt to radical changes both in the environment and internal structure of each civilization combining the heredity and changeability. The dialogue opposes the ideas of universality of this or that civilization, the aspirations of some political and public figures to thrust its values to the whole world ignoring and suppressing specific features of other civilizations (which was characteristic of the Western European civilization in the period of its dominance and at present is typical of the North American civilization.) In the address of

Kofi Annan mentioned above it was emphasized: “The Dialogue among Civilizations is based not on the premise that we as humanity are all the same, or always in agreement, but rather on appreciation of the fact that we represent a diversity of cultures, and that our beliefs reflect this diversity. The idea that there is one people in possession of the truth, or one answer to the world’s ills, or one solution to humanity’s needs has done immense harm throughout history... Diversity is the basis for the dialogue among civilizations, and the reality that makes dialogue necessary”.

3. *Dialogue among civilizations is a necessary precondition for cooperation among them*, for the solution of the rising amount of global problems with which no local civilization powerful as it is could cope alone and which requires the combining of efforts of the whole humankind. Its necessity is proved in the Concept of the formation of the multipolar world based on dialogue and partnership of civilizations which was worked out by the Pitirim Sorokin-Nikolai Kondratieff International Institute for the 4th International Kondratieff Conference “Dialogue and Interaction among Civilizations of the East and West: Alternatives for the 21st Century” (Moscow, May 2001). The concept emphasizes: “With the development of globalization interdependence of countries in the solution of the key problems of a transnational nature will increase; the combining of efforts on the basis of cooperation and partnership of countries and civilizations will be required for solution of the key global problems, which the future of mankind depends on. These problems include six spheres: demographic, ecological, technological, geoeconomical, geopolitical and sociocultural. The presentation and solution of these problems will make it possible to fill the dialogue and partnership of civilizations with concrete content” [28. P.43].

4. *The supreme form of interaction among civilizations – their partnership in solving global problems – is based on the dialogue*. Partnership implies a deeper extent of mutual understanding and confidence between civilizations, stability of a wide sphere of interconnections, uniting of potentials, establishment of common institutions necessary for solving a global problem, which, however, does not mean the absorption of one civilization by another, obliteration of distinctions between them.

Thus, at the ‘round table’ “Rent Sources of Global Sustainable Development” sponsored by the Pitirim Sorokin-Nikolai Kondratieff International Institute during the summit on sustainable development problems in Johannesburg (2002) it was emphasized that the sustainable development of a global civilization as “a united system where the

level of misbalance and polarization of local civilizations has reached its critical value”, may be attained only on the basis of dialogue and partnership of civilizations, on the establishment of common economic and international-law mechanism. The latter should provide for, among other things, functioning of three global funds — ecological, technological and socio-cultural established by means of deductions from super profits generated by transnational companies and states, of world natural rent, ecological anti-rent, technological and financial quasi-rent. This suggestion supported by the participants of the ‘round table’ (where, in fact, representatives of developing countries prevailed) was forwarded to the UN. It is unlikely to be implemented in the near future due to resistance of the TNC and states, which appropriate super profits, but in any case the development of partnership among civilizations, on a global or regional scale, requires the formation of common institutions. It is clearly seen through the experience of such civilizational union as the European Union. It includes the countries of the West-European and East-European civilizations; some countries belonging to other civilizations (such as Turkey, Ukraine) gravitate to it. Although the establishment process of such partnership has slowed down due to negative results of referenda on the EU Constitution in France and the Netherlands, it is unlikely to reverse it. This lesson just confirms the fact that making hasty and too radical steps should be avoided in formation of the partnership institutions among states and civilizations. The majority of people, who live in the countries which have defended their sovereignty and independence for centuries against a threat of losing their socio-cultural identity, economic and state independence, do not take such steps positively.

If one looks into the general tendency of interactions between civilizations at present, one can come to a conclusion that ***a general tendency of interaction among civilizations will be a transition from confrontation and a threat of clash among civilizations to dialogue, cooperation and partnership.*** However, this process does not develop gradually and straightforwardly. In the transitional periods characterized by the change of historical epochs, world civilizations, balance of powers and organization of the world, the aggravation of antagonism and escalating the threat of the clash among civilizations are inevitable. Exactly the same process is observed in the first decades of the 21st century when historical super-cycles and world civilizations are changing. However, in the second half of the present century one could expect a more distinct manifestation of the major movement tendency — through dialogue to cooperation and partnership of civilizations.

This is the *historical imperative* as not only global sustainable development is impossible without it, but the survival of humankind itself, maintenance of global civilization under conditions of an increasing flow of new challenges and contradictions. The November 2005 events in France showed that the problems of mutual understanding and dialogue can also arise inside a civilization between the bearers of different systems of civilizational values.

4.2. Spheres of Dialogue and Interaction Among Local Civilizations

The relations of the dialogue and other forms of interaction between local civilizations cover nearly all spheres of their life activity — socio-cultural, technological, economic, ecological and state-political. These relations have various level of intensity for various civilizations (neighboring and remote) and they strengthen or weaken .in various phases of historical cycles.

1. Dialogue among civilizations in the socio-cultural sphere. The dialogue among civilizations has the most obvious and intensive character in the sphere of spiritual reproduction featuring science, culture, education, ethics, religion, and ideology.

Science (as well as innovations implementing its attainments) doesn't have clearly defined civilizational features. Scientific discoveries, inventions, concepts, theories, paradigms may emerge in these or those periods in various civilizations and spread in the space of global civilization promoting its progress based on epochal, basic and improving innovations. Scientific schools implementing each scientific breakthrough have their epicenter — country and civilization, which in the given period is on the crest of the wave of scientific creation and then it is picked up and developed by scholars of other countries and civilizations.

Usually, the history of science dates from the scientific revolution in ancient Greece in the 6-4th centuries B.C. It was the period of the explosion of the scientific thought in Athens and other Greek cities — poleis, when began the formation of abstract sciences which make up the foundation of modern scientific outlook. However, in fact the history of science begins from the first local civilizations in Egypt, Valleys of Rivers, India, and China. In addressing the first public meeting of the Commission for the History of Knowledge of the USSR Academy of

Sciences in November 1926 **V. I. Vernadsky** noted the historical character of science: “First it comes into the conscious of man that *human culture is extremely old*, and especially that a scientific thought emerged very far back in the past...The emergence in packs and concentration in certain generations of minds capable of creating a breakthrough in scientific inquiries of mankind and consequently in the energy of biosphere is not by chance and is likely to be connected with deep-rooted biological characteristics of Homo Sapiens” [15. P.221, 222].

Certain preconditions are necessary for a new paradigm to appear in this or that civilization: scientific potential, sufficient number of scholars armed with an accumulated amount of scientific knowledge; critical situation in the society impelling creative minds to seek new solutions of problems, raising them to a higher step of cognition.

The same preconditions are necessary for the spreading of acquired knowledge, scientific discoveries and paradigm among other civilizations. Countries and civilizations lacking such preconditions continue to exist on the out-of date steps of cognition. However, in the vanguard country or civilization, many scholars also persist in their adherence to outdated views and paradigms rejecting scientific innovations. Therefore, a diversity of scientific schools and paradigms — if one could put so ‘multistructural character’ of science — is observed both in intracivilizational and global space.

The dialogue of civilizations in the field of science, the exchange of scientific achievements and discoveries takes place in various forms: through studies of published works; through personal contacts during conferences, symposiums, discussions where representatives of various civilizations participate; through reports of the Club of Rome; during scientific expeditions and trips of scholars to other countries; during training of students and teachers, training of scholars in other countries; through modern information technologies — television, radio, Internet, etc. The diffusion speed of new knowledge over the planet increases with time as well as the scope of scientific knowledge that may be received as a result of the dialogue among civilizations in the scientific sphere. International associations of scholars and scientific organizations (the activities of the International N.D. Kondratieff Foundation, Pitirim Sorokin-Nikolai Kondratieff International Institute may be adduced as an example) contribute to this.

The dialogue among civilizations is especially topical and fruitful in the sphere of cognition during the periods of scientific revolutions, formation and diffusion of new general scientific paradigms. Such revolution is taking place at present being an indispensable component in the

replacement of the industrial world civilization with the post-industrial one, of sensual socio-cultural system with that of integral. North American, Western European and Japanese civilizations are the leaders in scientific breakthrough in the field of natural and engineering sciences; the Russian civilization has all chances to become the leader in social sciences. But it is necessary to intensify the dialogue and partnership of civilizations in the scientific sphere for diffusion of a new, radically changing picture of the world. The creation of an Internet portal “The World Scientific Heritage” under the aegis of UNESCO can become one of the efficient forms of the process. Pitirim Sorokin-Nikolai Kondratieff International Institute and St Petersburg State University have come up with such initiative.

In the field of **culture**, the dialogue among civilizations evolves throughout their existence, but it has other forms than in the sphere of science as a culture of each civilization is peculiar and unique and is included in the original civilizational genotype. Although a civilizational exchange of cultural values expands, artistic and architectural styles diffuse, technical means for spreading of culture become more and more unified (printing machine, radio, television, and Internet), in doing so, it is still important to keep cultural diversity, and avoid standardization of cultures. In the history the cases of the downfall of cultures were observed not once as a result of the clash among civilizations (example — Minoan culture). Wars, especially world wars, damage cultural heritage enormously.

The general trend is intensification of mutual influence of national and civilizational cultures, exchange of cultural values and formation of global information-cultural space, which contributes to the mutual understanding among nations compiling a part of various civilizational communities. The authors of the UN report on the dialogue among civilizations believe that “in the 21st century, the most serious threats to international security will be cultural, and not economic and political problems” [77. P. 51).

However, one should note a dangerous tendency of the decay period of the industrial society — emergence and diffusion of mass culture through modern information technologies. It lacks any national-civilizational characteristics and ousts high and folk culture. As a counterpoise to this tendency signs of the coming Renaissance of high culture are observed at the end of the 20th century.

The UNESCO Universal Declaration on Cultural Diversity adopted in November 2001 points out that “the process of globalization, facilitated by the rapid development of new information and communication technologies, though representing a challenge for cultural diversity, creates

the conditions for renewed dialogue among cultures and civilizations”. The declaration emphasizes that “as a source of exchange, innovation and creativity, cultural diversity is as necessary for humankind as biodiversity is for nature. In this sense, it is the common heritage of humanity and should be recognized and affirmed for the benefit of present and future generations”. UNESCO calls for a transition from cultural diversity to cultural pluralism: “In our increasingly diverse societies, it is essential to ensure harmonious interaction among people and groups with plural, varied and dynamic cultural identities... Political pluralism gives policy expression to the reality of cultural diversity. Inseparable from a democratic framework, cultural pluralism is conducive to cultural exchange and to the flourishing of creative capacities that sustain public life”.

At the beginning of the 21st century two tendencies threatening cultural diversity and preventing the dialogue among cultures gained momentum. On the one hand, modern information communication technologies, and first of all the Internet are a powerful channel of imposing cultural and civilizational values of the West on other civilizations and cultures, especially a younger generation, in the formation of whose world outlook these technologies play more and more important role. This is a real and fast-growing threat of destruction of cultural and civilizational diversity, degradation of mankind’s spiritual sphere. On the other hand, increasing national and civilizational identification, emphasizing the originality of culture, attempts to isolate them from global cultural progress impoverish spiritual world of a nation and mankind as a whole. Such negative directions clearly manifested themselves in the post-Soviet space in the 90s when the Russian language as a language of international and cross-civilizational communication, representing richness of the Russian culture began to be restricted and ousted in a number the CIS countries and ex Comecon countries. Moreover, in some countries, the Russian-speaking population is discriminated; teaching the Russian language and literature is being restricted. Thus small nations are deprived of an opportunity to participate in the interstate and international dialogue among cultures.

One should believe that these restrictions and real threats will be overcome in prospect, an optimal balance between the originality of cultures and civilizations and their openness for their dialogue and mutual enrichment will be found.

Education is a key field for the dialogue and cooperation among civilizations. It promotes formation of knowledge and skills of the rising generation; the youth takes in a civilizational genotype and heritage

in the spiritual sphere created by the previous generations. Each civilization has the system of education shaped through centuries, which meets the specific conditions of the formation and development of this civilization with its cultural values.

Secular education prevails in some civilizations, and religious one – in others; there are differences in the general level of literacy of population, in the number and structure of the educational stages. At the same time, a general trend is to bridge the gap between national systems of education, their requirements for contents and institutional forms. An active dialogue among countries and civilizations is maintained both through the UNESCO activities proclaiming the Worldwide decade of education development and through mutual exchange of students and teachers, educational materials and ‘technologies’, diffusion of the systems of continuous education and distance learning as well as using the Internet for educational purposes.

However, this process has its negative sides. They are associated with its tendency to make educational systems stereotypical, standardized and pragmatic, to achieve their unification according to the western pattern leading them to a loss of their originality and diversity, to weakening of creativity, to lagging in transferring of the post-industrial scientific paradigm to the next generation. These alarming signs manifest themselves more and more in the educational reform pursued in Russia and governed by the western models and standards. As the result, schools and trends of creative pedagogics formed in Russia and allowing the specialists to find surprisingly efficient decisions of non-standard situations disappear.

The dialogue and interaction among civilizations in the *religious sphere* play a double role. On the one hand, a spiritual communion of various peoples, ethnos and nations making up one civilization is shaped and bonded with the help of the greatest world religions (Christianity, Islam, Buddhism, etc.) On the other hand, contradictions between confessions have often become the cause for clashes between civilizations, religious wars for “extermination of Kafirs”. The trend of the 19th century and the most part of the 20th century was the weakening of religious influence. However, at the end of the last century the influence of world religions increased and a lot of religious sects and beliefs emerged, which was caused by the general crisis in the spiritual life in the period of decline of the industrial society.

The Renaissance of religions and dialogue among them has its positive sides promoting the strengthening of moral principles of civilizations and family ties, counteracting the tendencies to a the loss of spiri-

tuality and ethical rules established by centuries. All world religions have common moral principles, and the dialogue among confessions helps identify such principles, overcome hostility to dissents or nonbelievers and undermine religious fanaticism.

At the same time there is a dangerous tendency of expansion of religious fundamentalism and misanthropic sects, as well as ambitions of clerical institutions to occupy the dominant position in the society and state, to subordinate other forms of spiritual life and political sphere, to return to the ruling position of the church of the medieval world civilization, to restore the dominance of ideational (super-sensual) socio-cultural system with the institutions inherent to it. The formation of the integral socio-cultural system forecasted by Pitirim Sorokin will assist to establish optimal proportions and relations between various components of spiritual life, and the dialogue among confessions and civilizations will promote this process.

The UN report authors consider the working out of *global ethics*, which should synthesize the values of all civilizations, one of the fundamental bases of the development of the dialogue among civilizations. The idea of such global ethics was set forth by the Parliament of the World's Religions in 1993: "A global ethic for institutions and civil society, for leaders and for followers, requires a longing and striving for peace, longing and striving for justice, longing and striving for partnerships, longing and striving for truth. These might be the four pillars of a system of a global ethic that reconciliation, as the new answer to the vicious circle of endless hatred, is going to provide us. [77. P. 158]. A global ethic will help to overcome 'seven social sins of humankind' designated by **Mahatma Gandhi**:

"Politics without principles,
Wealth without work,
Enjoyment without conscience,
Knowledge without character,
Business without morality,
Science without humanity,
Religion without sacrifice" [Ibid. P. 160]

The need for working out the code of rules and morals changing the nature of globalization and making it serve the mankind was emphasized by Pope John Pavel II in his address to the Pontifical Academy of Social Sciences in 2001: "Globalization, a priori, is neither good nor

bad. It will be what people make of it. No system is an end in itself, and it is necessary to insist that globalization, like any other system, must be at the service of the human person; it must serve solidarity and the common good... As humanity embarks upon the process of globalization, it can no longer do without a common code of ethics and morals. This does not mean a single dominant socio-economic system or culture, which would impose its values and its criteria on ethical reasoning... In all the variety of cultural forms, universal human values exist and they must be brought out and emphasized as the guiding force of all development and progress" [Ibid. P. 159].

The *dialogue among religions*, being a significant component of the dialogue among civilizations in the socio-cultural sphere, should foster the working-out and diffusion of the fundamentals of global ethics. It should not be done by replacing ethic values of each religion and civilization existing now and fixed by centuries, but through identifying their common denominator — a system of values common to all mankind as an indispensable component of the genotype of the global civilization, through active participation in the elimination and settlement of cross-civilizational conflicts, through overcoming religious fundamentalism in whatever form and in whatever confession or sect it appears. That is the crucial function of all religions and religious institutions, their responsibility before the past, present and future generations. This is one of the niches that religion may occupy in the future integral society.

One should not think that the shaping of the dialogue among civilizations in all its diversity of forms and domain is a fast and short-term process. It will take decades if not centuries, it will require overcoming stereotypes of mutual mistrust and hostility being formed for centuries, it will need *training in the dialogue* of succeeding generations of people. Only on this base can an optimistic hope, expressed by the authors of the report to the UN about dialogue among civilizations, be implemented: "We believe that positive forces of globalization and a healthy search for national-cultural identity may establish a good tendency which will bring into the new level the spirituality of people in the nearest decades. Unity, mutual education and diversity of human heritage determine favorable consequences of globalization which is welcomed and promotes the development of society. This will strengthen mutual ties between civilizations and will make dialogue in the course of which a voice of each civilization will echo, encourage and inspire the others. A harmonious chord is a real multi-national harmony expressing cultures of various people and various times.

In this connection I'd like to note that humanism becomes the most fundamental and widely spread value underlying all common values" [Ibid. P. 64].

However, holding the position of sound realism one should note that we are still far from such harmony and triumph of humanism (although we believe that humanism together with noospheric thinking and course of actions is the core of the post-industrial world civilization, its specific feature.) Meanwhile voices and instruments of the "world orchestra" sound in the spirit of hostility, confrontation of states and civilizations. Mobilization of all healthy forces of mankind and decades of work will be required to make cross-civilizational harmony, dialogue and partnership prevailing.

2. Dialogue and interaction among civilizations in the sphere of economy are critical conditions for the progress of local civilizations from the very moment of their emergence International division of labor, increasing exchange in commodities and services, stage by stage formation of continental and world markets make up the essence of such dialogue. The market is a peacemaker, it gives rise to mutual economic interest in strengthening cross-civilizational and interstate cooperation.

Each historical period, each subsequent world civilization makes its contribution into firming and strengthening of economic links and development of their forms. At the end of the 20th century economic interaction involves goods and services exchanges, currency and finance relations, creation of international financial institutions (the World Bank and the International Monetary Fund), integration unions (European Unions, Asian-Pacific Economic Cooperation, NAFTA in North America), transnational corporations, training of managers, intensive exchange of experience in economic management and conduct of business operations, etc.

The world trade between countries and civilizations is growing at priority rates to the GDP. Generally in the world, export quota (relation between export and GDP) has grown from 10.8% in 1960 to 20.2% in 2000, including for the developed countries – from 9.1 to 16.7%, developing countries from 12.0 to 31.4%, countries with transitional economy from 7.4% (1970) to 37.7% [93. P. 45].

Properly speaking, the whole system of economic relations both inside the country and in the world economy is penetrated with dialogue – between sellers and buyers, manufacturers and consumers of goods and services, creditors and debtors, tax payers and fiscal bodies, investors and recipients, states and international economic organiza-

tions. Historical experience proves that. It is not by chance that the merchants were feelers and ground breakers in the dialogue among civilizations, risking their goods and life in their far-away travels. In order to sell their goods in other countries the merchants should not only have found a common language with the buyers of their goods but to get plunged in another civilization, understand its essence and specific features determining the demand for these or those goods. The Great Trade Routes — Great Silk Route, route from the Varangians to the Greeks and from the Varangians to the Persians, Great Volga Route, sea and oceanic routes to India and America — were at the same time the mains of dialogue among civilizations. Not only did they promote a fuller saturation of the markets with various commodities, development of international trade and cooperation, but fostered economic progress, contribute the assimilation of more efficient forms of economic relations, promote the diffusion and convergence of goods and monetary institutions and tools.

However, one should immediately note that cross-civilizational economic relations may be of two types. One type implies the unequal relations between economic partners, including elements of the dominance of stronger civilizations, economic enforcement, non-equivalent exchange. It was so in ancient times when the world empires including economies of various civilizations (Empire of Achaemenids, Alexander the Great, Roman Empire) organized the exchange between the center and the periphery pumping out a considerable part of surplus product and even necessary product. It was so when the Western European civilization was conquering America, Africa, Oceania, when the flows of gold and silver, exotic goods and slaves flooded to the metropolis of colonial empires. Unequal relations of the same kind are also observed now when the TNC pumps out from the peripheral or dependent countries and civilizations (not only African, Latin American, but Eurasian disintegrated in the 90s) resources, capitals, and manpower. This gave the ground for **N.N. Moiseyev** to characterize the modern 'TNC world' as a devil's pump draining capitals, resources, talents from the backward countries [136. P. 151].

Certainly, one could also speak about the economic dialogue among civilizations; but this is more likely a form because the content is the dominance of strong civilizations over weak, polarization of income of various countries and civilizations using economic tools. Thus, from 1950 to 2000 a gap between the GDP per capita in the purchasing power parity between the North American and African civilizations grew from 8.9. to 37.8 [65. P. 511–512).

In the economic sphere, the dialogue among civilizations supposes a break in the previously developed forms of unequal exchange, formation of such a type of relations which will foster the convergence of the levels of economic development, priority growth rates of the GDP and level of life in backward, poorest countries. In 2003, according to the World Bank, an average income per capita in the countries with high income (972 mln. people – 15.5% of the world population) exceeded the countries with a low income of level (3,312 mln. people – 36.9% of the world population) 65 times according to the current currency rate and 14 times by a purchasing power parity [132. P. 24]. Globalization based on the dominance of a neo-liberal model widens the gulf between rich and poor nations and civilizations.

The authors of the UN Report on dialogue among civilizations express their hope that it will contribute to overcoming this gulf: “We hope that positive forces of globalization may be supported through dialogue among civilizations so that to strengthen material, moral, aesthetic and spiritual well-being, and also take care of those voiceless and aggrieved who found themselves in the underprivileged position due to current trends in the development of economy” [165. – P. 57].

But this hope should be filled in with a specific content that is a new global economic order and a system of cross-civilizational economic relations aimed at reducing the gap between rich and poor countries and civilizations should be developed. The mechanism for establishing global funds by means of deductions from super-profits generated as a result of advantages of the world trade and globalization elaborated by the Pitirim Sorokina-Nikolai Kondratieff International Institute and proposed at the Round Table of the Global Civil Forum within the World Summit on Sustainable Development in Johannesburg (2002) could promote it (*Fig. 4.2*):

These funds would be filled up in the following way:

global ecological fund – by means of deductions from the world natural rent in export of natural raw materials and removal of world ecological anti-rent generated as a result of predatory use of natural resources and damage to the environment (the Kyoto protocol modified mechanism may be used here);

global technological fund – by means of deductions from the world technological quasi-rent that is the super-profits in export of products of machine building, high-tech products, weapons;

global socio-cultural fund- by means of deductions from the world financial quasi-rent as a result of operations at the world stock exchanges.

The establishment of such funds would become a concrete form of dialogue and partnership among civilizations in the economic sphere, would permit to change the nature of globalization using its advantages for the convergence of the life of population in various countries and civilizations, would permit to reduce glaring inequality between them serving as a nutritive medium for conflicts between nations and international terrorism.

3. Dialogue among civilizations in the technological sphere is obvious. Power sources, technologies, new tools and labor items, forms of labor organization, which have proven their efficiency and are promoting the growth of labor capacity, through sharing technological experience immediately become the property of other civilizations, find their expression in the change of generations of machinery and technologies, technological orders, technological modes of production and contribute to the transition of the world and global civilization to a new technological level. It is manifested in the waves of epochal and basic innovations rolling over the planet and implemented in the flows of improving innovations.

However, this course of dialogue and progress of civilizations is not that simple, consistent and cloudless as it may seem at first sight.

First, any technological breakthrough is performed by vanguard civilizations and countries which have necessary preconditions and conditions for it. Other countries and civilizations are either in the second echelon picking up technological achievements already assimilated in the vanguard countries or in the third echelon where technological orders are already past prevail or even technological modes of production, and there are neither human resources, nor production or financial resources to implement a breakthrough.

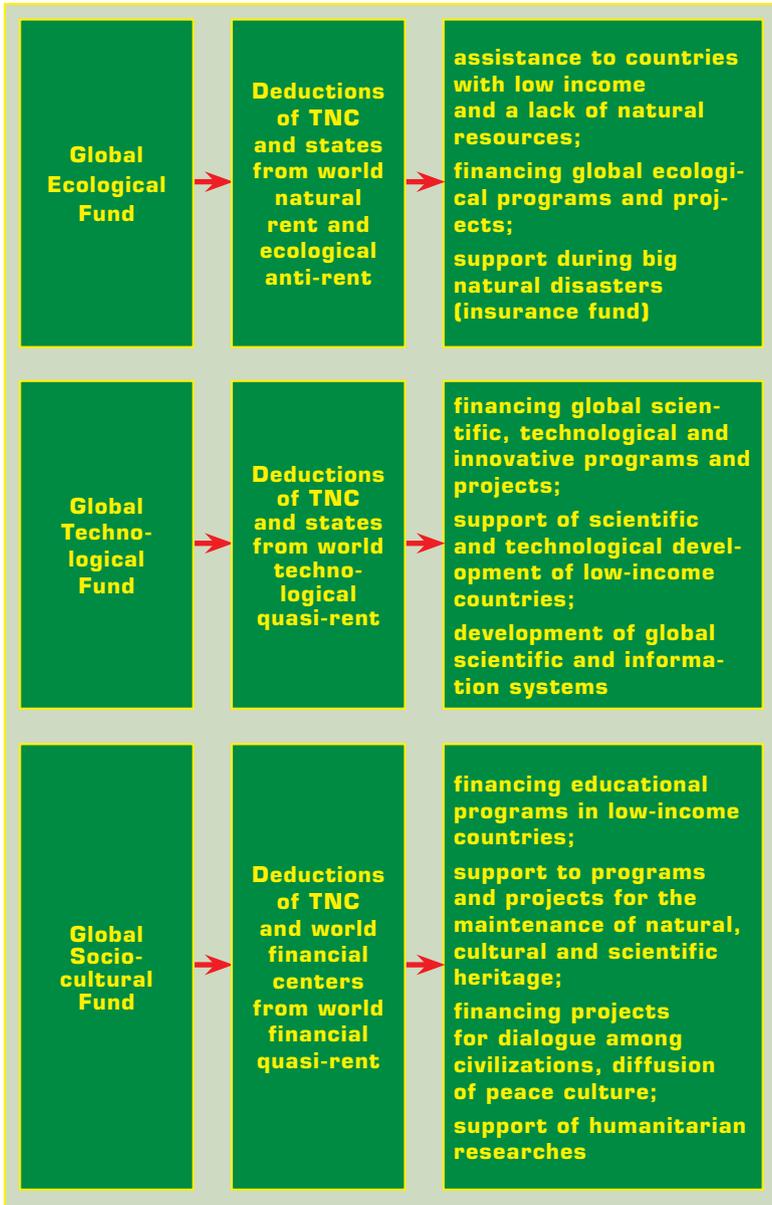
Second, the vanguard countries and civilizations use their own competitive advantages to generate as long as possible the maximum super-profit – world technological (innovative) quasi-rent exploiting technological backwardness of their partners on the world market.

Third, the vanguard countries actively use the mechanisms of the patent law implementation to appropriate technological quasi-rent (including its intellectual component) and to monopolize technological achievements. According to the World Bank, in 2002 the countries with high-income got 97.9% of royalty and license fees (USD 90.5 bln.) while the countries with poor income – only 0.05%, Russia – 0.19% [132. P. 316].

While determining the competitiveness of products on the world markets, differentiation of technological levels of civiliza-

Figure 4.2

System of Global Funds



tions underlies their economic stratification. Therefore, cooperation in assimilation and diffusion of the post-industrial technological mode, of modern fifth and of perspective sixth technological orders should become the key direction of the dialogue and partnership among civilizations. It will allow eliminating a technological gap between the countries of the world, which increased many times during more than two centuries of the world industrial civilization predominance.

4. Ecological sphere of dialogue among civilizations is brought about by a considerable gap both in the level of the provision of countries and civilizations with a wide range of natural resources necessary to ensure reproduction and life of the people and in the level of environmental pollution (including radiation pollution) and the volume of hazardous emissions into atmosphere. Thus, in 2002 37.3% of power produced worldwide fell to the countries with a high level of income (mainly North American, Western European and Japanese civilizations) as well as 51% of its consumption and in 2000 – 51.4% of carbon dioxide emission. Countries with a low level of income (mainly Indian, African and Moslem civilizations) – produced 11.2, 10.6 and 7.7% of world carbon dioxide emission, respectively (11. P. 160).

The communion of interests of local civilizations manifests itself most brightly in relations of human societies with natural environment, in the fight with natural disasters and catastrophes, in growing pollution of the environment. This communion of interests is getting more and more obvious with the intensification of man's active influence on the biosphere, with formation of the noosphere, with the increasing threat of local and global ecological catastrophes. However, driven by the immediate purposes, in pursuit of profits and economic growth the countries-leaders consume immeasurably more natural resources, pollute atmosphere, seas and oceans with hazardous emission on a global scale; the same refers to the countries with a high concentration of population.

Ecological interaction among local civilizations takes place in various forms:

- ➡ a joint use of natural resources of a global nature, first of all, power resources, based on the international trade and direct foreign investments;
- ➡ consolidation of efforts in reducing hazardous emissions in the environment and in liquidation of natural catastrophes and disasters of an cross-civilizational and planetary dimension;
- ➡ framing the general concept of sustainable development, long-range environmental policy, international environmental standards, measures for the prevention of ozone destruction.

In the sphere of ecology, dialogue and cooperation among civilizations are most fully expressed in the following documents and activities:

- ➡ holding the Stockholm Conference on the Human Environment, working out the UN Environment Programme (1972).
- ➡ framing the World Conservation Strategy (1980);
- ➡ establishment of the Global Climate Monitoring (1990);
- ➡ establishment of the Global Ecological Fund (1991);
- ➡ preparation and publication of the report "Our Common Future" made by the World Commission on Environment and Development with a substantiated concept of sustainable development. Its essence is expressed in a short formula: "Sustainable development is a process of changes where exploitation of resources, channeling of capital investments, orientation of technological development and institutional changes are in harmony, enhance the value of current and future potential in order to satisfy human needs and aspirations" [68. P. 53], which optimally combines the interests of present and future generations. The report was published in 1987, Russian translation – 1989;
- ➡ the UN conference on environment and development in Rio de Janeiro (1992), which adopted the concept of sustainable development;
- ➡ approval of the Kyoto protocol (1997), which outlined the formation of a global economic mechanism encouraging the reduction of hazardous emissions into the environment;
- ➡ preparation and publication of the UNEP report "Global Environment Outlook – 3. Past, Present and Future Perspectives" (2002) It presented four scenarios of global economic development up to 2032 and outlined the programme of joint actions [21. Sec. 3,4];
- ➡ the World Summit on Sustainable Development and the Global Civil Forum in Johannesburg (2002), where the global concept of sustainable development was confirmed and further, special attention was paid to the issues of alternative power and water resources.

It seems that in the field of ecology the most impressive progress in dialogue and cooperation among civilizations was achieved, although many problems have not been solved yet.

5. Dialogue of civilizations in the geopolitical sphere is of the most complicated, controversial and unsteady nature. While the first half of the 20th century was characterized by two most bloody conflicts between and within civilizations in the history

of humankind – the First and Second World Wars, in the second half the dialogue among civilizations prevailed, although on the “Cold War” background accompanied by military conflicts of an cross-civilizational nature (wars in Korea, and Viet Nam). The end of the bipolar world, decay of the USSR, Comecon, Warsaw Treaty was accompanied by aggravation of local conflicts between civilizations (Yugoslavia, Tajikistan, Transcaucasia, Moldova, occupation of Afghanistan and Iraq), by an outburst of international terrorism as the newest form of conflicts among civilizations. It makes the issue of the dialogue among civilizations even more topical and urgent.

Not less important is shaping of a new geopolitical organization of the world guaranteeing equality, cooperation, mutual understanding of interests of all civilizations regardless of their scale, economic and war power. This idea was stressed by President of the Islamic Republic of Iran Seyed Mohammed Khatami in his speech at the session of the UN General Assembly on September 21, 1998: “Among the worthiest achievements this century is the acceptance of necessity and significance of and rejection of force, of understanding in cultural, economic and political, and strengthening of the foundations of liberty, justice and rights. Establishment and of civility, whether at national or international level, is upon dialogue among and civilizations various views, and approaches. If at the threshold of the new and millennium devotes all to institutionalize dialogue, hostility and confrontation with discourse and understanding, it leave an invaluable legacy for benefit of the future generations” [77. P. 26].

The aspiration of the most powerful civilization – North American- to establish the global dominance of the only one super power left – the USA, to impose the western system of values on other civilizations becomes an obstacle on the way to the dialogue. However, these aspirations meet growing resistance of other civilizations and become a dangerous impetus for conflicts between civilizations. These threats may be overcome only by means of dialogue and cooperation of all civilizations within the multi-polar world, recognizing their diversity and equality, considering the originality of interests and historical experience. Globalization and expansion of personal contacts among representatives of various civilizations establish favorable conditions for that as was noted by UN Secretary-General Kofi Annan: “Today, globalization, migration, integration, communication and travel are bringing different races, cultures and ethnicities into ever-closer contact with each other. More than ever before, people understand that they are being shaped by many cultures and influences, and that com-

binning the familiar with the foreign can be a source of powerful knowledge and insight" [Ibid. P. 15].

Any local civilization and the states, it comprises, are in a constant touch with adjacent civilizations (states). Interaction among civilization finds its expression in two extreme forms (wars or military-political unions) and many intermediate states. The matter in question does not necessarily concern commonly civilizational partnership or clash — it rarely occurs (for instance, the Mongolian invasion on Eastern Europe, crusades, invasion of Napoleon on Russia). Wars and unions emerge more often between neighboring states making up a part of different civilizations. Under any forms of competition and cooperation an active exchange of technical means and methods to conduct war, rapid diffusion of base innovations in this field (fire arms, tanks and aircraft, nuclear weapon, etc.) take place. However, a clash does not eliminate the dialogue. Efficient forms of political power organization are borrowed: in the 19th century there was an expansion of parliamentarism and in the second quarter of the 20th century armed forces organization and military-political unions appeared. As the survival of states as well as fates of nations and civilizations rest on the military-political success, concentration of intellectual, material, financial resources and the strong competition are observed in this sphere. A general trend is the enhancement (unequal, with its peak during war periods and preparations for war) of the role of militarism in economy and society in general. The achievements of military-technological progress are being assimilated in civil industries with time. However, in fact the civilizational progress is suppressed by wars and militarism as the most active and qualified part of population is involved in spiritual and civilian production, while millions of people die in wars, material values of nations are destroyed and historical-cultural monuments are ruined.

6. Dialogue among civilizations is observed even under conditions of military conflicts between them.

The creation of mass destruction weapons makes the clash among civilizations senseless on a global scale: there will be no winners in such a clash. It makes the dialogue among civilizations in the field of disarmament an imperative need, which found its expression in the Russian-US agreements and practical steps towards limiting of certain kinds of mass destruction weapons, destruction of a part of such weapons and in counteracting the proliferation of nuclear weapons.

4.3. Institutes for the Dialogue among Civilizations

In the second half of the 20th century a number of international institutions were established through which the dialogue among civilizations is maintained; the role of these institutions will also increase in the present century with further development and intensification of the dialogue and cooperation among civilizations.

1. Universal institutions – UN and its organizations. The United Nations Organizations featuring the UN General Assembly, Security Council, UN General Secretary, specialized agencies -Economic and Social Council, UNESCO, UNEP, UNDP, World Health Organization, World Food Organization, etc. is the most universal institution of the dialogue comprising all civilizations. Although the states are the main characters in these organizations, the tendency to the dialogue among civilizations manifests itself clearer and clearer in actual work (moreover, individual UN members represent independent civilizations – Chinese, Indian, Japanese, and Russian) and to interactions with non-governmental organizations representing interests of a global civil society. This tendency clearly manifested itself at the summit on global development in Johannesburg (2002) when along with the meetings of governmental delegations, the Global Civil Forum was held. About 50,000 scholars, political leaders, ecologists, representatives of youth organizations participated in it. The authors of the UN report on dialogue among civilizations anticipate a further intensification of this tendency: “In a way the UN system offers the framework within which a great coalition between civil society and institutions will be formed someday... After the formation of such coalition the institute could survive only if they answer the issues put by civil society in a satisfactory manner, and civil society may keep the leading positions if it meets our convictions, values and hopes for the efflorescence of diversity wanting fear” [77. P. 134-135].

The outlines of the future power mechanism of self-government of a global civilization based on the principle of division and cooperation of powers are gradually beginning to be traced clearly:

➡ *a global representative body* -UN General Assembly which will gradually be vested with the legislative function, will determine the steps of global sustainable development;

➡ *executive authorities* – UN Security Council, UN Secretary-General and its office – a kind of the World Government;

➡ *international tribunals and courts* exercising the functions of global judicial power based on the global law.

International non-governmental organizations, communities of scholars, churchmen, etc. will take more active part in the UN activities. This tendency is noted in the same report: “It is likely that a number of already existing communities should be involved this or that way in the UN activities. Isn’t it logical to assume that during the times of rich technological evolution, during the times of biotechnology and gene engineering scholars could take the first rows of seats in the activities of this world organization and make their contribution to political debates? Such activity suits them as nothing else as the scientific community has been globalized by necessity earlier than others, as far back as before the beginning of the last decade. It may be so that in the near future the consultative role of the Security Council of scholars will be possible by the Secretary-General” (Ibid. P. 130). It is possibly more appropriate to speak about the Council of Wisemen than about the Security Council. But in any case it is obviously necessary to attract the best intellectual forces of the planet to solve sophisticated issues related to the functioning and development of global civilization, dialogue and conflicts among local civilizations.

The proposals on transforming the UN in this direction were voiced by us at the Round table of the World Summit on sustainable development in Johannesburg and were published. These proposals include the following elements:

➡ assignment of some functions of a global legislative body to the UN General Assembly; enlargement of the composition of the Security Council so that it represents all local civilizations;

➡ vesting the specialized UN organizations with the functions covering individual directions for the implementation of a global strategy of sustainable development;

➡ establishment of a global scientific council on sustainable development comprising eminent scholars of all civilizations, under the aegis of the UN and the UNESCO.

Expansion of the functions of global bodies does not at all mean the rejection of sovereignty of national states; however they have to delegate a certain part of their functions to the global level so that to ensure the survival and development of all humankind and to prevent a self-destructive clash among civilizations.

We consider that transformation of UN and other international institutions into the *World Confederation of states and civilizations* will become a historical tendency in the nearest decades (*See Vol. II §15.2*).

Global institutions should be built on the basis of equal dialogue and cooperation among all civilizations so that to avoid the danger of hegemony of any super-power, which is described by Zbigniew **Brzezinski**: “The US might manifests itself through the global system of a clearly US-cut reflecting the internal US experience... The US is in the center of the mutually dependent Universe such Universe where the power is exercised through constant maneuvering, dialogue, diffusion and desire for a formal consensus, although this power finally originates from a single source, and namely: Washington, District of Columbia... Thus, the US supremacy has given rise to a new international order which does not only copy, but reproduces many features of the US system abroad” [8. P. 36, 40–41].

This is a forthright appeal for the formation of a global empire where the US has the dominating role, and the other civilizations copy and reproduce its models and values. Fortunately, such unified unipolar world has no chances to become a depressing reality. Another way is more real – formation of the multi-polar world based on the dialogue and cooperation among all civilizations preserving their originality and identity.

2. Regional cross-civilizational unions like the European Union, African Union, NAFTA, Asian-Pacific Economic Cooperation, Shanghai Cooperation Organization, NATO, etc. Such organizations unite the states belonging to various civilizations, express the communion of their interests and provide a wide field for dialogue and cooperation among civilizations. Some of these organizations have reached a high degree of interaction and close ties (for instance, the European Union uniting now Western European and Eastern European civilizations). Others are characterized by less intensive ties, but a wide space for dialogue among civilizations (OPEC). One could anticipate that similar cross-civilizational institutions will enhance the fruitfulness of dialogue and cooperation among civilizations. However, a danger of confrontation of interests between some of these organizations should be taken into account.

3. International economic organizations – World Trade Organization, World Bank, International Monetary Fund, World Tourist

Organization, etc. — realize the dialogue among civilizations in a certain sphere of economic interests. However, there is also a danger of the dominance of the developed civilizations as it is manifested in WTO and IMF.

4. Global law is a gradually forming institution of dialogue and cooperation among states and civilizations. This is a new stage in the development of long-lived international public and private law. There are already individual elements of such global law — generally recognized rules meant for banning the proliferation of nuclear weapons and its tests, for peaceful use of nuclear power, for counteracting the drugs and improving ecology. Some standards carried within the WTO, the UN and some other organizations work in the same direction. However, they embrace only some spheres of legal control over global civilization functions. In interaction between the states and TNC function rules of international and private law expressing the compromise between them. The formation of the global law system will possibly continue during the whole 21st century. This will create a certain legal framework for dialogue and cooperation between civilizations and settlement of conflicts arising from time to time among them in various spheres — economic, ecological as well as in counteracting international terrorism and drug industry, etc.

And regulatory experience of relations between and within civilizations in the frame of existing regional international organizations, for instance the European Union, may be useful.

The formation of global law, its application in dialogue and cooperation between civilizations implies a solution of a number of rather complicated problems. First, it is necessary to vest the international representative bodies expressing the interests of all states and civilizations (for instance, UN General Assembly), with legislative functions so that the acts adopted by them should be recognized as mandatory for all participants of global relations — states, civilizational unions, TNC, non-governmental organizations, etc. Second, a system of global bodies exercising monitoring over the compliance with the global law rules, and resorting to enforcement such rules, if necessary should be formed. Third, the notion of legal personality should be extended on civilizations. It is easier in those cases when the boundaries of a civilization and a state practically coincide (Japan, India, Russia). In other cases, a civilizational union (European Union) may act as such subject or organizations representing interests of all states making up a civilization. These

issues require further inquiries and solution with the involvement of jurists. The problem of institutionalization of civilizations is still pending its solution.

5. Transnational corporation, world and financial centers, enterprises acting in the sphere of economic relations between civilizations. This sphere of interaction among civilizations is most intensive and meaningful for magnifying interest in dialogue and cooperation among civilizations. According to the World Bank, in 2003, the volume of world export of goods made USD 7,573.7 bln., export of services- USD 1,729.1 bln. – totally 9,307.8 bln., or 25.5% of the world GDP, where such share grows (*Table 4.1.*).

An economic exchange between the countries grows at priority rates: a share of goods and services export has increased from 19.6 to 25.5% in the GDP for 13 years, and total volume – 2.2 times, where a major share is occupied by countries with high income (77% in 2003). Certainly, all this volume is far from falling to cross-civilizational exchange; its considerable share falls to exchange of goods inside the Western European civilization.

However, if one looks at the structure of goods and services export in the civilizational context, then a global tendency can be clearly seen. Export from China grew at priority rates (7.1 times), India (3.2 times) and Latin America (2.5 times). The highest dependence on export is in China (34.1%), Middle East and North Africa (34.1%), Africa south to the Sahara (28%). The least dependent on export are the US (9.2%) and India (13.5%). As far as Russia is concerned, its share makes only 1.6% in the world export of 2003, while the dependence of economy on export is the highest (34.6%). Consequently, the influence of globalization and mutual exchange in goods and services is highest for civilizations with middle and low level of development (India makes an exception) and it concerns the USA least of all.

An intensive exchange between civilizations takes place also in the form of direct foreign investments. In 2002, they made 31.4% to the GDP in Western Europe, North America – 14.2%, Japan – 1.2%, Africa – 27.5%, Latin America – 44.7%, China – 31.2%, India – 5.1%, Central Asia – 45.8%, Russia – 6.5% (15. P. 284-291). The participants of economic forms of dialogue and cooperation are interested in a stable and favorable climate of relations among civilizations. This tendency will intensify in prospect making the base of a multi-colored texture of the dialogue among civilizations.

Table 4.1

Dynamics and Structure of Goods and Services Export *

Figures	Volume of the GDP, USD bln.		Volume of the export, USD bln.			Share of export in the GDP, %		Export in 2003, %
	1990	2003	1990	2003	% to the world	1990	2003	to 1990
Whole world	21 688	36 461	4255	9305	100	19.6	25.5	219
Countries with high income	17 691	29 341	3493	7208	77.4	19.7	24.6	
USA	5757	10 949	527	1012	10.9	9.2	9.2	192
Countries with middle and low income	3948	7125	761	2298	24.7	19.0	32.2	302
China	355	1417	68	484	5.2	21.8	34.2	712
India	317	601	25	81	0.9	7.9	13.5	324
Latin America	1103	1741	169	426	4.6	15.3	24.5	252
Middle East and North Africa	421	745	141	254	2.7	33.5	34.1	180
Africa south to the Sahara	278	439	78	123	1.3	26.2	28.0	158
Russia	6	433		150	1.6		34.6	...

* [132. – P. 204, 216, 224]

6. *Civilizational tourism.* International tourism is the most mass and efficient form of personal participation of dozens of millions of nationals in the dialogue among civilizations. Tourism developed at priority rates before 2001, however after the tragedy in New York on September 11, 2001, the flow of tourists has reduced, the industry has found itself in the state of crisis. Natural cataclysms also have contributed to it.

In the last decade of the 20th century, the number of incoming tourists increased 1.5 times, income from international tourism – 1.8 times; the highest growth rates have been observed in China; however the major income receivers, including the world tourist rent, were the countries with high level of income – 71% of income fell to their share in 2000.

In the first years of the 21st century, the situation changed. In 3 years, the total number of tourists has decreased 3% under income growth of 27% that indicates an essential price growth for tours. The number of tourists coming to the US dropped 21% (under income growth of 17%). The same processes are typical in other countries as well.

The Programme of Actions under the UN General Assembly Resolution “Global Agenda for the Dialogue among Civilizations” includes the recommendation for promoting historical and cultural tourism. Apparently, one should go further and develop a new type of specialized tourism – *civilizational tourism* enabling the incoming tourists to this or that country to get acquainted with local civilization more thoroughly and systematically – its culture, values, historical experience, everyday life and rights of peoples, natural-geographical conditions. This may become a specific-personal form of dialogue among civilizations.

In 2000, the Pitirim Sorokin-Nikolai Kondratieff International Institute launched an initiative to develop civilizational tourism. This initiative was supported by the St. Petersburg Economic Forum. Together with the travel company “Mir” there have been worked out the programmes of civilizational tours “City of St. Petersburg – Dialogue among Civilizations”, “Northwestern Russia: Origins and Highlights of the Russian civilization”. In participation of the International Society for the Comparative Study of Civilizations such tour was made in 2003, the participants visited Saint Petersburg, Staraya Ladoga, Veliky Novgorod, Pskov, and Izborsk. Apparently, UNESCO and World Tourism Organization should promoted such initiative.

In July 2005, the Institute for Economic Strategies and Pitirim Sorokin – Nikolai Kondratieff International Institute arranged a research-civilizational expedition and the output of which the book “Northern Black Sea Regions – Space of Interaction of Civilizations” was published. It appears that this region may serve as the foundation for the pilot-project for development of civilizational tourism in the framework of the Organization of the Black Sea Economic Cooperation, revealing the widest experience of dialogue among civilizations in the period of more than two and a half thousand years.

The end of the 21st century- the beginning of the 21st century is characterized by the crucial changes in the development of global, world and local civilizations. The fifth generation of local civilizations is being in birth-pangs. The industrial society is being painfully transformed into the postindustrial one. A long-term transition from the second to the third super-cycle is taking place. The sensual socio-cultural system, which has dominated for five centuries, is being transformed to an integral one. It is important to make out the outlines of the forming system of civilizational relations of the present century through the dense intricate net of chaotic changes. It is difficult, hardly possible, but crucial for working out a long-term strategy for dialogue and partnership in the rapidly changing world.



Checklist and tasks to Chapter 4

1. In what forms and spheres does interaction of civilization manifest itself?
2. Is the clash of civilizations impending or may be prevented? Reason your answer.
3. In what spheres does dialogue of civilizations occur? What are its consequences?
4. What are the differences and interaction between dialogue and partnership of civilizations?
5. Describe modern mechanisms and institute of dialogue among civilizations. What role do the UN, UNESCO play in the development of dialogue of civilizations, cultures and confessions?
6. What does dialogue and partnership of civilization give for development of your civilization?

PART TWO

**A HISTORY
OF CIVILIZATIONS**

Having researched into the theory of civilizations, cyclical-genetic regularities of their dynamics, having considered the manifestations of these regularities in the aspect of individual components of the genotype of civilizations, let's turn now to the research into the dynamics of global, world and local civilizations from a temporal viewpoint, by three historical super cycles. First of all we will consider the processes of germination, formation and prosperity of ancient civilizations; then we will turn to civilizations of the second historical super cycle when the industrial system germinated, spread and reached its peak, local civilizations of the third and fourth generation established and prevailed.

Chapter 5

CIVILIZATIONS OF THE FIRST HISTORICAL SUPER CYCLE



Egypt. Sphinx and Pyramid of Chephren. 3rd millennium B.C.

Egypt. Sphinx and Pyramid of Chefred.
3rd millennium B.C.

The first historical super cycle includes the longest period of a life cycle of the global civilization – more than eight millennia of the Neolithic, Bronze and Iron Ages. In this period, three world civilization changed each other featuring Neolithic, Early Class and Ancient, two generations of local civilizations, the extant structure of society (the pyramid of civilizations) was formed (with significant modifications), the genotype (hereditary nucleus) of the global, world and local civilizations was determined. According to Karl Jaspers, the Axial Age falls to this period when the extant man's spiritual world was formed. We introduce the notion of the preceding axial age (beginning of the 3rd millennium B.C.) when the hereditary nucleus of local civilizations was formed and all floors of the civilizational pyramid were occupied.

5.1. Preconditions and Factors for the Emergence of Civilizations

5.1.1. Prehistory of Civilizations

Emergence of civilizations was preceded with the *Old Stone Age (Paleolithic)*.

The Paleolithic is the period of great antiquity in the prehistory of man, when he learnt how to use coarse finished stone, bone and wooden labor tools for hunting and fishing, gathering plants, and then made fire serve. This made the conditions of existence of the primitive groups of people safer and more stable, which allowed increasing the sources of food, gave protection against cold and wild animals.

In the period of the Upper Paleolithic (from the 40th millennium B.C.) a javelin and a javelin throwing machine, bone heads of javelins and harpoons, stone axes, cutters and other labor tools were invented. Fishing developed concurrently with hunting. The nascence of articulate speech fostered communication between people, conveyance of accumulated experience from generation to generation. People lived in tribal communities, where the filiations on the maternal side prevailed (matriarchy), a pair (monogamous) family formed. The primitive art developed: the whole galleries of petroglyphic drawings are found. The myths-tales and legends, animism – deification of nature made the basis of spiritual life- made the essence of spiritual life.

What are the major results of the pre-historical period? **Karl Jaspers** sees them in the following:

“1. *Use of fire and tools*. An animate being who does not have either this or that, can hardly be taken for man.

2. *Nascence of speech*. The ability inherent only to man to express the sense of the objective world apperceived in speech and conveyed by it serves as an object of thinking and speech makes a radical difference from reciprocal understanding of animals through a spontaneous expression of their feelings.

3. The ways of *forcing self forming man*, for instance, by way of taboo. It is inherent in the very nature of human that he can't be only a part of nature; quite the contrary, he forms himself by means of art. The nature of man is his artificiality.

4. *Organization of groups and communities.* The main distinction of a human community from the groups and the relations of the dominance and subordination formed by the Primates is in the apprehension of their sense-based significance...

5. Life formed by *myths*, formation of life by means of images, subordination of all existence, family order, social system, nature of labor and struggle to these images, which in their endless interpretation and deepening are in essence the carriers of self-awareness and perception of their being..." [117. P. 67-68].

In that period there was formed a social genotype of a modern man that manifested itself not only in making labor tools and technologies for maintenance of his existence and less dependence on the nature, but first of all in the development of means of communication and conveyance of thoughts, emergence of human communities, formation of standards of morality and spiritual life, conscious of self.

A transition from the Paleolithic to the Neolithic is known as the **Mesolithic** and embraces a period from 10 to 8 millennia B.C. A major invention of that period included the use bow and arrows. Their significance was noted by **F. Engels**: "A bow, bowstring and arrow already make a very sophisticated tool, whose invention implies experience being accumulated for a long time and more developed mental abilities, consequently, a simultaneous familiarization with a plenty of other inventions" [112. P29].

Tiny stone tools (microlites), shafts, harpoons, dugs-out, nets were also used. Manufacturing of brown ware began. Wild animals were tamed from time to time, the beginning of farming appeared. All this increased considerably the labor efficiency, improved the nourishment of man and speeded up the population growth rates. More comfortable settlements sprang up, often fenced with a wall. Primary knowledge was accumulated, man's spiritual world developed, primitive art evolved.

By the end of the Mesolithic the drawbacks of an extensive way of development of society became apparent. A rapid extermination of large animals led to the first *ecological crisis*. The majority of the population starved and in their attempts to get food tribes fought with each other. It initiated the first demographic crisis that resulted in a considerable reduction of population. Contradictions aggravated inside the community. The preconditions for the Neolithic revolution brewed up. The prehistory period of society was coming to the end.

5.1.2. The Neolithic Civilization

The *Neolithic revolution* that occurred in 6-7 millennia B.C. may be viewed as the actual beginning of the history of society. Its contents is in the transition to artificial reproduction of food (farming and cattle husbandry). It increased the opportunities for survival and development of the primitive communities, increased labor efficiency many times, established real conditions for a population growth. The significance of this event was emphasized by **N.N. Moisseyev**: “The Neolithic revolution qualitatively changed the nature of social development of the human race. And its consequences were such that they already permit to speak about the beginning of the history... The Neolithic revolution speeded up the development of society many times by creating qualitatively new stimuli for the development — stimuli that could not exist in principle in the previous period”. He believed that the “Neolithic revolution served as the beginning of all extant civilizations” [65. P32].

The Neolithic revolution permitted to handle ecological and demographic crises of the end of the Mesolithic, to establish the conditions for survival and rapid development of society on a new basis, especially in the agricultural districts. The structure of society became more sophisticated, a stable division into groups (strata) based on the development of social division of labor came into being. The unions of communities were established — tribes among which the dialogue developed, but military conflicts were often in struggle for better lands and pastures. Along with communal property the property of families expanded. Man’s spiritual life developed and differentiated. Farming, cattle husbandry, and then construction and crafts required various knowledge and skills . The beginning of sciences, which had practical significance, were formed — astronomy, arithmetic, agronomy, and medicine. The world of myths, pictorial and music arts developed. Written language appeared that became the method for fixing and communication of knowledge, beliefs, myths, and the rules of behavior. The system of standards of morality became more and more sophisticated, qualitatively new standards appeared therein.

The Neolithic civilization is the initial and longest period in the history of world civilizations; it laid the foundation for a further advance of humankind.

The *steps in the development of a social division of labor* underlie the advance of the Neolithic civilization, which increased its fruitfulness many times and made a surplus produce possible.

The first major division of labor is a *separation of farming and cattle husbandry*. It was necessary to create new labor tools — digger sticks (and then a hoe and a plough), grain-dryers, means for storage and processing of products of farming and cattle husbandry. The exchange of products of labor of farming and stock-raising tribes emerged.

The second division of labor — the *emergence of craftsmen* (mining and working of stones, producing of earthenware, ploughs, clothes, shoes, and weapons) followed the first social division of labor (formation of farming and stock-raising tribes). A potter's wheel, looms, tools for leather working, processing of grain were invented. These became the germs of future industry.

The third division of labor comprises the emergence of construction specialists in residential buildings, defensive and religious structures, public warehouses, etc.

In the developed Neolithic society the fourth social division of labor occurred — separation of the *tribal upper crust* (leaders, priests, military commanders), who were professionally engaged in the activity associated with the management of tribes, their protection, and exercise of worship. These are the germs of such future social institutes as the state, army, and church.

Thus, as a result of the development of the Neolithic society a quite sophisticated social structure of society and its stratification were already observed.

The *city revolution* became a distinctive feature of the Neolithic. It included the emergence of fortified settlements, where the tribal upper crust, craftsmen, a part of farmers settled. In the city a higher density of population contributed to constant contacts, the environment for sharing knowledge and experience, development of art. The cities became the catalysts for progress, seats where civilization was germinated. Some Neolithic cities with several thousand people: Jericho (Palestine 7th—2nd millennium B.C.), Chatal Huyuk (Asia Minor, 6th millennium B.C.), and Khirokitia (Cyprus, 5500 B.C.) are known.

In the 4th millennium B.C. the signs of crisis of the *Neolithic civilization* declared themselves. It is connected with the shortage of labour tools. This period is characterized as the Eneolithic. Along with stone tools (microlites) they began to use metal ones — copper, golden, and then bronze (alloy of copper and tin). However, there were not many native deposits of metal, and the use of stone tools was low efficient, it could not meet the demands of the considerably increased population. The labor efficiency growth rates and population growth rates dropped considerably.

The second sign of crisis of Neolithic civilization was the system of economic relations tying the interests of producers: communal property and egalitarian distribution deprived skilled workers of the stimuli for the improvement in labor efficiency.

The third sign was social and property differentiation that increased sharply and impelled the tribal upper crust to change the very foundations of economic relations, fixing and demising of accumulated wealth.

The fourth sign of the crisis of the Neolithic society is worth noting: the structure of society which became more sophisticated and the inequality appeared could not already be regulated by prior standards of morality and traditions. The need in legal, coercive regulation of relations between people arose.

Finally, the fifth, external factor should also be mentioned. The density of population increased many times during the Neolithic Age, military conflicts between neighboring tribes intensified, professional detached units of warriors of protection and attack had to be formed. At the turn of the 6th and 3rd millennia B.C. these crisis processes made inevitable a transition to a new step in the development of society – the early class civilizations. Thus the first generation of local civilizations emerged. It was a great historical transition that completed the formation of the civilizational ‘pyramid’.

5.1.3. The Early Class Civilization (the Bronze Age)

The cultures of the Bronze Age, which became the foundation of the early class world civilization and the emergence of the first generation of local civilization, were located along a narrow strip around the Eurasian and African continents between 200 and 600 of latitude north (*Fig. 5.1*).

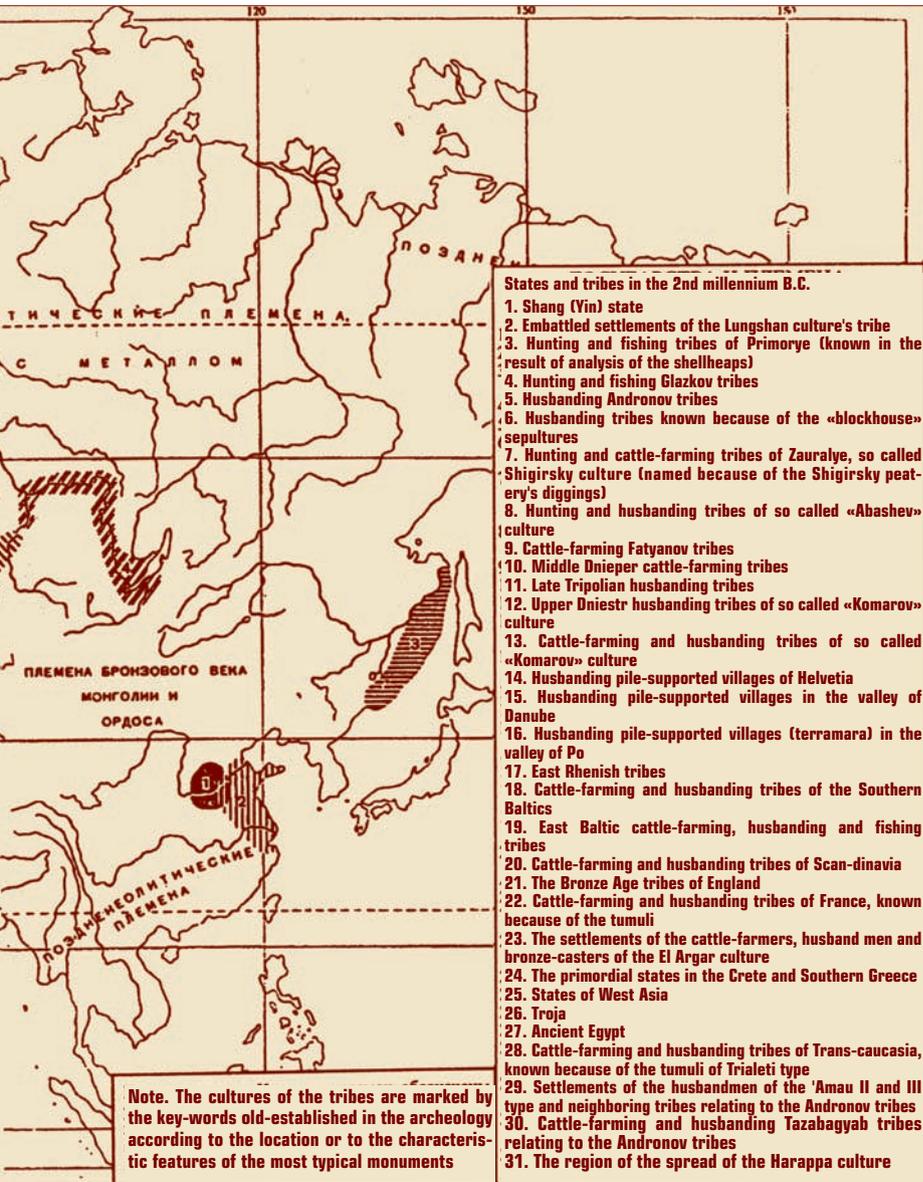
The emergence of private property and classes. The emergence of private property and division of society into classes and the states – social institutes that determined the face of next generations- were the epochal landmarks in the formation of the second world civilization.

A transition from communal to private property demised to the members of one family, overcoming of equalizing distribution, private appropriation of means and results of production formed an economic interest to increase the property for self, own family based on the improvement of labor efficiency.

The changes in man himself who freed his hands from fetters of communal leveling and equalization became a precondition and effect of the changes in society described above. Knowledge, skills, the will of each man, intensification of communication, sharing knowledge and exchange of goods in the cities became the foundation for success and wealth of a person, separation of the active elite. Of course it caused suffering of other members of society: the poor and disabled became slaves, members of other communities were enslaved and made to work with extreme forms of violence, but even in a rough form, it was an advance. The communal property continued to exist in the village for a long time simultaneously with the organization of the states, the property of the state and temples appeared. **N.N. Moisseyev** highly appreciated the emergence of such social institutions: “The emergence of farming and cattle husbandry laid the foundation for the emergence of private property — a phenomenon not known before in the animate world. It has turned out to be a new and powerful stimulus of human civilization. Moreover, private property (land, and first of all cattle) turned out to be such form of organization of productive forces of society that was the best to comply with the level of their development, was the most efficient form in the use of a new ecological niche for the benefit of man and community” [65. P. 222].

The property stratification of families and emergence of *classes* — large social groups of people that occupied a different place in the system of a social division of labor and distribution of wealth became a logical consequence of extension of private property. Classes emerged within tribes and their unions. At the one pole there was the tribal upper crust that became the dominating class and appropriated major wealth (tribal leaders, priests, and military commanders). At the other pole there were poor farmers and craftsmen, a considerable part of whom lost freedom. A number of slaves grew fast and was constantly replenished by prisoners of war. So emerged two major classes of the early class society — slaveholders and slaves; however, there was quite a considerable share of free community members, craftsmen, merchants, warriors, and also scribes, musicians, artists, sculptors, architects — people of intellectual labor. A separation of this social stratum, *separation of intellectual labor from manual* became the next step in the development of a social division of labor, a civilizational advance.

Economic and social relations of the early class civilization were based on the system of foreign economic coercion, personal dependence. A slave was not viewed as human, had no property and family,



could be killed unpunished, sold. Servile revolts occurred not once, but they were suppressed cruelly. Such form of social relations was rude, violent, immoral from modern viewpoints, but a necessary stage in the development of society.

A leap in division and enhancement of labor efficiency was reached. Irrigation farming was remarkable for its high yields. The rise of various crafts, manufacturing of bronze tools of labor, weapons, decorations, various fabrics, clothes, shoes, pharmaceuticals, objects of art was observed. The extant pyramids, ruins of palaces and castles indicate the development of construction. Differentiation of the types of business enabled to acquire skills, craftsmanship, to improve the tools of labor, to attain its better efficiency. This became the foundation for speeding up of a technological and economic advance.

The formation of the state and law. The institutes of communal government and primitive standards of morality could not support and regulate quite complicated and contradictory economic and social relations based on private property, forced labor, property inequality, and exploitation. A new task arose before society: to form a *special machinery of the state* that would be able to perform the functions of internal regulation and external protection (and attack) resting on the rules provided for by law. The *fifth major social division of labor* occurred: there separated the groups of people who performed professionally the functions of the state and supported the rules of law (pharaoh, king, the court, military commanders, judges, policemen, etc.). The state also undertook certain economic functions: the arrangement of construction of irrigation systems, pyramids, temples, protection of property relations, regulation of monetary circulation (coinage), etc.

Unlike the primitive organization of the tribal system, the *veche* (people's assembly) democracy of the period of the establishment of the state, the power of the supreme ruler was unlimited — not only over slaves, semi-free community members, craftsmen, merchants, but also over the court nobility. Violence, personal dependence permeated into the entire state system, ensuring the functioning of society divided into various classes and social strata. Warfare became an integral function of the state, not only for protection and attacks, but also for replenishment of the army and slaves.

However, one should not reduce the emergence of the state only to violence of one class over another. It became the core of regulation of a sophisticated system of relations in the stratified, socially contradicto-

ry, multi-industry and multi-functional society, exercising significant economic functions of private property protection, regulation of market relations, construction and maintenance of irrigation systems, collection of taxes and tributes. The state performed these functions using law — system of mandatory rules of behavior and relations among people in various spheres maintained by a threat of punishment. The first codified rules of law — law code of Shulga, laws of Hammurabi appeared. Special social institutions were established to support rules of law — courts, police and various branches of power. But there were no separation of powers: the whole power belonged to the supreme ruler who was viewed as the vicarious ruler of the supreme deity.

Development of cities, market and spiritual sphere. The establishment of the system of cities became the event of world-historical significance in that period: a rapid growth of population number, development of craft and construction, establishment of administrative centers of the emerged states, their fortification in case of war and foreign invasions. In large cities tens of thousands of people settled. Thus, Mahenjo-Daro (India) occupied the area of 2.5 km² and numbered up to 100 thousand people. It was divided into a well-fortified citadel and a lower city, had grain depots, water supply systems and sewers. The accumulation of critical mass of population in the cities served as an impulse to rise in construction and craft, development of exchange, formation of diversified city culture. Each state sought to make its capital a large economic, cultural and religious center. And magnificent buildings in the cities of that period — fortresses, palaces, temples — still boggle imagination. Meanwhile the majority of citizens lived in a box of a room and clay huts.

The development of a regular exchange gave rise to the creation of the universal equivalent in which the value of multi-various goods found their expression, materialized. Having tried a plenty of various items for this role (bunches of shells, cattle, etc.) in the Bronze Age humankind fixed the functions of the measure of value, medium of circulation and accumulation in *metal coins* — gold, and then silver.

The scale of the structure expanded and sophisticated, its orderliness increased. It was necessitated by the logic of regulation of irrigation systems in the valleys of the Nile, Tigris and Euphrates, Indus and Ganges, Huang He and Yangtze. The hierarchical structure of reproduction emerged at several levels: lower — farming, cattle husbandry or craft family, neighboring community, semi-commodity or commodity slave economies; regional — in individual territories, such as nomads

Upper and Lower Egypt; state — the whole countries. A stable market established itself (admittedly, not covering food and clothes for most people, but embracing the sale-purchase of slaves). It developed inside of individual countries and between the countries.

The richest people in the state, supreme rulers could afford to invite architects, sculptors, artists, dancers, musicians, chroniclers, historians, and astrologists. Enormous treasures were accumulated in the palaces of pharaohs, houses of the rich people, temples and other cult buildings.

The rise of spiritual sphere developed featuring pictorial and musical art, and architecture. Invention and mastering of the written language became the *second information revolution* (the first being learning the articulate speech at the dawn of the formation of man). The formation of empirical foundation of natural and applied sciences made it possible to regulate irrigation systems, develop metal making, various crafts, to build sea vessels, to make far trips and sea voyages. A solar calendar, water-clock and sundials were invented and the foundations of mathematics were laid.

The germination of private property, state, formation of local civilizations, germination of science, formation of a highly productive irrigated cropping, mastering of a wide range of iron tools and weapons — all these were so large epochal innovations in the history of humankind that the 3rd millennium B.C. could be viewed as the first axial age.

Crisis of the early class civilization. In the dynamics of the second world civilization three stages can be distinguished:

➡ Formation and diffusion (the end of the 4th — first half of the 3rd millennium B.C.);

➡ Maturity, prosperity (the second half of the 3rd — first half of the 2nd millennium B.C.);

➡ Crisis, decay (the second half of the 2nd — beginning of the 1st millennium B.C.).

A typical feature of the last stage is the downfall of once powerful states, germination and formation of the new seats of local civilizations, shifting of the center of world advance to the Northern Mediterranean, where ancient Greek, Roman civilizations were formed, and also to the Middle East, India and China.

The early class civilization had its limits and geographical boundaries. Dependent on the valleys of fertile rivers, the opportunities to manufacture bronze tools, necessity to replenish constantly the resources of labor through wars and capture of slaves, the ancient slave

states could not satisfy the needs of increased population, especially nobility. Confrontation of pharaohs, priests, local governors undermined the unity and military power of states. Ongoing wars and exactions undermined reproductive opportunities of petty households, peasants, craftsmen and merchants. The yield dropped on salted irrigable lands, natural population increase reduced. The states that were the centers of the retiring civilization were losing their economic and military might, disintegrating into independent parts, often suffered a defeat in struggle with militant neighbors.

Expansion of the populated world, mastering of tools of labor and weapons made of iron, spreading of dry-farming gave rise to the new seats of a historical advance which became the epicenter for the formation of the ancient world civilization, formation of the second generation of local civilizations.

5.1.4. The Ancient World Civilization (the Iron Age)

The ancient civilization is the top of the “first wave” in the history of humankind, time of its difficult, but beautiful youth that formed the genotype of society in all its richness and diversity of components it consists of. Chronologically, the framework of the ancient civilization is the 8th century B.C. — mid-5th century A.D. — about thirteen centuries.

The heyday of spiritual sphere. The main attainment of the ancient civilization that completed the genotype of human society is the *heyday of a human personality, priority of spiritual life*, rise of science, art, mythology. It was then that the notion of ‘freedom’ appeared. Certainly, it was not freedom for everybody: “It is in the ancient society slave was the most slave; a free — the most free... The notion “freedom” (Eleftheria) appeared in the Greek poleis only as the state when there is no dominance of anybody over a given person — the notion willed to all humankind by the Greek poleis”. [34. Vol. 2. P. 24-25].

A leap in the labor efficiency, increase in a surplus produce due to the employment of cheaper and efficient iron tools established economic conditions for free people to get concerned with philosophy, art, mythology, politics, traveling, and history.

In the Ancient Period the greatest masterpieces of art — sculpture, architecture, literature, dramaturgy that still remain beyond example for generations of artistic intellectuals were created.

The birth of the system of abstract sciences — philosophy (that acquired the all-embracing nature), astronomy, mathematics, mechanics, medicine, history, law, and economy became the largest gains of that period. The schools of philosophers were established featuring the Plato's Academy, Aristotle's Lyceum, and the Alexandrian Museum. The system of specialized education of the younger generation in sciences, art, various crafts, military science (from the schools of philosophers to the gladiator schools) was formed. However, the ascent of free thought was academic to a great extent, abstract science was separated from technology (although a lot of major inventions were made during that period). It was inevitable at the stage of the nascent science.

The development of spiritual sphere in the period of the ancient civilization gave rise to the emergence of the world religions, the beginning of a change-over from polytheism to monotheism, which was determined by a crisis of the transitional period in many ways, intensification of centralization in economic and political fields. It concerns many civilization of that time. In the 6th-5th centuries B.C. the Buddhism came into being in India. In the 1st century A.D. Christianity evolved in the eastern provinces of the Roman Empire and after the period of persecution in the 6th century A.D. it became an officially recognized religion. The world religions marshaled the sphere of ideology, rendered influence on other fields of spiritual life, at the same time becoming a significant integration factor facilitating mutual understanding of various peoples and states which practiced the same belief.

Economy of the ancient society. The ancient society had mixed economy, although a specific weight of various structures was different in various local civilizations and changed with time.

The slave structure was prevailing in the civilizations of the Mediterranean and Mesopotamia. Not only war prisoners and peaceful citizens captured during campaigns were turned into slaves, but former free community members — incorrigible debtors. Slaves had no property, families, civil rights, were severely exploited making a surplus produce under minimum expenditure for their maintenance. However, slavery was not a prevailing structure in the civilizations of China and India.

Free community members and city craftsmen obliged to pay taxes and provide army with soldiers made the foundation of small-scale commodity order. The latter made the basis of petty economy. At the end of the ancient civilization the number of semi-free-slaves-freedmen (coloni) who had a plot of land and were obliged to pay rent to the ex owner increased.

The development of money economy and exchange of commodities, market both local and international led to the emergence of a stratum of merchants, money-changers, and moneylenders.

In economy, petty agricultural households of peasants and craftsmen prevailed. Along with that, especially in the period of the Roman Empire, large-scale slave latifundia, handicraft industries — *ergasteria* were established. However, forced labor, although it generated a surplus produce, was low efficient and required the maintenance of a considerable number of slave-drivers, and also armed units and army to suppress servile revolts. The most known of them is the revolt of Spartacus in Rome.

Economy was basically natural. However, an increasingly larger share of products was involved in exchange of commodities, monetary systems regulated by the state developed. At times the governors of the states resorted to falsification of coins that caused the price growth and social explosions. The history of late Rome is rich in such episodes.

The birth of democracy and world religions. The ancient civilization played the prime role in the development of institutions that determined a sophisticated texture of social-political relations.

In the ancient society a special system of social-political relations was formed — *democracy* — that met the demands of the self-government of society of free people to a great extent. In expanded form, this system is typical of Athens of the period of Pericles (4th century B.C.). Admittedly, this was democracy for the select, and not for slaves, women, the youth, and aliens. But nevertheless, the fundamental principles of a democratic political structure formulated in the period of the rise of Greece could be found in the programmes of democratic parties and movements in all countries nowadays. In the Greece poleis, and then in Rome a complicated mechanism of functioning of the state system that was reproduced in the next generations variously modified was well-elaborated and survived till nowadays. The fundamentals of law-based relations were laid by the elaborated rules of the Roman law.

The peculiarity of political and economic life of the ancient civilization was in the formation of ***poleis*** — independent self-governed city-states with many features of community.

In the polis, the state power could assume various forms: democracy, tyranny, aristocracy, oligarchy, etc. But in any forms, the equality and freedoms of citizens in such polis who were considered free by nature, did not allow any dominance over them (unlike slaves and aliens).

In the ancient period, local civilizations stepped over relatively narrow frameworks. ***World Empires*** that comprised several allied civiliza-

tion emerged — Assyrian (embraced the 9th-7th centuries B.C. all Front Asia), Persian Empire, Achaemenids stretched from the Aegean Sea to the valley of the Indus, from Egypt to the Syr-Darya (6th-4th centuries B.C.), the Empire of Maures in India (6th-2nd centuries B.C.), the Qin Empire (221-207 years B.C.) and Han (3rd—1st centuries B.C.) in China.

Establishing by force the world powers (empires) that included autonomous territories conquered and held subject, the ancient states got manpower, necessary products, taxes. However, resting on a strong sole authority and powerful army the empires were short-lived, disintegrated after the death of their founder.

The immense world empire was established as a result of **Alexander III the Great** (356-323 years B.C.) campaigns. Having vanquished the Greek states, Persia, Egypt, Babylonia, Central Asia, India, a young student of Aristotle founded the empire that extended from the Danube to the Indus, from Caucasus to Egypt; only a sudden death prevented him from conquering Arabia and North Africa. The Empire of Alexander the Great existed for about 10 years, but it contributed to the spreading of the Greek culture, science, mythology, political and economic system on ample territories (*Fig. 5.2*).

The Roman Empire became a more lasting and long-lived formation that at the peak of its bloom (beginning of the 2nd century A.D. when Emperor Trajan reigned) embraced nearly all Western and Southern Europe, Front Asia, Black Sea regions, and North Africa. In 395, it split into Western Roman Empire and Eastern Roman Empire (Byzantine); the latter existed more than one millennium (up to 1453), but within narrow territorial boundaries. The political and economic supremacy of the center (metropolis) over provinces could be clearly traced here, sustainable and varied trade relations, transport systems, and a medley of cultures. In the next civilizations, the world empires repeated much from the practice of the Roman Empire.

The crisis of the ancient civilization. In the first centuries of our era, the signs of the crisis of the ancient civilization, and first of all of the Roman Empire were observed. Deep-seated roots of such crisis originated in the sphere of economy.

In the ancient society there formed (especially during the flowering of the Roman Empire) a diversified economy, which was orientated at the market to a great extent and combined petty production of independent peasants, craftsmen, semi-bonded colons, and large-scale latifundia and ergasteria, which were arranged with the division of labor, and numbered thousands of slave workers, freedmen, and contract people. Ergasteria operated in the mining, manufacturing of furniture,

ceramics, textile and metal articles, and weapons. These were the precursors of future craft guilds and manufactories. Also, such economic invention as the emergence of banks can't be underestimated (in the 5th century B.C. in Greece, temple and private money banks extending interest-bearing loans appeared).

However, economy based on forced slave labor is low-efficient, suppresses the initiative of workers. Besides, the state has to maintain the army of slave-drivers, to conduct wars to replenish the manpower. A share of free peasants and craftsmen in population is reducing. Growing taxes, levies on the army deplete such economies. The number of city lumpenprole living on the doles from the state and patricians are growing. The regime of tyranny is established to maintain order, former democratic orders become the past.

The signs of decay embrace not only economy and social-economic sphere, but ideology. The standards of morality of political and military upper crust are undermined. The discontent of masses is intensified and they seek comfort in a new religion – Christianity. At first it is severely persecuted, however, in several centuries Christianity becomes the state religion recognized by Emperor Constantine at the beginning of the 4th century.

A weakened state cannot already be successful in the resistance to the pressure of barbarian tribes that rush to the center of the immense empire. In order to replenish the army emperors grant the rights of nationality to an increasingly larger number of population on the periphery of the empire. The internal decay and external rush cause the downfall of the Roman Empire in the year 476. The Eastern Roman Empire (Byzantine) existed for nearly a millennium more until the capture of Constantinople by Osmons in 1453, but it was transformed into the medieval state. In the East (in China and India), a transition to the feudal structure occurred earlier than in Europe.

With the downfall of the ancient civilization the first **historical super cycle** was completed that embraced about eight millennia, three world civilizations and two generations of local civilizations.

Its main result is that the multi-floor, multi-layer pyramid of society, which major outlines had taken shape at the dawn of the history, during the first three civilizations, was completely developed; all “floors” and “apartments” occupied and mastered. In the Neolithic period, a modern type of man was formed with his demands and abilities, initial scope of knowledge and skills, and also productive type of reproduction. At the second stage, in the Bronze Age, the formation of the next two “floors” was mainly completed – a mixed economy

Figure 5.2.

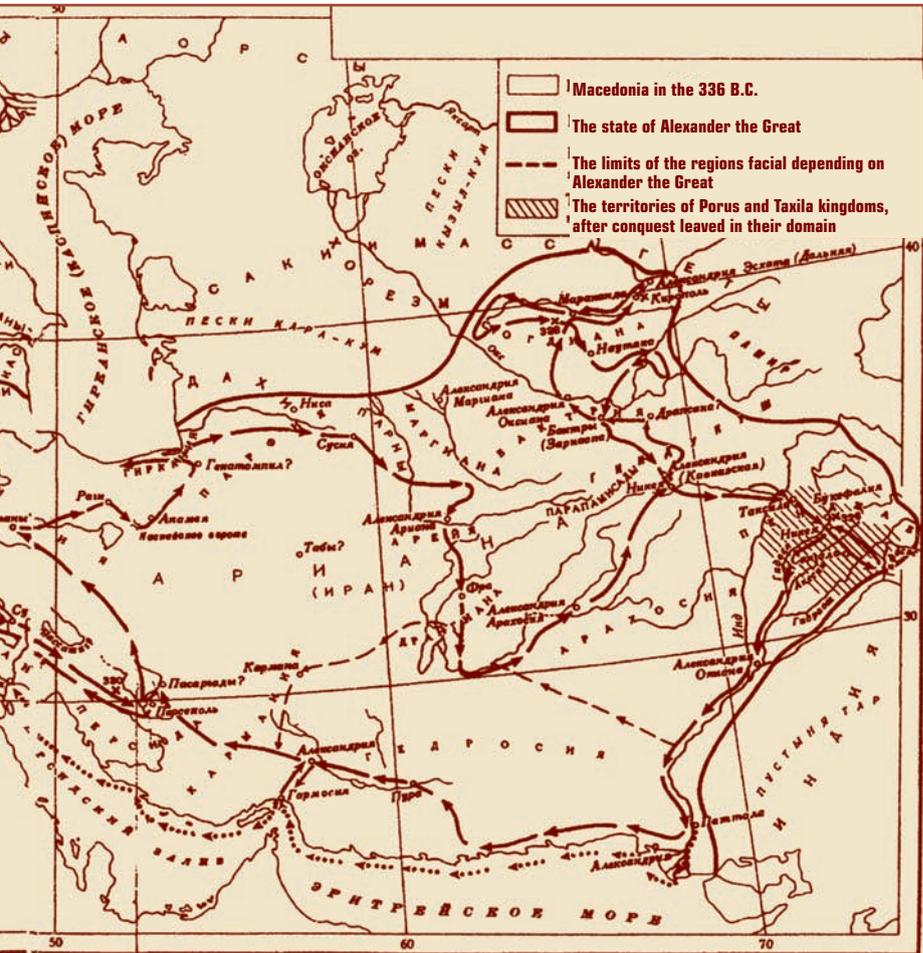
Empire of Alexander the Great



Source: [242, p. 94–95]

emerged, various forms of ownership (government, private, communal, and personal), classes, state and law. Completion of the “upper floor” of the pyramid, spiritual world (emergence of science, world religions, and educational system) was a merit of the ancient civilization.

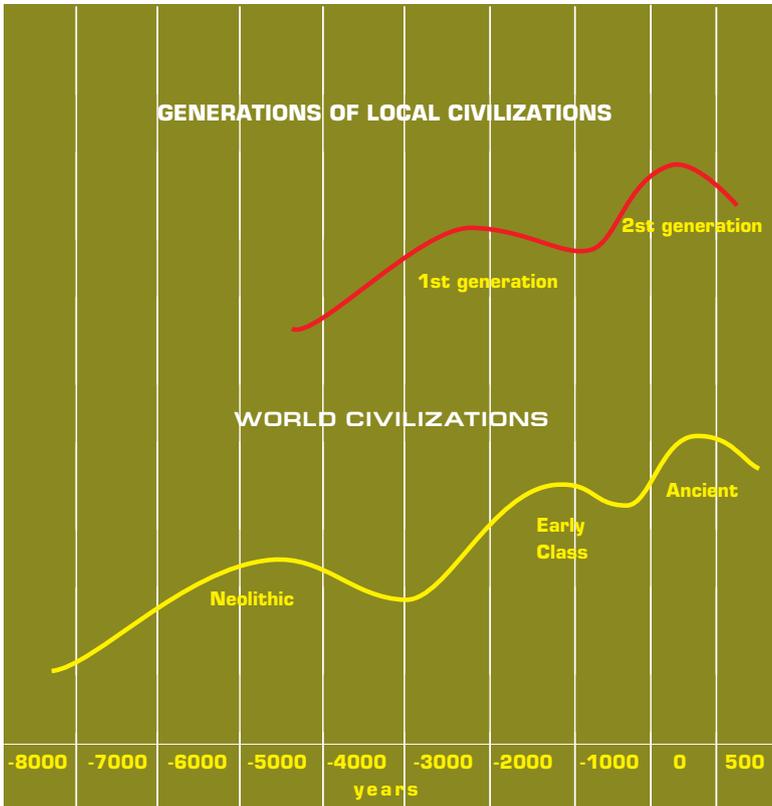
The formation of the planetary belt of local civilizations became another prime result of the development of civilizations of the antiquity. The Neolithic began on the various continents with a gap of several



millennia. However, the gap was bridging between individual civilizations isolated before, a dialogue and exchange between them intensified, a single rhythm of the history of mankind in its entirety manifested itself more and more clearly. Each local civilization had its own rhythm, some civilizations blazed and passed into nothingness; they were replaced by others, younger, more active, aggressive civilizations. It ensured the constant renewal of the forming global civilization.

Figure 5.3.

Dynamics of Ancient Civilizations



In the Neolithic world civilization *ideational, supersensual socio-cultural system* prevailed according to **Pitirim Sorokin** including belief in the omnipotence of various natural forces, worship to them, ancestor worship. Each tribe and even each community had its own system of beliefs.

In the period of the early class civilization polytheistic religions were formed, which were common for each local civilization and make up a component of its genetic nucleus. The hierarchy of gods reflected and blessed the hierarchy of life on the earth; religious bans fixed the rules of law and ethics. A well-elaborated scheme of relations between gods in ancient Egypt, system of rites in life on the earth and afterlife, reflected in richly painted pyramids may be adduced as a vivid example.

The ancient civilization as it formed in ancient Greece and in early ancient Rome implied a freer democratic order of relations both between gods on the Olympus and their relations with people. It is possible to speak about the establishment of the integral socio-cultural system for several centuries, which synthesized harmoniously personal liberty, religion, science (philosophy) and esthetics. This period was accompanied by the efflorescence of science, culture, ethics, and freedom (admittedly, for free nationals).

In the period of maturity and fall of the ancient civilization the sensual socio-cultural system prevailed, where the priority was given to sensual values, culture and art assumed a more applied, earthly character, the decay of ethical principles, vicious practices spread. This became one of the signs and reasons of a deep-seated crisis and the fall of the ancient world civilization and the second generation of local civilizations.

The key scheme of the dynamics of the world generations of local civilizations representing the first historical super cycle, change of the socio-cultural system is given in [Fig.5.3](#). Historical time runs from the epicenters of civilizational progress.

The following tendencies are obvious from the scheme: first the synchronicity of changes permeating all the structure of society, all “floors” of the pyramid of civilization; second, compression of historical time, acceleration of civilizational progress rates; third, a regular change of periods of rises and falls, upturns and crises in the dynamics of all civilizational institutions.

5.2. Dynamics of the Structure of the World Civilizations of the Antiquity

The “pyramid” of civilizations began to form already in the Neolithic society. However, not all “floors and apartments” of this new “house” for humankind were occupied at once. First, the lower “floors” were occupied — man with his demands and abilities, monogamous family (first as a part of the tribal community), density of population in the fertile valleys of rivers, division of farming and cattle husbandry, craft labor, specialization of labor tools and skills to make and use them, formation of artificial reproduction with the rudiments of private property and exchange of commodities. The upper “floor” of the pyramid also evolved — accumulation of empiric knowledge and transmission to next generations, de-

velopment of art, myths and various beliefs. However, the middle “floor” that characterized the socio-political and state-legal structure of society was hardly occupied. It became increasingly complicated — and a lack of pattern in relations impeded a social advance. This contradiction was resolved at the next stage of civilizational development, when based on the increased social differentiation such social institutions as the state and its system of rules of laws came into being .

Let’s consider why and how all “floors” of the pyramid of civilization were occupied, how the structure of society was formed, permanent in its basis to this day.

5.2.1. Human, Family, Population of Early Societies

The dynamics of demands and abilities of man of early societies. A social component of the genotype of a modern type of man was formed after the Neolithic revolution, which opened the way to various types of labor activity, which in its turn gave an impetus to the increase of knowledge and skills of man, diversity of cultures and traditions, emergence of cities and sophistication of the structure of society.

The growth of demands and abilities of man that allow meeting such demands not only due to physical exercise, but to straining of brain, inventing new ways and practices to improve its labor efficiency is the stimulus to historical progress.

What are the **major tendencies in the dynamics of demands and abilities of man** throughout the first three historical stages?

First, *the circle of man’s demands increased many times in scope and became more diversified.* The emergence of private property, classes, state, efflorescence of science and culture formed a wide circle of economic, social and spiritual demands, there were few in the Neolithic society or they were underdeveloped.

Second, *the relation of primary types of demands changed — and proportions of social labor to satisfy them.* In the Mesolithic and at the beginning of the Neolithic the absolute priority was with biological needs. The Bronze Age formed a wide circle of economic, social and spiritual demands. In the ancient society, it was they that began to play the priority role. It is enough to have a look at the Acropolis — a complex of marble temples and palaces dated back to the Pericles period (mid-5th century B.C) on the mountain in the center of Athens that impress you by size and beauty. Huge palaces, temples, table-tombs

decorated with painting and sculptures were built in the capitals of states — in Egypt, Babylon, and Assyria, China, in the Cyprus, India, Greece, and Rome.

Third, a *social differentiation of demands of various groups of population was formed*. While in the Early Neolithic a range of demands of people and families was approximately the same, in the Bronze Age, with a stratification of society into classes, demands became different. The ruling, religious and military elite had various and refined demands; a wide section of free citizens, craftsmen, warriors had much more limited demands; demands of a numerous section of slaves and the most exploited poor were reduced to minimum.

Fourth, a *territorial differentiation of demands increased*. While in the Paleolithic and the Mesolithic a gap in the level and makeup of demands of communities and tribes settled on different territories was relatively small and could be explained first of all by the differences in the environment, with the development of farming, cattle husbandry, crafts, exchange such gap in demands and level of their satisfaction was constantly growing and depended increasingly on the art of workers, technological and economic factors. The establishment of ample world powers, a growing volume of economic and cultural exchange, contracting barbarians as mercenary contributed to the convergence of the level and makeup of demands and abilities of various nations.

Fifth, concurrently with the enhancement of demands the abilities to meet such demands increased, a *share of able-bodied population and its distribution between various types of activity changed*. The ruling elite, priests and military commanders considered physical labor as humiliating, it was the predestination of small farmers, cattle breeders, craftsmen and slaves.,

Consequently, the fruits of historical progress of the first three civilizations were appropriated only by a part of society. But in some spheres (especially in spiritual one) the society reached such heights in the development of demands and abilities, that it surprises a modern man.

Throughout thousands of years, from generation to generation humankind was accumulating knowledge about the surrounding world, skills to use natural forces and phenomena. One had to know the habits and movement paths of wild animals, birds, fish in order to get them for eating; useful features of plants; practices for making tools of stone, wood, bones, construction of primitive housing, and making food.

But a real breakthrough in knowledge and skills of man occurred as a result of the Neolithic revolution. People learnt to select and culti-

vate cereals and other useful plants, till the land, seed, harvest, process this harvest, learn the periods suitable for seeding, making diggers, hoes, ploughs and invented the system of irrigation. It was impossible to do crafts and construction without understanding the properties of necessary materials, technology for their working and use.

Economic and social differentiation of society in the Bronze and the Iron Ages, emergence of various forms of property, exchange of commodities, money, classes, social groups, states, system of legal norms and development of international trade — all this considerably expanded the outlook and required knowledge and professional skills in the new spheres and types of activity that had not existed before.

Man of the early class and especially ancient civilization had considerably greater scope of various knowledge and skills than a man of the Neolithic. Labor efficiency increased many times.

As a result of colonization, military campaigns, establishment of world empires, exchange of knowledge and skills with barbarian tribes spread fast from the center of civilizations to the periphery. It fostered the speeding up of intellectual and professional progress of mankind.

With a transition to farming, cattle husbandry, crafts the circle of aims and motives for man's activity expanded. A more skilful labor of farmers, cattle breeders, craftsmen, construction became necessary. But to make product of skilful labor get to a worker and his family, to make him interested in a long training and intensive fruitful labor, a biological motivation mechanism should have been completed with economic based on private appropriation and equivalent exchange. It was a tremendous step up in the development of interests, aims and motives of man, his family, clan, and tribe.

The increase in number and density of population, the emergence of the states and the system of rules of law, transition to the slave economy generated a new layer of social interests and motives for action associated with foreign economic coercion, violence and protection against it.

Finally, the increase of spiritual demands and associated with their satisfaction types of activities (performing of religious rituals, art, sculpture, architecture, music, literature) generated one more interest and motive for action inherent to man only and society established by him — infinite eagerness to cognize the world, creation of beauty.

Development and function of family. Reproduction and evolution of man was developed through a family. Its functions and significance

changed considerably during the first three civilizations and increased considerably.

A *biological function* of family is in reproduction and continuation of the human race based on the change of generations of people. As a rule family unites three allied generations: actively acting (adults), coming (children), and passing (the old). Supporting and completing each other, they ensure the continuity of reproduction and change of generations in the primary unit of society.

An *economic function* of family increased with the transition to farming: hoe-based, and especially a plough-based farming became gradually, even within the community, a business of individual families. Farming passed from the hand of women to men, and a man – farmer and warrior – became the head of the family. The more men were there in the family, the greater surplus product the family could get. Each family increasing its property tried to save it for its members. They stopped to divide the product among community members, and property began to pass from the father to his children; the foundations of private property to the means of production were laid. The maternal parentage gave way to paternal – the patriarchal family based on private property was formed.

In the family – the primary unit of society's economic structure – reproduction of man takes place as a prime productive force; production of the great bulk of products of farming, cattle husbandry, crafts takes place; knowledge and working skills are transferred from generation to generation.

In the Bronze Age and especially in the ancient society economic isolation and property differentiation of families increased. The rich families had as a part of their property, in addition to land and assets, slaves. The poor families of free citizens of poleis were engaged in petty production and paid taxes; slaves were forced to work. By the end of the ancient period inefficiency of slave labor became obvious. To stop mass uprisings of slaves and their flights to remote area, to fasten them to land the system of colonat was created: after they discharged their obligations to the landowners many of them got the plots of land, and they were allowed having families, maintain themselves and their families. The system of colonat became one of the channels for the formation of the class of bonded peasants in the feudal society – along with the turning of a part of former free members of community into such bondmen.

A social function of the family increased gradually. In communication and cooperative labor with other family members the younger generation got a necessary minimum of knowledge and skills learnt the rules of behavior in society. The family was the prime link in the main-

tenance and transmission of the social genotype. With the intensification of society differentiation, establishment of castes, classes, estates these social distinctions were fixed and transmitted using family.

Population of early societies. The population number on the Earth was small at the beginning of the history of civilizations, less than the number of residents in modern Moscow. This population was distributed quite unevenly throughout the territory of the Earth – mainly by narrow stripes on the shores of large rivers and seas in the moderate belt to the north of the equator.

In the Mesolithic and Neolithic Ages the mortality from diseases, hunger, in battles with hostile communities and tribes, during natural calamities was high. The average lifespan made 25-35 years, and the frequency of generation change (periods of their active life) – 15-20 years. In the next civilizations, the average lifespan somewhat grew. The mortality from diseases and hunger fell, but the number of those died in the military conflicts increased sharply. In the second and third world civilizations a considerable part of population – slaves were deprived of the right to start families, their lifespan was shorter, which also negatively told on the population number growth.

The population density, except narrow strips along rivers and coasts, was extremely low. According to estimates from the years 7000 to 2500 B.C – the population number on the Earth increased 4 times only – from 10 to 40 mln. people. In the next 2.5 thous. years in the Bronze Age and at the beginning of the Iron Age natural population increase rates grew considerably. However, in the period of the decline of early societies of civilizations the population increase rates dropped again considerably. However in the period of the fall of ancient society they went down and for the first millennium of the new era they made 0.01% in general worldwide [126. P. 257].

By the beginning of our era, according to **A. Maddison** the world population number made 230.8 mln. people. Including 174 mln. – 67% lived in Asia (mainly in China and India), 29 mln. in Europe (excluding Russia) and 16.5 mln. -10% – in Africa, mainly in North Africa.

The early civilizations are characterized by high mobility of population, especially in the critical periods. The Great Greek colonization of the years 750–550 B.C. may be adduced as an example and it contributed to the diffusion of high gains of the ancient civilization throughout the Mediterranean and Black Sea regions.

5.2.2. Technology and Ecology in the Antiquity

The evolution of tools of labor and materials. The genuine revolution in technology occurred in the transition to the Neolithic, with mastering of farming, cattle husbandry, crafts, and construction. One may speak about the formation of the *Neolithic technological mode of production*, whose preconditions were laid in the Mesolithic Age. New practices for manufacturing of stone tools were mastered – using grinding and polishing, hollow drill. But the major tendency is in the specialization of labor tools together with the development of a social division of labor. There appeared specific sets of means of tools for farming (digger, plough and then wooden plow, reapers and sickles; ceramic vessels for storing harvests, protection against rats and moisture), cattle husbandry, various kinds of crafts, and construction. Along with flints, obsidian, more solid and hard to process kinds of stones – nephrite, and jade were used.

The next general technological revolution dates back to the Neolithic and the beginning of the Bronze Age. Its main contents were new practices for manufacturing of tools of labor, weapons and everyday articles from metals – copper and gold, and then bronze. The beginning of the technological mode of production of the Bronze Age was laid thereby. It was a major leap in the development of productive forces, in the improvement of labor efficiency. “Manufacturing of metal tools of labor and utensils was a technological achievement, which inaugurated a new qualitative change in the dominance of man over the surrounding world. Metal tools are more valuable and enduring than stone tools, and a metal weapon is much more efficient than stone in struggle against animals and enemies – other people. The metal making technology and the use of metal tools had a tremendous significance for other branches of technology... Thus, the use of metals tools, specifically a knife, chisel and a saw transformed the wood working thus establishing the carpentry, and allowed applying brickwork practically everywhere. The creation of first machines, specifically wheeled cart and waterwheel became possible only due to metal. Even in farming – a hoe drawn by a team of bulls or a steel plow are fully efficient only when metal replaced stone in the tillage” [16. P. 69, 70].

The advent of copper and then bronze tools allowed changing over to the irrigation farming, first of all in the valleys of large rivers – in the lower part of the Niles, Tigris and Euphrates (4th millennium B.C.), Indus (from the mid-3rd millennium). An impetus was given to

the emergence of crafts and their differentiation — manufacturing of copper and bronze tools of labor, weapons, golden decorations, metal utensils, mining and making ores, smith craft, cart manufacturing with metal felloes, ship building, first rowing, and then sails, construction of palaces, castles, magnificent statues and table-tombs. The opportunity to manufacture a regular surplus produce appeared.

The use of iron, and then steel became the core of the *technological mode of production of the ancient civilization*. The native cosmic iron was used before, but only with the improvement of metal melting and working practices it became possible to widely use the puddling iron, and then carbon steel. Although iron and steel are more difficult to process and suffer corrosion, they are more solid than copper and lead and their deposits are more common. That's why since the beginning of the 1st millennium A.D. they became the base for the bloom of local civilizations in Southern Europe. "Peoples of the Iron Age, having become nomadic turned out to be able to create flourishing agricultural and craft communities on once barren land. The result was such reduction of political and economic superiority of river-valley civilizations that they did not act anymore as the main centers of cultural achievements of humankind, although many of their cultural, material, spiritual achievements were transmitted to next generations" [Ibid. P. 90].

Another towering achievement of the Iron Age was the development of the maritime navigation that was many times cheaper than overland transport and fostered the expansion of trade, colonization of new territories.

Mastering of iron and a wide range of tools made of it became one of the primary sources for the displacement of the epicenter of the world progress from river valleys of the East to the coastal areas of the north Mediterranean, Southern Europe, and Asia Minor.

Energy resources of early civilizations. The major source of power setting in motion labor tools throughout the Paleolithic, Mesolithic and partially Neolithic, was muscle force of man. This was a universal and renewable power resource. Cooperation of labor in construction of irrigation systems, palaces, temples and pyramids enabled to attain amazing results, which exceeded the force of an individual man many times.

But hand labor was not the only source of power. Having tamed wild animals, man began to use them for carriage of cargoes and own relocation. This was the first energy revolution that allowed completing and partially replacing the force of man with the force of animals. In Mesopotamia, already since the beginning of the 3rd millennium B.C., donkeys and bulls were harnessed to ploughs, carts and chariots.

Later they began to use horses and in some regions — camels and tame elephants, in farming and transport, and especially in soldiery.

Inventions of the Iron Age enabled to use natural power sources — the strength of wind and water. Already in the Bronze Age in sea voyages they began to use sailing boats and vessels. In the early period of the Iron Age — waterwheels and mills powered by falling water appeared.

Consequently, the early civilizations made a large step up in the formation of the power basis of fast advancing humankind. From a muscular force inherent also to other animal world, man managed to make various natural power sources serve to him, which became the foundation of a many time increase in the labor efficiency.

Society and nature in the antiquity. In the Neolithic revolution man learnt to gain his daily bread, grow plants and animals, process received products into a necessary set of means of subsistence. This became a great benefit that opened the path of the nascent humankind to survival and advance. The first ecological crisis broke out at the end of the Mesolithic and put many primitive communities and tribes in jeopardy of the death from hunger. The reasons of this crisis were not only natural (a fast glacial retreat, and large animals with them such as mammoths, reindeer, buffalos — to the north), but historical — using a bow and arrows, people began to destroy large animals fast.

Having learnt to grow cereals and having tamed certain animals, man of the Neolithic period ensured independent sources of subsistence. “Agriculture led to the essentially new relations between man and nature. Man ceased to lead a parasitic way of life on account of plants and animals since the time he was able to grow the same amount of food on a small area which he could get by hunting and gathering on an vast territory. Farming, he set the dominance over animate nature due to cognition of the laws of reproduction and thereby he reached a new and even greater independence from the environment... A transition to farming led to a new type of society that was qualitatively different from previous due to a huge increase in the number of population who would be able to subsist on the same earth” [7. P. 60].

Nevertheless, a threat of violation of a fragile balance between society and nature was always within hailing distance In some civilizations it turned into reality becoming a reason of their death.

The second ecological crisis broke out at the end of the Neolithic when the increased population failed to subsist on slash-and-burn farming and primitive cattle husbandry. The way to resolve this crisis was the formation of irrigation systems in the valleys of large rivers (Nile, Euphrates, Tigris, Indus, and Huang He), whereto the center of early civilization

moved in the 3rd-4th millennia B.C. However, by the end of the 2nd millennium B.C. a new threat of the *third ecological crisis* arose that was due to salinization of irrigated soils reducing sharply the yield so that there was no chance to feed the increased population in the fertile valleys of large rivers. And again humankind managed to find a way to resolve the crisis through mastering of dry farming soils, use of iron tools, expansion of the circle of natural resources involved in production. Thus in the ancient period (the Iron Age) the upsurge of farming, cattle husbandry, crafts and construction occurred. The achievements of agronomy and cattle breeding in Greece and Rome were impressive. But also by the middle of the 1st millennium A.D. the development potential was mainly exhausted here, and first of all fertile soils depleted and the population of the densely populated part of the planet faced a threat of a regular, *fourth global ecological crisis*.

Division of labor and organization of production. The Neolithic civilization inherited a flexible and mobile communal form of organization of production based on the labor of a small group of families. The division of labor existed only by sex and age and cooperation in hunting for large animals.

The birth of farming local civilizations, especially in the valleys of large rivers, required a considerable concentration of population (it was impossible to do irrigation work without it) on a restricted area, speeding up of the development of division of labor and its cooperation. The result was a regular surplus produce on a large scale, which was appropriated by a separated tribal, and then state upper crust, using economic and non-economic practices.

A diversified economy more complicated in structure and based on the system of a social division of labor replaced a comparatively homogeneous communal economy. Specializing in a certain type of business, applying special tools of labor, a worker was able to improve his efficiency many times. Cooperation of labor and exchange of its results developed so that various demands could be met in full a range. Society was formed based on division and cooperation of labor, mutual exchange of its results. The preconditions were created for higher and various forms of exchange in activity and economic relations.

A transition to the early class, and then ancient technological modes of production inaugurated essential changes in the forms of organization of labor. Large-scale diversified or specialized households were combined with a large number of small independent farming and craft households based on personal labor. By the end of the Roman Empire the system of colonat became a “runway” to the feudal forms of organization of production.

For thousands of years of the first civilizations humankind has walked a long path. From a small number of communities inconsiderable in number and scattered around ample territories, engaged in a relatively homogeneous labor of hunting, fishing and gathering, manufacturing of necessary labor tools and construction of primitive housing it moved to a sophisticated organization of society based on a social and professional division of labor, with a high density of population in cities and fertile valleys, using more and more complicated and various technological systems and forms of organization of production.

5.2.3. Economy of Early Civilizations

The emergence and development of private property. The Neolithic civilization inherited from the Mesolithic the economic system based on communal ownership to the means of production and egalitarian distribution of products received.

While a part of labor tools was a personal property and a part of product was consumed within a family, there was no private property yet as well as economic inequality.

The Neolithic revolution, especially in farming regions, improved the efficiency of labor, worker many times. He sought to use the fruits of his labor, appropriate the instruments of labor and received product for self and his family. Communities and tribes increased in number. The tribal upper crust purported to get a larger share of product than in egalitarian distribution. A surplus produce arose, which caused the problem of its appropriation. Communal property and egalitarian distribution became the chains on the path of development of productive forces.

The emergence of private property, private appropriation of the means of production and its results became inevitable. It was the greatest economic revolution resulting in the overturn in all system of economic relations, in a spasmodic growth in labor efficiency in next generations. An egalitarian distribution passed (it remained only within a family, and also in re-distribution of land in communities). Private property extended not only to the plots of land, labor tools, cattle, materials, generated products, but also to slaves, who were viewed as “speaking animals”.

From period to period a change of the forms of ownership making the nucleus of *economic mode of productions* occurred replacing each other. However, economy was mixed. Concurrently with large and small

private property village communal property, state and church (temple) property and also personal property of individual families survived.

Dynamics of the structure of economy. For the early civilizations a considerable sophistication of the structure of economy was typical, which could be viewed in several aspects provided in the multi-dimensional reproductive-cyclical macro model that describes the structure of the past and modern economy.

➡ **Reproductive structure of economy.** In a primitive three-sector structure of reproduction in the Mesolithic with an absolute prevalence of procuring food by hunting, fishing and gathering, a minor specific weight of production of means of production (manufacturing labor tools of stone, bows and arrows, spears, etc.) and procuring of primary raw materials necessary for that (stone, wood) prevailed. In the Bronze and Iron Ages the structure of production assumed a more complicated nature: a product for government needs appeared, although it had a minor specific weight (the maintenance of state machinery, army) as well as intellectual product (papyri, works of architecture and sculpture) and market services of merchants, and moneylenders.

➡ **Sectoral structure of economy.** In the Mesolithic, approximately 2/3 of labor and product fell to hunting, fishing and gathering. In the Neolithic, a share of hunting, fishing and gathering dropped sharply, farming and cattle husbandry took the first place; a share of manufacturing of labor tools, pottery, production of materials, and construction of housing increased. This tendency was intensified in the early class and ancient civilizations, where a considerable role was played by construction of palaces, temples, table-tombs, cities, production of labor tools and various weapons.

➡ **Hierarchical structure of economy.** In the Mesolithic, an overwhelming share of product was produced in the communal economy and was meant for egalitarian distribution. However, the formation of family as a social institution resulted in the increase of a share of product manufactured and appropriated by it. A minor share was occupied by general works requiring united efforts of several allied communities within a tribe.

In the Neolithic, the hierarchal structure of economy remained three-level, but the ratio between two major levels became reverse: natural family households gave about 2/3 of products (for own consumption), 1/4 – communal economy.

In the Bronze and Iron Ages, the gamut of hierarchical levels of reproduction became more various. With the development of commodity production and expansion of exchange small commodity and large slave economies emerged and expanded fast, and as a result a share

of individual reproduction increased. The state economy connected with the maintenance of army, ruling establishment, performance of major irrigation works, construction of palaces and castles emerged. The volume of regional reproduction expanded: fortifications, water lines, theaters, etc. were built in the cities. Natural family economy kept the leading role in satisfaction of demands of population; a share of communal economy was weighty.

➡ *Technological structure of economy.* The mode of production orientated at reproductive economy using a set of labor tools for farming and cattle husbandry, construction of housing, settlements, became prevailing in the structure of economy of the Neolithic. But strong positions of primitive technologies remained, while new based on the use of metal began to emerge. They became prevailing in the Bronze and the Iron Ages. In the period of the downfall of the ancient civilization technologies and methods of labor organization inherent to the medieval society began to form. At each next stage of development the technological base of society resembled more and more a double pie, whose major layer was a set of technologies typical of a given civilization and combined with the remains of preceding complexes and serving in its turn as the base for future technologies and organization forms of labor.

➡ *Economic structure.* In the Mesolithic, economic system inherent to the primitive society dominated and based on communal appropriation of means of production and egalitarian distribution. The system based on family property, egalitarian distribution within a patriarchal family and natural exchange prevailed in the Neolithic and ensured reproduction of manpower in the next two civilizations despite the fall of its specific weight. But concurrently systems based on minor and major private property and commodity (more precisely – semi-commodity) economy began to form, which played a noticeable role in next civilizations. Simultaneously the system based on state property connected with the increase of the role of the state in soldiery, construction of irrigation systems, table-tombs, fortifications and roads appeared.

➡ *Value structure.* In the Mesolithic, nearly all product produced (except a small part used for compensation of used tools of labor and materials) went to consumption – communal (collective) or individual (family); there was practically no surplus produce. In the Neolithic society, a family personal consumption became major, a share of collective (communal) consumption reduced sharply. A systematic farming, cattle husbandry, and crafts increased a share of products directed at

reproduction of used means of production. A surplus produce became regular and was spent on both expansion of production and maintenance of army, state machinery, temple and king palaces, etc.

The level of economic development was not high measured by the modern yardstick (according to **A. Maddison** in the 1st year A.D. 445 US dollars per capita of population on an average worldwide) and was poorly differentiated by local civilizations (from 450 US dollars in Western Europe, China, India to 400 US dollars in Eastern Europe, former USSR, Japan and Latin America) [126. P.262].

Formation of market. The epochal economic innovation of the period of early civilizations, along with private property, was the formation of market — exchange of commodities with the categories inherent to it (value, price, and money.)

The primitive economy had natural character. The products gained, tools of labor manufactured went into consumption of family members and community without an equivalent exchange. Exchange between communities was occasional.

Division of labor and formation of private property required a regular exchange in products of labor both inside community and between communities. Although the major part of products was produced for own consumption, their growing share went into exchange. The need arose to weigh heterogeneous goods, especially with a transition from a simple form of value (goods were exchanged for goods) to the expanded and universal (goods were exchanged for money). With time the role of the universal equivalent was fixed in precious metals — gold and silver, which performed the functions of money. The money value of goods became price. A section of people differentiated who did not produce goods, but bought and sold them, counting on *merchant's profit*. As the monetary system was not alike in various countries and civilizations, moneychangers appeared. The moneylenders lent money on interest; sometimes such interest was very high.

Consequently, as a result of the development of the first three civilizations commodity economy emerged, production of goods for sale. By river and sea routes, caravan tracks commodities did the journeys of thousands of miles at times. However, commodity production was not universal. A major part of products of labor was made and consumed in family and slave states in the natural form, not through the market. The natural-patriarchal economic structure prevailed, but a share of ***small and large commodity economies was growing fast.***

5.2.4. The Establishment of the Socio-Political Structure of Society

Intensification of social differentiation. The primitive society was socially homogeneous. Only age-sex differences within a community were observed as well as anthropological differences — race and language.

The formation of civilizations resulted in the emergence and fast development of social differentiation, *stratification of society* by various social strata.

The patriarchs of community, tribe, clan, priests, military leaders and their families gradually appropriated the best part of cultivated lands, cattle, spoils of war; thus the tribal upper crust was formed, which became the initiator of fixing a larger and larger part of common property in private ownership. At the other pole there were most ordinary community members, whose property was common, but with time small private property was taking more and more clear-cut shape. The family head was considered the owner of such property, it was inheritable. In the Bronze Age, classes emerged based on these groups.

Another type of economic differences was caused by a social division of labor. Individual tribes, communities, families were mainly specialized in farming, cattle husbandry, this or that kind of craft, construction, carriages, etc. Admittedly, these differences were nominal, nevertheless, specialization, especially with the development of commodity exchange and increase of cities, became more and more distinct. This or that type of occupation was fixed with families; the secrets of workmanship were transmitted from generation to generation. The groups of merchants, moneylenders, judges, officials, scribes, philosophers, ministers of religion, etc. emerged. Property and professional differences were often fixed in the existing closed estates, castes (for instance, in India).

A social differentiation declared itself in intensification of ethnocultural differences in society, especially in the Bronze and Iron Ages. New ethnic groups appeared from time to time, and old ones were destroyed as a result of wars. Each had its own language, religious beliefs, bridal and feast rites and ways to bury the dead and cultural traditions.

Thus, *intensification of social differentiation of society*, deepening of its stratification, more and more strongly pronounced difference of interests of various strata may be viewed as a general regularity in its

development. This enriched the social genotype of society because the difference of potentials serves as the source of development, while being a cause of acute clashes, conflicts, revolutions and wars at the same time.

The emergence and functions of the state and law. Sophistication of the structure of society, intensification of contradictions between various social strata made the emergence of the state inevitable. It became the epochal social innovation of the early class civilization (Bronze Age).

In the Neolithic Age, the organization of social life was based on communal, and then tribal self-government resting on collective (“veche/people’s assembly”) decision of major issues at the meeting of the family heads, elected patriarchs, on customs established by age-long traditions. However, differentiation of the property position of families, emergence of private property, social stratification and military conflicts, which became more frequent, led to the emergence of the section of people who undertook the administration of general affairs in the tribe, union of tribes, protection of property against encroachments, settlement of disputes and conflicts always arising inside society, protection against attacks from outside.

The state machinery, which stood out from society, included several branches: the supreme power — pharaoh, king, emperor, etc., which rested on the group of people in attendance, who were responsible for certain types of activity (ministers, viziers, vicarious rulers in the regions, tax-collectors, etc.); judicial branch — judges, policemen, jailers; military power — military leaders, military units, which along with external functions (protection against inroads, attacks on other countries and tribes) performed also internal (suppression of rebellions).

The emergence of the state and law was a tremendous step up in the dynamics of the organization of society. The ***functions of the state and law*** are not reduced to the class violence; they are richer and more diversified.

First, the increase in the number of population and its social stratification, made it necessary to *regulate social relations*, to remove legal chaos, and the club law. Not only the tribal upper crust, which became the holder of considerable wealth, but also ordinary farmers, cattle farmers, craftsmen needed protection of their property against the arbitrariness of neighbors, and the tribal upper crust. The mechanism of communal government that had been formed for millennia and blessed age-old traditions was not enough; it did not agree with newly-arisen contradictory relations, which were not in line with communal

system. The state also undertook the arrangement of certain public works – construction and maintenance of irrigation structures, palaces, temples, table-tombs, water supply systems, etc. It contributed to the expansion of state property.

Second, social progress led to the establishment of classes, social strata, estates, etc. The privileged groups needed protection against encroachments of the majority of society members deprived of such privileges or exploited. Therefore *the establishment and protection of a new structure of social relations, property expansion, regulation of commodity-money, market relations* became a significant function of the state and law. The state became an instrument for strengthening the class dominance of the birth benefits.

Third, *protection from external encroachments*. With the increase of population density and accumulation of wealth, wars, which became more frequent, made it necessary to maintain the army, which could be replenished from the influx of free citizens or mercenaries.

Fourth, *the state was the initiator of the development of legal rules and ensured their enforcement*. Already in the 3rd-2nd millennium B.C. attempts to codify the rules of law were made. One could adduce as an example Mesopotamia, where **Shulga's** laws were already published in the 21st century B.C. The laws of the Babylonian king **Hammurabi** (1792-1750 B.C.) are the most complete extant corpus of the rules of law of the early class civilization, which are known to us. It incorporated several sections: major principles of justice; protection of property of the king, temples and the court; official property; real estate transactions, trade and commercial transactions; bodily injury; transactions with movable property and personal employment.

The top of the rule-making activity of early societies was the Roman Law, which comprised all fields of property and social relations (private and public law) and which became the foundation for the elaboration of legal rules in the next periods. The Roman Law was most completely codified in the Code of the Byzantine Emperor **Justinian I** (483-565) Corpus Juris Civilis.

Political life. The birth of democracy. In the Neolithic, there was no need for political life; the rights of community members were equal, social order was relatively simple and homogeneous. It did not mean a lack of the hierarchy in family and community, but it did not assume the form of political power.

The emergence of the state, property and social differentiation of society gave rise to the *birth of policy* which expressed the interests of various groups of people, classes in struggle for the state power and

rights and privileges. The history of slave states is full of descriptions of overthrows, clashes, rebellions, struggle of various groups for power.

In the ancient society, there were born such popular extant categories as *democracy*, personal freedom, and rights of a citizen. In ancient Athens under **Pericles** (490-429 B.C.) the democracy mechanism was elaborated, which became widespread in other city-states (poleis).

The notion of a citizen associated with other citizens through the communion of interests, ancestors and traditions. However, it was the citizenship for the select. Slaves were deprived of civil rights; freedmen, colons, and foreigners had limited rights.

The *administration mechanism of the state and world empires*, quite complicated in its elements, especially in the Roman Empire was polished. A vicarious ruler and a procurator, who were subordinated to the Emperor, headed each province. The economic unity was ensured through the unity of the monetary system — silver sestertertium, golden aureus (100 sestertia). Famous Roman roads with total length of 150 thous. km (big stone slabs in the foundation, on which there was a thick layer of gravel; road width — 4-5 m) helped relocate fast the troops, mail, served as transport thoroughfares of the unified empire.

Wars in the Antiquity. While armed clashes periodically occurred between communities and tribes for possession of the best lands, pastures, accumulated wealth in the Neolithic and before it, the war emerged only together with states and local civilizations as a social-economic phenomenon, as a function. In such understanding wars are more than five thousand years old.

In the slave society the war was one of the prime functions of the state, determined economically and politically. A war was conducted for replenishment of the army of slaves, for capture of territories and riches, for defense from external attacks. Wars were most often conducted in the densely populated regions of the world, on the territories, where the first states and civilizations emerged. Wars broke out from time to time inside the states — when rebellions of slaves were suppressed, clashes among hostile political groups and ethnoses occurred.

One should not think that wars were conducted nonstop and were extremely bloody. The researches of **Pitirim Sorokin** showed that the number of peaceful years prevailed as a rule over the number of military years in ancient Greece and ancient Rome, and the number of military victims (killed and wounded) did not exceed 4.4-7.6% of the numerical force of the army [84 P. 632).

Wars intensified the creation of new types of weapons; military defense works. But they distracted the most active part of society

from productive labor, led to destruction of cultural monuments and to the death of peaceful population. Military economy emerged — production of weapons, logistics of army, construction of fortresses, military defense constructions (the largest of which was the Great Wall of China).

5.2.5. Spiritual Life of Early Societies

None of historical processes in the early civilizations can be compared with the development of human spiritual life in the attained results. A savage entered the Neolithic, with quite vague notions about the world around and self, the rudiments of culture, which were expressed in cave painting and ritual dances, with primitive animism. A civilized man ended the ancient age with the established system of scientific knowledge and reached amazing heights in arts, with the developed system of communication of knowledge and standards of morality, with a plant of major world religions.

The first whorls of the spiral of scientific cognition. The empirical base of natural and many engineering sciences was laid in the *Neolithic* period; it is possible to speak about the rudiments of applied arts. Mastering farming and cattle husbandry, various kinds of crafts (manufacturing tools of labor, clothes, and decorations), building houses and settlements, curing wounds and diseases, tend to observations, generalization and invention, members of the Neolithic communities accumulated knowledge about the movement of heavenly bodies, solar and lunar cycles, the alteration of seasons (that permitted to make up the first calendars), learnt to count and measure (the rudiments of mathematics), cognized the properties of water, fire, employed materials (the empirical foundation for the emergence of physics, mechanics, and chemistry), got to know the habits of living beings and own body (biology, medicine). In practical activities the primary base for engineering sciences — materials science, agricultural, and construction was formed.

Having expanded the spheres of man's activity many times, the civilization of the *Bronze Age* gave impetus to the formation of the outlines of a whole scale of applied sciences, separation of the groups of people (mainly priests) and who were professionally engaged in observations and generalizations. Irrigation farming and seafaring demanded knowledge of astronomy; maintenance of economies, construction of palaces, temples, pyramids was based on the developed system of count and mea-

surements (arithmetic, geometry), empirical basics of physics, chemistry, materials science and agronomy, and construction science. Melting of copper and bronze laid the foundation of metallurgy. The advance in military technology was based on the empirical acquirement of the laws of mechanics. Significant steps were made in the field of practical medicine, learning of the anatomy of a human body.

The Bronze Age gave impetus to the germination of social sciences, accumulation of their empirical base: applied economy and statistics (maintenance of king's economy), geography, ethnography and the science of language. The invention of written language permitted to fix knowledge, to record events and to accumulate historical facts.

A real breakthrough to the upper floor of cognition occurred in the ancient society. In the 6th-3rd centuries B.C. a *scientific revolution* based on the observations and facts accumulated as a result of the advance in technology occurred in ancient Greece, its content was in the establishment of the system of scientific views. One could name the largest scientific achievements of that period: materialism of **Thales**, dialectics of **Heraclites**, philosophical systems of **Socrates** and **Plato**, atomistic theory of **Democritus** and **Epicurus**, mathematics of **Pythagoras** and **Euclid**, mechanics of **Archimedes**, medicine of **Hippocrates**, geographical works of **Aristophanes** and **Stratton**, historical works of **Herodotus**. The natural philosophy of **Aristotle** that included the basics of biology, logic, elements of political economy and other sciences crowned the science of that period. The first system of natural sciences was formed, and the foundations of engineering and social sciences were laid.

The local civilizations of the East have contributed a lot to the formation and development of scientific cognition, and first of all China. The philosophical and ethical doctrine of Confucius (551-479 years B.C.); schools of "itinerant scientists" who periodically met in the Jixia Academy — the capital of the Qi Kingdom; doctrine of Mo Tzu (479—438 B.C.) about "universal love" and ideal state based on it; Taoism with its glorifying the harmony of the world and idea about the ideal king who rules through "omission of action", not interfering with a the natural course of events should be mentioned.

The science of ancient India flourished in the Gupta period, in the 3rd-5th centuries A.D. The outstanding achievement of the Indian mathematics was the invention of the decimal positional system of counting.

Thus, the ancient world passed through its first enormous spiral of cognition as a result of which man, realizing the potential of his intellect, plumbed the depths of mysteries of nature, established the system of sciences, which underlies the foundation of the magnificent building of modern science.

Culture of early societies. Culture serves as a great heritage of spiritual life of early societies — magnificent pyramids and palaces, various sculptures, and immortal literary works. Only a small share of this spiritual wealth, which was created in the period of humankind's youth, has survived to this day, but what survived continues to astound us.

The preconditions for a rise in culture were laid in the *Neolithic*, although only few monuments survived, which date back to that time. The concentration of not numerous communities in settlements and first cities, more settled way of life, increase in the labor efficiency, release of free time — all this gave impetus to the development of the Neolithic art. It found its expression in decoration of housing, ceramic vessels, paintings on the walls of temples and earthen posts.

New opportunities for the formation of culture and art as an independent type of activity in the system of division of labor opened in the *Bronze Age*. These opportunities were used to the full extent in the *Iron Age*. This was a real rise of culture, which has left numerous monuments on all continents, but especially in Mesopotamia, Egypt, Greece, Rome, Persia, India and China — the seats of culture of great antiquity.

The city revolution of the beginning of the Bronze Age opened the way to construction of architectural monuments — temples, palaces, table-tombs, and then theaters, and communal buildings. The palace of the Assyrian kings in Nineveh and the Palace of Knossos in Crete were huge in size. The palaces and temples of the *ancient civilization* were equal to them in size and luxury. One of the most magnificent ones was a complex of buildings of the Acropolis of Athens built by **Phidius** under **Pericles** (in the mid-5th century B.C.).

In their desire to perpetuate their deeds, the governors of the antiquity allocated huge funds for building of table-tombs. The most known ones include Egyptian pyramids, pyramid of Cheops the height of which makes 146 m, and the length of basis of each face — 230 m, is made of 2.3 mln. stone slabs.

Sculpture that has survived to this day occupied a large place in the cultural heritage of antiquity. It decorated palaces, temples, central city squares. In the Bronze Age huge statues, which glorified gods,

pharaohs and kings, were built. One of the masterpieces is the sculptural portrait of queen Nofretete kept in the museum in Berlin. In the ancient world, especially in ancient Greece, marble statues were created, many of them have survived in originals or Roman copies.

In the early societies, there was developed verbal folk arts, *literary works*, legends, myths, epics; the brightest monuments of such kind include the epic “Iliad” and “Odyssey” by Homer, the Bible, which included a number of antique literary works, chants of the Indian “Veda”. The works of authors that have become the primary sources of information about history, culture, religion of antiquities appeared.

Formation of the system of education. An enormous growth of knowledge, skills and cultural heritage that should have been mastered by each next generation required radical changes in the upbringing and education.

In the Neolithic, education was mainly in the family; labor training was inbuilt in the nascent social and professional division of labor. From early years a child watched natural phenomena, was involved in life of his family, community. When he became older, he began to work at home, and in the field, ply a trade, do primitive or auxiliary operations. The period, when a teenager having mastered a necessary minimum of knowledge and skills took a kind of exam before the adult family or community members and became its full member — a hunter, warrior, husbandman, cattle farmer and craftsmen, was inaugurated with the initiation ceremonies.

The situation changed at the next stages of the development of early civilizations. A separation of mental labor from manual occurred, which determined two directions in education. For manual workers education still remained indivisible from production. At the same time for training intellectual workers it was necessary to establish schools of philosophers, scribes, and priests. People professionally engaged in educating the younger generation appeared. The first educational establishments emerged. This was the *first revolution in education*.

The creation of writing fostered the development of education. Special intensive classes, teachers who had skills to communicate knowledge, teaching aids were necessary for learning the literacy.

The schools of scribes, other educational establishments existed in ancient Egypt as special knowledge was necessary for the performance of various jobs. Special educational establishments were set up where in addition to training the scriptures were composed, medicine researches conducted.

The schools of philosophers — informal groups of the young around prominent thinkers — fostered the efflorescence of free thought in Athens. Accumulated knowledge was communicated through free dialogues and new thoughts germinated, student learnt the art of cognition and reasoning. The school of **Socrates**, **Plato's** Academy and **Aristotle's** Lyceum are most known ones.

Much attention was given to education in ancient China where a major portion of time was given to learning hieroglyphs and Confucian philosophy. In the year 124 B.C. the Han Emperor Wudi established a capital school. The students of the school who took successfully the exams were appointed to official positions. The state system of training officials was created for the first time thereby.

Thus, the first revolution in education gave rise to the formation of a special type of activity assisting the younger generation to learn the basics of literacy, science, culture, management, and military science. However, this system included only a narrow circle of young people who were engaged in various types of mental labor, functioned during a small period of man's life and was remarkable for an extremely mixed character in various countries. The family remained the major form of acquiring a required minimum of knowledge and practical skills and involvement in labor activity for the overwhelming majority of population.

Morals and religion in the early societies. The Axial Age. In the periods of the Mesolithic and Neolithic, standards of morality and religions views were closely intertwined, completed and strengthened each other. Developed by centuries, the rules of behavior within a community were slow to change and were appealed to the will and requirements of the supreme forces beyond man's control which punished man for a failure to meet these requirements.

Primitive man lived in a constant fear to violate many bans (taboos) and be severely punished. And as there were a lot of attacks of animals and enemies, illnesses, natural calamities, hunger, etc., the number of all-mighty gods, totems, etc. was considerable, then man sought to propitiate them using rites, ritual dances, and offerings. The deification of nature (animism) dominated. The ancestor worship was supported by a strict observance of the rules willed by them, punishment of violators. It was inevitable and necessary, experience accumulated by many generations was transmitted like that, and without which it was impossible to survive. But it enchained the innovation; any deviation from established canons was severely punished. The priests, who looked to the compliance of religious-ethical rules and rites, performed a useful function, gathering grains of accumulated

knowledge. Admittedly, all the spheres of spiritual life — cognition, art, education, ethics, and religion — were still indivisible.

The increase of man's independence from nature with a transition to productive economy, social differentiation, division into classes, emergence of the state and law, intensification of labor division could not, but change the picture of the world. The flow of spiritual life uniform before separated from material production and broke into several independent, while interrelated, brooks, functions performed by special groups of people.

And the contents of the rules of behavior changed. That was inconsistent with communal life and was punished severely — a capture of a part of communal property, oppression, and even turning a tribesman into a slave began to get support by new religious and ethical rules: thou shalt not steal, thou shalt not covet thy neighbor's house. A separated group of ministers of religion demanded a considerable share of produced product and captured spoils so that to increase their wealth, sacrificing. Along with the state power religious power came into existence that often came into antagonism with a secular governor.

The overturn in religion and ethics that had occurred at the dawn of the early class civilization radically changed the contents and functions of these spheres of spiritual life and determined the paths for their further development for millennia.

Religion and mythology of the ancient Greeks was the closest to man, connected to his day to day life. The family of Gods lived on the mythical Olympus was built in the similitude of community with a developed division of labor: it had its own Lord (Zeus); each type of business (blacksmiths, merchants, sculptors, warriors, etc.), each community had its own god-patron. Immortal gods quarreled with each other, interfered with every day life matters on the earth, married humans, and took care of their children. Service to gods required offerings, construction of magnificent temples.

In this sphere the overturn occurred at the turn of the new era. **Karl Jaspers** called it the "Axial Age". The major contents of its overturn is the formation of world religions (Buddhism, Christianity, Judaism, and a little later in the 7th century A.D. — Islam). The emergence of world religions was a historical necessity; it had deep-seated reasons as Jaspers emphasized: "This axis of the world history seems should be dated back to a period of 500 years B.C., to that spiritual process which was going between the years 800 and 200 B.C. Then the most drastic turn occurred in the history. Man emerged of such type that

has survived to this day... In this period there were worked about the major criteria we think in to this day and the basics of world religions were laid that also determine people's life today... In the Axial Age, there was discovered what got the name reason and a person" [117. P. 32-33].

This is time of the beginning of crisis of the first triad of civilizations – the first historical super cycle. The population of the Earth increased considerably, and the growth rates of production slowed down. The discontent of oppressed masses, who aimed to seek common spiritual interests outside of odd polytechnic religions, which had lost their former force and sought to support a failing central power, grew. The moral decay of the ruling strata and their near circle became obvious. It also impelled to seeking for new ideals and rules of spirituality and morality.

The main shifts in the structure of society in the course of the first historical super cycle – three first world civilizations are shown in [Table. 5.1.](#)

5.3. Local Civilizations in the Antiquity

The first local civilizations began to form more than five millennia ago, at the end of the 4th millennium B.C. based on large states and state unions in the densely populated part of the planet. In the periods of early class and ancient world civilizations, local civilizations numbered more than tens, their two generations changed. Some civilizations were short-lived and soon left the historical scene, other passing through several periods of rises and downs have survived to this day (for instance, Indian and Chinese). A considerable part of the populated area did not make a part of the early civilizations, scattered tribes lived there and there were individual states. However, the “civilizational belt” of the planet was developed fast and synchronously in many ways. More and more active trade and cultural relations were maintained between civilizations, wars often broke out. Civilizational diversity of humankind became an indisputable fact.

What brought about the emergence of local civilizations? What are the specifics of individual civilizations and their groups? How did the interaction between them develop? These issues will be addressed in this section of the treatise.

Table 5.1.

Shifts in the structure of society within the first historical super cycle

Indicators	Neolithic Civilization	Early Class Civilization	Ancient Civilization
Man, family, population	Growth of demands and abilities of man Monogamous family Speeding up of population growth rates after the first demographic crisis	Social and professional differentiation, new motivation to labor. specialization of families	Efflorescence of spiritual demands Speeding up of population growth rates
Technology	Neolithic revolution, specialization of labor tools. Artificial reproduction, cut-over-land tillage	Mastering of copper, bronze, metal tools and weapons. Irrigation systems. Use of animal power (1st energy revolution)	Mastering of iron, dry farming. Construction, craft, military tools and mechanisms
Economy	Division of labor and beginning of exchange between communities	Emergence of private property, market, money, prices. Mixed economy, slavery	Development of commodity-money relations, international trade. Latifundia and ergasteria
Socio-political structure	Primitive communities, veche (people's assembly) democracy	Emergence of classes, state and law; wars between states	Birth of democracy, city-polies First world empires
Spiritual sphere	Empirical knowledge. Education in community. Cave drawings. Nature and ancestor worship.	Applied sciences. Schools of scribes. Monumental architecture. Polytheism.	Birth of the system of abstract sciences, educational establishments. Efflorescence of art, Axial Age, emergence of world religions, monotheism

5.3.1. The First Generations of Local Civilizations

Factors for the emergence of local civilizations. The emergence of local civilizations was one of the major watersheds in the world history. It inaugurated the unity of seemingly mutually exclusive historical processes. On the one hand — integration of numerous scattered tribes, ethnoses, states into large and stable socio-cultural, economic and military-political unions. On the other hand — establishment of the fact of diversity of cultures, religions, economic, social, political relations in various parts of the planet as a source of viability and development of humankind.

When and why did local civilizations emerge?

It was early to speak about local civilizations in the Neolithic. Tribes and tribal unions inconsiderable in number (pre-state, socio-political unions) were scattered around various continents and regions, poorly connected with each other, often moved about (especially cattle-breeding tribes).

And only with the formation of the states in the 4th-3rd millennia B.C., mainly in the densely populated valleys of great rivers (Niles, Mesopotamia, Indus and Ganges, Huang He and Yangtze), establishment of stable ties inside these states and a wide circle of various relations among them — from wars to dialogue and cooperation — it became possible to speak about the emergence of civilizations and interaction among them.

The first generation of local civilizations emerged approximately at the end of the 4th-beginning of the 3rd millennium B.C. The climate conditions on the territories which were occupied by such cultures were comparatively favorable that contributed to their development. From our viewpoint, it is possible to define the following primary factors of the emergence of local civilizations:

➡ *demographic factor* — a high level of concentration of population in certain regions of the world, on relatively small territories

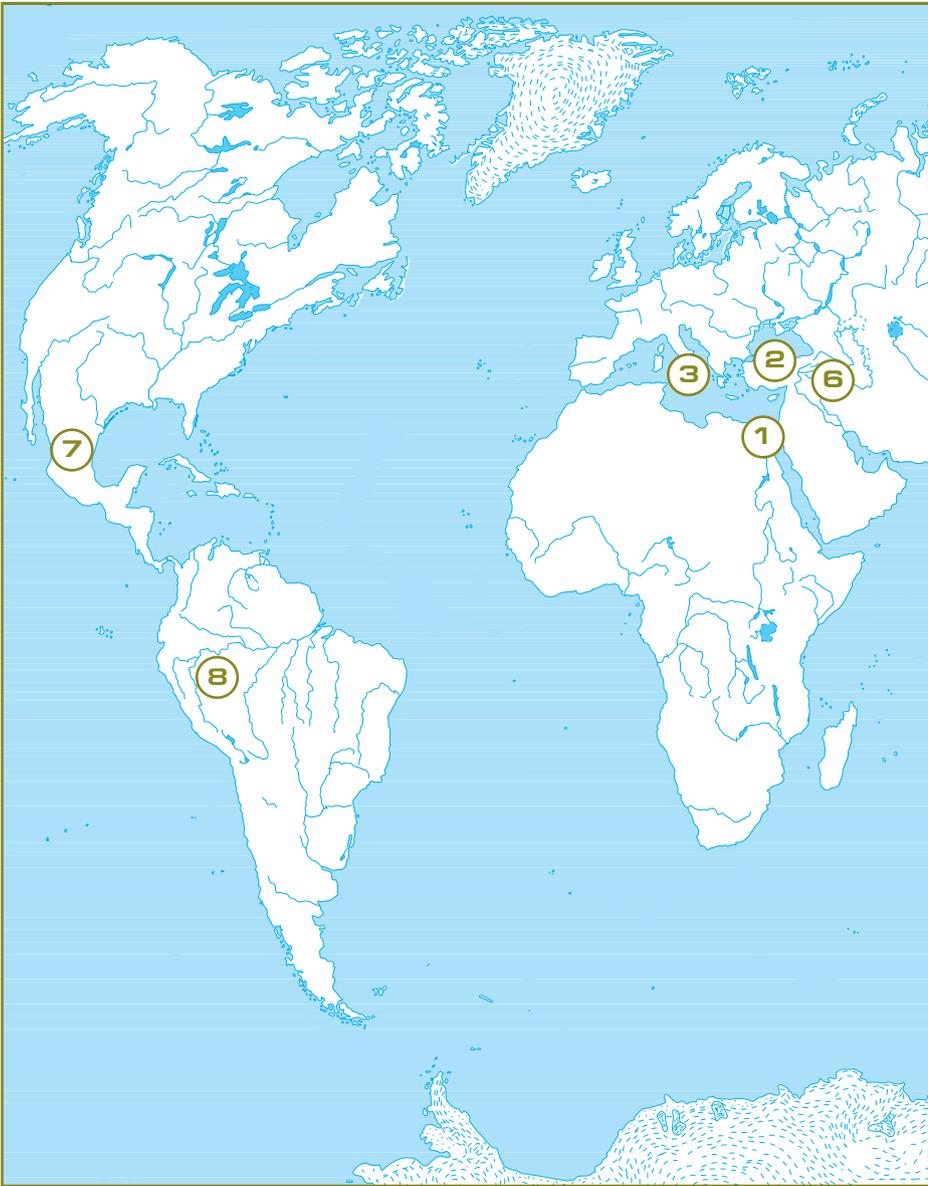
➡ *natural-climatic conditions*, quite favorable so that to foster the development of man and at the same quite severe so that to intensify his mental activity to make a surplus product;

➡ *technological and economic factors* — advance of technologies and organization of production that permit to generate a surplus product on a regular basis and appropriate it by the ruling establishment;

➡ *a certain level of socio-cultural development* and first of all knowledge and skills, culture, ethics and religious views;

Figure 5.4.

Local civilizations of the 1st generation





- 1 – Ancient Egyptian;**
- 2 – Sumerian;**
- 3 – Minoan;**
- 4 – Ancient Indian;**
- 5 – Ancient Chinese;**
- 6 – Elamian;**
- 7 – Ancient Meso-American;**
- 8 – Andean**

Figure 5.5.

Local civilizations of the 2nd generation





- 1 — Greco-Roman;
- 2 — Persian;
- 3 — Indian;
- 4 — Chinese;
- 5 — Phoenician;
- 6 — Meso-American;
- 7 — Andean

➡ *state-polyethnic factor*, the establishment of strong states on the ample territory that united a group of mutually connected ethnoses.

Civilizations of the first generation. Local civilizations of the first generation cover the period from the end of the 4th to the 1st millennia B.C. i.e. the period of the early class world civilization, although life cycles of individual civilizations of great antiquity had various duration. (*Figure 5.4*)

According to **Arnold Toynbee** the number of civilizations of the first generation may include:

- ➡ ancient Egyptian (the historian counts the Early Kingdom from the year 3000 B.C.; although there are data about an earlier period);
- ➡ Sumer-Akkad (Sumerian, Hittite and Babylonian);
- ➡ Minoan (the Mycenaean should be included);
- ➡ Indus (ancient Indian);
- ➡ Ancient Chinese;
- ➡ Meso-American (Maya and Mexican);
- ➡ Andean.

It is possible to complete with Elamian civilization on the territory of modern Iran.

Two last civilizations developed in isolation in the New World and with a known lagging.

This was the period of the establishment of local civilizations, formation of their major outlines, instability. Some of these civilizations existed not long and left the historical scene, and their traces were discovered in millennia as a result of archeological excavations (as it was the case, for instance, with the Minoan civilization). It is possible that certain civilizations have not been discovered yet or the subject of legends (Atlantis). Civilizations of the first generation have laid the foundation of the historical development for millennia ahead.

If one takes a look at the map, then it is easy to find out that these civilizations occupied a narrow strip of land of the Eurasian and African continents to the north of the equator. And the epicenter of the historical progress of that time was exactly here.

The second generation of local civilizations. Local civilizations of the second generation are adequate to the ancient world civilization and occupy the period from the second fourth of the 1st millennium B.C. to the middle of the 1st millennium A.D. — more than a millennium (if the phases of formation and relict state of a life cycle of some of such civilizations are excluded).

The number of civilizations of the second generation which areal expanded considerably includes (*Figure 5.5*):

- ➡ Greek-Roman (ancient proper);
- ➡ Buddhist and Hindu;
- ➡ Chinese;
- ➡ Syrian;
- ➡ Persian.

Many of them were daughters of civilizations of the first generation. Close connection, various forms of dialogue, economic and cultural exchange reached a higher level. According to **Karl Jaspers**, it is exactly the period where the “Axial Age” is included when the great world religions emerged; the basics of spiritual world of modern man were established (4).

The proto-civilizations Celtic, Scythian, Rakian, Phoenician, Etruscan, ancient Japanese, and also civilization of America delayed in its development.

The middle of the 1st millennium A.D. was the period of the decay of the second generation of local civilization and the germination of their new, third generation.

Civilizations of the second generation were more stable and expanded in terms of territory than civilizations of the first generation.

The first world empires which included several local civilizations — empires of Achaemenids, Alexander III the Great, the Roman Empire — are most long-lived. The heritage of civilizations of the ancient time underlies modern civilizations, cultural-historical diversity of humankind of our period.

5.3.2. Civilizations of the Mediterranean

The Mediterranean, its African and Eurasian coasts became the seat of civilizational progress of the antiquity. We may believe that the cradle of civilizations is here, if we do not forget that such cradles were also in Mesopotamia, the Hindustan peninsula and in eastern China.

Ancient Egyptian civilization. The beginning of the emergence of the Egyptian civilization (*Fig. 5.6*) in the fertile valley of the Niles is usually attributed to approximately 3000 B.C. when the Upper Egyptian and Lower Egyptian kingdoms united and formed a united state with the capital in Memphis headed by the pharaoh. However, there is information that the first cities-states, first in the Lower, and then in

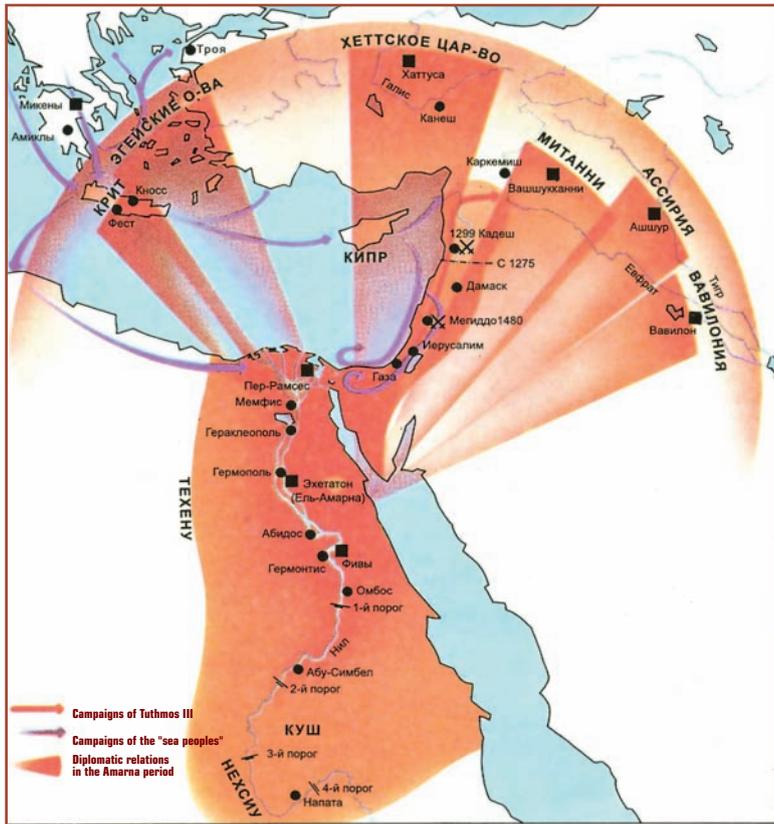
Figure 5.6.

Ancient Egyptian civilization *

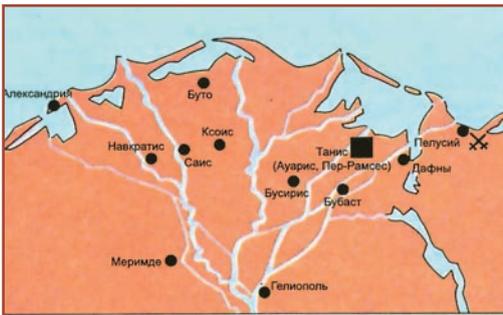
**Highly Developed Cultures/Egypt I.
3000—1570 B.C.**



Highly developed cultures /Egypt II. 1 570—332 B.C.



New Empire



Region of Delta and Late Period



Middle Egypt

*Source: [38. – P. 22, 24].

the Upper Egypt emerged several centuries earlier — Sam, Metelis, Leontopolis, Bouto, Busilie, Coptos, the confederation was established headed by Nubs where the rulers were crowned, and then Hatagorian confederation headed by Nehen, and then Ablados. Therefore, it may be viewed that the beginning of the first local civilization dates back to the second half of the 4th millennium B.C.

Classification of the change of dynasties in ancient Egypt suggested by the ancient Egyptian historian-priest allows distinguishing the following cycles in its history (22. P. 675):

- Pre-dynastic period;
- Archaic Kingdom (1st-2nd) dynasties — 3000-2778 B.C. (more than 220 years);
- Old Kingdom (the 3rd-8th) — 2778-2263 B.C. (515);
- First Intermediate Period (9th — a part of the 11th dynasties) — 2263-2160 (about 100 years);
- Middle Kingdom (11th — 12th dynasties) — 2160-1785 B.C. (375 years);
- Second Intermediate Period (13th — 17th dynasties) — 1785 — 1580 B.C. (205 years);
- New Kingdom (18th — 20th dynasties) — 1580-1085 B.C. (205 years);
- Third Intermediate Period (21st dynasty) — 1085-950 B.C.(495 years);
- Late Kingdom (22nd — 26th dynasties) — 950-525 B.C. (135 years);
- The period of the intermediate rule (17th) dynasty — Achae-menids) — 525-331 B.C. (about 200 years)

The Old Kingdom may be attributed to the period of the formation of this local civilization; the 3rd transitional period and late kingdom — to the period of its sunset. Each transitional period as the historians observe is the period of hunger and depopulation of once flourishing towns, disunity and social upheavals, severance of trade ties, and external invasions. In the super long civilizational cycle, long-term cycles similar to the now Kondratieff cycles are well-defined, but longer.

Consequently, the overall existence length of the ancient Egyptian civilization (including the period of formation) is more than three millennia; it is possible to distinguish several super long cycles which rotation was expressed by transitional periods.

The ancient Egyptian civilization is characterized by a very high level of culture, refined religion that found its expression in the magnificent architectural monuments — pyramids and Sphinx in Giza,

Necropolis of Thebes, Luxor temple, Colosses of Memnon, etc. that have survived to this day. And a high level of economy and yields of the fertile valley of the Niles also surprise that enabled to earmark so much labor and resources for construction of huge palaces, temples, and pyramids under the level of technology then achieved.

The development of spiritual sphere — science, education and, polytheistic religion which occupied the priority place in life of ancient Egyptians amazes. A strict hierarchy of gods was observed. Under pharaoh Ikhnaton (1372-1354 B.C.) the first attempt to establish a monotheistic — cult of God of the sun Aton (21. P. 16). However, this religion was rejected by priests after the death of Ikhnaton.

In the period of the ancient civilization, Egypt lost its former role of one of the epicenters of civilizational progress, made the sphere of influence of the Greek-Roman civilization. Alexandria was the cultural center of the Hellenic world for a short period, but then lost its lead and found itself on the periphery of the historical progress.

The Egyptian civilization left magnificent monuments of high culture — pyramids, sculptures of gods and pharaohs, developed applies science, excellence of irrigation and construction, shipbuilding and sea-craft.

Cretan-Mycenaean civilization. The early class local civilizations include the *Minoan (Cretan)* culture that had emerged at the turn of the 3rd and 2nd millennia B.C. and flourished in the 16th- first half of the 15th century B.C. The most famous monument of this culture is believed the palace of the legendary king Minos which was called the labyrinth: this is a complex of buildings, total area 24 thous. m2, numbered about 300 chaotically located premises. A highly developed agriculture flourished on the island, a strong centralized state existed, and there was a powerful fleet. However, in the middle of the 15th century B.C. island met with a strong catastrophe (either natural — volcanic eruption on the Santorini island or the incursion of the Greeks-Achaean), the palaces were ruined, the number of population reduced many times. The Crete was thrown back to the periphery of the progress for millennia; however, its heritage became one of the sources for the rise of the ancient Greek sub-civilization.

The *Achaean (Mycenaean)* culture became another source; its rise fell to the 15th-13th century B.C. It is famous by a number of palaces and magnificent king table-tombs (“tolosses”), developed palace and royal households, from which a rich archive has survived and was interpreted only in 1952. The Achaean kings united in the campaign against Troy described in Homer’s “Iliad” (middle of the 13th century

B.C.). However, at the end of the 13th century B.C. the Mycenaean civilization perished by several waves of invasions of the barbarian tribes from the north. Cities and palaces were ruined and burnt; crafts and trade fell into decay, the number of population reduced sharply. The Doric conquest that had followed thereafter thrown ancient Greece several ages back. It is observed primitivization of the technology of farming, crafts, construction, although the first signs of iron manufacturing appeared, and a little later (in the 9th century B.C.) its hardening.

Greco-Roman civilization. The summit of the ancient society was the Greek-Roman civilization of the second generation – the successor to the ancient Egyptian and Cretan-Mycenaean. In its life cycle, three periods of the rise may be distinguished:

The 8th-3rd century B.C. – ancient Greece and the Pontic islands of Asia Minor populated with Greeks. In the period of the Great Greek colonization (the 8th-6th century B.C.) the Greek colonies extended to the whole Mediterranean and the Black Sea covering the south of Italy, north African coast, the coast of the Black Sea and partially the Sea of Azov. (Fig. 5.7) The colonies were the centers of farming, crafts and trade. Under the leadership of Athens there was observed the “Golden Age” of antique societies in the Mediterranean, also the period of the top creative rise in spiritual life, and political life, especially in the **Pericles** period when Greece won a victory in the Persian Wars, the Athenian Sea Union was established. However, the struggle of Athens, Sparta and other cities-poleis with its external and internal enemies undermined Greece.

Its territory was soon conquered by **Alexander the Great** (356-323 B.C.), a short period of *Hellenism* (330-220 B.C.) began. The Empire of Alexander the Great disintegrated after the death of its founder but the states that emerged based on it left a lot of monuments of culture. Thus, Alexandria founded by Alexander the Great in the Delta became the capital of the Ptolemaic dynasty, international center of culture and trade, lasted not long. The Mouseion with a famous library was found in the downtown, on the Pharos Island – the lighthouse of 110 m – one of the Seven Wonders of the Ancient World.

The *Etruscan sub-civilization* that occupied the central part of the Apennines Peninsula and flowered in the 7th-5th century B.C. when the Etruscans owned Rome (from 606 to 509 B.C.) preceded the formation of the Roman sub-civilization that apprehended the heritage of ancient Greek. The confederation of 12 Etruscan cities-states extended its influence over almost all Italy, carried on the sea trade with

the Mediterranean states. The Etruscans produced wheat, grape, flax; engaged in cattle husbandry, mined copper and iron, and stamped out coins. The Etruscan architectural monuments, statutes, table-tombs, numerous written monuments have survived to this day. In the 3rd-2nd century B.C. the Etruscan cities were conquered by Rome.

Yu. V. Pavlenko speaks about the Etruscans as an independent civilization: “At the beginning of the 1st millennium B.C. Italy also reached a civilizational level: in the Toscana area the Etruscan twelve cities system was formed, where in the emergence of the Etruscan civilization a decisive role was played by their sea migration from the Near East — possibly from the southern part of Asia Minor.” [71. P. 357-358]. We have had a chance to see the monuments of the Etruscan culture in Toscana. It appears that it is more correct to speak about the Etruscans as a *proto-civilization* that ended the formation of a mature local civilization.

Rome founded according to the legend in 753 B.C. changed to the early class society in the 7th century B.C. In 510 B.C., there was established the republican political system under the rule of patricians who established the senate and elected consuls. By 265 B.C. the authority of Rome extended over whole Italy, and then after a series of successful wars, nearly over all Western Europe, North Africa, Asia Minor, Mesopotamia, Balkans, Transcaucasia, coast of the Black Sea and the Sea of Azov. From 27 B.C. — the Empire. Farming (*latifundia*), crafts (*ergasteria*), culture, art and education that was under a strong Greek influence rose to higher levels.

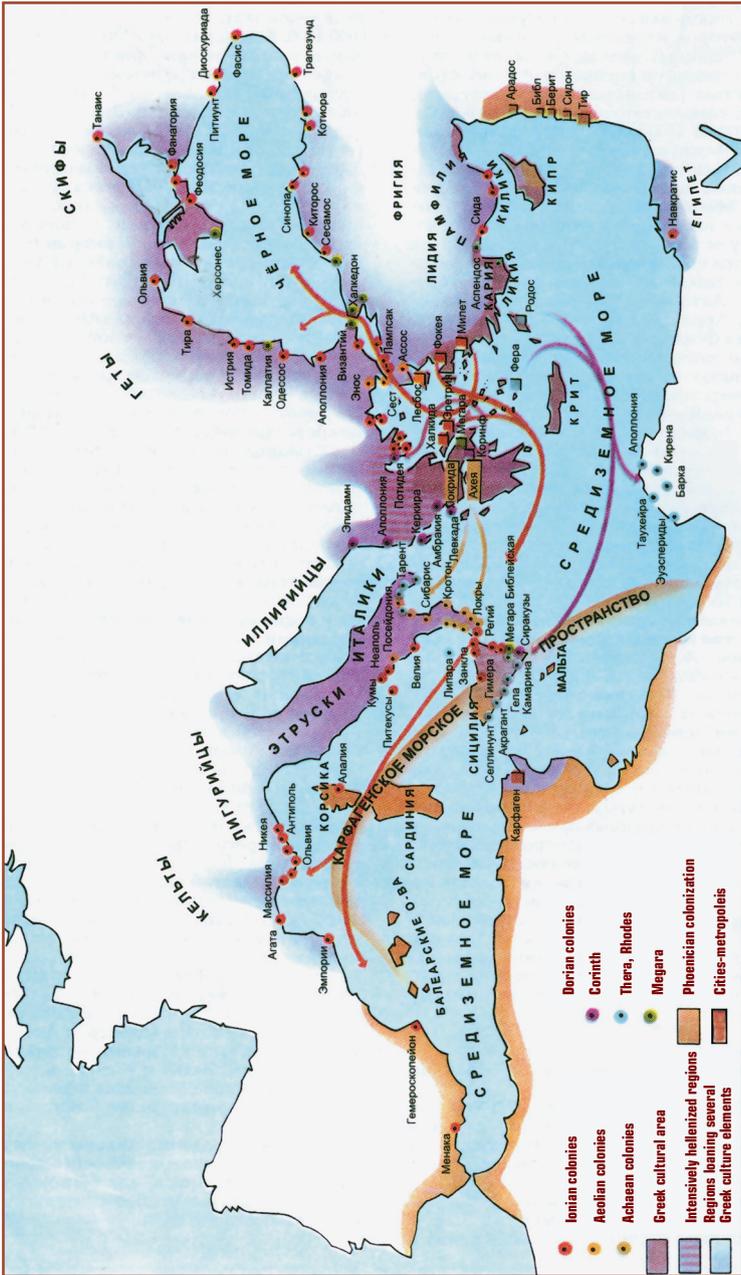
The period of the rise of the Roman Empire dated back to the 2nd century B.C. — 1st century A.D., and the sunset ended with the downfall of the Western Roman Empire in 476 A.D. Rome did not give creative outburst in art and science that distinguished ancient Greece, but it left a noticeable trace in the history by its magnificent architectures, system of the Roman law, arrangement of soldiery and administration of the immense Roman Empire.

The Western Roman Empire became the source for the formation of the western European civilization of the third generation, and the Eastern Roman Empires — a source of the Byzantium civilization, and then eastern Slavic.

We do not dwell on in more detail on the description of the Greek-Scythian civilization as it is widely known.

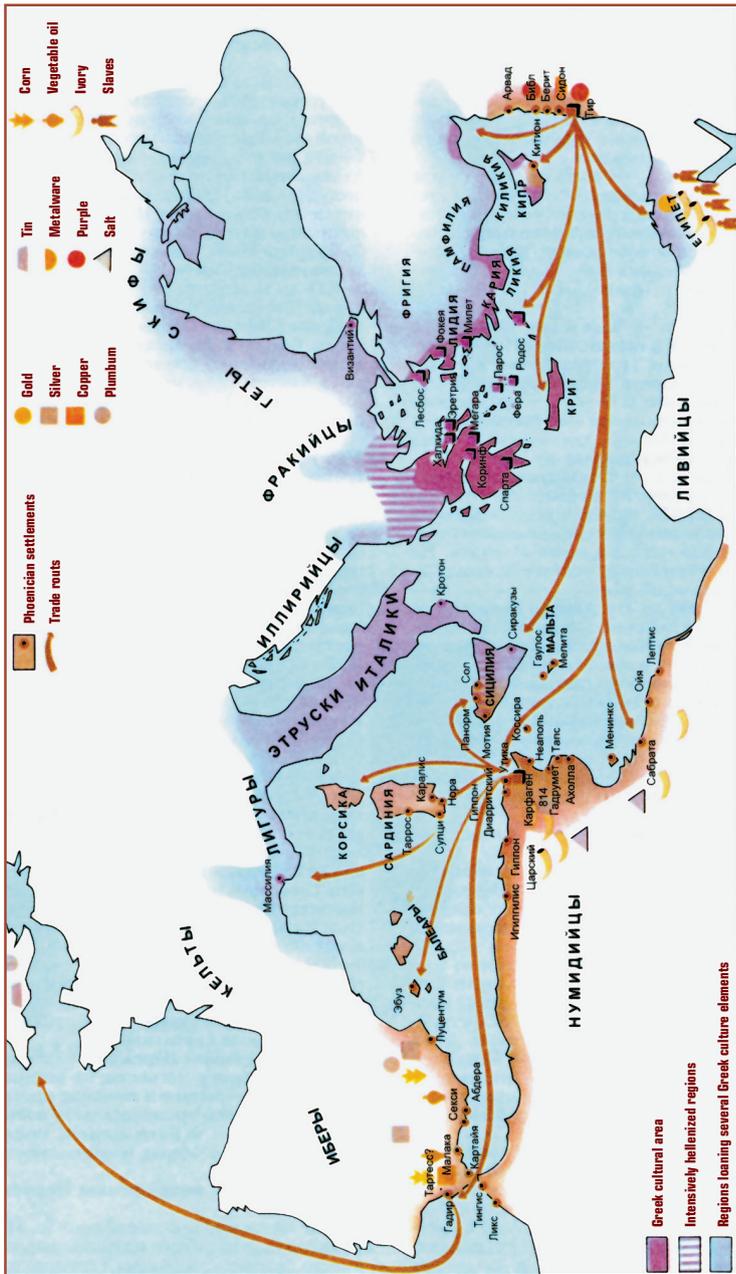
Phoenician civilization. Carthage. Phoenician (*Fig. 5.8*) is included among the number of the Mediterranean civilizations of the 2nd generation. Its origins dated back already to the 4th -5th millen-

Figure 5.7. Greek Colonization. 750—550 B.C.



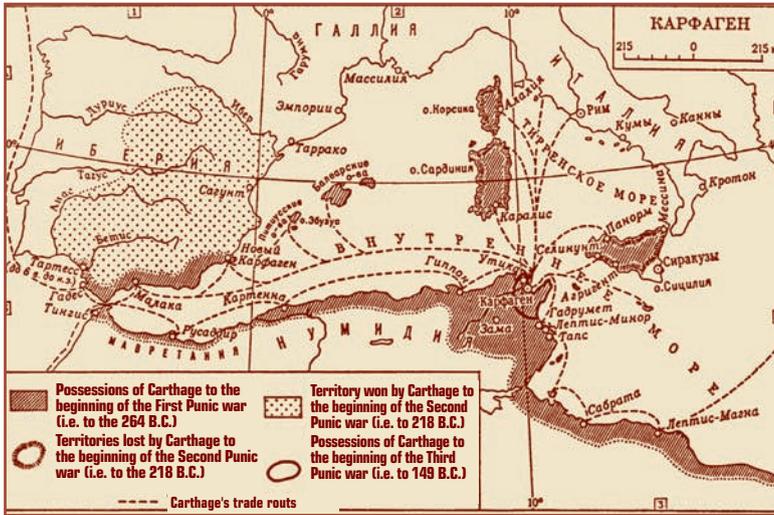
Source: [38. — P. 50].

Figure 5.8. Phoenician Colonization. 539 B.C. — 133



Source: [38. — P. 38].

Figure 5.9.
Carthage



Source: Great Soviet Encyclopedia, vol. 11, p. 490

num B.C. on the eastern coast of the Mediterranean Sea with localities grown into large cities — Sidon, Byblos, and Tyre. The Phoenicians actively traded with Mesopotamia and Egypt, they founded a number of colonies with the Mediterranean states, Carthage which became one of the largest trade, crafts and cultural centers of the Mediterranean (founded by the Phoenicians from Tyre in 825 B.C.) was the utmost significant of them. In its heyday Carthage owned vast territories on the coast of North Africa, a larger part of the Iberian Peninsula, Corsica, Sardinia and Sicily (Fig. 5.9) Coming into conflict with Rome, Carthage as a result of three Punic wars it was defeated and was completely destroyed in 146 B.C.

5.3.3. Ancient Civilizations of the East

Civilizations of Mesopotamia. A wealth of civilizations of the first generation was observed in Mesopotamia, in the valleys of the rivers Tigris and Euphrates. In the 3rd millennium B.C. in South Mesopotamia the Sumer civilization evolved (at the end of the period Akkad became its capital), a number of trading cities sprang up, a pic-

tographic writing was invented. A considerable number of monuments of the Sumerian literature have survived to this day.

In the 2nd millennium B.C. *Babylon* dominated in this area. Its top leadership fell to the rule of **Hammurabi** (1792-1750 B.C.) who united Mesopotamia, created the code of laws known as the Hammurabi laws. The second period of strengthening of Babylonia dated back to the rule of Nebuchadnezzar I (1126-1105). It is known the development of science, establishment of schools for training scribes.

In the 16th-15th centuries B.C. the rising of *Assyria* began. The governor of its capital **Ashur Ashurbanipal I** formed a strong power in central Mesopotamia and subdued Babylonia to his influence. Between the 16th and 13th centuries the law digest remarkable for its cruelty in the enforcement of the rules of law was made up. The second period of the rise was observed in the 10th-4th centuries B.C., when the territory of Assyria was considerably extended as a result of invasive campaigns.

In the 8th century B.C. Assyria conquered nearly all Front Asia and Egypt; Babylon was vanquished and fully destroyed. With a certain convention it is possible to speak about the first short-lived world empire. However, at the end of the 7th century B.C. Babylon and Medes united and crushed the Assyrian Kingdom. Many architectural and written monuments have remained after the Assyrian civilization.

The **Elamian civilization** of the first generation was formed on the territory of modern Iran at the beginning of the 3rd millennium B.C. when immense state Elam with the capital in Susa was formed. In the second millennium B.C. in the heyday of this civilization it embraced central Iran, Sumer, Ashur, and Babylonia. Numerous monuments of the Elamian culture are kept in the Teheran Archeological Museum. **Yu. V. Pavlenko** assesses the role of the Elamian civilization as follows: "Intensified trade between new social organizations of Mesopotamia and richness in raw material resources of the Plateau of Iran at the turn of the 4th-3rd millennium B.C. played a significant role in the rise of the proto-Elamian civilization that exercised control over these trade routes, where in respect of the late primitive societies Elam performed a role of the civilizational center" [71. P. 272].

Persian civilization. The Persian civilization, the bloom of which found its expression in one of the first world empires — the state of Achaemenids established by Cyrus II the Great, which belonged to civilizations of the second generations on the territory of Mesopotamia and the Plateau of Iran. By the end of the 6th century B.C. the territory of the Persian state extended from North Africa to Thrace,

from Indus, Caspian and Aral Seas to Syr-Darya (*Fig. 5.10*). It is exactly where one of the oldest religions – zoroastrianism emerged.

“From the time of the conquest of Medea Persia entered a wide arena of the world history and played a leading role in terms of policy in the next two centuries... The Persian conquests and union of tens of peoples into a single power contributed to the expansion of intellectual and geographical horizon of its subjects. For ages Iran was a mediator in transmission of cultural values from the East to the West and vice versa, and not only continued its historical role under the Achaemenids, but also created an original and highly developed civilization” [P. 291, 311].

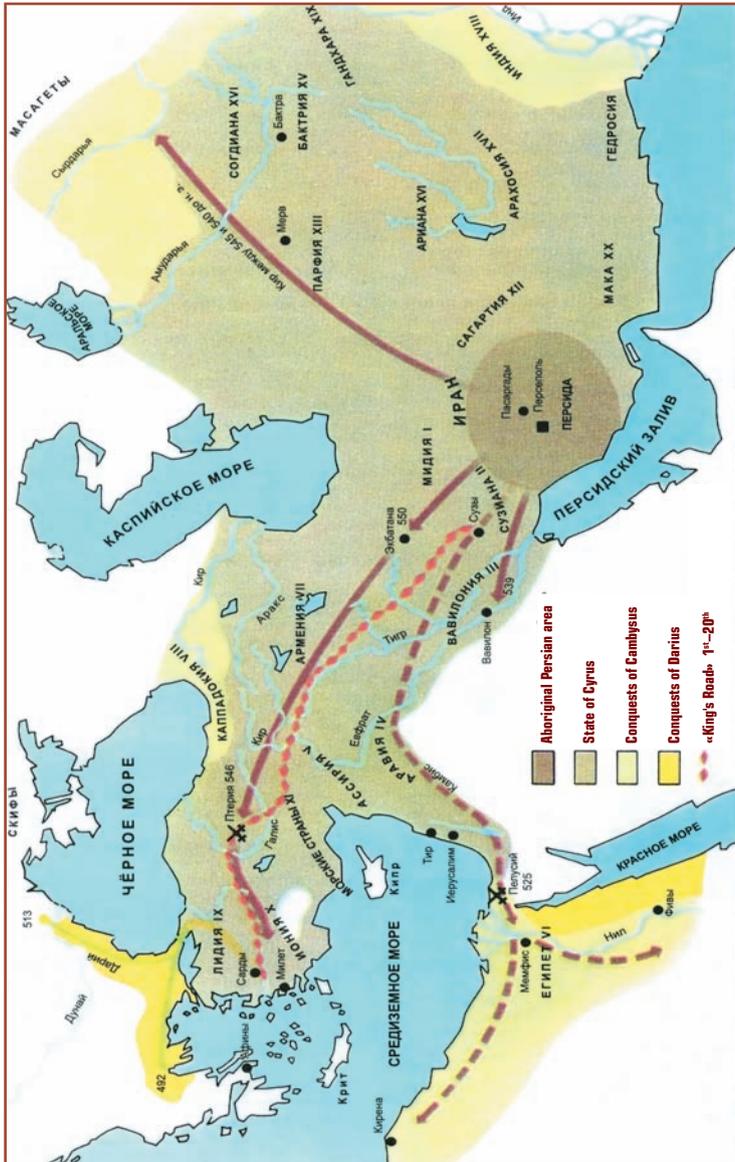
By 525 B.C. Persia conquered Egypt; Persian king Cambyses II was declared the king of Egypt. At the end of the 6th century B.C. the Persians subdued Armenia, Macedonia, Northwestern India, vagrant Arabic tribes. The system of administration of the immense territory of the empire divided into satrapies was established. Labor of free farmers made the basis of agriculture, in the cities – free craftsmen. The number of slaves was relatively small; a part of them got plots of land (*peculia*). **Darius I** introduced a uniform system of money tributes adjusted to the sizes of tillable land and its fertility (in actual fact – rent), a uniform monetary unit throughout the Empire. The caravan tracks were maintained, canals were restored and built.

As a result of numerous rebellions and wars with Greece the Achaemenid Empire was undermined and in 334-333 it was conquered by Alexander the Great. Magnificent architectural complexes of Persepolis, Suza, Pasargadae, ancient Persian wedge writing, a lunar calendar (354 days), Zoroaster calendar (365 days a year) remained after it.

Ancient Indian civilization. In the valley of the Indus and its tributaries emerged one of the largest local civilizations of the first generation (*Fig. 5.11*) Here as far as the Eneolithic age relatively large cities sprang up – Mehengeo-Daro and Harappa, where crop plants and cotton were cultivated. By the beginning of the 2nd millennium B.C. a high level of craft and art was attained here. That's what **Yu. V. Pavlenko** says about the Harappan civilization: “Already in the high antiquity India established cultural and trade ties with many quite distant areas of Oecumene. In the period of the Harappan civilization (the 3rd-2nd millennia B.C.) the goods of Indian masters reached the areas of the Mediterranean, Central Asia, in the next centuries India established close contacts with the ancient world, areas of the South-eastern Asia. A many-sided exchange of cultural values took place” [71. P. 285].

Figure 5.10.

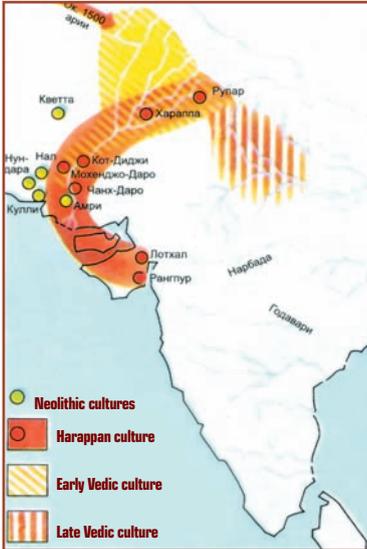
Persian civilization. The Achaemenid Empire* 559–330 B.C.



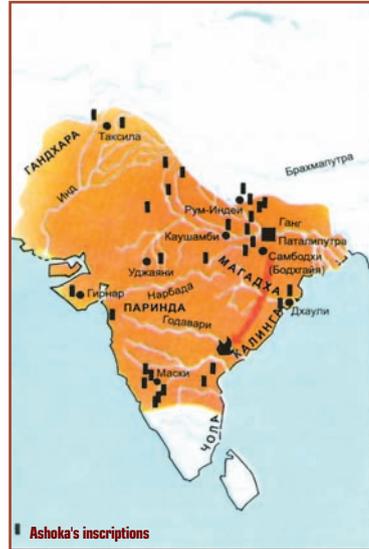
* Source: [38. – P. 44].

Figure 5.1 1.

Ancient Indian Civilization *3000 B.C. — circa 700 A.D.



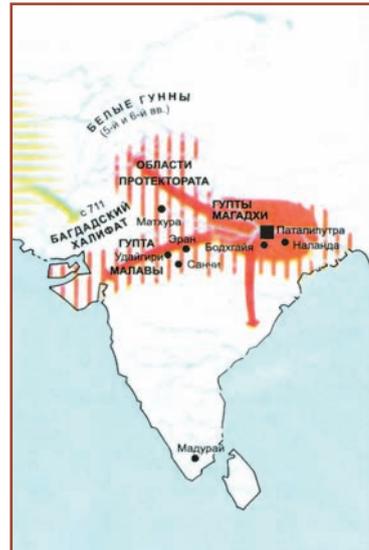
Early Period



Land of Ashoka



India about 150 A.D.



Land of Guptas about 400 A.D.

* Source: [38. — P. 46].

The *Veda period of the ancient Indian civilization* (from the end of the 2nd till mid-1st millennia B.C.) is the period of the Aryan tribes in North India, establishment of the first states in the valley of the Ganges (9th-6th centuries B.C.). The period of the 5th-3rd centuries B.C. is described as the Buddhist period, time when the first of the great world religion – Buddhism emerged and spread; the Mauryan Empire emerged. The period of the 2nd century B.C. – 5th century A.D. is viewed as a *classical period of the ancient Indian civilization*, the bloom of its culture, development of Hinduism, establishment of great schools in the field of art, literature, philosophy, mathematics, linguistics, and logic.

Civilization of India of the second generation is characterized by two periods of its rise. The first of them is attributed to the Mauryan *Empire* (4th – 3rd centuries B.C.) Under the third ruler of the dynasty **Ashok** one of the most well-known state figures of the Indian antiquity, the state formation sprang up that extended from Kashmir and the Himalayas in the north to Mysore in the south, from the areas of modern Afghanistan in the west to the Bay of Bengal in the east. A centralized system of administration that incorporated the elements of democracy and self-government of individual cities-republics and based on the spread of Buddhism and casta system was formed. Farming, craft, trade and culture achieved a sufficient success. Slavery was widespread in various forms, however the slave economy did not become prevailing, labor of free and semi-bonded farmers and craftsmen dominated. Written language spread wide; a lot of Ashok's edicts carved in stone have survived. The palace of Ashok was a magnificent architectural building, which included the hall of one hundred columns.

After the period of the dominance of the Kushan Empire that under king **Kanishka** in the first quarter of the 1st century A.D. spread its influence on the territories of modern Afghanistan, Pakistan, North, Northwestern and Central India, the peak of efflorescence of the ancient Indian civilization falls to a two-hundred year history of the Gupta Empire (4th-5th centuries A.D.) It covered a larger part of North India under King **Chandragupt II**. It was time of a new rise in economy and culture of the country, extensive development of external ties with the countries of the Mediterranean, Southeastern Asia, and the Far East.

It is interesting to note that the periods of the rise of the Indian civilization approximately coincided with the same stages in the ancient history of the Mediterranean (Athens – Alexandria-Roman Empire). It indicates a similar rhythm of the development of the early

civilizations in their epicenters. A long period of crisis, downfall of empires, internecine wars and external incursions, decline of economy and culture preceded each rise and followed it.

On the territory of Hindustan the *Buddhist civilization* in the last centuries B.CENTURY, which extended to the North (China, Mongolia) and the East (Indochina) was formed. It had common roots with the Indian civilization and was based on the world religion that spread wide in the world and has survived to this day.

Ancient Chinese civilization. The history of the ancient Chinese civilizations embraces the period from the turn of the 3rd-2nd millennia B.C. to the downfall of the Han Empire in 200 A.D. — it is the period of two generations of local civilizations (*Fig. 5.12*).

The existence of the Shang-Ying early class state in the Huang He river basin, the development of culture of the Bronze Age, construction of cities with palace complexes and craft squares, development of trade, including international dates back to the 18th -15th centuries B.CENTURY The base of society was free territorial communities, slavery did not become widespread.

Yu.V. Pavlenko refers to the ancient Shang-Ying civilization in the middle reach of Huang He as the primary base of the ancient Chinese civilization: “With respect to Hindustan the formation of the Chinese early civilizational center of the priority development lagged behind for more than a millennium, and the emergence of the Shang-Ying civilization of great antiquity in the Eastern Asia in the middle reach of the Huang He dates back not earlier than the middle of the 2nd millennium B.C. This civilization became the base for a further socio-cultural development of the whole Eastern Asian region from the coastland and Japan to Viet Nam and Tibet”. [71. P. 390]. The area of this civilization was radually expanding and included both North and South China. And in the period of the Han dynasty (2nd century B.C.-2nd century A.D.) the unity of the Chinese civilization was achieved to a full extent”. (Ibid. P. 394).

The periods of the empires of the Western Zhou (1122-771 B.C.), and the Eastern Zhou (770-249 B.C.) were characterized by territorial expansion, establishment of large complex royal economies along with communal economies, spreading of slavery, establishment of the cities fortresses, development of technology for bronze casting and hieroglyphic writing, invention of new types of weapons (an arbalest).

The beginning of the Iron Age was marked by the period of “warring states” (5th-3rd centuries B.C.) that was ended with a victory of the Qin Kingdom, whose head **Ying Cheng** proclaimed himself Em-

peror **Qin Shi Huangdi** in 221 B.C. (“the first Qin Emperor”). During ten years the emperor implemented radical reforms: began to build the Great Wall of China to protect the northern boundary of the empire; divided the country into 40 regions and abolished the privileges of the nobility by declaring all free population the subjects of the emperor; introduced uniform written laws, Table of Ranks, uniform pieces of money; built a huge palace with a park reserve. However, all these measures required a many time increase of taxes, which engendered discontent of all sections of population and led to the civil war after the death of the emperor. The leader of one of rebellions **Liu Bang**, ex headman of a small village became the winner. He became the emperor of the Later Han dynasty and implemented measures for a sharp decrease in taxes.

The rise of the Later Han dynasty fell to the rule of Emperor Wudi (140-87 B.C.). Under his rule irrigation systems were improved, the area of irrigable lands extended. Some innovations appeared: a plough with a seed funnel, two ploughshares, the system of “alternate fields” (two fields). Large craft enterprises emerged (some of them employed up to thousand people), trade flourished, the Great Silk Road began to function that ran from the Han capital through Central Asia and Front Asia to the Roman Empire. The Confucianism was declared the Emperor’s doctrine and religion. The population of China increased several times and according to the census of 2 A.D. made 60 mln. people, the area of tillage made 56 mln. ha. However, at the beginning of the 1st century A.D. a sharp aggravation of contradictions and a series of rebellions led to the downfall of the Han Empire.

The closing stage in the rise of the ancient Chinese local civilization may be attributed to the dynasty Early Han, which began from the rule of Emperor **Guang Wudi** (25-27 A.D.) Under him the legislation with respect to slaves was somewhat eased (for the first time in the emperor’s decree it was declared that a slave is a man by his nature), tax relaxation made, the boundaries extended. A network of large farming economies sprang up, where slave labor was replaced by labor of bonded peasants who had their own plots of land, under the prevalence of natural relations; these were the germ of the feudal system. Large landowners acquired political power, thus reducing the centralized imperial power. In a combination with a growing number of rebellions, development of intestine wars, raids of neighbor tribes led to the overthrow of the last Han emperor in 220. The period of three emperorships began that crowned a transition to the next stage in the development of the Chinese civilization.

The Japanese civilization. The formation of civilization occurred with a lagging in the history of Japan. Here the Neolithic dates back to the middle of the 4th millennium B.C., the Eneolithic – from 300 B.C. till 300 A.D. The period from 300 till 700 A.D. is called the time of burial mounds (or the country of Yamato in accordance with the name of one of the largest kingdoms), when the early-class society emerged on the Japanese islands, a lot of kingdoms fighting with each other appeared. Economic and political relations with China developed. By the end of this period a federation was formed. It was headed by the chief of the tribe Yamato, who got the title tenno (later – the emperor). As the result of social differentiation different groups appeared: noble landowners, free peasants, dependant workers- bemins (who didn't have their own property and worked for tenno and nobility), household slaves. Irrigable rice fields, which needed common efforts, were considered communal property. The written language was formed on he transformed Chinese hieroglyphs. Newly spread Buddhism got along with ancient Shinto.

As the results of “Taika reforms” (middle of the 7th century A.D.) and their realization lands were re-divided among the landowners and peasants (all of them were considered the owners of plots of land, which they got for state service), new administrative system undermining the power of clans was formed, unified taxes were introduced, bemins got equal rights with peasants, the opportunities for slavery got limited. The preconditions for formation of an early medieval state appeared.

5.3.4. Early Civilizations on the Territory of Western and Eastern Europe

Celtic proto-civilization. The ample territories of Western Europe prior to their conquest by Rome – from the Iberian Peninsula to the Black Sea – were occupied by the Celtic tribes and state formations; it is possible to speak about a peculiar Celtic proto-civilization. Its history is full of mysteries as the Celts did not leave written sources. Nevertheless, modern historians point to its significance: “The Celts occupy an important place in the history of ancient and even Medieval Europe; one may say that they are main characters in the pro-history of Western and Central Europe” [26. P. 14]

The Celtic proto-civilization hadn't managed to form into a real civilization; , it had no strong statehood. It included a part of the Indo-European peoples relocated from the East and settled in West-

ern Europe in the 2nd millennium B.C. In the first centuries A.D. the Celtic tribes were conquered by the Romans, however they retained their originality for the next several centuries in Britain and especially in Ireland.

A scientist includes **Thrace** (an ancient state on the territory of modern Bulgaria) in the early-civilizational systems (according to our classification – proto-civilizations): “Thrace of the period of the Odruss Kingdom (5th – the first half of the 4th century B.C.) along with Scythia contemporary to it and Dacia, which strengthened several centuries later, was one of the most powerful states in Europe on the periphery of the ancient world. One can speak about the *Thracian early civilizational system*, including Dacia in it, and perhaps Illyria. Not only introduction of iron tools of labor and deposits of non-ferrous and noble ores contributed to a rapid socio-economic development of the Thracians in the second quarter of the 1st millennium B.C., but also close contacts with numerous Greek colonies on the coast of the Aegean, Sea of Marmora and Black Sea. Thrace of the Odruss Kingdom period was a social organism of the ancient European type”. [Ibid. P. 311].

Consequently, a civilizational process in Europe of the 1st millennium B.C. – beginning of the 1st millennium A.D. was not limited to the framework of the Greek-Roman civilization, and included a number of proto-civilizational formations that became later the dawn of the Western European and Eastern Slavic civilization: “They themselves left the scene of the history already in the antiquity, however, each had its own certain significance in the formation of further Western-Christian (Celts) and Eastern-Christian (Latinized and Hellenized descendants of Illyrians, Daks and Thracians, Dnepr area Slavs – distant descendants of the pro-Slavs of Forest-Steppe Ukraine) civilizations” [Ibid. P. 333].

Scythian proto-civilization. The Scythian proto-civilization belongs to the same type of forming, and then disappearing civilizations as the Celtic one. In the 7th-4th centuries B.C. it occupied the ample territories in the northern Black Sea region, North Caucasus and Transcaucasus, Central Asia, Southern Urals, Altai and North Caucasus. In the last third of the 7th century B.C., the Scythians conquered Medea, Syria, Palestine, Asia Minor, but at the beginning of the 6th century B.C. they were ousted from these territories. In 512 B.C. the campaign of Persian King **Darius I** against the Scythians failed. Scythian king Atheus at the turn of the 5th-6th centuries B.C. established a strong Scythian state from the Danube to the Sea of Azov. At the end of the 3rd century B.C. the capital of the Scythians was moved to the Crimea

(the Scythian Naples in the outskirts of modern Simferopol). At the end of the 3rd century A.D. the Scythian state was utterly defeated by the Goths. The Scythians were mainly hunters and cattle breeders, but they also followed the plough. They established close contacts with the Greek colonies — Olbia, Pantikapaion, Chersoneses; had numerous wars with Assyria, Persia, Macedonia. Scythian culture is unique: a widely known “animalistic style” characterizes the style of ornaments found in the burials of rich Scythian nobility.

Early Slavic proto-civilization. The ancient slavic civilization, which was formed on the space of the Northern Black Sea and Eastern Europe may be included in civilization of the second generation, which developed with a lagging for one historical cycle in the contacts with the ancient civilizations of the second generation.

In the 2nd-3rd millennium B.C. the signs of transition to the Bronze Age were observed — first of all in the North Caucasus, Carpathians region, and the Black Sea region. All signs of such transition are present. Melting of metals and manufacturing of tools of labor, weapons, ornaments were mastered, the chain of settlements expanded and their sizes increased, exchange between agricultural, cattle breeding tribes and tribes that mastered metallurgy assumed a regular nature (Triolet, Koban, Andronov, Fatianov culture). Communal property was mixed with private economy of large patriarchal families. Communities united in tribes, the tribal nobility separated and took in their hands a considerable part of wealth. The unions of tribes emerged — the dawn of future states. However, on these territories unlike the centers of the early class civilization in the Near East it was impossible to get considerable yields by making the systems of irrigable husbandry and by concentration of population in the valleys of large rivers (other variants were impossible due to low technical development of society), that’s why strong states did not develop.

In approximately the 1st millennium B.C. the Iron Age began in the Dnepr region, Volga region, North Caucasus, and from the middle of the 7th century B.C. — in Western Siberia and Altai (Diakovo, Gorodetz, Ananiin etc. cultures).

The catalyst for the advance of society on the ample territories of modern Russia and Ukraine were intensifying contacts with the centers of the ancient civilization, mainly through Greek Black Sea cities and the Bosphorus Kingdom. It helped to enter the transitional period to the medieval civilization practically simultaneously with other local civilizations of Europe.

5.3.5. Civilizations of Pre-Columbian America

The early societies of America developed in isolation and had their own way. According to modern archeological data, the settlement of the American continent by man occurred as a result of many waves of migrations from Asia through the Bering Bridge — 50-40 thousand years ago and 28-10 thousands years ago. The northern Asia had a moderate climate in these periods, and following the herds of mammoths and other large animals the tribes of hunters moved to the north-American continent, and then migrated to the Central and South America. Favorable climatic conditions, abundance of large animals and plants suitable for food led to a fast increase in the number of population. As a result by the 7th millennium B.C. the mammoths were killed off, buffalo population reduced sharply. From the 7th to the 5th millennium B.C. agriculture became the main occupation combined with hunting and fishery. The *Neolithic civilization* established itself.

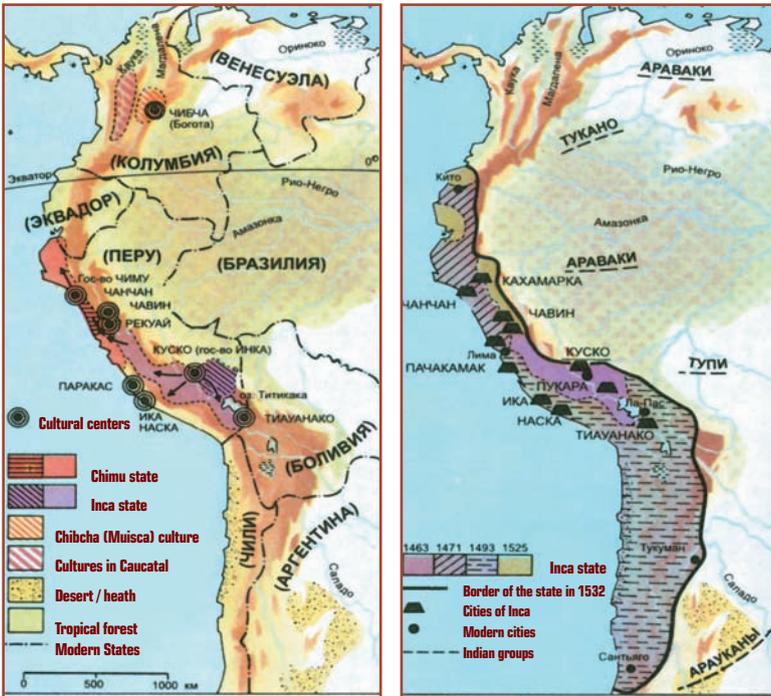
Maize (corn) became the major culture; they grew beans, pumpkin avocado and hot pepper. Farming culture formed in the north-east of North America, in contemporary Mexico, on the coast of Peru. Pre-Columbian civilizations occupied Central America and north-west of South America (*Fig. 5.13*). From the 3rd millennium B.C. they began to master ceramics. A natural exchange developed and then the first signs of social stratification followed.

The first generation of civilization. About the 2nd millennium B.C. the development of farming and craft determined the possibility of a regular surplus produce. It resulted in the formation of the *early class* society, emergence of many states, especially in the Central America. Cities, irrigation systems were built, large cult constructions were erected. . The Olmec culture, the state of Aztecs and Mayas flourished. Society was well divided into definite social groups: higher classes (governor, military leaders and priests); free community members, craftsmen; and merchants; the lower class included the prisons of war and criminals turned into slaves. However, slavery was not a prevailing type of economy. In the rise period of the early class society (in the middle of the 1st millennium B.C.) large cities were built. Astronomy and mathematics, sculpture and architecture rose to high levels.

The second generation of civilizations. The next stage in the history of pre-Columbian America began at the turn of a new era. The Bolivian plateau near the lake Titicaca became the center for the spreading of the Tiauanaco culture from the 3rd to the 8th century. Metalwork-

Figure 5.13.

Pre-Columbian civilizations of America *



Ancient Cultures in South America

The Land of Inca (1460-1532)



Indian Cultures in Middle America before 1520

*Source: [82, p. 222]

ing — gold, silver, copper, bronze became widespread. Unlike their European “sisters” local American civilizations were not familiar with iron, therefore here the Bronze Age is typical not of the first, but of the second whorl of the civilizational development, which lasted practically up to the conquest of America by Europeans.

In this period, a number of empires appeared on the American continent. The Incan Empire is the most well-known of all, its foundation was laid in the 13th century. By the 15th century the territory of the Incan Empire occupied 900 thous. km² (1.7 time more than modern France). Social relations in the empire made labor mandatory for each resident of the empire with no exception, even the supreme rulers had to work. Each got a plot of land that was necessary for residence of himself and his family. For satisfaction of the needs of the state and priests everybody was obliged to farm lands owned by the Inca (state) and the Sun (temples) after they tilled their own family plots of land. A part of products got from such lands was directed to the establishment of insurance funds and maintenance of widows, orphans, elderly, and disabled. The tools of labor and weapons manufactured by craftsmen were stored at the state warehouses. Cattle like land was divided into three parts: one — for family needs, the second — for the Inca, and the third — for the Sun. A strict control exercised over consumption, waste was prohibited. Exchange was natural.

All family heads participated in the management on the lower and middle level; however, the Inca had the supreme authority and it was hereditary. Nobility by birth played an important role. However, the poor, slaves and aliens didn't enjoy democratic rights and freedoms.

In the Incan state a high level of labor efficiency was reached, which enabled them to build large cities, the citadel of Machu Picchu striking one's imagination, well-organized roads and canals running for thousand kilometers, suspension bridges over abysses. The Incas also left remarkable monuments of culture.

Let's dwell in more detail on the formation and dynamics of the pre-Columbian civilizations in the Western Hemisphere as their history is less known.

The disappearance of the overland “bridge” between Asia and America approximately in the 13th millennium B.C. had a key significance for further fates of those human communions for which the lands of the Western Hemisphere became a new motherland. The many-thousand year isolation from the Old World and, consequently, from the main flow of the history of civilizations became one more determining factor for the historical process here. Civilization as a

special type of a socio-cultural organization described by a qualitatively higher level of complexity against the primitive state, emerged in the New World at least one thousand year later than in the Old.

As everywhere in the world the formation of producing economy in the course of the “Neolithic Revolution” became the material base of the civiliogenesis in the New World. With respect to America the matter in question is mainly agriculture. Cattle husbandry (llama and guinea-pigs breeding) played a certain role in the Andean region, but far smaller than farming. As for Meso-America there was actually no cattle husbandry.

Initially the mountain areas of the Central Andes were the nucleus zone of flora cultivation. The first attempts to domesticate plants date back to the 7th millennia B.C. In the 5th millennium B.CENTURY a decisive leap occurred: corn, beans and cotton growing began. In the 4th-3rd millennia husbandry established itself gradually on the coast. The second type of man’s activity here was sea economy: fishery, shellfish gathering, hunting for pelicans and penguins, seals and whales shooting. All this established conditions for a fast population growth. In the 3rd-1st millennium B.C., productive economy finally turned into the leading factor of economic development.

In Meso-America, the first kinds of maize appeared in the Tehuacan valley (modern Mexican state of Puebla) in the 5th millennium B.C., in the 4th millennium B.C. it is already possible to speak about the rudiments of the system of the maize farming, in the 1st millennium B.C. they began to cultivate corn on the territories of the south-west of the modern USA. In the 4th-2nd millennium B. C. maize (corn) growing, including beans and pumpkins laid the foundation of the food base for future Meso-American civilizations.

Although some Indian peoples came to the threshold of civilizations in other regions (chibcha-muiski on the territory of modern Columbia, cultures of the south-west of the USA and the basin of the Mississippi, etc.), but Meso-America and the Andean region were the major centers for the evolvement of the civilizational processes in America.

The Olmec Civilization emerged in the 1st millennium B.C. on the territory of the modern states of Tabasco and Veracruz. 10 known Olmec centers were situated evenly along the coast of the Gulf of Mexico, but at a certain distance from the sea. The largest of them include: La Venta, San Lorenzo, Tres Zapotes, and Laguna de los Cerros.

The Chavin culture (its utmost expression is the monumental complex Chavin de Huantar found at the height of 3,000 meters in a

small mountain valley in the northern part of the Peruvian Plateau) emerged about the year 1500 B.C. and existed till about the year 450 A.D.

Both in Meso-America, and the Andean region one and the same scheme for the evolution of civilization process is traced: the Olmecs – in one case, Chavin – in other, formed the initial, base archetype of civilizational system, determined the spiritual-ideological, artistic (creation of the system of symbols by means of which the surrounding world and the world of own soul was mastered spiritually-practically) and a social standard. It was orientated at and reproduced to this or that extent in all next culture that were in relation of direct or indirect affinity (i.e. with the Olmecs and Chavin) and succession.

Nearly simultaneously with the Olmecs (but still a little later) the culture of **Zapotecs** emerged. Monte Alban founded about the year 500 B.C. in the Oaxaca valley became the main religious, administrative and trade center for the Zapotec civilization. During a number of centuries their neighbors – Mixtecs, resided near the zapotecs and gradually assimilated their culture. Finally they captured Monte Alban in the year 900 B.C. and turned it into the center of their own (although based in the zapotec heritage) civilization that existed until the Spanish Conquista in the 16th century.

Probably, **Teotihuacán**, the largest city center of Meso-America, became the brightest direct successor to the Olmecs (their civilization disappeared by the 3rd century B.C.) that implemented to the utmost extent the concept of the civilizational system. The nucleus of the latter was the system of values embodied in certain religious-mythological ideas and determining the major behavioral orientations of the members of the Indian societies. Having emerged about the year 300 B.C. Teotihuacán reached the top of its might in the 2nd-6th century A.D., spread its influence on all Meso-America. In the second half of the 7th century A.D. Teotihuacán fell into decay. At the end of the century the city fell under the attacks of the barbarian invasion from the north (although certain researchers believe that the traces of fire remained on many buildings might indicate a social conflict that caused the downfall of the Teotihuacán civilization).

After the fall of Teotihuacán in the 8th century the period of “Dark Centuries” was established in the Central Mexico: the waves of barbarian invasions – migrants from the north flooded into in the valley of Mexico and got a general name “chichimeca”. However, these barbarians were fast to assimilate the major cultural standards of the lost civilization. The **Toltecs** turned to be the most

successful conquerors and capable students. By the end of the 10th century A.D. the former space area of the Teotihuacán civilization turned out to be under the power of the Toltec's center Tollan situated in the north of the Mexican Plateau. The power of the Toltecs purported to the role of a direct successor to the glory of Teotihuacán and actually acted became one. The “filial-kindred” connection of the Toltec civilization with Teotihuacán causes no doubts.

It is necessary to mention several cultures which in this or that way were the successors to the Olmec civilizational archetype. Thus, **Tahin** emerging at the beginning of our era on the territory of the Mexican state of Veracruz played so far the role of important independent cultural-religious center. The culture of **Totonacs** emerged and spread in the same place.

In the south of modern Mexico on the border with Guatemala, close to the coast of the Pacific Ocean the culture of **Izapa** became a significant continuation of the Olmec cultural tradition.

The fall of the Izapan culture coincided with the formation of one of the most significant civilizations of pre-Columbian America – **Maya**, whose space area embraced the territories from the south of Mexico to the north of Honduras and Salvador. The period of the rise of the Mayan civilization fell to a so-called “classical” period (3rd-9th century A.D.) From the end of the 9th century the Mayan civilization entered the period of a deep-seated crisis caused by a number of factors, the main of which was the mass raids of invaders from the north that began in this period. In the 10th century all major Mayan cities emptied in the tropical forests. In the 10th century, the lands of the Maya were conquered by the Toltecs, which led to certain transformations (a change of ideological guidelines, influence of the Naua-Toltec tradition in art, change in the administrative system – the emergence of the confederation of the city-states on Yucatan, etc.). However, despite the emergence of socio-political and cultural formations under Toltec influence, the Mayan civilization did not disappear and survived on Yucatan and mountain Guatemala, where the aliens were mainly assimilated by local population. Although certain guidelines changed in ideology and art, the base archetypes that underlay the basis of a civilizational model remained the same ascending finally to the Olmec heritage and the “post-classical (900-1520 A.D.) period of the Maya, up to the Conquest.

In Central Mexico, the period of the Toltec dominance in the 10th-11th centuries ended about 1200 A.D., when their center Tollan was ruined by a new wave of barbarian migration from the north. After

that the period of a social chaos occurred, which was replaced by the establishment of a new order. Its carriers were the **Aztec**. This Indian people, having left their fore-motherland Astlan (at the beginning of the 13th century), reached the valley of Mexico in the second half of the 10th century and rooted there, establishing its capital Tenochtitlan on the shore of the lake Texcoco in 1325. In the next two centuries of their history, the Aztec constantly conducted wars on neighbors in their struggle for the hegemony and establishment of a powerful state. They actually reached this objective by the beginning of the 15th century having subordinated nearly all Meso-America in this or that form. On the threshold of the coming crisis they were apparently on the path to the establishment of the imperial structure of a regional scale. However, this process was terminated by the Spanish invasion in 1520. The Aztec civilization shows the features of succession with respect to its predecessors by all its major parameters.

In the Andean region, the culture of **Paracas** is likely to be called the first of direct historical successors of Chavin (the 1st millennium B.C.). The culture of **Nazca** became its immediate successor in its turn (southern coast of Peru 3-d millennium B.C. — 1st millennium A.D.). Nearly concurrently formed (on the northern coast of Peru) and widely spread one of the brightest civilizations of pre-Columbian America — **Mochica**. Its heritage became an extremely bright landmark expression of the civilization archetype that had been formed by the Chavin. Approximate chronological framework of existence of this culture — the 2nd-1st century B.C. — the 8th century B.C. The end of the Mochica is typical of the fates of early civilizations. The society of Mochica must have been ruined as a result of the invasion from outside. It is likely that natural factors contributed to its fall (reducing of rainfalls that ruined the Mochica irrigable farming).

Practically simultaneously with the Mochica one more independent and very bright civilization emerged in mountain Peru on the shores of the highland lake Titicaca, and it also was mainly a successor to Chavin and rendered a considerable influence on its contemporary and further Indian cultures. Its approximate chronological framework is 200 B.C.-9th century A.D. The main center is **Tiauanaco** city.

It should be noted that the cultural tradition of Mochica was not discontinued after the disappearance of this civilization as a special socio-cultural formation. The Mochica cultural stratum was blended in the culture of **Chimu** (northern coast of Peru, the first half of the 2nd millennium A.D.), whose carriers established a powerful state that really purported to the hegemony in the Andean region and that

was a dangerous rival of the Incans. The capital of this state, Chan-Chan was quite comparable with Teotihuacan in its scale.

In the 10th century, the **Incans** appeared on the scene, who by 1400 A.D. established the largest state of pre-Columbian America, the first and the only empire of a continental scale, which comprised the territories of modern Peru, Bolivia, Ecuador, northwestern part of Argentina, northern part of Chile, and a part of Columbia. The Incans became the creators of the civilization of pre-Columbian America that was the most considerable in its scale. And it was based on experience and gains of the preceding cultures of the Andean region.

Certain differences existed between two major civilizational centers of pre-Columbian America. These are the major of them:

The Andean region is characterized by a greater degree of the development of material-technical base of civilizations (first of all, it is a more developed metallurgy — the “Bronze Age”) in comparison with Meso-America (manufacturing of tools only from stone, bone and wood survived until the 9th century A.D., the “Stone Age”; an inconsiderable role of metal after the 9th century). It is also possible to note a higher level of the development of food and raw material base of civilization for the Andean region (a combination of farming with cattle husbandry, even if it was considerably less developed than in the Old World, and also with an active all-round use of bioresources of the sea in the Andean cultures as a contrast to a lack of cattle husbandry and an inconsiderable role of fishery in Meso-America). At the same time the highest level of development of abstract thinking in pre-Columbian America was reached exactly in Meso-America, first of all, with the Maya that found its major expression in the existence of writing (most developed — chirographical — and again with the Maya) that hardly existed in the Andean region, where its functional replacement was elaborated — the so-called quipu.

And nevertheless all pre-Columbian civilizations had much more common features than differences and first of all with respect to all major civilizational centers. The following features of this kind may be distinguished:

For all pre-Columbian cultures are characterized by one and the same approach to the solution of key problems-contradictions of human existence between the secular and sacral spheres of being of homo sapiens, between man and nature, individuum and socium, traditional and innovative aspects of culture. A complete dominance of mythological (“pre-axial” according to **K. Jaspers**) thinking is typical of all of them with the same mythological picture of the world in its base

(under multiple differences in details). It's most significant that the myth was not only reality of conscious of representatives of the Indian world, but ontological reality: such type of thinking is orientated in a certain manner the behavior of people, formed a certain way for their interaction. Its major characteristics included: a rigid subordination of all Indian societies to natural rhythms, unconditional prevalence of adaptation tendencies to the environment over attempts to adapt it to own demands; and as a result a full dominance of a natural component over human element of productive forces; the dominance of communion naturally formed (in different aspects – from community to despotic state) over individuum, well-manifested tendency to assimilation of a personal identity in such communion; the prevalence of a communal archetype as a base and a system-forming principle of all pre-Columbian societies; orientation at the maintenance of established tradition unchanged to a possible extent, prevalence of tradition over innovation in the system unity of culture, which found its visible expression in a total ritualization of all sides of life of the Indian cultures in pre-Columbian America.

A social structure of pre-Columbian civilizations was identical in its foundation; its base elements included community and despotic state similar to the ancient eastern despotisms of the Old World in its nature and functions. Finally, a similar nature of major forms of sign-based self-expression of culture should be noted, and first of all the monumental architecture

One more feature is akin to all high cultures of pre-Columbian America: they attained a comparatively high level of civilization under a comparatively weak developed material-technical base against the Old World: pre-Columbian America did not know iron, draft-cattle, wheeled transport, horses, plough, cattle husbandry played incomparably minor role here (except the Andean area).

In the civilization process of pre-Columbian America a certain ***cyclical dynamics*** is well-traced, which is determined by a social genotype of local civilizations originally formed. In general, it is quite adequately described in the terms of **A.J. Toynbee's** concept. In the history of all pre-Columbian civilizations (except the last ones in this row swept by a wave of Conquest) there are traced of all the stages that were distinguished by Toynbee: genesis, growth, breakdown, decline due to these or those reasons: more often barbarian invasions or as a result of internal social cataclysms or environmental catastrophes or as a consequence of a cumulative action of a number of factors. After completion of each civilizational cycle the "Dark Centuries" come

as a rule and then they are followed by a life cycle of a new civilization that reproduces the same stages and what is more important the same civilizational quality.

Reproduction of one and the same socio-cultural quality in each new cycle does not mean that no changes at all occurred within the given quality. Advance was observed in some things: for instance, the Incans undoubtedly excelled everybody in the improvement of administrative practices. On the contrary, an obvious regress is traced in other spheres. Thus, while the Aztecs had inherited certain astronomical and mathematical knowledge from their predecessors, they lost considerably their depth and volume.

If a general look is cast on the history of pre-Columbian America, it is possible to observe a gradual increase of space scale of civilizational communions from cycle to cycle – to the extent of the establishment of the first civilization of continental dimensions by the Incans. However, such increase in the scale did not lead to the change in the foundational characteristics of civilizational structure. By the time of the clash with Christian Europe all pre-Columbian civilizations that had existed by that time had a set of major features that were referred to above.

Original local civilizations of the New World with all their technological and cultural achievements were barbarously destroyed by the European colonialists at the end of the 15th-16th centuries. The unique historical experiment of isolated development of local civilizations was terminated.

5.4. Dialogue and Interaction of The First Two Generations of Local Civilizations

Civilizations of the first and second generations settled on ample territories of the Old World didn't develop in isolation from each other. The contacts in various forms – from dialogue and exchange to warfare – existed and intensified between them. The interaction between civilizations included different spheres: trade, exchange of cultural and scientific achievements, migration of peoples, political unions and warfare. The dialogue and in-

teraction among civilizations contributed to the speeding up of their development rates and social progress. Civilizations of the New World developed in isolation, lagged behind and perished in the clash with the western civilization that was far ahead.

Trade-economic exchange between civilizations. Civilizations of the first and to a great extent of the second generations carried on intensive trade in various commodities between them and neighboring tribes not yet formed into the independent civilizations. The establishment of numerous Greek, and then Roman colonies in the Mediterranean and Black Sea regions contributed to it.

Long trade routes both by sea and by land were developed, which were used for active exchange of commodities. Famous Roman roads served for a fast relocation not only of the army, but of caravans of merchants with their goods. A considerable part of the fleet was used for carriage of goods. The states took steps to encourage international trade, protecting of merchants and merchant vessels against the attacks of robbers and pirates. As a rule the size of customs duties at the border-crossing was minor not to hamper trade. The diversity of natural conditions of various states and civilizations, their specialization on production and export of certain goods, high level of merchant's profit fostered the development of international trade, diffusion of production experience and skills in agriculture, craft, and construction. A network of cities was established along the rivers and sea coasts, and trade and production of goods served for accumulation of wealth there.

The trade-economic exchange became a significant factor for a speedup of the development, technological and economic advance of all the belt of civilizations of the first and second generations.

Exchange of technological achievements. The demands of fast growing population of local civilizations of the first and second generations, diversified demands of higher strata, expansion of trade exchanges, development of river, sea and overland transport required a considerable increase in labor efficiency based on technological innovations, cross-civilizational exchange of more advanced technologies and forms of organization of production.

As a result of technological exchanges between civilizations more advanced practices of agriculture spread fast, new sorts of cultivated plants were brought under cultivation, metal melting practices and making various tools of labor, weapons, decorations of it, construction of palaces and cultural buildings developed.

The clashes among civilizations, invasions of barbarian tribes resulted in a partial destruction of developed economy. But the barbar-

ians usually adopted advanced technological experience of civilizations conquered by them.

An active exchange of production expertise and innovations fostered a technological advance of all mankind, of the global civilization.

Cross-fertilization with spiritual values. The contacts of civilizations in the sphere of spiritual life — in the field of culture, science and education, ethics and religions were especially multiform and fruitful.

The phases of the rise and maturity of each civilization were accompanied by the efflorescence of culture, emergence of new art schools, construction of magnificent architectural monuments, creation of works of sculpture and literary works. These cultural achievements became the assets of other civilizations. It is known what influence rendered a high culture of Greek city-states on cultural life of the ancient world. The palaces of ancient Egypt, Assyria, Babylon were used as examples in construction of magnificent building in Greek, and especially in the Roman Empire. The conditions for spreading of cultural attainments throughout the empire were formed within ample world empires.

Scientific attainments of eastern civilizations served as a base for the outburst of scientific creativity in ancient Greece in the 6th-7th century B.C. Scientific discoveries made in Greek and Rome, India and China were spreading fast over interactive civilizations.

A mutual exchange of experience in education took place; the schools of scribes, schools of philosophers were set up. The contents of education of the intellectual elite reflected new scientific knowledge gained in various countries and civilizations.

With migration of people, establishment of world empires, emergence and advance of world religions conditions for dialogue among civilizations in the field of ethics and religion were established. The standards of morality supported by world religions were similar. The history of the spread of Buddhism in the East, Christianity in the West indicates the intensity of dialogue among civilizations in the antiquity.

Political contacts and military conflicts of early civilizations. The emergence of states and legal systems in the early class society, increase in their scale and population number generated constant contacts between states and civilizations in the political field, which were terminated by periodical wars.

With all diversity of forms of political structure changing each other — from eastern despotisms to the Athenian democracy — there were a lot in common features in political systems of the first two generations of local civilizations. Not only similar tendencies in so-

cial differentiation (stratification) contributed to it, but also sharing experience and borrowing of the forms of political structure as a result of the dialogue among civilizations. A similar structure of the state administration in many ways and the system of rules of law, and also the existent status of “free cities” (craft-merchant) in various civilizations may be adduced as examples.

Quite often political unions that contributed to sharing experience were concluded between various states and civilizations. Military clashes and conquests led to a rapid proliferation of types of weapons and defenses, practices of military actions (warcraft). But sometimes they finished with the subjection of one civilization to others, and even the death of vanquished civilizations.

Consequently, as a result of the first stage of the formation and development of the global civilization humankind did not only form the structure of civilization that has survived to this day, but ensured the diversity of local civilizations and active interaction among them.

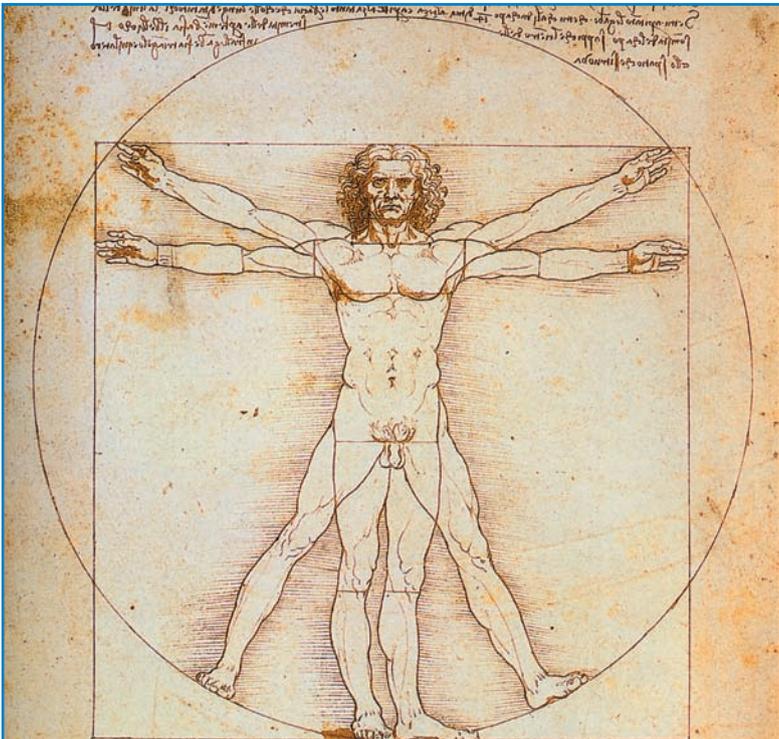


Checklist and tasks to Chapter 5

1. When and why did civilizations emerged? Show the role of the Neolithic revolution, natural-ecological and demographic factors in the emergence of civilizations.
2. Draw the development chart of the Neolithic, early class and ancient world civilizations, show geographical boundaries of their spreading.
3. Describe the structure of world civilizations of the antiquity, dynamics of their population, technology, economy, socio-political system and spiritual world.
4. When and where did local civilizations of the first generation emerge? What are there achievements and historical fate? When was the first generation of civilizations replaced by the second generation?
5. Show special features of ancient civilizations of the Mediterranean, Orient, Europe, and pre-Columbian America.
6. How was the dialogue and interaction of civilizations in the antiquity maintained? Demonstrate it by an example of civilizations known to you.
7. Appraise the historical heritage of civilizations of the antiquity, its significance for the present-day world, step for preservation of such heritage.

Chapter 6

CIVILIZATIONS OF THE SECOND HISTORICAL SUPER CYCLE



Leonardo da Vinci. The Vitruvian Man. c. 1490

Approximately from the middle of the 1st millennium A.D. the global civilization entered the second super long cycle of its historical existence, which embraced approximately a millennium and a half – until the end of the 20th c. Three world civilizations (medieval, early industrial and industrial), two generations of local civilizations (third and fourth), two social-economic formations (ideational that is super sensual and sensual) changed during that period; they passed the phases of extension, of dominance and of retreat, and at the end of the period – world religions revived. Hundreds and thousands of treatises were published about the history of this period. Tens of scientific schools have studied it and will study in future. Our task is simpler, but at the same time more complicated and special to research this great period in the life of humanity in three dimensions – in the simultaneous evolution of global, world and local civilizations, in a wealth of the gamut of the fine elements making the civilizational genotypes, their interrelation and a heritable variation.

6.1. World Civilizations of the Second Historical Super Cycle

A millennium and a half now elapsed was the period of increasingly accelerating changes. The rate of a historical advance, which slowed down in the middle of the first millennium of our era, was increasing again. Life cycles of world civilizations changing each other — medieval, early industrial and industrial — were reducing. They had a lot in common in their economic, technological, state-political and socio-cultural structure and at the same time they were successive steps in the evolution of the global civilization, enhancement of its hereditary nucleus.

6.1.1. Medieval Civilization

After a long and trying transitional period that accompanied the change of historical super cycles, time came for the next — medieval world civilization. Let's consider the ways of emergence, distinctive features, stages of development and the signs of the decline, when historical time of this civilization elapsed.

The genesis of feudalism. The genesis of feudalism followed different paths. Several types (models) of its formation may be distinguished:

1. The ***Byzantine path*** taken by the Eastern Roman Empire. It succeeded in preserving all major elements of the heritage of the preceding ancient civilization (large cities with the prevalence of craft and trade, slavery in combination with the communal landownership, developed culture where the Greek elements prevailed, a strong state with the developed Roman law) gradually transforming them and increasing the elements inherent to the feudal relations. Moreover, at the end of the 9th-10th cc the slave system even strengthened in Byzantium. However, it could not stop the establishment of the feudal system.

In the cities, corporations of free craftsmen, merchants, sailors, ship owners were formed. A network of cities developed, Constantinople was number one among them.

A transition of Byzantium to the medieval world civilization was less painful than for other cultures. However, a long persistence of slave relations, prevalence of conservative elements determined a slow progress; a transition to feudalism completed only in the 15th c., Byz-

antium lost its leadership, weakened and left the historical scene in the middle of the 16th c.

2. The *Italian model* of the genesis of feudalism was destructive and painful, but shorter than Byzantine. Weakened Rome became the bait for the incursions of barbarian tribes, which swept wave by wave over Italy burning cities, capturing lands and conquering them. Mixing with local population, they were gradually imbibing the heritage of the ancient civilization – transforming it in their primitive way.

Despite all destructive actions, the barbarians eventually put new steam into the remains of the Roman Empire. The upper crust of conquerors became large landowners, a part of warriors from the armed force – small free landowners who gradually lost their independence and mixed with colons. The city craftsmen and merchants, who had curtailed production for the time being and had lost former large customers, gradually found new buyers, restored commercial relations, actively using great trade roads by rivers and seas. On the Apennine Peninsula the feudal relations were mainly established – in the 9th c. But unlike the feudalism in other European countries, the territory of Italy was not a unified state with a strong center.

3. The *French path* to feudalism was incident to certain countries that were provinces under the Roman dominance. These countries assimilated some achievements of antiquity (including production technologies and law system), but kept the fundamentals of the communal-tribal system. The chiefs of tribal unions distributed land with succession to their vassal on condition that the latter would meet some requirements: they would organize detachments for protection of their overlord, would give him a certain part of their profit and would provide administration of these territories. These lands, which were distributed on condition of service to the overlord, were called feuds. Upper vassals distributed land among lower ones, thus the system of vassalage was formed. As the result, each plot of land had several holders of possessory rights, which created the so-called the scale of rank of the feud. The peasants according to this system were not the owners of land, but only holders of their plots, that's why they gradually got into land and legal dependence form rich landowners.

4. The *Scandinavian-Russian path* as is clear from its title, belonged to the peoples who did not know slavery on their territories. They transferred to the genesis of feudalism directly from the primitive-communal system (in its developed, modified type with respect to technology of the Iron Age). The tribal and military leaders (dukes, sea-kings, etc.) and their near associates turned into landowners-feu-

dalists, and former free community members — into bonded peasants. At first communal property was retained, but the peasants had to pay of a regular tribute, which is the primitive form of a feudal rent. This permitted the peoples of eastern and Northern Europe to considerably speed up the advance rates, to complete the genesis of feudalism simultaneously with most of peoples of Western Europe and to establish strong states.

5. The Moslem model of the genesis of the early feudal civilization was associated with the emergence of Islam (7th c.). The dogmas of this religion were taken by a number of the Near-East, Middle-East and North African peoples and became the banner in their rapid expansion. In the 7th c. the Arabs invaded the Middle East, Iran, Egypt, and Khorasm; at the beginning of the 8th c. they spread their influence to Spain, at the beginning of the 9th c. they conquered Crete, Malta and Sicily. Despite of a considerable mutual damage caused by the ongoing struggle between Moslems and Christians, the Arabic conquest had its positive sides: it fostered the synthesis of western and eastern cultures, expansion in trade and craft, development of cities, establishment of feudal land relations.

6. The Eastern model of the transition to the medieval civilization was chosen by China, India, Persia, and Central Asia. There was no classic form of slavery-based relations here inherent to the ancient civilization; the development of feudal relations occurred gradually and in various forms.

According to **I.M. Diakonov** a transition to feudalism completed in the 2nd c. A.D. in China, under the Junior dynasty of Han. Rich landowners (“strong homes”) took under the patronage peasant economies getting natural exaction (feudal land rent) and paying state taxes for them: peasants became personally-bonded, attached to the land, subject to the court of magnates [30. P. 72-77]. In Japan such system was established much later — since the 9th c. [Ibid. P. 77-78].

In India, a transitional period from early societies to the medieval civilization fell to the 5th-7th cc. A.D. A share of slave labor reduced, a part of slaves got personal freedom, while legal dependence on the former owners remained. At the same time many previously free community members were turned into feudally-bonded peasants. A part of lands were given into succession or “for feeding” to dignitaries in reward for service. The cloisters that owned ample economies with land-bonded peasants played a significant role in feudalization of society. The specific feature of India was the maintenance of estate-caste system little modified in the medieval period.

In Iran, the signs of a transition to the Middle Ages were observed in the period of the Sassanid Empire (3rd-7th cc.) when the “magnate” land ownership established itself as well as a division of society into estates and bondage of the peasantry.

Thus, a transitional period to the second triad of civilizations was characterized by a variety of forms of transition, a wide coverage and plurality of directions, and also the convergence of the levels of development of many local civilizations, which came to the next historical step — medieval civilization that embraced an ample area of the populated earth, nearly at one and the same time.

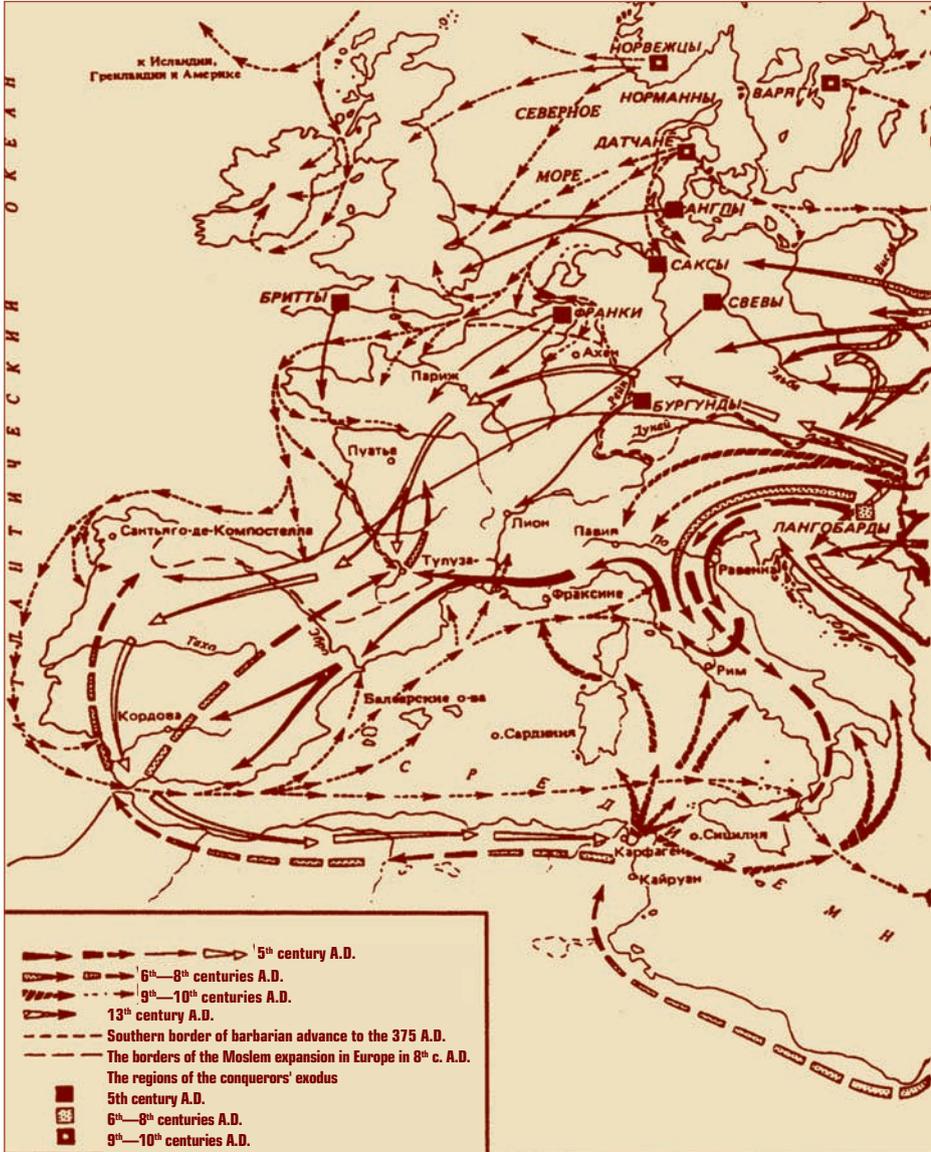
The Great Migration Period. In the period, when the medieval civilization (6th-7th) was formed, the regularity declaring itself in a sharp increase of the mobility of population, migration of peoples at the turn of epochs vividly manifested itself. The increase in a number of population and depletion of natural resources on the territories developed before, military clashes impelled enormous masses of people to risky trips of thousands kilometers in search for better lands. This mobility assumed a tremendous scale in the transitional period from the ancient world to the Middle Ages. This period is known as the Great Migrations. Barbarian tribes — Goths and kindred vandals, Varangians and Burgunds, Angles and Saxons, Hungarians and Avars surged wave by wave to the weakened Roman Empire from the East and the North (*Fig. 6.1*). These and many other tribes were at the stage of the formation of the early class society, but mastered military equipment of the Iron Age, which helped them seize more and more lands from Rome.

The invaders robbed and destroyed the cities and villages, killed their residents, destroyed monuments of culture, collected a huge tribute from the people. Finally the barbarians settled on the conquered lands, founded their kingdoms there and with time assimilated in the native population taking over its economy and culture in a primitive form. It was a regress against a high level of the ancient world. However, in terms of the history of humankind it was an advance — a step back in order to make two steps forward — to the medieval civilization.

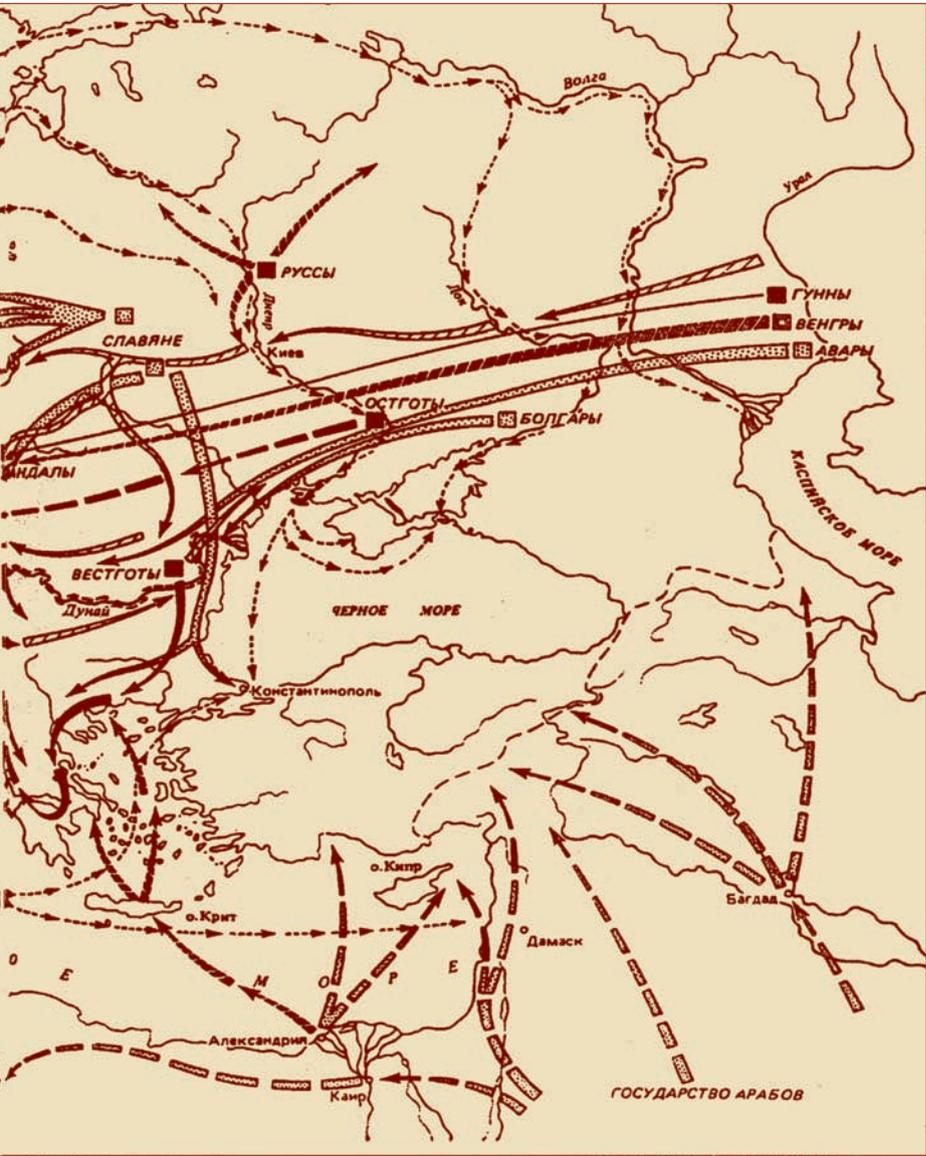
At the end of the Middle Ages, in the 13th c., a wave of migrations renewed, but already on a less scale. The Mongolian flow flooded from the East involving the Eastern and Central Europe, Central Asia, and Transcaucasia. The flow of crusaders and pilgrims from Western Europe set out for the Near East, Byzantine Empire, and Slavic states (*Fig. 6.2*). But with the establishment of early industrial civilization it stopped. The period of the rise of each world civilization is character-

Figure 6.1 .

Inroads into Europe. 5th– 13th cc. A.D.



Source: [115. P. 150-151].



alized by the increase in stability of population, while it does not exclude external expansion, wars for conquering new territories. Bright examples include the conquest of the New World, formation of the British Empire, colonial expansion of the period of the 18th-19th cc.

Characteristic features of the medieval civilization. What are characteristic features of the medieval civilization, its contribution to the historical, material, economic and spiritual heritage of humankind?

1. This was the period of the dominance of world religions – Christianity, Islam, Buddhism and Hinduism. They became the dominating factor in the development of society. The impact of religions on the civilizational advance was contradictory. On the one hand, religion acted as an integrating (under the feudal disunity) and stabilizing factor, a single shell of the formation of, according to **F. Braudel**, the world economies on the whole continents with the accelerated development of market relations. It supported the development of culture (though only those directions which were necessary for its propaganda – Theology, Rhetoric, spiritual music, temple architecture.)

However, it was obvious that the religious dictate chained free thought, slowed down the development of science, was the cause of fundamentalist intolerance, called for destruction of “unbelievers”. Numerous wars were directly or indirectly initiated by church. A vivid example is eight crusades (from 1096 till 1270), which led to destruction of tens of cities, death of hundreds of thousands people. But along with that the Crusades fostered the recovery of the Mediterranean trade and shipping, mastering of many technological and cultural achievements of the East.

2. The second distinguishing feature of the medieval civilization – a larger personal freedom and economic interest in labor of peasants and city craftsmen against rigid non-economic coercion of the slave system. Multi-link-hierarchical property in land and bondage to it of the peasants in this or that form made a prevailing background of economic relations in the village. Hence, poorly restricted rights of suzerain, numerous feudal exaction and homage caused peasants rebellions. A rigid regulation in the cities (craft guilds and merchant guilds) was similar to such relations.

Many cities became the seats of freethinking and “heresies”, the upsurge of commerce and science. Here with the appearance of universities the next revolution in education began.

The north-Italian city-states – Venice, Genoa and Florence – reached the greatest success in the Middle Ages, where the republican

system established itself. Venice and Genoa struggled with each other for the dominance on the seas, established a number of colonies on the Mediterranean and Black Sea coasts and used them for trade with the eastern countries. Venetians, who became wealthy through commerce, could build unique palaces and temples in the lagoon, which still make the world cultural heritage. Florence, which had no outlet to the sea, specialized in crafts (the woolen manufactories were set up here first in the world), became famous for its magnificent architectural ensemble, fine arts, became one of the centers of the Italian Renaissance.

Expansion of trade, transition to a market economy, next demographic rise were determined not only by the development of crafts, achievements of craft organization of production, but also by the advance of agricultural equipment, improvement of horsed plough, three-field system of rotation of crops.

3. In the political field, this transition was characterized by *a struggle of feudal monarchies with despotism of numerous vassals*, feudal disunity, which generated numerous bloody fights and wars.

The place of world empires of the ancient society based on military conquests was taken by the trade-political empires and unions supported by this or that religion. The ideological base of the Byzantine Empire was the Orthodox branch of Christianity. Based on its western, Catholic Church repeated attempts were undertaken to revive the Holy Roman Empire. Large medieval empires emerged in the East. Due to the Moslem conquests the Arabic caliphates existed for several centuries — under the Umayyad dynasty (with the capital in Damascus) in 661-750 and the Abbasid dynasty (with the capital in Baghdad) in 750-1258. The Mongolian Empire reached enormous sizes, whose beginning was laid by the conquering campaigns of Genghis Khan (1227-1255). The Golden Horde was one of the successors to this empire; it extended from the Irtysh to the Crimea, lower reaches of the Dnepr to the Danube, the Russian principalities paid tributes to it until the end of the 15-th c. In India, the empire of the Great Mogul existed more than three centuries (1526-1857); its outstanding representative was **Akbar**, who had implemented a number of radical economic and political transformations.

The trade-political unions formed in Europe, which, as **F. Braudel** observed, was remarkable for its bipolarity. One pole formed in the center and on the north of continental Europe and was headed by Brugge (then LЬbeck). The rise of the Hanseatic cities was promoted by trade routes, which ran worldwide. Another pole was headed by Italian cities, the mighty Republics of Venice and of Genoa, which

all the time struggled with each other for the dominance in this region. Due to powerful fleet, developed trade, diversified craft, rich culture Venice extended its influence on nearly all Western Europe, Mediterranean. Venice was a model of the formation of the market infrastructure and a relatively democratic political system tolerant to various beliefs. The beginnings of the nascent capitalism concentrated there.

4. If we speak about *technology of the medieval civilization*, there were no breakthroughs as in the period of the early class civilization. The agricultural equipment, although providing for a three-field system and application of a better plough, developed slowly. The revolution of mills – wind and water – became the base of power engineering. The use of paper and powder, development of watch-making, use of magnifiers, spectacles and color glass may be included in major innovations of that period. The sea compass and stern rudder expanded the opportunities of shipping

5. Despite endless destructive wars and religious persecutions *in the medieval period a significant improvement in the life conditions of population*, especially city, was observed. The advance in agricultural, craft, construction and transport equipment, power revolution fostered it. The number of population increased fast. Thus, in Europe it grew from 27 mln. people in 700 to 73 mln. in 1300 – 2.7 times (while for the previous 500 years it reduced 2.5 times). This encouraged construction of many large and middle cities, their building up, development of new architecture.

The crisis of the medieval civilization. Approximately from the middle of the 14th c. the signs of the crisis of the medieval civilization in Europe were observed. “This huge market of Europe crashed with an incredible recession of the 14th-15th cc. (1350–1450), together with the Black Death that was possibly both the consequence and reason at once; weakening of economy at the moments of corn crisis and hungers of 1315–1317 preceded the epidemics and favored its sinister work”. [20. P. 564].

The number of population in Europe reduced in a hundred years (between 1300–1400) from 73 to 43 mln. people – by 42%. Fallowing and development of new lands stopped, a part of ploughland was abandoned, city population reduced sharply. Heavy crop failures of 1313–1317 produced a rise in prices and hunger. A wave of rebellions, city outbreaks swept across.

The crisis of the medieval civilization had economic, political and ideological roots.

Economic — as feudal bondage of peasants, growth of a feudal rent and exaction from the city craftsmen undermined the interest of workers in the development of production.

Political — endless feudal wars, lawlessness of peasants, craftsmen and merchants, self-will of aristocracy determined the instability of society.

Ideological — the dictate and fanaticism of churchmen impeded the development of science, culture, and education.

6.1.2. Early Industrial Civilization

The establishment of the early industrial civilization. From the middle of the 15th c. a new long period of the rise began that continued developing in Europe by a bipolar scheme. One pole was in Italy of the Renaissance (with the center in Genoa). The other was on the north of continental Europe (with the center in Antwerp), and then in England (with the center in London). The peak (a turning point) of this cycle, according to **F. Braudel**, fell to 1650, completion — to 1733—1743.

It appears logic to call this world civilization *early industrial*. It expressed the major tendency in the dynamics of society in the countries that were in the vanguard of the historical advance, a transitional nature of this stage laid the foundation for the top of the second historical super cycle — industrial civilization.

The great geographical discoveries of the end of the 15th c. together with the increasing threat of Turkey (after the downfall of Constantinople) led to the shift of a part of trade roads to the Atlantic, North and Baltic Seas. Due to overseas conquests and sea might Portugal rose, then Spain and next great Britain. Antwerp became the center of the world trade and economic might in the 16th c., in the last third of the 16th c. — the first quarter of the 17th c. — Genoa, then Amsterdam, and at the end of the period — London (it numbered about 550 thousand people by 1700 and was the largest city in Europe).

Concurrently it was the period when the struggle of bourgeoisie for political power began, which most vividly found expression in the Netherlandish and English bourgeois revolutions.

The Italian Renaissance, great scientific revolution, reformation in Germany became the signs of the period. The beginning of the industrial revolution was connected with the dominance of manufactories, mastering of coal, development of mining and metallurgical industries.

The countries of Western Europe — Italy, Great Britain, the Netherlands, France, and Germany were in the epicenter of the formation of the early industrial civilization. It is here that the new ideas and social-political movements germinated, capitalist economic relations established themselves, and the bourgeois democracy began to form, absolutist states emerged that basically finished with feudal civil discords, ensured a better political stability and protection of the private capitalist property formed as a result of the original accumulation of capital.

Approximately at the same time a strong absolutist state was established in China. It rested on the accelerated growth of cities, regional division of labor, which led to the emergence of large manufactories, development of trade and monetary circulation (from the 12th c. paper money was printed). The summit of this period was reached under the Ming dynasty (1368-1644). However, in China, a section of radical bourgeoisie did not form. The Manchu conquest, and then the incursions of western colonists cast back the country for a long time. Turkey, Iran, Mongolia, Southeastern Asia did not step over the framework of the Meddle Ages. Russia and Japan began to change over to a new historical period with a certain delay. India led by the GDP output that produced one fourth of the world GDP by 1500; by 1700 — the end of the period the leadership was taken by China that produced one third of the world GDP according to A Maddison. In this period, 23% of the world GDP fell to Western Europe, ex USSR — 5.4%, Japan — 3%, the USA — 1.8% (7. P. 25. 260).

Major achievements of the early industrial civilization. What did the period that may be defined as the early industrial civilization enrich the historical heritage of humankind with?

1. A signal milestone was the **rise of spiritual life** brightly embodied in the Italian Renaissance (14th-16th cc.). It is equal in its historical significance to the first intellectual revolution of the 6th-4th cc. B.C. in ancient Greece; the Renaissance, period of humanism that lasted approximately up to the middle of the 19th c. began from the revival of the ancient Greek heritage.

Humanism brought to the forefront Man who had become free from rigid restrictions of the Meddle Ages, a free creative Personality enjoying zest for life, perception, and cognition. This found its expression in the Great Scientific Revolution that laid the foundation of modern science. Discoveries in astronomy, in a number of theoretical and engineering sciences, in philosophy, in medicine became the heights of this revolution.

Not less impressive success was reached in literature (Dante, Petrarca., Boccaccio, Erasmus, Cervantes), theater art (Italian comedy, dramaturgy of Lope de Vega, Shakespeare), painting, sculpture and architecture (Leonardo da Vinci and Rafael, Giorgione and Titian, Michelangelo and Дьрер).

2. A scientific overturn of the Renaissance was connected with the *general technological revolution* nourished by the achievements of practice and satisfied its demands. Based on the division of labor and increasing its efficiency many times against the craft system manufactory was the base for making various industrial products cheaper.

Production of fire-arms — cannons, manual harquebus, muskets was especially developed. The advance of the marine permitted to make seagoing, fostered the development of international trade, dialogue among civilizations. Not much progress could be observed only in agriculture where labor of bondmen and praedial serfs prevailed, although a number of improvements became widespread here, too.

3. *Economic relations* of the early industrial civilization were characterized by strengthening and expansion of boundaries of the market, establishment of capitalist relations. First in Italy, and then in Amsterdam, Paris, and London the market infrastructure formed, bills functioning mechanism, bank and stock exchange activity. The economic power gradually passed from landowners, aristocracy and church to trading, financial and industrial capital. Capitalist relations permeated into the agriculture that got involved more and more in the market turnover. The boundaries of personal bondage narrowed; the wage-labor system became spread not only in the city, but in the village as well.

It may be said that this was the period of the glorious pace of bourgeois economy around the world. It was exactly the period when numerous local and regional markets formed into single national markets, closely connected by international trade.

Western Europe was at the head of economic advance where a historical turn to capitalist society occurred, in its first phase — “manufactory capitalism”. The achievements of eastern civilizations — Indian and Chinese, are less known, but not less impressive.

4. *In the socio-political field* the early industrial civilization was characterized by heterogeneous tendencies.

The major achievement was the formation of absolutist national states. As the result riotous behavior of self-willed feudal lords governed by the right of force was reduced, better conditions for production and trade inside the country were established.

The struggle for political equality, overcoming of feudal hierarchy, absolute power and sell-will of suzerains intensified. In the cities, merchant republics established themselves. As a result of the Netherlandish and English bourgeois revolutions political influence of the “third estate” intensified. However, the power still belonged to the monarch, aristocracy and the upper crust of the church hierarchy on the state level; only in England a hole was made as a result of the strengthening of the parliament. In Venice, a traditional republican system survived.

Along with that it was time of a sharp aggravation of social conflicts, rising of the people, bloody civil and religious wars. Monarchs and feudalists conducted endless wars (the Hundred Years’ War between England and France in 1397-1453, the Thirty Years’ War in 1618-1648) in all Europe. The ruling crust needed the increased influx of funds, which they could get by intensifying a pressure of taxation on the nascent bourgeoisie and peasants. It led to frequent rising of people, most telling of which were Jacquerie in France, Peasants’ War in Germany.

5. Sea voyages and great geographical discoveries led to the establishment of the *world colonial empires*. Portuguese and Spanish ones became first of them as a result of conquering America discovered by Genoese Christopher Columbus under the sponsorship of the Spanish Crown. Britain purported to be the colonial empire. Endless wars were conducted for the seizure and repartition of colonies. The establishment of the bourgeois system was based on violence, terror, extermination of whole nations and cultures. A very tragic fate awaited the early civilizations of Central and South America. These civilizations, their population and a larger portion of their cultural heritage was destroyed by European conquerors, who established feudal and partially slave relations on the violently subdued territories.

The crisis of the early industrial society. The potential of the early industrial society largely based on colonial seizures and original accumulation of capital began to run out by the middle of the 17th c. The second half of the 17th c. and two thirds of the 18th c. may be characterized as the period of crisis and the decline of the early industrial civilization and the germ of industrial civilization.

The opportunities to meet the increased demands of quickly growing population, and especially the luxury of royal courts and nobility on a narrow basis of the manufactory production and colonial trade were reducing. The population of the world increased from 1500 to 1820 from 438 to 1,042 mln. — 2.4 times while in the preceding 500 years — 1.6 times [126. P. 256].

Western colonialists stopped getting huge profits from rapacious trade with India, Indonesian islands, Africa, America. Besides, Europe suffered a row of catastrophic crop failures. The overturn in the technological mode of production became inevitable.

The development of agriculture and manufactory industrial production came into collision with the growth of parasitism of the feudal upper crust, with destructive effect of feudal and colonial wars, first bourgeois revolutions in the Netherlands and England. The bourgeoisie (“third estate”), which had gathered economic strength, remained rightless in terms of politics. The society matured for a revolutionary transition to the next world civilization.

6.1.3. Industrial Civilization

The industrial overturn and formation of the industrial civilization. The industrial civilization that transformed all the world became the top of the second historical super cycle, implementation of the potential inherent to it.

The phase of the formation of the industrial world civilization embraced the last third of the 18th – beginning of the 19th c., when the industrial revolution started. The epicenter originally was in England with a further shift to continental Europe and North Africa. The phase of fast spreading in the vanguard countries (mainly in the western civilization) lasted until the middle of the 19th c. After that is possible to speak about the phase of stable development of the industrial cycle. It appears that the industrial civilization went through the phases of the rise and maturity approximately before the beginning of World War I, and its downfall phase began thereafter, and transformed into the post-industrial civilization in the transitional period from the end of the 20th c. However, in the 50s-60s a short period of the last rise of the industrial civilization was observed on the wave of a scientific-technological revolution (STR), which ended with the crisis of the 70s. It was the third bell before the beginning of a new historical super cycle.

Characteristic features of the industrial civilization. In terms of regularities of the historical progress the following features of the industrial civilization may be noted.

1. Growing mechanization and concentration of production, spread of the systems of machines linked in one technological chain – not only at an individual enterprise, but in scale of the country, a number of countries (international monopolies) with time, and then – in global

scale (transnational corporations). It transformed society into a total of intertissued large, medium and small technological systems working in a single rhythm, experiencing synchronously the phases of rises, crises and renewal. The industrial society gives priority to technologies. A technological advance underlying economic growth and competitiveness of products is based on the achievements of science.

2. In the industrial system man is the creator of machines, builds and operates them. However, machine-based production created to satisfy his needs subordinates man more and more, enforces the rhythm of his life, while the change of generations of equipment threatens with unemployment. Demiurge of machine world becomes its slave.

With the triumph of machine production the epoch of humanism ended. It also found its expression in culture. Standardized, devoid of national differences and spirituality admass culture emerged

3. Contradictory tendencies were observed in economy of the industrial period. Its achievements are indisputable in a powerful and long rise of productive forces, growth of life level of the broad masses of population in the developed countries. According to A. Maddison, GDP output grew (in comparable prices) 53.5 times from 1820 to 2001 (under a growth of the number of population 5.9 times), including in Western Europe — 46.9 times, the USA — 637 times, Japan — 127 times. [264. P. 252] Due to a large-scale technological application of science, more powerful industry, labor efficiency increased ten times. Most families in the developed countries got an opportunity to live in comfortable homes, to use different household appliances, to regularly change makes of cars and to travel around the world.

However, such impressive advance was reached at a heavy cost. It becomes more and more clear that deformed structure of national and global reproduction has no prospects. Welfare and prosperity of rich countries are based on a ruthless exploitation of labor and natural resources of the rest of the world.

Only reminiscences have been left from the period of a free competition. Through the establishment of joint stock companies, economy has come to the dominance of monopolies, which then merged with powerful state machinery. In the second half of the 20th c. a rapid rise of transnational corporations, which have become powerful integrators of world economy in its leading spheres, was observed. Capital has become more democratic on the surface, growing sections of population own shares and bonds. But under this deceitful democratic screen, economic might of a narrow section of economic elite (also political) hid itself.

4. Increased homogeneity of society in national and world scale

has established conditions for a clearer manifestation of **regularities of cyclical dynamics of civilizations**. With the periodicity one time in a decade economic crises hit the developed countries since 1825. The outlines of semi-century (Kondratieff) cycles are taking shape as well as the rhythm of the renewal of generations of equipment, technological orders, and also tendency in a wave-like spiral dynamics of other spheres of social life.

5. The tendencies are not less contradictory in the **political and state-legal** system of the industrial period. The boundaries of bourgeois democracy expanded. But concentration of economic force led to concentration of political power, to the dictatorship, covered by screens of democracy. It found an extreme expression in the establishment of totalitarian regimes, which under the conditions of a deep-seated crisis and chaos came into power sometimes by a democratic way (for instance, in Germany in 1933). Powerful industrial means of ideological influence and “brainwashing” established the base of such regimes, unification of political views of people and formation of mass political parties.

In the industrial society, a legal order established itself, which was based on the recognition of equality of all nationals and social strata before law, on the priority of law in the regulation of legal relations. However, the all-might of capital was behind it.

In the dynamics of the institutions of political life several phases take place throughout the industrial civilization: establishment and diffusion of bourgeois democracy as a result of a number of bourgeois-democratic revolutions (Netherlandish, English, North American, French, etc.); the triumph of democracy in the second half of the 19th c. in the developed countries; its decline and transformation into its reverse in the totalitarian states since the end of the 20s of the 20th c.; a new wave of democratization at the end of the 20th c.

The industrial civilization has reached unprecedented heights in the development of production forces and wealth of society, in ensuring the unity of world economy and development of culture, in the improvement of the level of life of most of population in the vanguard countries.

But concurrently it has opened the path for new contradictions, deepened the gap between the rich and poor countries and civilizations, unleashed world wars unprecedented in its bloodshed, put humankind on the brink of ecological catastrophe and self-destruction as a result of the use of the weapons of mass destruction.

The decline of the industrial civilization. The World War I revealed growing signs of the decline of the industrial civilization. What are these signs?

1. The industrial system unleashed the two bloodiest wars in the history and in the course of “cold war” it accumulated the stock of weapons of mass destruction enough to self-liquidate all humankind, and even all flesh on the Earth. The maintenance of such system became dangerous for the fates of human race and biosphere.

2. Having accumulated enormous wealth, capitalism concentrated it on the one pole — in a handful of developed countries and civilizations. Enormous majority of humankind turned on the brink of and beyond the brink of poverty and impoverishment. Initiative and mammonish spirit of competition made such a global gap between the wealth and poverty that had not existed before in the history of civilizations.

3. Having proclaimed its ideal the conquering of nature, having included natural resources in reproduction on unprecedented scale, the industrial society has reached the brink of their depletion, has extremely polluted the environment and thus has led the world to a global ecological catastrophe.

4. Having reached a lot of success in propagation of democracy, equality of rights and obligations of nationals, industrial civilization has made democracy formal at the last stage of its life cycle, generated such monsters as fascism and totalitarianism, terrorism and extremism, made huge, and corrupted in many ways state machinery which tries to stand above society and subdue it to its interests and influence.

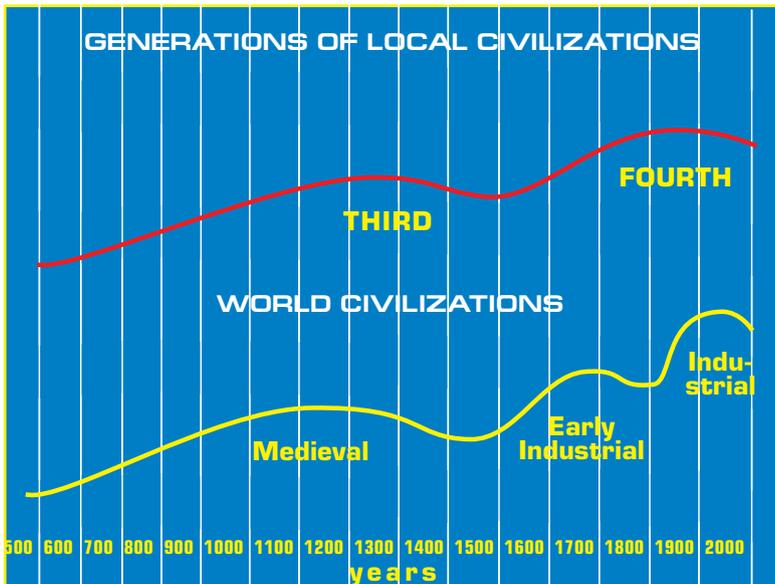
5. The universal crisis has hit spiritual sphere — science and culture, education and ethics, ideology and mass media. Science is made to serve the military-industrial technologies and has lost its creative prognostic force in many ways. Commercialization and ideologization of culture, especially under the conditions of the global development of telesystems and Internet, has led to the formation of admass anti-culture, threatens cultural diversity and civilizational originality. The propagation of the cult of violence, terrorism, permissiveness, pornography, irresponsibility to the past and future generations has become widespread through mass media.

However, the end of the industrial period does not mean the end of the history of humankind, and only the threshold of the entrance to a new historical period. This was clearly expressed by **Pitirim Sorokin**: “All significant aspects of life, order and culture of the western society experience a serious crisis. Flesh and spirit of the western civilization are ill... We are as if between two periods. A night of this transitional period begins to sink on us, with its nightmares, frightening shadows, and heartrending horrors. However, the light of a new ideal culture greeting a new generation may already be discerned.” [85. P. 427].

6.2. Dynamics of the Structure of Civilizations of the Second Super Cycle

The structure of society underwent deep changes in the period of the second historical super cycle, embraced all stages of the “pyramid of civilization”. With small breaks a rapid growth of population that found its expression in a demographic explosion in the second half of the 20th c. was observed. Technological overturns occurred one after another, which resulted in creation of the world industrial machine, excessive load on natural resources and environment. The capitalist market economy covered the entire globe, led to the excessive accumulation of wealth by the owners of TNC and the ruling crust of the richest countries and to poverty of the majority of population of the planet. The waves of revolutions shook the world and more and more bloody wars. A rapid growth of science and education, creation of latest means of communication and transfer of information was accompanied by a loss of many national, cultural and civilizational traditions. The paradoxes of the society develop-

Figure 6.2.
Dynamics of civilizations of the second historical super cycle



ment became more and more evident. By the end of the 20-th century mankind had found itself in the state of a deep crisis.

The basic diagram of the dynamics of civilizations of the second historical super cycle is given in *Fig. 6.2*.

6.2.1. The Growth of the Population Size, Demands and Abilities of Man

The growth of population number and demographic explosion. The second historical super cycle is characterized by a rapid growth of population number, especially in the industrial society. While its increase made from 238 to 1,042 mln. people for 17 centuries – from the 1st A.D. to 1820, then it grew up to 6 bln. people – 5.9 times for the next 180 years. Unprecedented growth rates of population occurred as the result of reduction of mortality and a considerable increase in lifespan, unprecedented growth of labor efficiency. The latter allowed to feed a fast growing number of consumers under a considerable reduction in the share of the employed in material production, to increase the number of material benefits and services many times, falling in average per capita of population in civilizations with a high level of economic development.

However, this tendency had also negative sides, especially in the densely populated countries due to the scantiness of resources. The matter was not only in the total growth of population, but in its unequal distribution: for 50 years (from 1950 – 2000) the number of residents on the earth increased by 3,534 mln. people 2.4 times; 80% of such increase fell to the developing countries, poor civilizations.

The demographic explosion of the second half of the 20th c. involved largely the countries and civilizations with a low level of income per capita, intensified sharply the load on the environment, and aggravated the problems of unemployment and poverty, illiteracy of a considerable part of population in the developing countries. However, by the end of the 20th century a growth rate of population on the earth went down a little. The peak of a demographic explosion is already behind.

Dynamics of demands of man and family. Changes occurring in man's life throughout the second historical super cycle are incomparably smaller than for 7 thousand years of the first three civilizations. But nevertheless, it was a huge advance, full of dramatic sinuosities; modern man with various demands and varied abilities was moulded as result, with a considerable bulk of rapidly aging knowledge and skills.

A refined man of the late antiquity of Europe was replaced by a young, energetic barbarian full of vital force although more primitive. He quickly imbibed all viable that had remained from the ancient society. Christianity that became a kind of a carrier of transmission of scientific, cultural ethical genotype from civilization to civilization contributed a lot to it. And Islam, which emerged in the 7th c., played a considerable role.

The path to modern man ran more smoothly in the East — in Byzantium, India, China, Persia, and Central Asia. The downfall came later when these countries became colonies or semi-colonies of aggressive capitalism of the western European civilization. It conquered the cultures that once were in the vanguard of the advance of world progress, impeded their development for millennia. Colonization of America was deadly for early civilizations.

Expansion of personal freedom and dominance of market relations undermined in many ways the spiritual values, especially family relations. Family lost former economic significance, especially amidst proletariat and intellectuals, activity and independence of women increased. Family ties were stronger in rural areas and in the countries of the East where they were supported by Islamic traditions.

The dynamics of *demands* of man initiated progressive shifts in the development of society and experienced their influence on itself. The relation of biological and social demands changed wave-like. In the transitional period from the ancient society to the Middle Ages a shift in favor of biological, material demands occurred. The destruction of productive force, annihilation of a part of people, material and cultural values, a fall of labor efficiency — all this resulted in primitivization of demands. The primary aim became the elementary survival of man, family, rural commune and city. Naturalization of economy led to reduction of a circle of economic demands; interests connected with realization of land property and appropriation of feudal rent came to the forefront. Socio-political demands were restricted to the boundaries of community, shop, and vassalage. Under the influence of Christian and Moslem asceticism and dogmatism the spiritual demands narrowed and simplified.

Establishment and development of local, national and continental markets, fast development of craft, manufactory, and machine industry from the end of the 18th c., growth of a section of people whose wealth depended on the market conditions, tightening competition and removal of barriers on its way, development of credit and banks ruined the narrow framework of natural economy and brought economic interests to the forefront. It was the time of homo economicus .

Socio-political demands were subjected to economic interests. Political freedoms and civil equality that were so hard to get should have ensured equal conditions for competition and safeguard property acquired or inherited. The state machinery, courts, laws served the same aims.

Spiritual demands were also subordinated to economic, although often stepped over its boundaries. The growth of wealth, diversified types of activity, development of international ties increased the role of socio-cultural demands.

Changes also occurred in the family institution. A large patriarchal family comprising as a rule three generations was spread in the feudal village and guild city. Large families were also inherent to the ruling upper crust that generated conflicts in the partition of heritage. Marriage and family were blessed and supported by church.

Development of abilities, knowledge and interests of man. Cyclical dynamics was observed in the development of man's abilities, his knowledge and skills. Sophistication and increase in the types of business in the early industrial and especially industrial society, wider and wider application of achievements of science in production, management, warcraft required a new level of abilities, knowledge and skills from a wide circle of workers. It required formation of the system of general and special education, vocational training. These were primary and cloistral (church-parochial) schools, gymnasiums, lyciums, universities, and then a network of various vocational schools and institutes that trained engineering and technological personnel. In the manufactories and enterprises, the institute of apprenticeship connected with production survived.

Functional illiteracy and professional incompetence of workers increased considerably in transnational periods when the conditions of production and life changed radically. Millions of people changed their professions, because skills acquired before turned out obsolete. It served a stimulus to a qualitative change in the system of education, coming of a new generation of workers meeting the demands of the period by level of intellectual-professional store, abilities and skills.

A share of people who did not participate in the production of material benefits and services, but made an increasing demand for them based on the right of ownership, economic and non-economic coercion grew. Another motivation mechanism acts here — pursuit of accumulation of wealth, political and military might on account of intensification of exploitation of workers of production. Non-economic and economic coercion to labor exists in various periods completing each

other; however, their ratio is not equal. For feudal society, along with economic dependence (ownership of feudal to land), personal bondage of a peasant remained a prevailing element. It found its expression in different forms from a comparatively mild render to strong manifestations of serfdom. Various forms of economic coercion and hired labor existed.

In the early industrial society, the significance of economic forms for compulsion to labor increases when a worker is deprived of own means of production and has to sell its working power to make a living for himself and his family. The original accumulation of capital is connected with various types of violence, and in the village serfdom or softer forms of feudal bondage prevailed. In the industrial society, economic coercion becomes major, though it does not exclude the instances of forced labor (slavery in the USA before the civil war of 1864, death camps in fascist Germany and Stalin's GULAG, various forms of feudal and semi-feudal exploitation in colonies, etc.).

Religion also impels man to labor, there are such lines in Orthodox Christianity and Catholicism, while Protestantism (Calvinism) view it as sin, if man fails to implement the skills given to him by the supreme will through active labor. Creative stimuli to labor increased gradually, although they lost their positions in crisis, critical periods.

In the countries of the East where Islam, Buddhism, Confucianism (China), Shintoism (Japan) prevailed, there was own specific in the development of demands and abilities of man, his knowledge and skills, and motivation mechanism. Here individual vocations, abilities and interests, personal freedoms played a subdued, secondary role. The interests of the state, team were brought to the forefront, a family institute was stronger. All this inhibited the manifestation of individual abilities and talents and became one of the factors impeding social progress and colonial dependence of these countries.

6.2.2. Technological Overturns

The technological revolution of the medieval civilization evolved in Europe in the 11th-12th cc. from the overturn in agricultural and military equipment. During this period a transition from a hoe-based tillage to ploughlands using an improved plough completed. A three-field system and an improved plough became widespread, which together with the use of organic fertilizers contributed to the maintenance of lands fertility, more stable yields. The advance in

agricultural equipment gave more surplus produce, which served as a source for the development of cities.

Warcraft became another stimulus to a technological advance. Feudal wars were conducted nearly non-stop. Human mind was targeted at the invention of lethal weapons of attack and protection against them. With the advent of arbalests the range and power of heavy arrows was increased many times. Powerful knightly swords, sabres, Danish axes, daggers were used. The invention of powder in China and its spread around Europe generated a new class of weapon – fire-arms that improved fast. For a siege of fortresses a wide range of siege weapons – ballistae, catapults – were invented; the Byzantines used “wildfire” that filled the besieged with consternation. Powder charges began to be used for blasting fortress gates and walls. This impelled construction of more powerful fortresses and castles.

A fast growing demand for agricultural, military and construction equipment led to a breakthrough in mining, metallurgy, production of labor tools. Copper, iron ore and then coal were mined using pits. The practices for making cast iron, steel, copper, making necessary alloys, Damascus steel-making was invented. Forge welding, hot forging, heat treatment, art forging, inlaid work, bell casting were used. The development of trade and long-distance military campaigns impelled to make carts, coaches for the nobility, construction of paved roads and bridges across rivers. Multi-deck sailing vessels fitted with cannons were built. The use of compass made long sea and ocean voyages safer.

A mass application of water and wind mills the design of which constantly improved became the base of power revolution of that period; they were used in various productions as power sources. Europe, especially its northern part was dotted with windmills. A mechanical watch – from tower to clock – became the apex in the technological advance of that period. The invention of printing that followed the advent of paper became an overturn in technology for education and culture.

A widespread of craft guilds that united family craft workshops fostered the advance in crafts. The guilds promoted specialization of tools for craft labor, standardization of technology and manufactured items where the art of craftsmen took shape as well as expansion of cooperation in trade. However, a tough regulation and technological conservatism resulted in their impeding the advance of technology in the 10th c. Guilds gave place to the manufactories, whose advantage was the use of division labor in production.

The general technological revolution of the manufactory period.
The peak of the general technological revolution of the manufactory

period that formed the early industrial technological mode of production fell to the 16th c. Great geographical discoveries, development of international trade gave impetus to a rapid upsurge in shipbuilding that contributed to the revolutionary changes in the allied industries. Mastering of blast-furnace process and the application of coal ensured the abundance of cheaper metal. The influx of new sources of raw materials from the overseas colonies, mastering of efficient technological practices for its processing, expansion of markets with the increase in the number and income of population determined a fast development of woolen, cotton, glass, porcelain and other manufactories. The printing developed swiftly: the scholars already knew forty thousand editions by 1500, which became one of the tools for speeding up a technological advance, application of new scientific knowledge in practice.

The manufactory production of fire-arms, especially artillery, various guns and pistols was based on a new technological base. The armories, arsenals were set up. The navy fitted with powerful side artillery was formed.

A manufactory based on division of labor and specialized implements of production became the main form of organization of production. It prevailed till the end of the 18th in Europe and ensured a leap in the labor efficiency, development of mass manufacturing (the guilds could not cope with it), became the primary form in which capitalism was establishing itself, opened space for the application of technological improvements and a number of scientific thoughts.

The development of shipbuilding, great geographical discoveries, intensification of international exchange expanded the territorial borders of diffusion of technological innovations, fostered the convergence of the level of technological development of major regions of the populated world.

The technological revolution of the early industrial civilization contributed to the approach of science and technology, practical implementation of a number of scientific ideas and development of efficient ways of scientific cognition.

The forms of organization of production developed from family peasant and craft economy through the guild system to the manufactory established on the base of the division and cooperation of labor and specialized tools, which established preconditions for the emergence of machine-based production and a net of factories.

The industrial revolution and technological overturns in the 19th c. The industrial civilization with the technological mode of productions inherent to it originated from the industrial revolution of the end

of the 18th c. The advent of the spinning-machine, mule, and mechanical loom in the textile industry in England inaugurated the beginning of its overturn. A wide application of textile machines required the development of an engine. In 1784 **James Watt** created a steam engine with a flywheel, throttle and automated control, which could actuate textile machines with a constant speed. It enabled to improve sharply the labor efficiency, cut the cost of yarn and fabrics. From 1785 to 1850, the production of fabrics grew 50.6 times in England, and the price dropped 5.5 times; fabrics made a half of the British export. It is clear that handicraft industry could not compete with the industrial production, thousands of craftsmen were ruined.

The creation of machines opened opportunities for mastering new practices for making cast iron and steel using coke, mining of coal, the advent of rail transport and shipping.

In England, the beginning of the *second stage of industrial revolution* was laid when machines began to be manufactured using machines. Machine engineering appeared and began to develop rapidly, industrial technology acquired its own base, which made a technological structure of the industry more homogeneous and fostered its rapid growth.

In England, *the machine factory* emerged as an adequate form of the application of machines which replaced the manufactory. A new technology of machine production extended to all agriculture especially as it alone could become the source of additional hands for a vigorously developing industry.

Thus, England became the center of the technological revolution that transformed fundamentally the technological base of all spheres of economy and then spread rapidly in North America and Western Europe. It increased a gap in the technological level of economy between the leading countries and many countries of the rest of the world, where the pre-industrial technological modes of production prevailed.

The next *technological overturn evolved in the middle of the 19th c.* and became a logic continuation of the industrial revolution. Heavy engineering industry, production of steam-engines, construction of rail roads and shipping canals, steamboats became its core. Onstruction of railroads and navigable canals developed at high rates. Electromagnetism was discovered, telegraph, dynamo, gas engine were invented. The chemical industry developed vigorously. However, a previous technological mode of production still prevailed in many countries.

The *technological revolution of the end of the 19th- beginning of the 20th c.* was much greater in scale. *Power engineering* became its core: a transition from steam and coal to electricity and liquid fuel, mastering of practices for large-scale generation and transmission for distances of electric power, its use for actuating machines, means of communication and lighting, vigorous development of electric engineering, means of communication and lighting. Electrification of production processes and everyday life opened new possibilities for improvement of labor and rest conditions.

As a result of mastering of production and refinery of oil, getting a number of liquid oil products and their use in internal combustion engines, carriages of cargoes and passengers became considerably cheaper, new kinds of transport emerged (motor car, airplane). In their turn they revolutionized transport, gave impetus to the transformation of a number of allied industries. It was necessary to organize production of various type of quality steels and profiles of rolled metals, to develop non-ferrous metallurgy, which encouraged mining industry, prospecting, production, enrichment and processing of various types of mineral raw materials, increased the value of its deposits.

The advance of chemical industry permitted to set up a large-scale production of dyes, catalysts, medicines, mineral fertilizers. The application of the latter in agriculture together with tractors and a set of more advanced agricultural machines and agrotechnics became the basis of a technological overturn, enabled to considerably increase the yield of major crops, livestock yield, to increase the labor efficiency in the agricultural sector of economy and to release a considerable number of hands as a vigorously developing industry was in an acute need of them.

Achievements of science and technology became the basis of the next *military-technological revolution*. The advent of military aviation and tanks, creation of powerful navy, new types of explosive agents (dynamite), toxic gases, use of the means of radio communication — all this contributed to the escalation of arms race and established a material-technical basis of the first, and soon second world wars, where tens of millions of people died and great damage was caused to economy and culture of peoples of the world. The inventions of human genius turned against its creator.

Technological advance and machine-based production required qualitative changes in the structure and level of *qualifications of manpower*. The number of scientists, engineers, technicians who were directly in-

volved in the development, production and employment of sophisticated equipment increased sharply. Manpower qualifications requirements increased. All this led to the next *revolution in education*.

Technological overturns resulted in the increase of *labor efficiency*, many goods became cheaper (especially in new productions), the range of goods expanded sharply and the quality of goods improved considerably. The increase in efficiency of reproduction, level of life of most of population in developed countries occurred, although uneven by civilizations, countries and branches.

The scientific-technological revolution of the 20th century. For technological overturns of the 20th c., a close intertwining of two major driving forces of renewal of society's material-technological base — scientific intellect and its materialization in new generations of equipment was typical. This enabled to speak about a *scientific-technological* advance and its implementation in regular waves of transformations — *scientific-technological revolutions*. Any essential advance in technology was nearly impossible now without new scientific ideas and their technological elaboration. But also a scientific advance was unreal without latest instruments, means for processing of obtained data. The trend to a mutual penetration, merging of science and production, their integration prevailed.

The regularity of a cyclical dynamics of science and modes of production of equipment, change of generations of machines and technological modes manifested itself more clearly. The structure of a single scientific-technological cycle — medium- or long-term organically included the phase of birth and technological elaboration of a new scientific idea (scientific discovery, major invention) underlying the innovation, new generation or direction of technology.

The first scientific-technological revolution that has become the base for formation and diffusion of the fourth technological order evolved in the 50s-60s years of the 20th c. in the developed countries, although its initial scientific base had been established as a result of a number of major scientific discoveries and inventions several decades before. It originated from major discoveries in chemistry, biology, and engineering sciences. The first STR was based on the leading scientific-technological directions: atomic energy; quantum electronics, creation of laser technology, electronic energy converters; cybernetics and computing technology, creation of first generations of computers.

The machine tools with a stored-program numerical control and processing centers, automated lines and automated production and enterprise control systems were created. Atomic power engineering

began to force out or narrow heat-and-power engineering. Synthetic materials — synthetic resins, plastics, and chemical fiber developed vigorously. Jet engines were mastered that led to a breakthrough in aviation. The technologies for continuous casting of steel were invented. Conquering of space by man as a result of synthesis of a number of scientific-technological directions: mathematics and astronautics, control theory and computers, metallurgy and instrument engineering, rocketry and optics became the top scientific-technological achievement of the 20th c. A technological advance began to be widely assimilated in a day-to-day life.

Successes of chemistry found expression in the discovery of new ways for synthesis of materials with pre-designed properties, creation of herbicides and pesticides. The achievements of biological and medical industries became the basis for production of vitamins and medicine. The creation of atomic and thermonuclear weapon of enormous destructive force, carriers of such missiles that are able to deliver them to any point on the earth, production of new generations of aircrafts, helicopters, tanks, artillery, automatic small-arms weapon, more sophisticated classes of naval vessels, nuclear submarines — all these achievements of the military-technological revolution of the mid-20th c. brought humankind to the brink of annihilation.

The ***second scientific and technological revolution*** that evolved in the last quarter of the 20th c. and inaugurated a transition to the fifth technological order became the base for overcoming crises (energy, ecological, economic) in the 70s.

The synthesis of three base scientific-directions: microelectronics, biotechnology, and informatics, became its nucleus. The creation of large-scale and super large-scale integrated circuits opened the path for microprocessor technology, miniaturization and increase in the independence of technological systems, resource saving. The opportunity to decipher and change the structure of hereditary substance through gene technology enabled to design the stock of bacteria with properties beneficial for man, to create fundamentally new technological processes and matters. New information technologies, sophisticated means of gathering, processing, transmission and use of information opened new horizons for cognition of sophisticated processes in nature and society and their regulation.

The base directions of the second STR underlie qualitative transformations in all spheres of production equipment. The development of programmable production, robotic technology, flexible production systems, automated designing opened the way for complex automa-

tion. The depletion of conventional power resources and their extreme environmental hazard impel to search for and master non-conventional power sources (solar, wind, high and low tides, etc.).

The age of iron that dominated as a major structural material almost within three millennia is coming to an end. The priority was given to the materials with pre-designed properties – composites, ceramics, plastics, synthetic resins, items of powder metal. Fundamentally new technologies were mastered – geobiotechnologies in production of raw materials, which are low-waste and non-waste in their processing, membrane, plasma, laser, electric pulse, etc.

The radical changes occurred in the technology of communication and transport. Optical fiber communication lines, satellite, facsimile, cellular communications are making a real overturn in this sphere. A number of fundamental innovations appeared on transport (air cushion vessels, airfoil boats, electric cars, etc.).

The second STR determined radical changes in the forms of organization of production. Small and medium businesses with a flexible and fast convertible production that unite in consortiums, associations, finance-and-industry groups find their niches. This facilitates the quick response to changes on the market, reduces overheads.

The application of computers (especially of personal computers) and information technologies allowed to automate refined and sophisticated production control processes, economy and social processes, improve the validity of decisions made, assure control over quality of products and implementation of decisions made.

Fundamentally new means of medical equipment and medicines are obtained using biotechnological methods, perfect means of diagnostics and treatment are created. Computerization and informatization helps to intensify educational process, promote attention of students. Various means of household radio electronics changing everyday life of families are created.

A technological advance and environmental crises. Each subsequent technological mode of production meant the next step of mankind towards incorporation of natural productive forces in reproduction, a greater impact on the environment.

In the periods of the genesis of feudalism and medieval civilization, these tendencies declared themselves to a less extent, although numerous feudal wars caused damages to the environment. However, in the periods of the early industrial and especially industrial civilizations the picture changed drastically.

New natural productive forces were made to serve man. Coal and steam power, then oil products, natural gas and electric power became the source of energy. A range of products made of mineral raw materials and timber, the scale of the involvement in production expanded. Mining industry and agriculture that stood near the cradle of productive economy got the second wind.

At the same time the aim to harness nature bore more and more tangible negative results. The best mineral deposits were depleted predatorily, forest areas were deforested, water sources and air were polluted. Environmental catastrophe threatened a number of industrial areas. It caused the government and international community to take steps for toughening environmental standards, reducing industrial emissions, replacement of most scarce types of natural resources. A technological gap between local civilizations increased. It was noted by **Paul Kennedy**: “As a result the incompliance between countries that have wealth, technologies, high level of health care, and other population that has no or nearly has not such benefits increases. A demographic explosion in the one part of the planet and a technological outburst in another do not contribute to the establishment of a stable world order.” [37. P. 387].

6.2.3. Economic Transformations

Feudal economic system. The feudal economic mode of production that replaced ancient was characterized by a greater independence and interest in the results of his labor of the major figure in production — bonded *peasant*. He had a small plot of land and means of production for its farming, but he had to give a surplus produce to the feudalist as a feudal rent (as work, natural or money), and also to pay taxes to the state and church (“dime”). In the village, a natural-patriarchal order prevailed.

Feudal property was multi-level. Small feudalists and warriors of the armed force served to large, and in their turn, they deemed the king (tsar, shah, emperor) as their suzerain, supreme proprietor. In the period of absolutism centralization of property relations intensified.

Free cities occupied a considerable place in medieval economy. They were carriers of a specific system that may be viewed mixed, feudal-capitalist. Feudal nobility and church, the influence of state power were strong here, but at the same time small craftsmen and merchants

prevailed, economic power was with big merchants, heads of guilds, bankers; a freedom-loving spirit was maintained by scientists, writers, actors and artists. In free cities, petty economy prevailed.

The nascent and spread of capitalism. In the cities, the elements of capitalist order germinated — trade, bank and industrial capital based on manufactories. Hired labor was used more and more widely at the manufactories. In the early industrial society, the original accumulation of capital occurred on a large scale.

The final victory of the capitalist system over feudal was reached at the beginning of the 19th c. in the developed countries of Europe. It became possible as a result of the industrial revolution and a series of bourgeois revolutions. This was the century of the flourishing of capitalist mode of production. Capitalism established itself in many countries of Europe, North America, involved many countries of Asia, Africa, and Latin America as colonies and semi-colonies.

Sweeping all barriers on the way of accumulation and mastering of machine technologies resting on powerful impulses of entrepreneurship and competition, having ensured a high mobility of capital that in pursuit of profits flooded to new industries and regions, capitalist system ensured high economic growth rates and ultimately essential improvement in the level of life in developed countries. The GDP increase rates grew from 0.32% in 1500–1820 in average in the world to 0.93% in 1820–1870, 2.11% in 1870–1930 and 4.9% in 1950–1973 [126. P. 260].

The capitalist order passed several steps in its development, flexibly changing its forms and mechanisms. First it germinated in the sphere of circulation (trade and usurious capital) and through the original accumulation therein, then capital swept into production, thus transforming radically its economic conditions. First *individual private capital* prevailed when capital property and capital function were merged into one; the owner was an active entrepreneur himself. But then the demands of large investments (in metallurgical and engineering plants, rail roads, canals, etc.) exceeded the opportunities of individual capitalists. The time of *share capital* came. Capital property and capital function divided: hired managers began to manage production bringing profits to owners-shareholders.

Monopolistic capitalism, which permitted to concentrate huge capitals in new capitalist branches, to ensure the conditions of expanded their reproduction and to gain high profits using monopolistic prices, became the next stage. Making monopolistic profits in a number of leading industries due to re-distribution of added value became an eco-

conomic necessity; otherwise it was impossible to implement large scientific-technological and investments projects and to satisfy the demands of expanded reproduction. But negative sides of monopolism immediately become apparent: monopolies are not interested in base innovations until the invested capital is returned; monopolistic prices allowed to get super profits even under a low efficiency of production. In the period of the downfall of industrial society *state-monopolistic capitalism* became spread, which included merging of monopolies with the state machinery, using of the budget for the maintenance of monopolies in the priority industries. The formation of *transnational capital* became the finishing touch of transformation of property – hundreds and thousands of powerful transnational corporations (TNC), which under globalization conditions control more than a half of the world's GP and generate huge profits, not taking national interests into consideration.

Dynamics of the structure of feudal-capitalist economy. In the period of the medieval, early industrial and industrial civilizations radical changes occurred in the structure of economy, major reproductive and sectoral proportions, relations of technological and economic orders.

The dynamics of the structure of economy of world civilizations of the second historical super cycle based on a reproductive-cyclical macro model (see: *Chapter 8, Fig. 8.2*) manifests the following tendencies (16. P. 133–134).

1. In the *reproductive structure* there was a considerable drop of a share of products intended for personal consumption, mainly due to increase in the share of intermediate product, services of market infrastructure and products for government consumption (militarization of economy, a growth of state property and bureaucratic machinery). A share of an intellectual product increased due to a many-time increase in the number of people engaged in science, education and culture.

2. The *sectoral structure* of economy changed sharply. While agriculture and the branches processing its products had dominated in the transitional period in the medieval society, then by the middle of the 20th c. a share of agriculture had dropped sharply, while labor productivity in agriculture had increased. It allowed releasing a large number of workers, who moved to cities and worked on plants and factories. In the developed countries, a specific weight of mining industry reduced considerably.

3. In the *hierarchal structure* of economy a share of home economies dropped many times, on the account of which a major part of family demands in foodstuff was satisfied in the middle of the first millennium. A share of individual production increased at small and large en-

terprises producing goods and services. A share of national production began to grow rapidly from the medieval civilization, and from the end of the industrial period — international (transnational) capital.

4. Dynamics of the *technological structure* of economy reflects a change of technological modes of production and orders. In the transitional period relict technologies prevailed inherited from previous civilizations.

In each next civilization a technological mode of production inherent only to such civilization prevailed, while the remains of the previous survived and the beginning of next modes of production emerged. The dominating technological orders changed periodically.

5. *Economic structure* changed radically, the relations of various forms of property. While a transitional period to feudalism was characterized by a recrudescence of communal and petty private property, then a share of large private property increased. A share of state property first dropped, but in the period of state-monopolist capitalism grew again, and in socialist economy it became prevailing. A share of petty private property reduced, but it still kept its positions in agriculture and the sphere of services.

6. Dynamics of the *value structure* is described by an increase in a share of depreciation and material inputs (as a result of increase of technological and organic structure of capital) and a product re-distributed through channels of social consumption (for needs of public health, education, payment of pensions). It occurs at the expense of a considerable drop in a share of payment of workers and government consumption (military expenses, maintenance of the state machinery), which became a possible as a consequence of many time increase in labor efficiency.

Triumph of market. At the stage of the genesis of feudalism market was thrown back against the level attained in the period of the ancient civilization. Such regress was observed to a great extent in Western Europe and other territories formerly owned by the Western Roman Empire where cities were ruined or were in decline, craftwork and trade, monetary systems were undermined, the trade routes established by centuries were broken. Such break of trade links with the ancient world damaged greatly Byzantium, India, and China.

However, already in the period of the prosperity of *medieval civilization* market mainly restored its position. Its geographical boundaries expanded — it embraced nearly whole Europe, a larger part of Asia, and North Africa. New trading centers emerged — free cities, the forms of trade developed further, previous trade links were restored and new

established, routes for dialogue and commodity exchange among civilizations (the Great Volga Road, the Road from the Varangians to the Greeks, etc.).

These achievements were much surpassed by *early industrial* civilization. Commodities exchange, a network of banks emerged. The international trade (especially with India, and then with America) brought a huge influx of riches, led to the “revolution of prices” in the 16th c. The original accumulation of capital that was mainly in trade opened the path for its penetration in production, for establishment of capitalist manufactories.

The revival of *fairs* became a large phenomenon of medieval Europe. Thousands of sellers and buyers gathered there, transactions made, credits extended. There were hundreds of fairs – in small and large cities. Many of them were specialized. However, from the 12th c. they gave place to the wholesale trade.

Stock exchanges became the highest form of the development of trade where large lots of homogeneous goods were traded without their physical delivery to the place of sale. The stocks began to set up from the 15th c.: 1409 – in Brugge, 1460 – in Antwerp, 1462 – in Lyons, 1530 – in Amsterdam, 1554 – in London, 1558 – in Hamburg, 1563 – in Paris. At the stock exchanges traders (but more often their agents – stock exchange brokers) executed commodity and bill dealings, insurance transactions.

A real *triumph of the market occurred in the industrial period* when capital covered the sphere of production to a full extent, especially industrial, transformed it on the base of scientific technologies and requirements of a vigorously growing market. Industrial capital took the leading place and ousted trade and bank capitals, and by the end of the 19th they merged forming financial capital. Market relations permeated into society, leaving only a narrow niche for family economy; manpower became the main good released from feudal cords and its own means of production. The market surmounted narrow local framework, became a great integrator first of national, and then world economy.

However, from the 20th c., in the period of decline of the industrial civilization, a free competition of independent commodity producers began to be replaced by monopolist, and then state-monopolist regulation, and at the end of the period – the dominance of transnational corporations.

“Market managed by nobody is a driving mechanism of all economy – noted **F. Braudel**. The growth of Europe and even all the world was as if a growth of market economy, didn’t stop expanding its sphere,

embracing more and more people, more and more near and distant trade operations by its rational order, which all together led to reaching peace. In ten instances against ten exchange generated simultaneously supply and demand, orientating production, causing specialization of vast economic regions of that time for the sake of own survival associated with exchange that became necessary... In general, exchange connects economies with each other. Exchange is a connecting link, a hinge. And price conducts at dealings between buyers and sellers". [12. P. 214-215].

Along with commodity market, *money market* evolved from civilization to civilization assuming more and more sophisticated forms. In the period of the genesis of feudalism and at its earlier stages commodity exchange was served by various money systems based on precious metals. They performed the functions inherent to money — a measure of value, a medium of exchange, payment, saving (accumulation of wealth), and world money. Expansion of international trade demanded the increase in a number of exchange offices and delegating them the functions of banks.

A constant shortage of money for conduct of wars and meeting the needs of royal courts and fisc caused falsification of money by the state, introduction of paper money. The state began to issue paper money beyond the boundaries determined by laws of money circulation, thus creating an inflation mechanism. The functions of issue of money and supervision over money circulation were gradually transferred to the state banks that began to set up from the 15th c.

A bill was invented, then shares, bonds appeared, a special kind of market emerged — *securities market*; banks and exchanges dealt with them. The first stock exchanges were set up at the beginning of the 17th c. in Amsterdam. But the stock market assumed wide scope in the 19th c. after joint-stock companies issuing shares were established. At the end of the 20th with the development of globalization, world financial centers were formed.

Socialist planned economy. The formation of socialist planned economy — first in Russia (USSR), Mongolia, and in the second half of the 20th c. — in the countries of Eastern Europe, China, North Korea, Viet Nam and Cuba became a considerable event in the dynamics of late industrial economy.

A socialist experiment was one of the variants of response to contradictions of capitalist economy. Its major features:

➡ liquidation or reduction to minimum of private property, concentration of fixed assets of production with the state: unconditional priority of state-socialist system;

➔ restriction of the market, transition to a planned economy in the attempt to avoid market spontaneity and economic crises, centralized price setting;

➔ priority development of the heavy industry and military-industrial complex: militarization of economy;

➔ centralization of resources of economic and social development, state financing of investments, innovations, science, culture, health care, and education;

➔ Ensuring a considerable part of expense for reproduction of manpower and development of the sphere of spiritual reproduction for account of social funds of consumption, minimization of unemployment and polarization of income;

➔ monopoly of foreign trade, separation of national economy from world.

In crisis situations, the socialist model of economy proved to be correct. It permitted to implement industrialization in the USSR in a short space of time and stood up in World War II against industrial power of nearly all Europe, restored fast national economy, ensured the military-technological parity with the NATO. Many elements of planning and social orientation of economy were taken by developed and developing countries.

However, by the end of the century, under conditions of a peaceful competition with capitalist economy and a scientific-technological overturn, the failure of the socialist model declared itself. An extreme centralization and bureaucratization of economy hedged the initiative of entrepreneurs, impeded the assimilation of innovations; militarization of economy was done at the expense of lagging in consumer industries and a lower level of life of most population, a constant shortage of goods was observed; isolation from the world market restrained modernization of economy.

For overcoming this failure the reforms of two major types were undertaken. In the countries of the former USSR and many countries of Eastern Europe the reforms were directed at the refusal from socialist planned economy, at the return to spontaneous-market capitalist economy, its opening for the world market. As a result a shortage of goods was surmounted, but national production was curtailed to a great extent, prices went up many times, the structure of economy was deformed, the tendency to a technological degradation of economy was observed. As a result of fast privatization a considerable portion of national wealth was transferred to a narrow group of oligarchs, unemployment increased, a level of life of most population declined. A drop in production and investment was record for a peaceful time. It required the adjustment of the

Table 6.1.

Long-term scientific cycles of the early industrial and industrial civilizations

Cycles	1st	2nd	3rd	4th	5th
Chrono-logical period	1691–1760	1761–1830	1831–1894	1895–1944	1945–2000
Duration, years	70	70	64	50	50
Leading countries	England, France, Russia, Sweden	England, France, Germany, Russia	Germany, England, France, USA, Russia	Russia, USA, France, England	USA, USSR, Japan, EU
Key directions in science	Electricity, chemistry, botany, philosophy, law	Engineering sciences, chemistry, political economy	Biology, chemistry, electricity, economy	Physics, genetics, chemistry, sociology	Atomic physics, cybernetics, biology, sociology
Major scientific discoveries	Theory of electricity (Gray, Franklin), French encyclopedia	Kant-Laplace's cosmogonic theories, Lavoisier's theory of combustion, theory of value	Theories of evolution, cells, electromagnetic theory, Marxism	Theory of relativity, quantum theory, atomic structure, genetics, cyclical dynamics	New elementary particles, lasers, socio-cultural dynamics
Organizational forms of science	Academies, universities	"Lunar Society" of English scientists, Royal Institute	British Association, research societies, scientific research laboratories	Research institutes and laboratories, research centers of monopolies	State research centers, research and production unions, TNC research centers

course of reforms that could allow transferring to the revival of economy. The data on the tendencies in economy of the USSR and Eastern European countries against the world tendencies are given in *Table 6.1*.

*If in the first half of the 20th c., despite two heavy wars, the GDP rates in the USSR exceeded world average (2.9 and 2.2%), and in the 50s this gap increased considerably (7.8 and 5.0), then in the next decades lagging grew. In the 90s as a result of neo-liberal reforms and disintegration of the USSR a leap backward was made: annual average

GDP setback rates made 6% to the increase of 2.6% in the world in general. These data demonstrate the inefficiency of both state-bureaucratic, centralized planned economy and such variant as spontaneous-market capitalism that established itself in the post-Soviet space.

The model of planned-market economy (market socialism) prevailing in China and Viet Nam and following the ways of the Russian NEP has proved its efficiency.

In China and Vietnam they chose another type of reforms: they were targeted at the evolvement of market economy and entrepreneurial initiative, expansion of ties with world economy under the maintenance of state sector, strategic planning and state regulation. Such course of reforms allowed to ensure high stable economic growth rates and improvement of the level of life of population, to establish preconditions for the formation of mixed economy of market socialism.

6.2.4. Evolution of Socio-Political System

Social-political cycles of feudal-capitalist period. Three super long-term (century) cycles may be distinguished in the dynamics of socio-political relations for the last century and a half — the period of the second historical super cycle.

The first cycle embraced approximately eight hundred years (middle of the 5th — middle of the 13th c.) — the period of the establishment and spread of the medieval socio-political system, formation of social forces and political institutions of feudalism based on a gradual transformation of the former society (Byzantium, China, and India) or its destruction and a synthesis with barbarian tribes (as a result of the downfall of the Western Roman Empire).

Another way was the formation of the feudal socio-political system based directly on the transformation of tribal and clan relations (that had already evolved to a certain extent at the stages of the Bronze and Iron Ages) without slave society. Such path is typical of most population of North Europe, Scandinavia, Baltic states, and Slavic peoples. In both cases, the genesis of the feudal socio-political system completed with the formation of two poles — feudalists-landowners who were headed by the supreme feudal (king, tsar, emperor, caliph, etc.) and land bonded peasants, and also craftsmen, merchants, warriors, ministers of religion and people of creative professions. The specific feature of the first cycle was a strong influence of church hierarchy on the socio-political and state-legal institutions. The last phase of this cycle

was characterized by a growing feudal disunity, plenty of wars and the disintegration of large states formed before.

The second socio-political cycle embraces a five-hundred year period from the middle of the 13th c. to the middle of the 18th c. This is a period of spread, prosperity and crisis of the feudal social and political system, formation of absolutism in many states (in France, Spain, England, and Russia), establishment of colonial empires (Spanish, French, and British), formation of a strong class of bourgeoisie. Its claims for political leadership found their expression in the Netherlandish and especially in English bourgeois revolutions. Church was the largest socio-political force in this period that owned the richest lands, collected a “dime”, strived for the leadership over civil rulers.

The third super long social-political cycle embraces the period from the last quarter of the 18th c. (from the War of Independence in North America and the Great French Revolution) up to the end of the 20th c. It was the period when the industrial world civilization prevailed. It is possible to distinguish several phases within this period (long-term socio-political cycles, similar to Kondratieff's in many ways):

1775–1830 – the beginning of the establishment of the bourgeois political dominance as a result of the War of Independence in North America and emergence of the USA, Great French Revolution and Napoleon Wars, revolutionary upheavals of 1830;

1831–1870 – a fast spread of bourgeois socio-political system, formation of national states in Germany and Italy, liquidation of slavery and strengthening of the feudal state in the United States as a result of the civil war of 1861-1865, beginning of the evolvment of movement of workers (1st International, the commune of Paris), establishment of bourgeois democracy in most European countries;

1871–1913 – the phase of prosperity of the bourgeois socio-political system with confrontation of capitalists and hired workers inherent to it and represented by mass parties; transformation of capitalism into imperialism, completion of the division of the world and beginning of struggle for its remaking among colonial empires;

1914–1945 – the beginning of crisis of socio-political system of industrial society that found its expression in two world wars, waves of socialist and national-liberation revolutions, formation and defeat of totalitarian states in Germany, Italy, and Japan, a sharp aggravation of social antagonisms;

1945–1973 – development and aggravation of crisis of industrial socio-political system, formation and confrontation of two world systems, two military blocks, a disintegration of the colonial system and

the emergence of tens of independent states of the “third world”, a series of local wars, “cold war”, arms race that brought on the brink of a nuclear catastrophe;

1974–2000 – struggle between two world systems (with local wars), crisis, and then the disintegration of the world system of socialism and its leader – USSR, beginning of local clashes among civilizations, spread of bourgeois democracy, development of crisis of a socio-political system of the industrial civilization.

Thus, in social-political sphere it is possible to distinguish long-term and super long-term cycles, interconnected with technological and economic cycles and inflowing together with them to the general flow of cyclical fluctuations of historical process.

Transformation of social structure. *Medieval society* inherited a quite complicate social structure from the ancient civilization. It preserved its main features and was modified only by social groups of the feudal system. In a transition from the tribal-clan system to feudalism without slavery the process moved on by the line of sophistication of the social structure.

The gamut of social relations was quite motley in the medieval period. The class of *feudalists*- landowners, upper crust of church, military commanders were on the top of the social scale of rank. Their main occupations were the administration of the state, war, collection of taxes, rent, etc. necessary for it. The feudalists were surrounded by a numerous army of warriors, servants, tendance, and officials. *Peasants* who owned plots of land for own subsistence and obliged to give a part of the yield to feudalists or money in the form of a feudal rent, to supply soldiers outfitted with weapons, to subordinate to the feudal court and to meet many others duties were on the opposite pole. The degree of personal bondage of peasants was different in various civilizations and countries and in various periods.

In the cities the propertied upper crust (higher administration, landowners, large merchants, heads of craft guilds, judges, and bankers) was opposed to a numerous section of free citizens (craftsmen, petty merchants, and householders) and dependent, deprived of the right to vote apprentices and trainees, servants, and the beggars. By the end of the Middle Ages the classes of bourgeois society – hired workers and capitalists-entrepreneurs – were formed in large cities.

The belonging to this or that religion – Christian, Islamic, Buddhist, Judaic, etc. – was of great significance in social stratification of the middle ages. A typical feature of the Middle Ages was a religious intolerance that was the reason for numerous conflicts and wars.

Social conflicts led to peasants and city rebellions and revolutions, numerous and protracted feudal wars. There was no social peace in the medieval period.

The formation and spread of *bourgeois socio-political system* in the 16th-19th cc. led to radical changes in the structure of society. The class of *capitalists*, quite inhomogeneous in its structure, occupied the top of the social hierarchy. Trade and finance capitalists, who had accumulated huge wealth and invested it, when it became profitable, in manufactories and factories, agricultural and construction companies, banks, made its core. A part of landowners were engaged in entrepreneurship, set up manufactories and large agricultural businesses based on hired labor.

The class of *landowners* (landed classes) kept its positions for a long time, but transformed gradually into the element of a social hierarchy of a bourgeois system, taking in their favor a part of generated added value in the form of rent (land, mining, forest, water, and city).

Working class that lived by selling their manpower was also inhomogeneous. A small section of working aristocracy — highly qualified workers, guild senior men, trade leaders — was not much different from the lower sections of bourgeois in terms of the property situation. The main bulk of workers who had necessary level of qualification and lived by selling their manpower, were exploited heavily. Semi-proletarians and seasonal workers maintained their plots of land, which reconciled with a low salary. Lumpen proletarians made their living by odd jobs.

The *peasantry* changed. It included a section of agricultural bourgeoisie, which unlike city continued to directly participate in production; the major bulk of peasants, petty independent commodity producers who satisfied their needs on the account of their own economy (they included agricultural craftsmen); rural poor, proletarians and semi-proletarians, field-hands who made their living by selling their manpower, but often had a small plot of land for a partial satisfaction of their family needs in food.

A quite considerable stratum of the *city petty bourgeoisie* was formed featuring craftsmen, petty merchants, owners of small restaurants, hotels, hairdresser's parlors and other tertiary businesses. They were engaged in small business, owned means of production, lived mainly on sales proceeds from goods and services, paid various taxes; sometimes they hired several workers — full time or partial.

In the industrial society, a fast growing section of *intellectuals* — scientific and engineering (scientists, designers, engineers, agronomists, and technicians), art (architects, painters, artists, musicians, etc.), economic (managers and employees of enterprises) was formed.

A special emphasis should be laid on the section of *officials* who served the bureaucratic state machine, got paid for that and after retirement got pensions.

Military men made a considerable social section, and first of all numerous officers and generals. They occupied a special position in society, were mainly recruited from aristocracy and bourgeoisie and were the support for the ruling upper crust, changing it from time to time, and sometimes establishing open military dictatorship.

In the *socialist* variant of the late industrial society, a social stratification changed radically. Landed classes, capitalists, kulaks, clergy were liquidated not only economically and legally, but physically to a great extent. The working class was proclaimed a hegemon, but in actual fact, it turned into the class exploited by the state-bureaucratic machinery. As a result of forced collectivization the peasantry was deprived of the major part of land and means of production and worked on the collective farm fields for a nominal remuneration making the means of subsistence through subsidiary husbandry. The intellectuals grew in number due to a large number of engineers, designers, scientific workers, education, and culture, but it was practically a rightless social section. A new ruling class comprised the party-state functionaries, top of the army, state security bodies, and directors of large enterprises formed on the top of the social pyramid. It was this class resting on the party-state machinery and punitive agencies that actually disposed of “property of whole people” and cooperative property, appropriated a surplus produce, governed society, and suppressed mercilessly the opposition and dissent. All the rest of sections of society were equal in lawlessness.

The evolution of the state and law. The *state* is the center of political power resting on the system of legal norms, bodies of power and administration, army, machinery of ideological influence, and its economic power. Civilizations of the second historical super cycle were characterized by an increasing role and power of the state, although this process proceeded unevenly.

In the countries of the East, the state traditionally had unlimited dominance over personality, only ruling dynasties changed each other — masters of human fates. Such system was also typical of Byzantium, although the state power was considerably undermined in the genesis period of feudalism, mainly due to ongoing incursions of barbarian and early feudal states, and later — crusaders.

Being formed on the basis of barbarian tribes the kingdoms were originally based on the principle of military democracy under a strong

centralized power of a military leader with a small regular armed force that rested on the levy en masse from free community members. The elements of military democracy gradually became the past; the functions of the supreme ruler (king, duke, emperor) enlarged. He rested more and more on the regular army, state machinery, rules of law, proclaimed himself the supreme landowner.

These tendencies had to meet a growing counteraction of both the masses and the merchantry gaining strength. In the 14th-16th cc. strong *national states* were formed again. The prevailing form of state power of that period was monarchy of representatives of nobility, a peculiar feudal democracy. Each estate sent its delegates to a representative authority (parliament, general states, and the Zemsky Cathedral), which discussed political issues of great significance, and sometimes elected or removed the monarch.

As a counter to feudal sovereignty strong bureaucratic machinery was formed, centralized army established. Law was developed that was based on a special role of the royal power as a carrier of sovereignty of a nation. It was a step from chaos of feudal disunity to the orderliness of mature feudal society that ensured conditions for the development of market, formation of preconditions and elements of bourgeois society.

The next stage of the development of statehood is the establishment of *absolute monarchies* in many European countries (from the end of the 15th c.). The formation of large national states (France, Great Britain, Rech Pospolita, Muscovy, Ottoman Empire) promoted it, strengthening of monarchy power and weakening of the role of representative-estate bodies).

However, the period of balance of political powers was not lasting. Already from the 17th c. (and in the Netherlands — from the second half of the 16th c.) the *crisis of absolutism began* under pressure of strengthened bourgeoisie, which got economic power and demanded a relevant place in the political arena. The English bourgeois revolution of the middle of the 17th c. made a strong strike at the feudal political system when the king was executed under the sentence of the parliament as a symbol of the absolute power. The monarchy restored after the Cromwellian wars had a purely representative nature. The Great French Revolution inflicted a decisive defeat of absolutism, when the king was also executed and as a result of wars and repressions a considerable part of feudal aristocracy was destroyed. The proclamation of **Napoleon** the Emperor who restored a number of signs of absolute power had another social content: it was a form of dictatorship of victorious bourgeoisie.

The restoration of the Burbons, union of reactionary monarchy forces in Europe, convulsive attempts to preserve autocracy in Russia, easing it with liberal reforms, and protracted absolutism of the Ottoman Empire could not already stop the victorious establishment of a new political system: *bourgeois democracy*. The President republic in the USA, parliamentary republic in France and constitutional monarchy in the UK became its typical examples.

The recognition of equality and freedoms of all nationals underlies the bourgeois democracy, surmounting of feudal-estate and caste limitations for separate groups of population, legal advocacy of personal and property rights, elimination of discrimination by race, nationality, religion and other distinctions, granting the right to each national who reaches a certain age to elect and be elected to central, local and municipal bodies. The separation of powers is a key principle of bourgeois democracy — legislative (representative), executive (reported to the parliament) and judicial (judges are independent and obeyed only to law).

A transition to monopolistic, and then to the state-monopolistic stages of development of capitalism increased the concentration of power in the hands of the upper bourgeoisie, limitation or transformation into the formality the fundamentals of bourgeois democracy that under conditions of nationwide crises led to a series of revolutions and establishment of unvarnished dictatorship. It was best-manifested in the establishment of *totalitarian states* — fascism in Germany and Italy, authoritarian-repressive regime in the USSR, and then in many other socialist countries, and also in a number of liberated countries of Latin America, Africa, and Asia. With all difference of ideological directives and social base of these states, they had a lot in common in the state-legal system, making them fundamentally different from bourgeois democracy. All plenitude of the power was concentrated in the hands of the ruling upper crust, centralization of state administration and militarization of the country came to extreme degree. Arbitrariness in law reigns, repression is widely applied. Totalitarian states based on violence, rightlessness of population were short-lived. But in the countries of western democracy the tendencies towards monopolization of power by the ruling elite, intensification of militarism, limitation of rights and freedoms of nationals are observed in the period of the sunset of the industrial civilization.

The remaking of state-legal systems performed at the end of the 20th c. led to the downfall of the socialist system in the USSR and Eastern European countries, spread of bourgeois state-legal institu-

tions with their pluses and minuses.

The waves of wars and revolution. The second historical super cycle was extremely rich in social upheavals. Wars and revolutions swept over like waves involving individual civilizations, and by the end of the industrial period — nearly all the world.

Wars changed their nature from period to period. In the period of the *Middle Ages* these were mainly feudal and religious wars. Numerous feudal wars devastated countries, ruined productive forces. Wars assumed a protracted nature: the Hundred Years' War between England and France (1337–1453), the Thirty Years' War (1618–1648), in which nearly all European powers were involved. The discovery of America, conquering of India caused a series of colonial wars, and then a fight for the re-division of colonies.

The crusades were the most vivid manifestation of religious and cross-civilizational wars, Reconquista — a struggle of Christians with Moslems for liberation of Spain, and also a series of military campaigns of the Mongolian civilization in Europe and Asia.

In the *early industrial society*, colonial wars between forming empires came to the forefront, and in the period of industrial world civilization. In the 19th c. in Europe the Napoleon Wars of the beginning of the century were large clashes of the *industrial period*, the Crimean War of the middle century and the Franco-Prussian War of the beginning of the 70s. The sunset of the industrial civilization of the 20th c. was crowned by two bloodiest world wars in the history — first in 1914–1918 and second in 1939–1945. The second half of the 20th c. was characterized by the “cold war” between two world systems and a series of local wars. The creation of weapons of mass annihilation made world wars senseless as there can be no winners.

Wars became more and more destructive from century to century and were accompanied by a loss of tens and hundreds of thousands, and then millions of soldiers and peaceful citizens, and destruction of economy and culture.

The end of the 20th c. was characterized by a tendency towards the weakening of military confrontation, reduction of military expenses, and attempt to destroy most murderous types of weapons of mass annihilation.

Waves of revolutions — social, targeted at the change of political system, coming to power of a new class, and national-liberation targeted at liberation from colonial dependence occurred from time to time. The largest revolutions of the feudal-capitalist period included the Netherlandish revolution of the 16th c., English revolution of the

17th, French revolution of the end of the 18th c., revolutions of 1848, in a number of European countries, the Commune of Paris of 1871, revolution in China in 1911, Russian revolutions of 1905 and 1917, a series of national-liberation revolutions after World War II. At the end of the 20th c. wars were connected with the replacement of the socialists system by capitalist in the USSR and Eastern European countries, a disintegration of federative states (USSR, Yugoslavia), and local clashes among civilizations (Lebanon, Afghanistan).

6.2.5. Dynamics of Spiritual Sphere

Accumulated knowledge, achievements of culture, religious beliefs, and standards of morality are modified and are transmitted from generation to generation. A millennium and a half ago after the downfall of the Roman Empire has become the period of the enrichment of spiritual world, revolutions in science, culture, education, achievement of power — sometimes even dangerous — of human thought.

Scientific revolutions and scientific cycles. The achievements of scientific thought of the ancient civilization laid the foundation of a further evolution of cognition. The decline in intellectual activity in the transitional period, the dominance of scholastics in the middle ages was replaced by accumulation of preconditions for a great scientific revolution of the middle of the 15th — end of the 17th c.

The *Byzantine science* was a direct heir to the science of the Greek-Roman world. Traditions of Plato and Aristotle were continued in Constantinople, the school of philosophers-neo-Platonists emerged. Special attention was paid to applied branches of knowledge directly connected with medicine, agriculture, crafts, construction, and warcraft.

The typical tendency of the medieval science of the 11th -12th cc. was an attempt to make a synthesis of Aristotle's doctrine that rapidly gained the authority among the scientists of that time, with catholic theology, and development of scholastics.

The *great scientific revolution* of the middle of the 15th-the end of the 17th c. became a turning point in the dynamics of scientific cognition. The time came for the formation of a new scientific paradigm of the world which would be free of non-scientific dogmas and based on the generalization of accumulated facts. It laid the foundation for the industrial transformation of the world in the next decades. A number of scientific discoveries and major engineering inventions increased sharply.

The apex of this scientific revolution was discoveries in the fields of hydraulics and mechanics made by **Leonardo da Vinci**, heliocentric system of **N. Copernicus**, achievements in astronomy by **Tycho Brahe**, **Johann Kepler** and **Galileo Galilei**. **Isaac Newton** (1643-1727) became the founder of classical physics, opened the principle of universal gravitation and completed a breakthrough in astronomy initiated by Copernicus, developed differential and integral calculus, made discoveries of prime significance in optics. Each of these discoveries became the foundation for the development of independent scientific disciplines.

An advance also occurred in social sciences. **Francis Bacon**, a leading philosopher of that time, proclaimed an experiment, experimentals — a basis of the scientific generalizations. **René Descartes** became another founder of a new philosophy who upheld the standpoints of rationalism, made a weighty contribution to the development of mathematics by applying analytical geometry and a concept of a variable.

There were established such scientific societies as the London Royal Society (1662), French Academy of Sciences (1666). The academies enabled scientific communication, cross-disciplinary researches.

Thus, in the 15th-17th cc. modern science was born as a result of a great scientific revolution.

Long-term scientific cycles of the *early industrial and industrial* society — 17th-20th cc. are given in *Table 6.2*.

Culture of medieval and industrial period: rises and crises. A modern world culture was formed from five powerful influxes: Byzantine culture that assimilated and developed the Greek-Roman heritage; western-European culture that was a synthesis of creative thinking of barbarian tribes and heritage of the Western Roman Empire; many-layer and various culture of the East, first of all China, India and Arabic countries; diversified and rich culture of the Eastern-Slavic civilization, and finally original cultures of peoples of the New World discovered at the end of the 15th c.

“The 10th-11th cc. gave the bright efflorescence of culture of ancient Russia, and the 12th-13th centuries — continental Western Europe with the leading role of France. Since the second half of the 16th c. the cultural leadership was taken by Italy for two and a half centuries where the Renaissance gathered momentum, which gave the world fabulous achievements of human genius” [72. P. 593].

In the 16th-17th cc. the achievements of the humanistic Renaissance extended nearly all around Europe, generated remarkable pieces of the art in Spain, the Netherlands, and France. In the 18th-19th c. a secular

culture prevailed gradually unfettering from church canons, Western Europe, North America, and the culture of Russia reached the apex in the 19th c., became its epicenter.

From the end of the 19th the overturn began in tendencies of dynamics and culture. The expressionist art reflecting a personality of an artist, their subjective vision of the world was arising. In painting and sculpture, this style was spreading rapidly in the first years of the 30s of the 20th c. narrowing considerably a visual-realistic sensible art. A strong movement of abstract painting emerged.

The 20th c. was characterized by an increasing industrialization and unification of admass culture, the leadership of the USA in it, and in the second half of the century – the signs of revival of the oriental culture (Japan, China, and India) that was in decline before.

From the beginning of the 30s of the 20th a universal crisis of culture began to aggravate and develop. It manifested itself in two directions though seemingly reverse in form, but with the general base – modernism and socialist realism. Modernist painters departed more and more from real life and distorted it to please the sinister tastes. Socialist realism orientated at ideologically given reflection of reality, often not impregnated with a deep thought.

Informatization, use of new technological means – television, tape recorders, video tape recorders, walkmen, and the Internet contributed to mass character of art. Computer graphics emerged, cinema and video industry formed into powerful, highly profitable industries.

As **Pitirim Sorokin** showed the crisis of culture is the manifestation of the decline of sensual socio-cultural system that prevailed in the West during five millennia. The integral, socio-cultural system, in its western and eastern modifications, is coming to replace it (8).

Cycles and revolutions in education. In the dynamics of education as well as of other spheres of society's life super long-term cycles revealed themselves in the last millennium and a half and they were accompanied by revolutionary changes in the ways of storage and transfer of accumulated knowledge and skills, and cultural heritage.

In the period of the *genesis of feudalism* in Europe the decline in education was observed in Europe against the ancient level. A specialized system of education survived only in Byzantium, China, and India, but regressive tendencies were also observed there. The main was the system of transfer of knowledge skills and culture in an empiric way in the process of labor (in farming labor, craft, trade, and construction).

However, later the upsurge of economy, development of crafts and trade, construction of cloisters and castles, revival of cities, forma-

tion of medieval states demanded restoration of a specialized system of education. It was done under the guidance of the institution of the church.

The universities crowned the development of the system of education in the *early middle ages*: from the 12th c. — Paris, Bologna, and Oxford; from the 13th c. — Cambridge, Padua, Naples, and Salamanca; from the 14th c. — in Prague, Krakow, and Vienna. A wide systematic education was given there through lectures and disputes; the textbooks were rare.

The next revolution in education occurred in the early industrial world civilization in the *Renaissance*. It was closely connected with a great scientific revolution, which changed radically the system of views and helped basically to overcome the medieval scholastics. This revolution met the demands of a rapidly developing market — trade, banking business, and money economy.

By the end of the 15th c. there were 79 universities in Europe. Specialized educational establishments also emerged. In Portugal, Spain, England and Holland naval schools were established. The Oxford and Cambridge Universities became the centers of humanism in England; **Thomas More**, **Erasmus of Rotterdam** read lectures at Oxford. They taught theology, civil and church law, philosophy of Aristotle and Plato, medicine of Gallienus and Hippocrates, mathematics, geometry, astronomy, dialectics, rhetoric, ancient Greek and Hebrew languages at these universities. The primary and secondary education spread wide and assumed more secular nature. Pedagogic was formed as a specialized branch of science; **John Amos Comenius**, a Czech scientist-humanist made a weighty contribution to its establishment, he published a series of works on the theory of didactics, textbooks for education at school and at home.

However, the medieval system of education, training of qualified specialists did not meet the requirements of the *industrial society*. With a transition to machine productions the need was felt in designers, engineers, technicians, economists, managers who would be able to develop sophisticated systems of machines, to use them efficiently, to organize work of many-thousand teams and to convert production in accordance with the requirements of fast changing market conditions. The priority was given to a specialized engineering education — vocational schools, polytechnic and agricultural institutes, etc. A factory worker has to deal constantly with complicated machines and technologies, which are updated from time to time. The industrial system required workers with professional skills. A general primary education in combina-

tion with a narrow specialized training, often on-the-job training, short training courses or vocational schools became spread.

Education became increasingly standardized; methods and practices of teaching improved more and more. Mass uniform pedagogic for various links and levels of education was formed. Textbooks for schools, higher education were published in bulk issues. The sphere of education became mass, democratic, but at the same time its individuality was lost, stereotypes of thinking were trained and reproduced.

The scale and depth of a breakthrough in education as a result of the industrial revolution are so great that it makes it possible to speak about the *revolution in education* in the first half of the 19th c.

In the second half of the 20th c. in the last phase of the industrial society, economic, socio-political and spiritual conditions of life changed radically, the next crisis in the system of education was taking shape. A functional illiteracy and professional incompetence became a wide spread phenomenon. Since the end of the 20th c the signs of a new revolution in education orientated at the post-industrial scientific paradigm, creative pedagogic, modern information technologies, and continuous education have been observed.

Ethics and religion in the period of the second historical super cycle. Three super long-term cycles could be distinguished in the development of ethical standards and ideological guidelines of man for the last millennium and a half. These cycles are connected with landmarks in the development, with a wave dynamics of change of civilizations.

The first super long-term cycle in the dynamics of ethics and ideology embraces the period of the genesis of feudalism and medieval civilization. In this period, the establishment of world religions, aspiration of church for dominating over all spiritual world and all sides of human activity became main. In Europe, it was a period of a rapid spread of Christianity: in the East — Islam; Buddhism and Hinduism also spread.

What determined the establishment of the dominance of religion and religious moral in the medieval society and what were its results?

First, the synthesis of religion and moral was brought about by the need to establish a greater orderliness in human relations. Religious moral assimilated major common human rules of behavior elaborated during previous historical cycles and complemented them by dogmas that met the requirements of the hierarchical system of feudal society. The establishment of religions played a progressive role to a certain extent having created the mechanism to support a single spiritual space, despite national and ethnical differences and state borders within the

dominance of this religion.

Second, the establishment of the dominance of religious world outlook and morals contributed to strengthening of feudal relations and at the same time removal or restriction of its certain extremes. Originally Buddhism, Christianity and Islam emerged as religions of the oppressed; they condemned acquisitiveness and usury. However, with time as the wealth was accumulated with feudalists and church, religion became more tolerant to the wealth, consoling the least privileged and the most exploited by the idea that they would be repaid for their suffering a thousandfold after death.

Third, world religious played a significant role in the formation of statehood, overcoming of feudal disunity and formation of strong feudal states – Byzantine Empire, Empire of Karl the Great, Holy Roman Empire, ancient Russian state, Arabic caliphate. Religion was an ideological base of a centralized state blessing lords and calling for submission to a secular power.

Fourth, religion dominated in the spiritual sphere having subordinated science, culture, and education to its influence. This influence was contradictory. On the one hand, clerical institutions, scholars, artists, architects, musicians supported by church left many works that made a cultural heritage of humankind. Having accumulated huge wealth, church spent its considerable part for construction and decoration of churches, monasteries, mosques, synagogues, Shinto and Buddhism temples. In cloisters and church schools, they made re-writing of books, translations of clerical literature, taught literacy, basics of science and arts. Under support of church and guided by it the universities were established. On the other hand, a tough dictate enfeathered free thought. Scientists, artists, educators who stepped over the framework of religious canons were persecuted and punished; any free thought or a scientific idea that could shake the monopoly of church fell under suspicion.

Negative features of monopoly of religions came into collision with the humanistic beginning of the Renaissance when the *second super long cycle* began in the dynamics of ethics and religion of now completing historical super cycle. The incompatibility of the Renaissance's humanism and absolute power of religious dogmas declared itself in the Reformation. Its beginning was laid by the Doctor of Divinity **Martin Luther** who in 1517 delivered 95 theses against a sale of indulgences. Having got lost first before new ideas and movement the Catholic Church soon woke up and attempted to restore its past authority. The Counter-Reformation began that found its expression in the set up of inquisition, establishment of the Society of Jesus (1540) and other militant

orders, introduction of strict censorship, and also reorganization of the church itself, improvement of its flexibility, intensification of struggle against oppositional movements. The Renaissance gave impetus to the formation of secular, humanistic ethics that includes the basic values of morals common to all mankind.

In the dynamics of religion and ethics *the third super-long cycles* embraces a period from the middle of the 17th – to the end of the 20th c. It began from the age of Enlightenment, the main result of which was fixing of that shift in spiritual sphere, which had been initiated by the Reformation.

It was the period of a gradual loss of the dominance by world religions in the spiritual life, policy and economy. Church adopted to changes, responded flexibly to new interests of man, social contradictions.

The place of religion as a core of society's ideological life was taken by the idea of a scientific progress, building of society on a rational base in accordance with the requirements of reason, this or that scientific doctrine. Voltaire gave a death-blow to a religious world outlook; his ideas were taken up by encyclopedists who opened the path for atheism, belief in the all-might of science. A wide scientific breakthrough of the 19th c. fixed the dominance of a scientific world outlook, ideas of progress.

The moral of bourgeois society of the West is geared to the demands of the market. Acquisition of wealth, profit growth became the supreme moral value. At the same time, civilizations of the East, especially Moslem, preserved a strong influence of religion on ethics and development of spiritual sphere.

The most radical changes in religion and ethics occurred in socialist countries. Attempts to oust religion, replace bourgeois morality with the “Moral Code of the Builder of Communism”, practice the rule – “the end justifies the means” – gave bad results. A double standard was formed; moral principles of family were undermined. However, socialist ideology and moral had no firm roots and changed with the Renaissance of religion and morals supported by it at the end of the 20th c.

The decay of a sensual socio-cultural system in the West led to negative tendencies in ethics and ideology – a growth of immorality and crime, religious fanaticism and sectarianism. As a counter to these tendencies the basics of positive moral and religious polarization appeared.

6.3. Evolution and Interaction among Local Civilizations of the Third and Fourth Generations

A transition of the ancient world to medieval was characterized by radical shifts on the geopolitical map of the world, formation of the third generation of local civilizations. (*Fig. 6.5*), the leadership passed to India and China, and then to the fourth generation of the western European civilization (*Fig. 6.6*). It gradually extended its influence on a larger part of the populated world by conquering or moving civilizations of the East and Africa and destroying civilizations of the New World. Only from the second half of the 20th century this leadership began to wash out. The intensity of cross-civilizational ties came. Huge colonial empires that had emerged in the periods of early industrial and industrial civilizations, disintegrated at the sunset of the latter giving way to economic empires, integration tendencies and globalization. By the end of the third historical super cycle the signs of formation of the fifth generation of local civilization manifested themselves, the problem of interaction among them came to the forefront. Let's consider in brief the major features of dynamics of local civilizations of the third and fourth generations (except Eurasian civilization. Chapter 13 is devoted to the stages of formation and development of the latter).

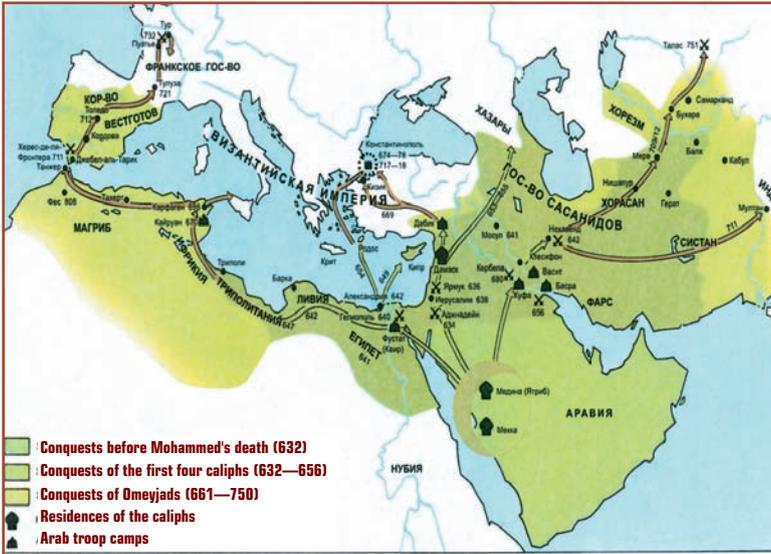
6.3.1. Dynamics of Civilizations of the East

After the downfall of the Western Roman Empire an active process of replacement of the leading local civilizations was observed. The epicenter of civilizational progress moved from the Mediterranean to Byzantium and the East and then in the periods of the early industrial and industrial world civilizations it returned again to Europe, with the rising of the North American civilization by the end of the period.

The emergence and spread of the Moslem civilization. The last centuries of the 1st millennium A.D. and the beginning of the 2nd millennium were characterized by a vigorous rise and a rapid spread of the Moslem civilization (*Fig. 6.7*). It emerged simultaneously with Islam in the 7-th c. on the Arabian Peninsula under conditions of an acute socio-economic crisis and spread rapidly to the East subordinating to its influence the Near East, Persia, Central Asia, and a part of India,

Figure 6.3.

Spread of Islam before 750



Source: [38. P. 134].

Indonesia, Volga regions, and in the West — North Africa, the Iberian Peninsula, and a part of Southeastern Europe.

The period of the rise of the Moslem civilization fell to the last centuries of the 1-st millennium with the dominance of the Arabic caliphate with the capital in Baghdad. It was one of the largest cities of the world of that time with population exceeding a million people.

It should be observed that the Moslem civilization united by a common religion — Islam and the system of values and the way of life inherent to it is quite diversified in its structure. Moreover, Islam is divided into movements warring with each other — Sunni, Shahids, Vahabids, etc. **Yu.V. Pavlenko** distinguishes several sub-civilizations in the structure of the Moslem civilization. “The civilizational structure of the Moslem world is extremely complicated, and the process of its establishment continues to these days... It constitutes the unity of Arabic-speaking, Iran-speaking and Turkic-speaking sub-civilizational systems forming its base, and two syncretic arms: Pakistani-eastern Bengali-Malay-Indonesian and tropical African, Sudanese and Eritrean-Somali-Zanzibari” [71. P. 424]. Well-consolidated enclaves of the Moslem civilization may be found in Western Europe, Russia, the USA and other countries.

The Moslem civilization is also not homogeneous economically. It incorporates rich Arabic oil countries, the countries of medium income and the poorest countries of Africa. Their level of technological development and education is considerably different. Nevertheless, all Moslem countries differ from western civilizations and Russia by their high birthrates, ban on alcohol, ideational sensual system, growing passionarity and geopolitical activity. Therefore the role of the Moslem civilization grew considerably in a geocivilizational space in the second half of the 20th c. and continues growing.

The scientists of the Arabic world inherited the achievements of the Greek and Middle Eastern science. Such synthesis made the foundation for the rise of the Arabic science in the 8th-11th cc. The outstanding scientists of that period included **al-Khwarizimi** (end of the 8th – beginning of the 9th c.), **al-Biruni** and **Ibn Sina (Avicenna)**. A real encyclopedism was inherent to them. Al-Khwarizimi was a mathematician, astronomer, geographer and the founder of algebra. Al-Biruni created outstanding works on astronomy, geodesy, physics, mathematics, botany, geography, philosophy, history and ethnography. He was the first to make a globe, assumed that the Earth moves round the Sun, made trigonometric tables. Ibn Sina made a weighty contribution to the development of philosophy and medicine. Science of the Arabic East gave an impulse to the rise of scientific knowledge in Europe. The Arabic culture, architecture, literature, and poetry reached a high level.

A large role in the history of the medieval culture, mainly in the period of the early and mature feudalism belonged to the peoples of the Middle East. The Arabic countries, Iran and Central Asia together with Byzantium were the direct successors and keepers of the achievements of the ancient culture....During a number of centuries science, literature and art created by the Arabs determined to a great extent a progressive advance of the world culture and rendered a strong influence on many countries, including Western Europe transmitting the ancient heritage to it.

Caliphate was a feudal Moslem state with a considerable slave system, which included the Arabian Peninsula, Iraq, Iran, Transcaucasia, Central Asia, Syria, Palestine, North Africa, Iberian Peninsula, Sardinia, Cyprus, and a part of eastern India. The Caliphate disintegrated into a number of states and was vanquished during the Mongol invasion.

Another great Eastern state was the Ottoman Empire. At the beginning of the 16th c. **Selim I the Terrible** vanquished the Mamelukes and conquered Syria and Egypt. His son **Suleiman I the Magnificent** conquered Hungary in 1526, and then the Crimea, Moldova and Wala-

chia. At the end of the 16th c. the Ottomans subdued Greece and Shirvan (present Iranian Azerbaijan). The military-feudal administration was arranged in the Ottoman Empire, strong army of janissaries, a powerful navy. Islam was the prevailing religion. The Ottoman Empire existed until 1922; not once it acted as an adversary of the Russian Federation, western European civilization.

In the periods of the early industrial and especially industrial civilization the Moslem civilization lost one position after another. Many Moslem countries became the colonies of the British and French Empires. The Moslem civilization began to revive only since the second half of the 20th c.

Development of the Chinese Civilization. The ancient Chinese civilization got the second breath in the first millennium of our era. A transition to the feudal system occurred here several centuries earlier than in Europe. After a protracted internecine fight (three kings ruling), which embraces the 3rd-4th cc., the prosperity period of the Chinese local civilization begins. Population grows fast, rice growing moves to the north and together with the bed farming provides food for rural and city population. Trade and money circulation develop fast. In the 8th c. negotiable cheques of the bankers are introduced. In the 9th c., printing is invented, which contributes to the diffusion of literacy.

In China, in the 3rd-5th cc. A.D. porcelain that becomes an item for trading with other civilizations is invented; they begin to use paper approximately at the same time. Invention of compass and powder expand the boundaries of sea voyages and enhance the fighting efficiency of the army.

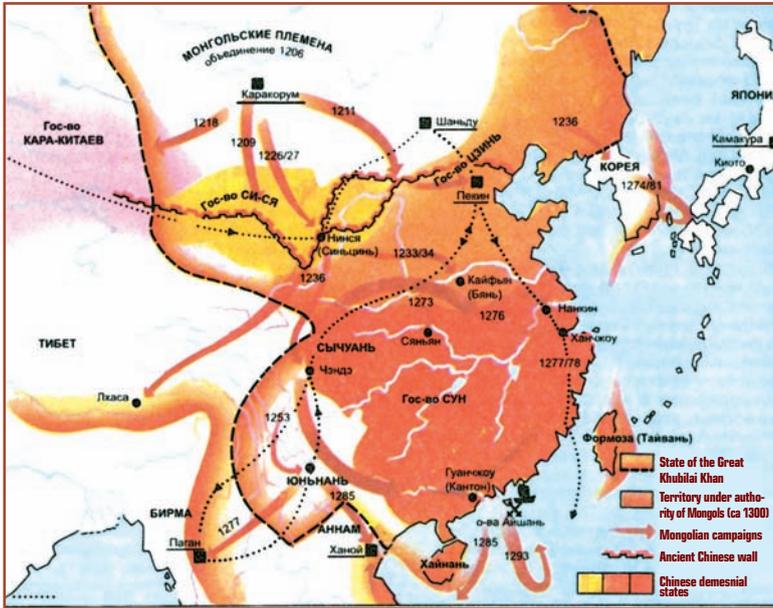
Since the 7th c. China enters the stage of the developed feudalism. Areas under crops expand, the culture of tea evolves, cotton growing emerges, crafts develop and cities grow. An active trade is carried on with India, Persia, Arabic caliphate, Korea, and Japan. Culture flourishes. In the 7th c. the “Chamber of Scientists” is established.

The ruling of the Sung dynasty is often called the “golden age” of science. The holders of the highest academic degree enjoyed unprecedented authority in society and at court. In ideology a comprehensive system of the world outlook called neo-Confucianism in the West is formed, the genre of a monumental landscape flourishes, crafts develop vigorously.

At the beginning of the second millennium the Chinese civilization suffers hard times. The period of the feudal disunity, internecine wars and insurrections comes. Dynasties change each other, first the Juchens, and then Mongols subdue the country. The Yuan Dynasty is established then headed by Khubilai the descendant of Genghis Khan (Fig. 6.4).

Figure 6.4.

China in the Mongolian period (Yuan dynasty), 1205–1368



Source: [38. P. 210].

In the 17th c. the dominance of the Manchurian dynasty Qing (1644–1911) is established. The European merchants and missionaries penetrate actively into China.

Since the end of the 17th c. the signs of a transition to the early industrial civilization are observed in China. Various manufactories develop vigorously, as well as trade with Europe. According to **A. Maddison's** estimates, a share of China rose from 25% in world's GDP in 1500 to 33% in 1820. However, in the period of the industrial civilization its share began to drop rapidly — from 8.8% in 1913 and 4.5% in 1950. It rose to 12.3% only by the end of the 20th c. [126. P. 260].

China lags in mastering of the achievements of the industrial revolution and in transition to the industrial world civilization. Products were losing its competitiveness on the world markets, ousted by factory products of Great Britain and other European countries. The technological base of production for the army became obsolete. The country sustained defeat after defeat in wars and by the end of the 19th c. it had found itself in the state of a semi-colony.

The Chinese revolution that began in 1911 and lasted nearly four decades ended with the proclamation of the People's Republic of China. With the assistance of the USSR industrialization of the country was carried on, land reform was implemented, education developed. A wrong policy of the “Big Leap” terminated advance for a while, but since 1978 it renewed with a new force. During two decades China develops economy at the record rates, improves the level of life and carries on modernization of the country. The Chinese civilization is going through a new period of its rise, its weight is constantly increasing in the world.

The fate of Indian civilization. India turned to feudalism a little later than China, but earlier than Western Europe. Already in the 6th c. the feudal forms of exploitation prevailed, the rulers of numerous small states proclaimed themselves the landowners and collected rent. Cities and trade developed rapidly. The caste system supported by the prevailing religion –Hinduism- was formed. There were often wars between the states.

Since the 8th c. Islam began to penetrate into India, thus narrowing Hinduism. At the end of the 12th c. the Delhi Sultanate emerged in the north of India – the feudal monarchy with its capital in Delhi and existed until 1526. (*Fig. 6.5*) Large irrigation structures were built, crafts developed, national and foreign trade. Under the blows from outside and inside the sultanate disintegrated into many small principalities at the beginning of the 16th c.

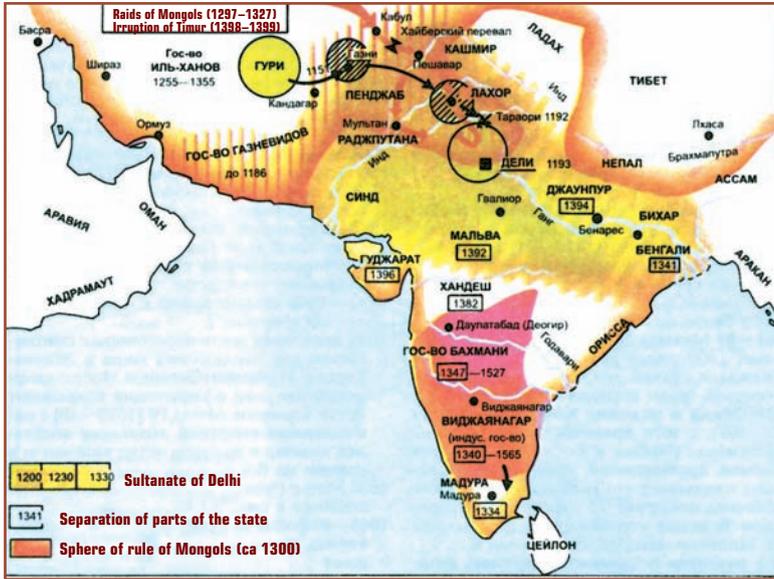
The summit of the Indian civilization was reached during the dynasty of the Great Moguls (1526-1858). It was founded by the native from the Central Asia **Babur Timurid**. In the 17th c. this centralized feudal monarchy embraced all India (except the South) and a part of Afghanistan. **Fernand Braudel** noted: “One and the same civilization borrowed from neighboring Persia, its art, its literature, its sensitivity were successfully transmitted into a new soil and spread almost round all India. There is no doubts that the Indian cotton industry was the first in the world in quality and quantity of its articles and import volumes up to the English machine revolution” [12. P. 525, 527].

India occupied a leading place in the world trade, reached a high level of economic development. According to estimates of **A. Maddison** 28.9% of the world GDP fell to India in 1000, and it exceeded Western Europe by an average GDP per capita by 12%. In 1700, India made 24.5% of the world GDP, but then its share began to drop rapidly – 7.5% of Western Europe [126. P. 252, 262].

Already since the end of the 15th c. the Western colonists began to penetrate into India – first Portuguese, and in the 17th c. – British, Dutch and French. There was established the English East India Com-

Figure 6.5.

Delhi Sultanate. 1206–1526



Source 38. P. 210].

pany (1602), and then the Dutch and French companies, which pumped huge funds over to their parent states and subdued local rulers to their influence. In the 18th c. the Empire of the Great Mogul weakened and in the first half of the 19th c. it disintegrated. The colonial dominance of Britain established itself. That’s why India could not use the fruits of the industrial revolution, its economy was undermined.

Only in 1947 India recovered its independence; at the same time a Moslem state – Pakistan – emerged on its territory, and Bangladesh separated from it later. Cross-civilizational clashes intensified, their danger increased after India and Pakistan created nuclear weapon.

Under conditions of independence science, culture, education, national industry developed, the agrarian reform and “green revolution” was implemented.

Only since the last quarter of the 20th c. Indian economy began to develop at the priority rates – average annual GDP increase rates made 5.22% for 1973–2001 to 2.21% in Western Europe and 3.05% in average in the world (Ibid. P. 260). It indicates the beginning of a new cycle of revival of Indian civilization.

Mongolian Civilization. The historically short period of the outburst and completion of a life cycle of the Mongolian civilization (end of the 12th –middle of the 14th cc.) is found somewhat off the thoroughfare of local civilizations. Its fate doesn't fit the usual stereotypes.

First, usually civilizations emerged on the bases of agricultural peoples, large cities, merchant-craft centers. The Mongolian civilization was *nomadic by its origin*, emerged through the union of groups of nomadic people not yet formed into a civilization, where tribal and clan relations prevailed and together with shamanism served as a base of religious attitude to the world. Only with time they repeated a usual way of civilization, established large cities, expanded crafts and trade, established the system which Academician **B. Ya. Vladimir** called the *nomadic feudalism*.

Second, it was a **record**, by *territory*, civilization, which embraced a greater part of the Eurasian continent; it is called the super empire spreading from the Pacific to the Atlantic Oceans. But it was one of the major reasons for its brevity. It disintegrated into four empires – uluses, where the Golden Horde was the largest, and then into smaller state formations. The Golden Horde itself was divided into the Kazan, Astrakhan and Crimean Khanates, and the Nogayan Horde.

Third, it was a *mixed* civilization *by its structure*. It included many peoples at a various level of technological and economic development, different cultures and religious beliefs. In China, the Mongolian conquerors actually assimilated with the Chinese civilization, giving rise to the Yuan Chinese dynasty. Their unity, being in one civilizational union was ensured by a well-defined organization of the “people-army”, common legislations (Yasa of Genghis Khan), by conditions for the development of cattle husbandry, farming, crafts, trade and by tolerance towards beliefs. This civilization played a significant role in the dialogue and interaction among civilizations on spaces of Eurasia.

Fourth, it is exactly this heterogeneity in the structure of civilization under a strong centralizational core (the Mongolian people – army) was a *source of power of civilization*, the reason of its mysterious and inconceivable for other civilizations speed of spread. It quickly subjugated other peoples and civilizations with older history, and with higher technology and culture. Genghis Khan and his successors used their achievements, contracted local military leaders, engineers and masters. In the Mongolian civilization there established conditions for support and development of the dialogue among civilizations, intensive commodity exchange through the Great Silk Road, Great Volga Road.

Fifth, the Mongolian civilization was formed from the very beginning as *military- oriented union of tribes and clans*, both by contents and organization made suitable for conduct of wars, inroads, moving for long distances. Hence, there was the iron discipline and numerous manifestations of cruelty and violence. But with time the elements of peaceful organization, non-interference in spiritual life, religious tolerance became prevailing in the administration of vanquished countries and peoples, if these conquered peoples duly paid tributes, and merchants and craftsmen — taxes and customs duties.

The reasons of such unexpected rise of the Mongolian civilization may be found not in personal identity of Genghis Khan and his descendants; such advance forward was made by people in a passionery outburst. One could agree with the conclusion of **B. Ya. Vladimirov**: “The Mongolian super imperia was created not simply by an individual personality, not by one generation of conquerors, but was eventually the product of that special system which was created by all nomadic world at the peak of its development” [36. P. 139].

After completion of its formation (by the beginning of the 12th c.) a life cycle of the Mongolian civilization included a number of the rise and crises phases changing each other. In 1209-1215, Genghis Khan conquered a larger part of China. Further he had the Chinese not only in his army, but among the nearest advisors, thus assimilating rich experience of the ancient Chinese civilization. Then Genghis Khan defeated Khwarezm-Shah and vanquished Turkmenistan, Afghanistan and Persia. His successors continued moving to the West, conquered the Arabic caliphate and Baghdad, subdued the Volga regions, Russian principalities, advanced up Europe — to modern Hungary.

In the 13th c., the Mongolian civilization reached its summit (*Fig. 6.6*). However, already in the 14th c. a deep and protracted crisis evolved; then the stage of decay of the local civilization. There were several reasons for that.

➡ The disintegration of once single super empire into a number of smaller states that sometimes fought each other (that was called the feudal disunity in Europe). Adoption of Islam by most of Genghisids did not ease discords and contradictions.

➡ The epidemic of the “Black Death” — plague contributed to the downfall of the Golden Horde as a result of which many cities and villages of the South of the country were desolated.

➡ One of the factors of such disintegration was a protracted ecological crisis that was connected with the fact that the increased number

of the herds of cattle could not feed the developed territories, and the influx of new territories wasn't easy.

If the fate of the Mongolian civilization is viewed from the position of transmission of heritage, the following may be observed. The Mongolian civilization assimilated a considerable part of the achievements of other civilizations enriching its genotype — Chinese, Persian, Moslem, and the peoples of the Volga regions.

After leaving the historical arena many elements of the heritage of the Mongolian civilization were mastered by the Slavic Russian civilization, Muscovite Russia.

6.3.2. The Dominance of the Western Civilization

Byzantine civilization. The downfall of the Western Roman Empire — the leader of the civilizational progress at the beginning of our era — did not mean that the Greek-Roman civilization left the historical arena. Its heritage passed to the Byzantine Empire for almost a millennium. (*Fig. 6.7*).

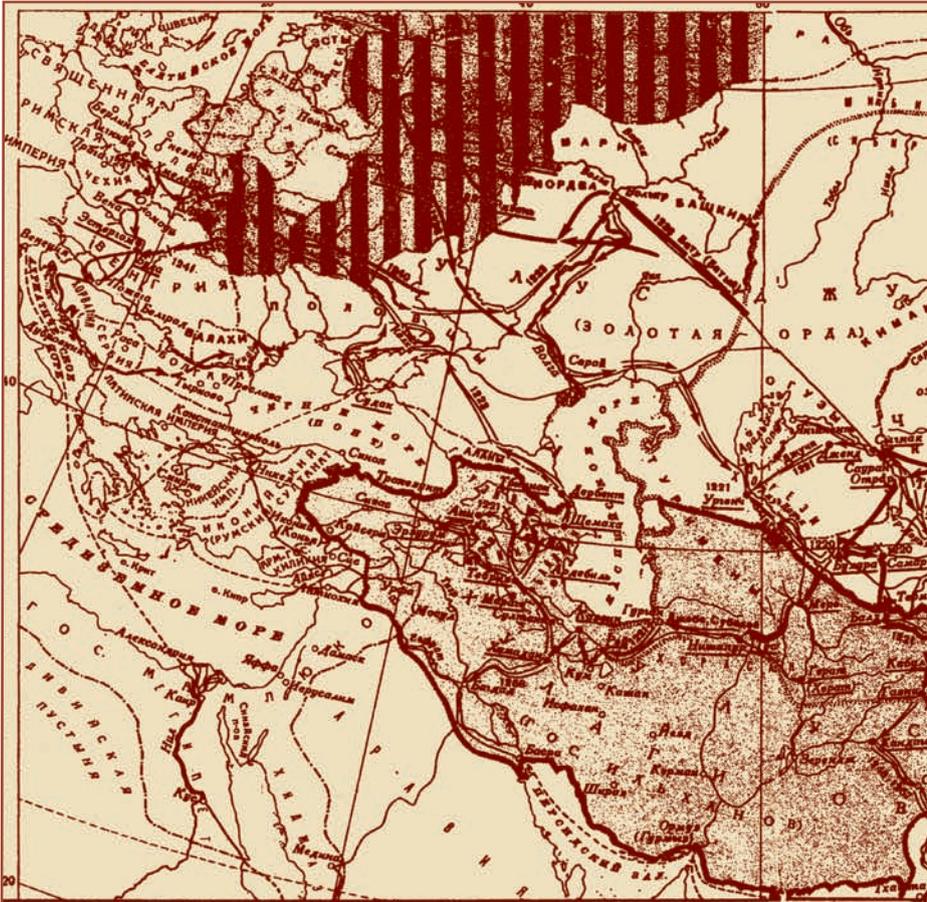
The establishment of the Byzantine civilization inaugurated the formation of the Eastern Roman Empire, but also the disruption of Christianity, the emergence of Orthodoxy and strengthening of influence of the Greek language and culture, development of statehood and codification of the Roman law.

The Byzantine civilization passed through several stages in its development. The bases of slave system persisted for a long time in it until they gave way to the eastern modification of feudalism under a strong state power. Byzantium maintained active trade ties with the East and the West, extended its political and religious influence over the Balkans and Slavic states. The heights in the development of culture, science, and education were reached.

The Byzantine science was a direct heir to science of the Greek-Roman world. Traditions of Plato and Aristotle continued; special focus was laid on the applied branches of knowledge directly connected with medicine, agriculture, craft, construction, and warcraft. The encyclopedic tendency gained development. Thus **Psel** (1018-1096/97) was engaged in philosophy and created the foundations of logic. **Nicephorus Gregoras** developed Aristotle's ideas, proposed a reform of the calendar and wrote a large work "Roman History". **Georgius Plethon** (1290-1452) was a votary of Plato; he succeeded in the reviving of the Plato

Figure 6.7.

Mongolian conquests



Source: [115. P. 156-157].

Academy in Florence. The Byzantine science preserved and transmitted to the heirs the achievements of ancient science, then assimilated in many countries of South Europe, ancient Russia, and Transcaucasia.

The Byzantine culture was formed under the determinative influence of Christian religion, it sought to influence the feelings of the believers through artistic images and architectural style. It most brightly declared itself in the Great Church of Hagia Sophia in Constantinople which was built in 523–537 by architects Isidoros and Anthemois. This temple be-

came a kind of standard for construction of Orthodox churches in Byzantium and Russia, including the Sophia Cathedrals in Kiev and Novgorod.

In the next years icon painting that met the canons established by church developed in Byzantium. One of the notable monuments of that period is the icon of Our Lady Affection that was brought to Russia already in the 12th c. (it remains in the Tretyakov Gallery and is known as the icon of Our Lady of Vladimir). In Byzantium, fine arts reached its peak in the 11th – 12th cc. In the late Byzantine culture (the 13th -15th cc.), imaginative literature, secular architecture, fresco paintings developed. A heavy loss to the Byzantine culture was caused by struggle against iconoclasm, plunders of crusaders and finally the Turkish conquest of Byzantium.

In Byzantium a tradition of education formed in Greece and Rome survived. A higher secular education developed. The Constantinople higher school got support from the state and was considered one of the largest centers of higher education in the Middle Ages along with Paris and Baghdad.

The 13th – 15th centuries were the period of the loss of the leadership and the downfall of the Byzantine civilization. In the first half of the 15th c. the weakened Byzantine Empire suffered defeat after defeat from aggressive inroads of Turks-Seljuks and in 1453 it vanished being replaced by the Ottoman Empire.

Establishment and triumph of the western European civilization. With the downfall of the Western Roman Empire Western Europe became the seat of the formation of a new civilization that was destined to occupy the dominating position in the world in a thousand years. It is a direct heir of the Greek-Roman civilization of the second generation.

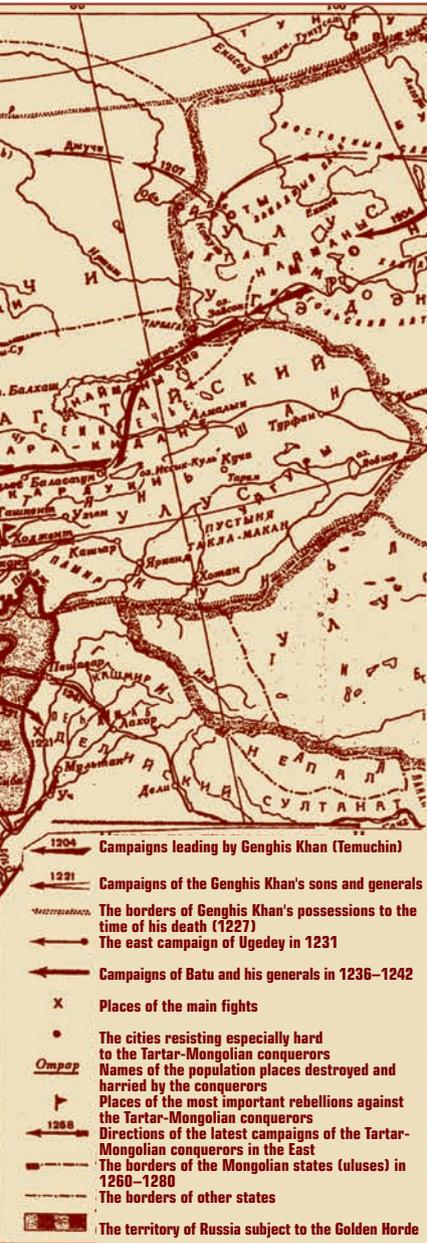
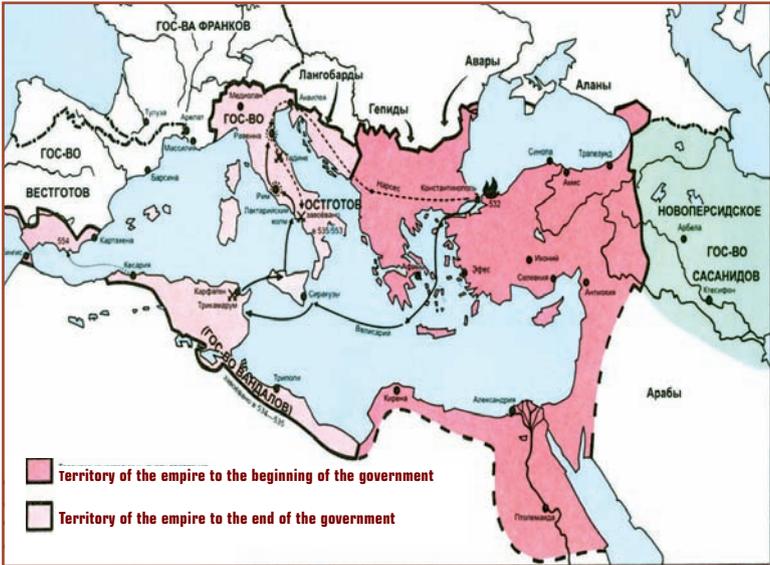


Figure 6.6.

Byzantium before 867



Source: [82, p. 138]

The southern part of Western Europe was under the reign of the Visigoths and Ostrogoths. Later the Iberian Peninsula was included in the Arab Caliphate, southwestern part — in the Eastern Roman, and then Byzantine Empire, which later extended over the south of Italy. The kingdoms of Franks and Burgundians formed on the territory of modern France, the north belonged to Anglo-Saxon kingdoms.

The barbarians, who settled round the Roman Empire in the 5th c., were not wild people just having come out of the woods and steppes: “They went a long way of evolution during their wanderings often age-long, when they contacted various cultures and civilizations and assimilated their morals, arts and crafts. Most of these peoples suffered the influence of Asian cultures, Iranian world, and also Greek-Roman directly or indirectly...They brought fine practices of metalworking, jewelry and leather craft, and also admirable art of steppes with its stylized animals and motives” [52. P. 18-19].

In medieval Europe, feudalism established itself later than in China and India. The Frankish kingdom, empire of Karl the Great became the epicenter of its formation. Later feudalism established itself in the Central, Northern (Scandinavia) and Eastern Europe. In the first decades of the second millennium many feudal states formed, they interacted and often

waged wars against each other in the struggle for the heritage of the Roman Empire.

The western European civilization passed several stages in its development. The first three hundred years were a transitional period when after the downfall of the Western Roman Empire on the territory of Western Europe a choice of a new civilizational path was made. The papacy played a growing political role, spreading Catholicism among the pagan German-Romanic and other tribes. A transitional period could be viewed mainly completed by 800, when the king of France Karl the Great was proclaimed the Emperor. “By the beginning of the 9th, — **Yu. V. Pavlenko** makes a conclusion, — the western Christian civilization was formed in its historical base... however, the Great Empire founded by Karl the Great was a quite heterogeneous formation in its ethnocultural-historical nature. Two major blocks could be clearly distinguished within it: German-speaking, and more precisely German proper — to the east of the Rhine, and Romanic-speaking — within the former Western Roman Empire” [71. P. 499].

At the next stage this civilizational nucleus expanded actively — to the south (re-conquering of the Iberian Peninsula from the Arabs — reconquista), to the north (inclusion of the warlike Vikings in its orbit that formed Denmark, Norway and Sweden) and to the East (subjugation of the western Slavic lands and states). In the 14th c. this civilization passed through an acute crisis (the epidemic of the plague, the Hundred Years’ War) and then it entered the prosperity phase — from the Renaissance to the Reformation. In the second half of the 16th c. the western European civilization became leading in a geocivilizational space — first politically (having conquered America, nearly all Africa, Australia, and a considerable part of Asia), and after the industrial revolution also economically, moving aside the Indian and Chinese civilization, which dominated before the 19th c. in the world GDP.

The distinctive features of the western European civilization included the dominance of Christian religion (Catholicism). It purported to be the first in struggle with a secular power, had a great political and economic power and cemented scattered disunited feudal states, united them in the clash with the Moslem civilization during the Crusades and Reconquista. The agriculture based on the bondage and feudal rent prevailed in economy. The number of “free” cities with developed crafts and trade grew, the republics and unions based on trade and craft rose — Venice, Genoa, and the Hanseatic league. In the period of the early industrial world civilization, in the period of the Great Geographical Discoveries, especially after the discovery of America, beginning of colonization of

Africa, South and Southeastern Asia, and Australia, the sphere of political and economic dominance of the western European civilization began to spread rapidly. Colonial empires emerged — first Portuguese and Spanish, and then British and French. The capitalist order was gaining strength in economy. The “third estate” — bourgeoisie made claims for power. Europe was shaken by bloody wars and revolutions.

The hour of triumph for the western European civilization came after the industrial revolution, which changed the world. The wave of the industrial revolution that had germinated in England transformed the world like a huge tsunami.

In economy of Western Europe, capitalism established itself after a series of revolutions bourgeoisie came to power. The industrial revolution gave a huge impetus to the development of machine industry, establishment of an unconditional economic leadership of the western European civilization. If in 1000, according to the estimates of A. Maddison, Europe produced 8.7% of the world GDP, then in 1820 its share rose up to 23%, and by 1870 and 1913 — up to 33%. However, by the end of the 20th c. it began to lose its positions and dropped up to 20,3% by 2001 of the world GDP [126. P. 260].

By 1900, according to the estimates of **S. Huntington**, 38.7% of the territory of the populated part of the earth and 44.3% of the population was under political control of the western civilization. [121. P. 85]. However, from the end of the 19th c. a daughter north American civilization, which was rapidly gaining strength, began to confront the western European civilization.

In the 20th c. the signs of weakening and decline of the leadership of the western European civilization were observed. First of all, the two bloodiest world wars in the history of humankind, which were unleashed on its initiative and undermined the strength of Europe, contributed to it. **O. Spengler** stated that Europe began to decline already in 1918. **A. Toynbee** corroborated such outlook. “The present western dominance — and this is quite obvious — will not last long... As the united world finds the path to the balance between various cultures making it through new centuries and generations, with time the western element will occupy a modest place, on which it may count on in compliance with these other cultures — alive and extinct — which the western expansion led to the contact with each other and itself” [91. P. 101].

However, after World War II at the completion stage of the industrial society the western European civilization found forces to emerge from desolation and transform into one of the centers of the formation of the post-industrial society. The surmounting of interstate rivalry and

a series of wars, formation of the civilizational union – European Union, which may serve as a model for other civilizations and whole civilizational world, contributed to it.

A delay with the approval of the all-European constitution generated doubts in the maintenance of the unity of the western European civilization (which is absorbing eastern European step by step). However, these delays will hardly turn out to be fatal. There is a hope that integration tendencies will prevail.

A Bound Forward of the North American Civilization. A typical feature of the last century and a half was a vigorous rise of the north American civilization. It emerged as a daughter civilization with respect to western European on the basis of the merge of several waves of immigration – most active and flexible part of population of the European countries and forced import of Africans as slaves. Further the influx of incomers from Latin America, China, Japan, and Russia intensified to North America. It is this specifics of the north American civilization, which had hived off as a result of the war for independence from England, that determined its expansive nature and a freedom loving, energetic character. Here the incomers from various civilizations were melted like in a melting pot forming a new civilizational community.

A zigzag of the history was the revival of the relics of the slave system in North America in the ocean of established capitalist relations. Surmounting of these relicts opened the path for a vigorous rise of the US economy. The USA reached the peak of the economic might in 1918. The crisis of 1929-1933 struck most painfully the US economy, however, World War II and the post-war reconstruction restored the leadership of the north American civilization again. Only by the end of the 20th c. the north American civilization somewhat was moved aside under pressure of Japan, new industrial countries of South-Eastern Asia and China.

However, the USA remained an unconditional leader of the West and most powerful power of the world, the nucleus of the western civilization confronting the Eurasian civilization represented by the USSR, countries of the world system of socialism.

At the end of the 20th c. after disintegration of the USSR, Comcon, Warsaw treaty, the USA remained the only super power and began to lay claims to the place, which was occupied by the western European civilization in the 19th c. This position was clearly expressed by **Zbigniew Brzezinski**. “America occupies the dominating position in four fields of the world power that has a decisive significance: in the military field, it has global opportunities of the evolvment without a rival; in the field of economy, it will remain the major driving force of the world development, even de-

spite the competition in individual fields from Japan and Germany...; in a technological respect, it maintains the absolute leadership in the advanced fields of science and technology; in the field of culture, despite its certain primitivity, America enjoys the attractiveness with no parallel, especially among the youth worldwide... It is exactly the combination of all these four factors that makes America the only world super power in a full sense of this word... The American might manifests itself through a global system of an obvious US-make reflecting internal US experience" [8. P. 36].

The north American civilization is the youngest of all civilizations acting in the geopolitical arena of civilizations and it is at the stage of the rise in its life cycle. Its force is in it, but the weakness is also in it and is in its unreasonable self-assurance and inability to take into account the fundamental interests of more long-lived sophisticated civilizations with many-century experience.

Latin American Civilization. The Latin American civilization is a daughter with respect to western European civilization. It formed relatively not long ago in terms of a historical time scale — in the 19th century and was a result of the merger of three civilizational flows: unlike in North America, quite strong remains of ancient pre-Columbian civilizations; western European civilization in its Iberian (Spanish-Portuguese) modification that experienced a strong Moslem influence; inflows of slaves from Africa with their original culture.

The prehistory of the formation of the Latin American civilization (after Columbus discovered America) includes extermination of the indigenous civilizations, plundering and import to Europe of the riches accumulated by tens of generations, severe colonial regime, revival of the slave system on large plantations.

It is possible to speak about the beginning of the formation of the Latin American civilization after a successful end of the war of American colonies for in 1810-1828 and the proclamation of independence from Portugal by Brasilia in 1822. This gave impetus to the development of capitalism in South America, but at the rates much slower than in North America. The economic independence from Western Europe, and later from the USA remained, against an active cross-civilizational dialogue, trade and cultural exchange. A series of revolutions, especially the Mexican revolution of 1910-1917, intensified a thirst for a civilizational self-identification, which manifested itself pronouncedly especially after World War II. Military-totalitarian regimes, high rates of inflations restrained this process. The signs of the formation of a modern highly technological economy could be observed only in the last decades of the 20th c. in a number of countries. However, a share of Latin America remains insignificant in the world GDP.

The Australian continent. Here the tendencies of the civilization development were different. Long isolation of the continent from the rest of the world resulted in a lagging in the historical development: in the 18th c. about 500 tribes of a total number of **250-300** thous. people doing hunting and gathering numbered here.

As a result of colonization of Australia and New Zealand the indigenous population was partially exterminated, partially ousted to the barren regions. Unlike Latin America, the population of Europe was relatively civilizationally homogeneous. Capitalism developed rapidly both in the agriculture and industry. In the beginning of the 20th c. the status of dominion was obtained and at the end of the 20th c. a mixed oceanic civilization, which includes many states of Polynesia, Micronesia, and Melanesia was formed.

Civilizational Process in Africa. Africa that is the largest continent after Eurasia is the cradle of man, who settled from here to other continents in the Paleolithic. Africa was the field of interlacing, interaction and struggle of various civilizations — African and external origin — both in the first and second historical super cycles.

“From the 2nd-1st and until now harsh contrasts are typical of certain countries of Northeastern Africa in the level of social development: pre-civilizations and proto-civilizations neighbor with highly developed civilizations... Geographical conditions contributed to the existence of several seats of civilizations in the regions during two and a half — three and a half millennia, and a fruitful exchange of cultural information occurred among them “ (26. P. 71).

North Africa outstripped in its civilizational development other regions of the continent. The Egyptian civilization of great antiquity that served the seat of a civilizational advance in the early class society formed here. In the ancient society, Carthage, which reigned over the southern coast of the Mediterranean Sea, a larger part of the Iberian Peninsula, Corsica, Sardinia, and Sicily was a rival of Rome; Carthage was ruined only in the middle of the 2nd c. B.C. From the 4th c. B.C. to the 5th c. A.D. in the headwaters of the Nile a strong Mercitian kingdom existed, in the first half of the 1st mil. the Kingdom of Axum — on the territory of modern Ethiopia. Central, Western and South Africa somewhat lagged in its civilizational development.

Beginning from the 4th c. A.D. North Africa became the field for penetration of Christianity, and then from the 7th c. — Islam.

“In the 4th — first third of the 7th c. the Kingdom of Axum reached the top of its military-political and trade might... Axum assimilated rapidly the achievements of the southern Arabian, Meroitic, Roman-Byz-

antine and Indian civilizations... The Axum king and his subjects adopted Christianity in the middle of the 4th c. ...Having risen to the level of the millennium civilizations of the Nile basin and Arabia, the Axum civilization renders its influence now on them, which is associated with the military way of life, political structure and Christianity... In Sudan, a new civilization was taking shape — Christian Nubian. Its rise took three centuries — the 7th-9th cc., and the peak fell to the second half of the 13th c. ” [Ibid. P. 74-75].

The rise of the Moslem civilization, which emerged in the 7th c., led to its expansion to North Africa. In the 7th-8th cc. Egypt and North Africa made a part of the Arabic caliphate. And North Africa is a part of the Moslem civilization to this day.

In the period of the Middle Ages and next periods Ethiopia remained a Slavic (monophysitic) Christian country, which had assimilated the heritage of the Axum civilization.

The fate of the peoples of the Western and Central Africa formed tragically in the periods of the early industrial and industrial world civilizations. Already since the 14th c. Portugal began slave-trading. Great Britain, France, Holland, Denmark, and then the USA went into this profitable business. Tens and hundreds of Africans died en route and at the plantations, vast areas of the African continent were devastated, economy and culture declined. According to certain estimates the losses of Africa from slave-trading made about 100 mln. people. It was a commercial genocide, the recrudescence of slavery on the commercial-capitalist base. The western civilization gained strength on the blood and sweat of the African slaves.

In the 19th c., the western European civilization carried out colonization of almost the entire African continent. If one tenth of Africa was colonies by 1876, then already 9/10 — by 1900. The struggle for the redistribution of the African colonies developed between colonial empires.

Only after World War II in the 50s-60s of the 20th c. a vigorous process of de-colonization unfolded on the African continent, tens of independent states formed. However, economy remained to a great extent in the hands of former metropolitans and TNC, which impedes an economic and social advance.

By the end of the 20th c. on the territory of Africa an independent African civilization was formed to the south of the Sahara, which included heterogeneous civilizational elements, but in many ways common prevailing elements of culture, ethics, and mentality. The industrial civilization left a heavy heritage in this part of the African continent. According to the World Bank the GNP level per capita was 51.5 times lower here in

1999 than in the countries with a high level of income, the level of infant mortality – 25 times higher, the level of illiteracy of the adult population – 32% with men and 49% with women. This is the heritage of the dominance of the West in Africa.

6.3.3. Dialogue and Interaction between Civilizations of the Third and Fourth Generations

The typical tendencies of the elapsed millennium and a half are, first, the expansion of the civilizational field, which is gradually extending over all populated part of the planet, and second, intensification of various forms of dialogue and interaction among civilizations, increasing of their mutual influence in economic, technological, political and socio-cultural development.

Great Trade Roads. The major channels of dialogue and interaction among civilizations were the great trade-transport roads – from the East to the West and from the North to the South. Some of these roads had formed in the previous period, but they got a new development from the second half of the 1st millennium A.D.

The *Great Silk Road* became most known; the flow of silk fabrics, incenses and spices, decorations and jewelry went from China and India to Byzantium and Western Europe and back – items of European craftsmen, and weapons.

The *Baltic-Dnieper Road* (“the Road from the Varangians to the Greeks”) and the *Great Volga Road* (“from the Varangians to the Arabs”) played a significant role in the formation of the Russian civilization as the channels of an intensive cross-civilizational exchange not only in commodities, but cultural achievements.

After the discovery of the New World a *transatlantic sea passage* from Europe and Africa to America by which the caravans of vessels with gold and silver, goods, and slaves sailed became of prime significance.

The invention of steam-engines and steamboats intensified extremely the cross-civilizational commodity exchange in all directions, increased the number of transportation routes that crossed the earth both by parallels and meridians. This process was intensified many times in the 20th c. with the formation of the world economy.

From the end of the 20th c. a tendency towards the formation of international transport corridors appeared as channels of globalization of economy, through which a stable cross-civilizational exchange is carried on.

Establishment and Disintegration of Colonial Empires. In the feudal-capitalist period, the formation of the world colonial empires became a channel for a cross-civilizational interaction.

A number of the world empires of that period — Byzantine, Chinese, and then Ottoman, Russian, Austro-Hungarian — were built mainly within one civilization, although included the marginal fields overlapping with allied civilizations. However, in the period of the great geographical discoveries, conquering of America the empires of another, colonial type emerged. A small in size and number metropolitan established its military-political and economic dominance over other civilizations or their part.

In the 16th c., the colonial empires included Spanish and Portuguese, which divided the New World between each other. However, in the 17th c. the primacy passed to the British Empire, which conquered India, North America, a considerable part of Asia and Africa. According to the proverb, which existed in that period, the Sun never set on the British Empire. The French, Netherlandish, and then German Empires competed with it.

The dawn of colonial empires fell to the second half of the 19th — beginning of the 20th centuries. Then the period of their decline began and completed with the disintegration of the colonial system after World War II. However, a close economic and socio-cultural interaction among civilizations remained within former colonial empires (the British Commonwealth of Nations).

Establishment and Development of the World Market . Trade relations between civilizations developed from the very beginning of their emergence. First, they were irregular, but international trade acquired a large-scale and regular nature already in the ancient period, regional world markets formed. But it is early to speak about the world market in this period as in the period of the Middle Ages.

Only on the basis of the early industrial civilization, after the great geographical discoveries, conquering of America and Australia the signs of formation of the world market as the major field of economic interaction between countries and civilizations appeared. This process intensified with the establishment of the world colonial empires, emergence of large trade companies, which specialized in such exchanges (for instance, the East India Company). The re-distribution of riches occurred through trade in favor of parent states.

The world market as a part of the world capitalist economy established in the industrial society to a full extent, especially in the second half of the 19th and beginning of the 20th cc. An international division of labor,

proportions of reproduction in a world scale underlies it. International monopolies, and from the last third of the 20th c. — transnational corporations are the major subjects of this market and appropriate a major portion of profit and super profits generated as a result of its development.

Geopolitical Aspects of Interaction among Civilizations. The geopolitical map of the world changed many times in the feudal-capitalist period. Political relations between civilizations maintained in various forms — from the interstate unions to military conflicts.

A series of cross-civilization wars came in the 7th-13th cc. The largest of them is the Arab conquests; crusades, several waves of the incursions of the nomadic Mongolian civilization on Europe and Central Asia, and Transcaucasia.

In the period of the early-industrial civilization the clash of the western European civilization with the indigenous civilizations of America, which ended with a loss of the latter, assumed the most tragic nature. The wars between the catholic West and the Moslem East, wars for conquering India, Australia, Africa, numerous clashes between the Russian and Ottoman Empire were of a cross-civilizational nature. But relations between civilizations were not reduced only to wars. Political alliances were concluded not once, an active exchange of commodities, scientific achievements, and cultural values was maintained.

Political relations between the western European and Russian civilization were of a complicated, contradictory nature. Military conflicts (the Napoleon's inroad into Russia, the Crimean War where France and England united their forces with the Ottoman Empire). However, the relations of dialogue, trade and cultural exchange and political unions prevailed (for instance, after the Napoleon wars).

The world wars of the 20th c. — the bloodiest in the history — were of a mixed nature. In World War I one part of the western civilization (the Entente) united with the Russian Empire in struggle against the other part of the western civilization (German and Austro-Hungarian Empires). The alignment of political forces was similar in many ways during World War II. The period of the “cold war” bore an imprint of not only ideological, but civilizational confrontation: the western civilization (first of all North American and Western European) stood in opposition to Eurasian (Russian) and Chinese.

With the end of the “cold war” the alignment of forces in the geopolitical arena changed drastically. The Eurasian civilization disintegrated; the confrontation of the USSR and the USA as two super powers — centers of civilizations ended. At the same time the activity of the Moslem civilization increased considerably.

Socio-cultural Dialogue among Civilizations. The feudal-capitalistic period was characterized by an increasing intensity of dialogue among civilizations in the socio-cultural sphere — in science, culture, education, and in the field of religious relations.

In the period of the early Middle Ages the achievements of the Chinese science and technology, and also the ancient heritage were assimilated by the Moslem civilization and transmitted to western European (along with the transmission of such heritage through Byzantium). An accelerated scientific advance, the fruits of the great scientific revolution of the 15th c.-17th cc. and further overturns in sciences were quickly assimilated by other civilizations. At the end of the 19th-beginning of the 20th c., the epicenter of the scientific advance shifted to the USA and Russia.

Culture of various civilizations bore a more original and stable nature. The formation of the colonial empires led to the cultural expansion of the West; but it mainly extended to the upper section of other civilizations. However, the original culture was mainly destroyed in the New World. At the beginning of the Middle Ages the bloom of the Chinese, Indian and Arabic civilizations was observed. In the Renaissance the epicenter of the cultural advance moved to Italy, then to France, England, and Germany. In the second half of the 19th c. and the first third of the 20th c. one of the epicenters of the cultural rise was the Russian civilization; its achievements, especially in literature and music, acquired the world nature.

From the end of the 20th c. the tendencies in the cross-civilizational cultural exchange assumed a contradictory nature. On the one hand, using the global information space the values of the West are being imposed on other civilizations. On the other hand, as a response to the leveling tendency, increasing attention to national and civilizational cultural values, the signs of the new Renaissance are observed.

There was a lot in common in the development of the systems of *education* of the civilizations of the third and fourth generations. Experience of organization of education in China and Byzantium was used by other civilizations. The establishment of the universities in Western Europe promoted their spread worldwide. Organization of theological education in the Middle Ages in the countries of the West and East had similar features. The revolution in education of the industrial period, whose epicenter was in Western Europe, spread wave-like round the world. The unique system of education in Russia (the USSR) became the object of investigation by other countries.

Although its own system of *ethical and religious values* is inherent to each civilization, the dialogue also developed in this sphere, general development trends were observed, especially in the early-industrial and

industrial societies. In the periods of the genesis of feudalism and Middle Ages there was an active spread and confrontation of world religions to the extent of religious wars, which often served as the reason for clash among civilizations. In the industrial society the influence of religions and the systems of moral values supported by them dropped. However, at the end of the 20th c. the Renaissance of religions was observed, which was determined by a crisis in the world outlook in many ways.

At the turn of the millennia the signs of a deep-seated crisis in science and culture, negative moral and religious polarization are observed in all civilizations. The dialogue among civilizations will help to surmount such crisis phenomena in the transitional period to the humanistically noospheric post-industrial society.



Checklist and tasks to Chapter 6

1. Describe the world civilizations of the second historical super cycle — medieval, early industrial, industrial. Demonstrate it by examples.
2. What are specific features of the medieval civilization? Why did religion play the leading role in this period? Demonstrate by an example of Christianity, Islam.
3. Show the chronological frameworks and achievements of the early industrial world civilizations, the role of great geographical discoveries and colonization of America in dynamics of civilizations.
4. What are the stages of establishment, evolvement and decline of the world civilization, the role of the industrial revolution in its establishment and evolvement?
5. Describe specific features and stages of development of local civilizations of the third and fourth generations.
6. What role did dialogue and clashes among civilizations play in their dynamics? Could World War I and II be viewed as the clash of civilizations?
7. What are the results and achievements of the civilizational progress for the period of the second historical super cycles? Demonstrate it by an example.

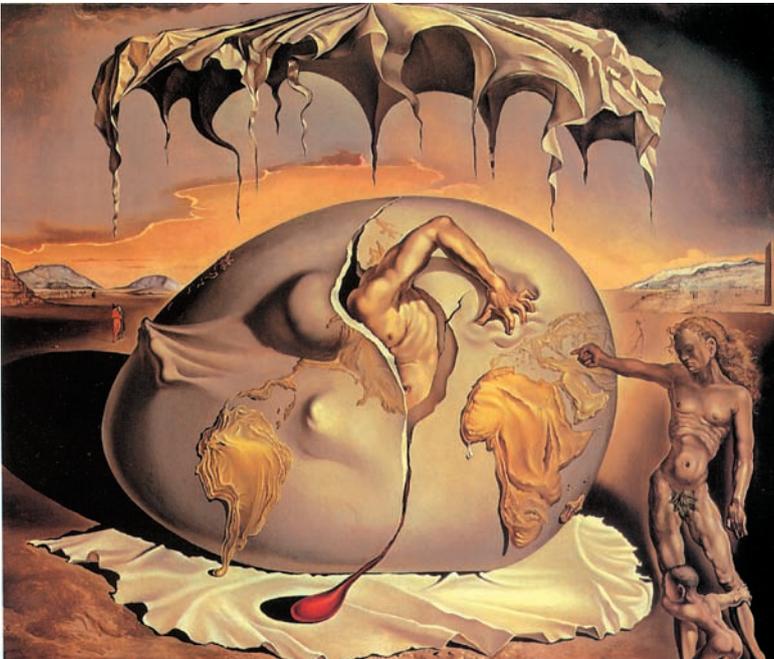
PART THREE

THE FUTURE OF CIVILIZATIONS

Theoretical basis and historical researches into dynamics and interaction of civilizations allow identifying regularities and tendencies of their movement and based on this to determine the outlines of their future, development and interaction of global, world and local civilizations in the 21st century within the third historical super cycle beginning before our eyes. It might be assumed that if the development of humanity will go the identified pattern then it will include three related world civilizations and two-three generations of local civilizations. However, this is only a hypothesis which will be tested by the future development. The outlines of civilizational dynamics for the first half of the 21st century look more definite. We are lucky to be witnesses and participants of the historical turning point, change of historical super cycles and world civilizations. A present-day typhoon of changes is transforming the look of the world and our idea about it. Surely, it is not easy to live in such time. It is more so important to realize the depth, understand historical roots and the essence of such transformations so that to imagine all possible scenarios of the future of civilizations.

Chapter 7

THE OUTLINES OF CIVILIZATIONS OF THE 21ST CENTURY



Salvador Dalí. Geopolitical Child Watches the Birth of the New Human. 1934.

At the end of the 20th – beginning of the 21st c. dynamics of civilizations – global, world and local – is at the abrupt breaking-off. A new generation of local civilizations the fifth in succession is nascent in the throes. The industrial society is painfully transforming into post-industrial. A long transition from the second to the third historical super cycle is evolving. The sensual socio-cultural system prevailed within five millennia is being replaced by integral. It is necessary to discern the outlines of the system of civilizational relations of the century already in through a dense, intricate net of chaotic changes. It is difficult but necessary for working out a long-term strategy and correct understanding of own place in the rapidly changing world.

7.1. At the Outset of a New Historical Super Cycle

The most remarkable feature of the present-day period of the world history is the completion of the life cycle of the industrial world civilization that prevailed during more than two centuries and the formation of a new post-industrial civilization, the essence and major specifics of each are just being formed growing out of contradictory tendencies of the past and the present.

This historical rift changes the look of humankind. All the scheme of society undergoes deep transformation, all floors of a civilizational pyramid. Globalization develops vigorously giving rise to new contradictions. Understanding of deep processes and contradictions of the transformation of the industrial society into post-industrial, separation of obsolescent, doomed to become the historical past from the nascent, still weak, but having the outlooks for the prevalence in future is a necessary precondition for the working out of a founded strategy for each state, each civilization, each social and political force, and humankind in general.

The germination of the post-industrial society. The intellectuals — scientists, futurologists were the first who felt underground pushes of the nascent new world civilization. **Pitirim Sorokin**, the Russian-US sociologist has proved convincingly in his four volume book “Social and Cultural Dynamics” [184] published in 1937-1941 and in the book 1964 “Basic Trends of Our Time” [92] the inevitability of the approach of a new, integral, socio-cultural system coming to replace a decaying western sensual system. US sociologist **Daniel Bell** wrote a report about the post-industrial society in 1962 and in 1967 published a fundamental work “The Coming of Post-Industrial Society. A Venture in Social Forecasting” appeared in **1999** in Russia [4]. He had come to the conclusion already then that the transition to the post-industrial is inevitable: “The thesis put forward in this book is that we’ll witness the

emergence of what I call the “post-industrial society” in the next thirty-fifty years... The post-industrial society as a social form will be the main feature of the social structures of the United States, Japan, Soviet Union and countries of Western Europe ” [Ibid. P. CLXVI].

In a wider context, the problems pertaining to the formation of a new civilization were addressed in the book of **Alvin Toffler**, US futurologist, “The Third Wave” published in the USA in 1980 and appeared in Russia in 1999 and his new book “Revolutionary Wealth” [93]. Toffler assessed the formation of a new civilization as the “third wave” in the history of humankind after the Neolithic revolution that laid the beginning of the agricultural civilization and the industrial revolution that was at the cradle of the industrial civilization: “The new civilization is aborning in our lives... The beginning of this new civilization – the only and having the strongest blasting force is the fact of time where we live. This is the central event, a key to understanding of time following after today. This phenomenon is as deep as the First Wave of changes caused by mastering of agriculture 10 thousand years ago or the striking Second Wave associated with the industrial revolution. We are the children of the next transformation – the Third Wave... Humankind is in for drastic changes. It faces the deepest social overturn and creative reorganization of all the time... A lot of this emerging civilization conflicts with the old traditional civilization. It is a highly technological and anti-industrial civilization at the same time” [Ibid. P. 31, 32, 33].

In Russia, the concept of transition to a new civilization was formulated in 1992 in the report “Formation of the Post-industrial Civilization” at the International Scientific Conference devoted to a centenary celebration of N.D. Kondratieff (a discussion “Kondratieff Cycles and the Future: Looking into the 21st Century”). The major finding of this report: “The major features of the post-industrial civilization that will become prevailing and reach its rise in the 21st century are taking shape more and more definitely already now... The prime feature of the post-industrial civilization will become the revival of high culture, the priority of spiritual reproduction”.

These ideas were developed in the treatise “At the Outset of a New Civilization” [117] published in 1993 in Russian, and then in English. The major finding of this treatise: “Concurrently with the decline of the industrial civilization and in confrontation with it new, post-industrial is nascent, the heyday of which will likely fall to the middle of the 21st century. The shoots of new are being formed now that we will have to learn to discern and support. This is man competent and skilful, active and creative. This is a humanized reproduction based on the priority of

the consumer sector, high and resource-conscious production technologies. This is a new system of economic, social and political relations... This is the primacy of spiritual world, flourishing of individual abilities and talents, rising to new heights of national and international culture” [Ibid. P. 130-136].

Our more complete idea about the post-industrial civilization, its humanistically-noospheric nature is incorporated in the textbook “History of Civilizations” [136]) and in the second volume of the monograph “Civilizations: Theory, History, Dialogue and the Future” [49].

The framework and stages of the transitional period. A change of civilizational cycles, and moreover historical super cycles is a long, painful process with the grinding break-up of the prevailing, obsolete, but accustomed forms of social and economic life supported by force of inertia, social institutes, customary way of life, accustomed scientific paradigms, esthetical views and ethical standards and at the same time — formation of a new, unaccustomed way life, yet weak at this stage. A transitional period from old to new world civilizations lasts for decades, passing through a number of stages.

Few doubt that humankind has entered the transitional period. Three major parameters of the historical dynamics indicate it: speed of changes (what has appeared inviolable, established by years, decades, and even centuries, is radically changing all of a sudden during several months, and even days); their depth (shifts are observed nearly in all strata, all floors and all apartments of the civilizational pyramid); geographical scale (it is difficult to name a country that is not involved in this boiling swirl of changes). All accustomed, established is changing vigorously and painfully under conditions of an acute crisis that has left none of the sides of society’s life not involved, a future civilization is nascent in the throes.

Obviously, these changes overstepped far the framework of current fluctuations and medium-term cycles that regularly shake countries and continents. But how the essence and scale of historical changes could be assessed. To the beginning of what kinds of historical cycles could the present transitional period be attributed? Three answers to this question are possible:

1. A change of long-term historical cycles occurs within framework of the industrial civilization — the beginning of the next stage in its dynamics. The leading technological, economic, socio-political systems, prevailing scientific, cultural, and ideological paradigms change each other. In such instance, the foundations of the industrial society remains unshakable, only the forms and mechanisms of their implemen-

tation change. In the epicenter, the transitional period takes about a decade and lays the foundations of the up wave for several decades ahead; this process begins later on the periphery and may be extended over a longer period.

The fact of current change of orders is indicated by many identified tendencies in all spheres of social life. But first the depth of the overturn has exceeded the scale usual for long-term cycles: the fundamentals of the industrial civilization that were established by centuries are turned out to be involved. Second, despite expectations the duration of the transitional period has exceeded considerably the usual one for the change of semi-century cycles. Two decades have already elapsed, and the “earthquake shocks” and “lava flow” do not stop. It is obvious that matter concerns the historical cycles of a larger scale.

2. From the last quarter of the 20th c. humankind entered the transitional period to the post-industrial civilization; a change of super long (civilizational) cycles has begun. Both the depth, and duration of the overturn become clear. The very foundations of the industrial society, machine system of production, increasing concentration and centralization of economic and political power, turn of man into a part, a small screw of huge technological, economic and socio-political systems — all this is passing. The foundations of a new, post-industrial civilization are nascent.

In such case, the last phase of the retiring civilization and the first phase of coming, concurrent in time, determine the essence of the transitional period and its approximate semi-century duration that is equal to the duration of a long-term historical cycle. The contents, duration and outcome of a civilizational crisis are predetermined thereby. The transitional period is described by a mixed nature of technologies, economy, socio-political system, and also a series of resonating crises intensifying each other in all spheres of society. The nascent orders of a new society (technological, ecological) have the features of both the former and new civilizations, are transitional that determine their insufficient efficiency, difficulties of the formation in the environment that is incompatible with new trends in many ways. Only at the second historical step (a long-term cycle) the post-industrial civilization will be built on its own base.

At such approach the framework of the transitional period will take about a half of the century in the epicenter (in the vanguard countries). But on the periphery — near and distant — this process will last considerably longer. Throughout the historical period the post-industrial society that is going through a number of stages (semi-century cycles)

in a number of countries will co-exist and interact with the industrial and even pre-industrial society in other countries that lags from the leaders of the historical progress.

3. There are also grounds for speaking about the beginning of the transitional period to the *third historical super cycle* that will embrace the triad of civilizations of the third millennium following each other. Such transitional period will take approximately a century, bringing major social upheavals and transformation of society to its very depth. **Alvin Toffler** has warned of the complexity and dangers of today's transitional period: "The transitional period will be marked by major social upheavals, powerful shifts in economy, technological failures and catastrophes, political instability, violence, wars and a threat of wars... No man of sense can foresee assuredly the outcome of these processes. The clash among two civilizations involves a grave danger in it" [12. P. 558].

At such approach the framework of the transitional period expands. It embraces two phases of the post-industrial civilization (about a century, i.e. approximately two long-term cycles). Obviously, that the structure of this period will turn out to be more complicated, it includes several periods of downs and ups, long-term cycles changing each other and crises when they change.

7.2. The Essence of the Post Industrial Integral Civilization

Concepts of the Post-Industrial Society. The absolute majority of scientists agree that humankind has entered the transitional period from industrial to the post-industrial society at the turn of the century. But what will be the contents, major distinguishing features of the world civilization aborning before our eyes? All kinds of answers are given to this question. Let's mark two most prevalent mutually exclusive concepts of the essence of the post-industrial society — both information-computerized or humanistically noospheric.

The concept of information-cybernetic society. A new information revolution that evolved in the developed countries in the second half of the 20th c. found its expression in the spread of computers, information systems, telecommunications, a vigorous growth of the information sector of economy, creation of the world wide web of Internet, strengthening the influence of the information flows on the conscious of people,

their demands, and behavior. The concepts of *information-based civilization*, complete informatization of society became widespread, and replacement of human vital systems with man-made, cybernetic, and transformation it into a biorobot in prospect. “As we approach the end of the twentieth century, it becomes increasingly obvious that we enter the era of information. It means not only the development of communications that existed before, but germinates new *principles* of social and technological organization that may be compared with great transformations of the recent centuries” [12... P. CXX].

The information revolution is really transforming all spheres of society:

➡ Information products and services occupy a key role in economy, in the number of the employed and GDP of developed countries, are leading in globalization;

➡ Productivity of labor of scientists, speed and scale of dissemination of new knowledge, information about events at any point of the world, achievements of culture became planetwide, distance learning develops; the matter in question is entering a knowledge-based society;

➡ The opportunity of the real involvement of people at large in political processes, democratic control over the activity of state institutions, and political parties.

However, the outburst of information technologies brings also new dangers. A small number of super powerful information TNC has established control over this sector and generate a huge information quasi rent, fill in information channels with the contents imposing western civilizational values worldwide. A danger of the today’s model of informatization was noted by **N.N. Moissejev**. “Information society”... really produces revolutionarizing influence on society, changing rapidly our life conditions. It renders an enormous influence on the spiritual world of people and is able to reshape the fundamentals of morality. Man has acquired powerful, but an extremely dangerous weapon in it, not less powerful and not less terrible in its consequences as an atomic bomb...Let’s imagine that all that immense information system that has already been created on our planet and the might of which will increase exponentially with each decade, could once be in the hands of a small group of people pursuing own mercenary interests... In such situation, a global zombing of the planetary humankind will occur. It will be sophisticated information totalitarianism that is more terrible than any forms of totalitarianism known to humankind, although it will have a “civilizational” nature... It is the end of history as society is doomed”. [65. P. 83, 85].

The global information crisis of 2001–2002 has demonstrated that the possibilities and outlooks of informatization are strongly exaggerated. It will occupy its worthy place in the future society, but it does not express its major essence. The definition of the post-industrial world civilization as information means an attempt to lengthen the existence of the industrial society when man has become an appendage to the machine system.

The concept of humanistically noospheric society. The alternative approach to understanding of the essence of the post-industrial society that is being formed before our eyes is proposed by a modern school of the Russian cyclicism that views the post-industrial world civilization as *humanistically noospheric society* where Man, his spiritual world and free creation, the principles of rational co-evolution of nature and society are brought to the forefront. What are the major features of this new world civilization that inaugurates the next historical super cycle?

From our viewpoint a major watershed between industrial and preceding world civilizations is in the fundamental *change of the position of man in reproduction and society, in its consistent humanization*. In the early industrial and industrial societies formally free man became more and more a part of the huge mechanism created by him — industrial, market, political, turned into the means, and not the end of social development, included perforce in the logic of events and actions not determined by him, into an appendage, a screw of a powerful soulless machine. In the humanistically post-industrial society it is man, his all-round development, free creation becomes the supreme, long-run objective of social development, a measure of efficiency of decisions taken and actions undertaken. It is not productive forces and market mechanisms as tools for a growth of profit that comes to the forefront, but spiritual sphere — science, education and culture, ethics and religion ensuring an all-round development of man and his adaptation to the changing conditions of life. It implies humanization of technologies and economic relations, political system and globalization.

The second, inseparably connected with the first distinguishing feature of society follows thence *ensuring rational co-evolution of nature and society, noospherization of civilization*. It is impossible to ensure health and quality of life of man, survival, development and prosperity of biological species Homo sapiens who has reached a hazardous level of influence on biosphere, and the environment. On these assumptions we believe that the post-industrial civilization going through the phase of formation will be not information-technocratic, but *humanistically*

noospheric. And these are not velleities, but an objective necessity: humankind will not survive failing this.

Alternative scenarios of the future. Two possible scenarios of the formation of society of the 21st century have been addressed above: formation of the *information-technological or humanistically noospheric* world civilization. Scientists and futurologists put forward alternative scenarios for the system of the world in the 21st c. that lie deep in the now tendencies. Let's consider four such scenarios featuring split civilization; Pax Americana; self-destruction of humankind; dialogue and partnership among civilizations in the ensuring of global sustainable development.

1. The concept of Pax Americana; – the new world empire under the aegis of the USA – is most clearly defined in the book of **Zbigniew Brzezinski** “The Grand Chessboard” [17]. The contents of this concept are reduced to the following:

➤ after disintegration of the Warsaw Pact, Comecon and the USSR the USA became the only and last real world super power, occupied the dominating positions in the military field, in the field of economy, technology and culture;

➤ the purpose of the US policy is to “consolidate own dominating position, establish a geopolitical structure that would ease inevitable upheavals and tension caused by socio-political changes and concurrently forming the geopolitical core of mutual responsibility for the rule of the world without war” [Ibid. P. 254];

➤ Eurasia will become the major field of geopolitical struggle in the 21st c.; strengthening the partnership with Western Europe the USA will promote the movement towards the confederate structure of Russia, intensify the influence in the Far East, in South and South-Eastern Asia; dominate in it. Zb. Brzezinski has detailed this scenario by determining its objectives:

➤ strengthening of the US-European global partnership, transatlantic alliance between the US and Eurounion;

➤ expansion of the NATO and Eurounion – first due to the accession of the countries of Eastern Europe and the Baltic, and then – Ukraine and Caucasus, finally the admission of Russia to the NATO;

➤ promotion of democracy in the Moslem countries;

➤ transformation of the forming balance between the USA, Japan and China, establishment of the trans-European multilateral structure of security.

After tragic events of September 11, 2001 under the guise of combating international terrorism the USA has begun to pursue more actively

Brzezinski's doctrine, the line towards the establishment of the unipolar world and a decisive role of the USA in all regions of the world.

However, this tendency can't, but cause a response of other countries and civilizations that are aware and advocate own interests. The claims to the world dominance were made not once in the past and failed each time. The concept of Pax Americana is not in line with general historical tendencies and has no chances to be implemented in the 21st century.

2. The concept of the clash among civilizations is more completely formulated in the treatise of **Samuel Huntington**, US politologist [121]. The root of his position is reduced to the following in a nutshell:

➔ relation of forces between civilizations changes – the influence of the West reduces relatively; Asian civilizations build up their economic, political and military might; Islam is going through a demographic outburst;

➔ growing claims against the West result in more and more clashes with other civilizations, especially the Islamic world and China; on the local level – wars by lines of rifts, especially between Islamic and non-Islamic groups lead to further escalation;

➔ survival of the West depends on the ability of the USA to accept its civilization as unique, and not universal, unite it and stand up to challenges from the non-western societies. The opportunity to eliminate a global war of civilizations depends on to what extent the world leaders are able to meet this challenge and to agree to cooperation for the maintenance of a multi-civilizational nature of world policy.

Many tendencies of the formation of the multi-civilizational system of the world and the aggravating threat of the clash among civilizations have been noted correctly by **S. Huntington**. But it should be taken into account that under conditions when many civilizations have nuclear weapons, their clash growing out of local conflicts, may instigate the omnivorous fire of a thermonuclear war. Its result will be a self-destruction of humankind, "nuclear winter" the scenario of which was worked out by **N.N. Moissejev**, destruction of biosphere or putting it into a state where there is no that narrow niche occupied by man.

3. The optimistic scenario of the future system of the world based on the dialogue and partnership of civilizations in ensuring a global sustainable development rests on the concept of sustainable development formulated in the report "Our Common Future" [68] approved at the conference in Rio de Janeiro (1992) and reaffirmed at the summit in Johannesburg (2002), and in the movement for dialogue and coop-

eration headed by the UN and found its expression in the resolution of the UN General Assembly dated 9.11.2000 the “Global Agenda for Dialogue among Civilizations”. This scenario was substantiated in the Concept of the formation of the multi-polar world on the basis of the dialogue and partnership of civilizations worked out by the Pitirim Sorokin – Nikolai Kondratieff International Institute and approved at the 4th International Kondratieff Conference. [49. Appendix 3].

The basic points of this concept are as follows:

➡ Globalization opens new opportunities and at the same time it generates new contradictions and dangers; the choice arises between the models of a multi-dimensional, bipolar and multi-polar system of the world. “The model of *a multi-polar system of the world* in the 21st century seems most real and promising. A sustainable model of the multi-polar world may be implanted only on the basis of the dialogue and partnership of local civilizations” [Ibid. P. 39]. The formation of this model is a complicated, contradictory and long process; it will take several decades.

➡ Historical experience endorses this model – several civilizations entered into dialogue, and even confrontation existed throughout millennia.

➡ The knot of the matters of the 21st century – demographic (crises of overpopulation in one countries and depopulation in others), natural-geographical (threats of depletion of a number of types of natural resources and environmental catastrophes), technological (a gap in the level of technological development of countries and civilization), economic (an increasing gap between the rich minority and poor minority of the population on the planet), geopolitical (threats of political instability, asymmetric wars, international terrorism, clash among civilizations), socio-cultural (tendencies towards devaluation of civilizational and ethical values, a loss of cultural diversity) may be solved only based on the multi-polar world, dialogue and partnership of civilizations.

➡ Mechanism of the implementation of the multi-polar system of the world includes a speedup of the formation of civil society expressing and protecting the interests of its power and legal institutes, enhancement of the role and responsibility of the UN and other state and public movements and non-governmental organizations.

➡ The implementation of the optimistic scenario is desirable, but it meets a lot of obstacles on its way that are difficult to surmount and first of all the resistance of powerful self-serving TNC and imperial ambitions of the USA under weak and disunited political forces interested in the implementation of this scenario.

Which scenario of the future of humankind will be implemented in the 21st century — will become clear only after the end of the first decades of the century already in. But it is already obvious that the fate of humankind depends on a clear awareness and activity of its thinking part of possible scenarios, road to the future and concentration of efforts on the optimal scenario allowing eliminating a fatal end in the history and keeping the planet and society for future generations.

7.3. Transformation of the Structure of Civilizations

The formation of the new world civilization, and more so — the next historical super cycle is connected with a deep transformation of the structure of society, all its elements, all “floors” and “apartments” of the civilizational pyramid. This transformation already began in the recent decades of the 20th centuries; it will embrace a considerable part of the century already in, although it will be happening with a various depth and at various speed in various countries and local civilizations. It is difficult, and even impossible now to visualize in detail how the world will look like by the middle and moreover by the end of the 21st century. But it is possible to outline the transformation of society on the assumption that the coming events cast their shadows before aborning from the past and the present; it is important to distinguish the germs of such future, and not to invent desirable. The foresight of the future is the same object to study into as cognition of the historical past, restoration of the times passed long ago.

Let’s consider which tendencies of changes are possible in the major elements of the structure of civilization — in man, family and population, technological base and a system of economic relations, in social stratification, state-political field, in the sphere of spiritual reproduction (in science, culture, education, ethics, and ideology) and we will be based on the optimistic scenario of the future development of civilizations.

7.3.1. Demographic Challenges of the 21st Century

The dawn of changes that will happen on the Earth in the millennium already in will depend first of all on demographic tendencies, changes in the number and structure of population, in the fate of

the family and man himself — his demands, abilities, knowledge, and skills.

The outlooks of the dynamics of population. In the second half of the 20th c., the dynamics of population on the Earth was characterized by a record demographic outburst for all its history: while population grew by 1.73 bln. peoples (2.2. times) for two centuries (1750–1950), then by 3.57 bln. (2.4 times) for the recent half a century. Where the number of less developed regions and civilizations grew most rapidly.

According to the UN's medium variant forecast the population increase rates will considerably slowdown in the first half of the 21st century — from 135% of the average annual increase in 1995–2000 up to 0.33 in 2045–2050 [133.P.20]. Nevertheless, the number of the population on the earth will increase from 6.1. to 8.9 bln. people according to the middle variant — nearly one and a half time (according to the upper variant — up to 10.6 bln., according to low — up to 7.4 bln.). It is expected that in the second half of the 21st c. the total number of the earth residents will stabilize on the level of 10-11 bln. people, and the tendency towards the decline in the population number might prevail in the next centuries. A demographic transition substantiated by Prof. **S. P. Kapitsa** will be realized thereby. The forecast of dynamics of the population size by regions of the world is given in [Fig. 7.1](#) (according to the UN's medium variant forecast). It will not practically increase in the rich countries, and it will grow 2.5 times in poor.

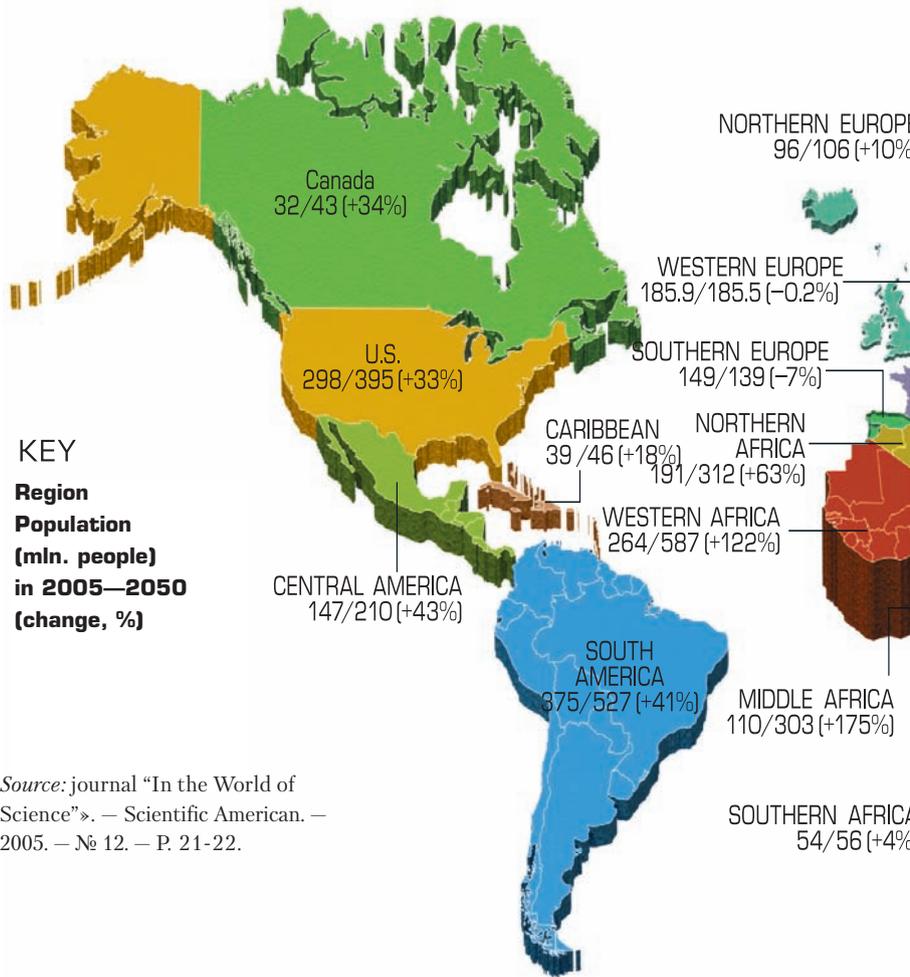
The tendencies forecasted for the first half of the 21st century will have negative consequences. The aging of population will occur: the mean age will grow from 26.4 in 200 to 36.8 in 2050 (by 39%), a share of population aged 0-24 will drop from 47.7 to 33.8%, and in the age of 60 years and above will increase from 10 to 21.11%. A demographic load on the able-bodied population will increase.

It is unreal and dangerous to solve demographic problems through the decline in the population number of the earth up to 1 bln. people (the concept of the “Golden Billion”). An attempt to implement such concept may instigate military conflicts. Humankind is able to feed a growing number of population based on profiting from the achievements of a scientific-technological overturn, a considerable increase in labor efficiency. Experience of China, new industrial countries of Asia, “green revolution” in India showed that it is real.

In the 21st century, we have to find the settlement of two types of demographic crises: overpopulation (especially in Africa, Latin America, India, and Moslem countries) and depopulation (in Western Europe,

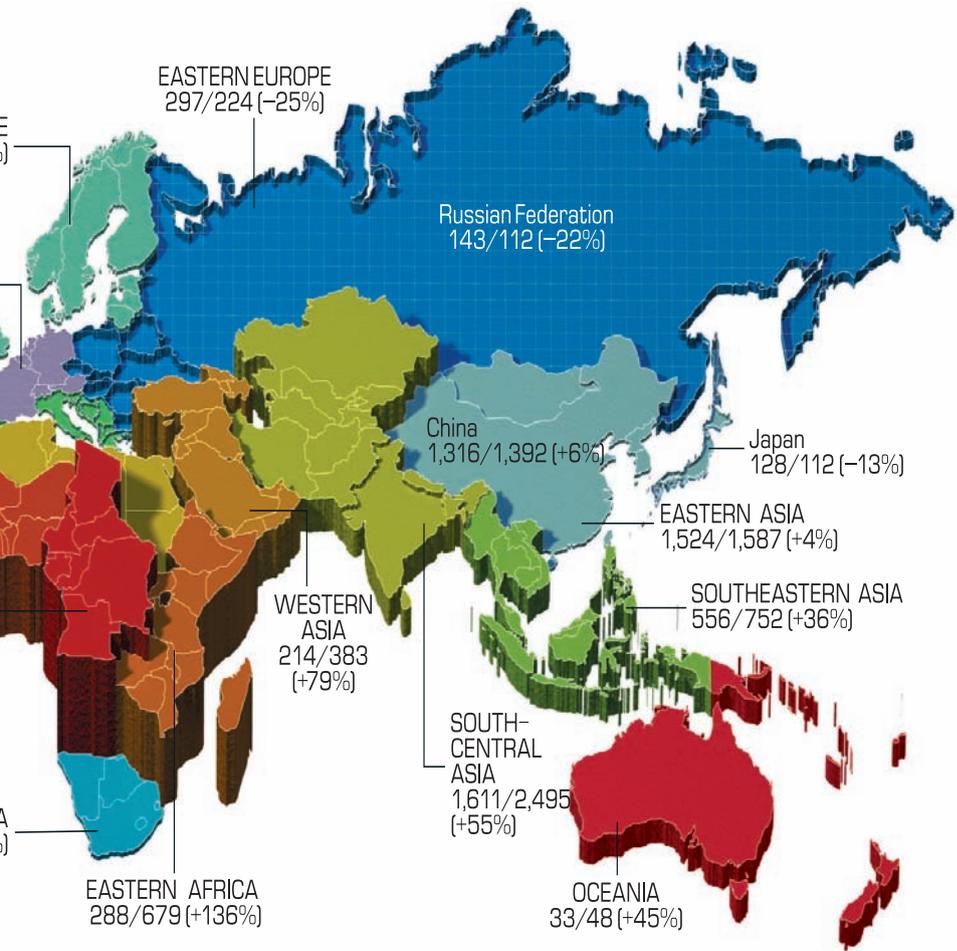
Figure 7. 1 .

Forecast of population size dynamics by regions of the world up to 2050



Japan, Russia, and Ukraine). It will allow bringing closer the tendencies of demographic dynamics in various countries and civilizations.

The fate of family in the post-industrial society. In family relations, contradictory tendencies are observed in the period of the formation of the post-industrial society. In a number of developed countries and countries with the transitional economy the role of family



continues decreasing as a social institute, the number of extramarital and unisexual relationships, the number of divorces, childless families and families with a small number of children, unparented children increases. In the developing countries, a long family remains the base of society, however women have much lower level of education or remain illiterate, poorly involved in social life.

“Sexual revolution” and decreasing the role of family have given rise to forecast a disintegration of the present form family in future, free sex relations, and passing of the function of upbringing people to society. However, these forecasts appear unreal.

In the long term, *three basic functions of family* will survive, although the mechanism of its implementation will be transformed. ***First, the function of reproduction of life, continue a family line, transmission of the biological genotype to next generations.*** Families are created to implement the law of continuing posterity supported by millions of years, failing which humanity will disappear soon from the face of the earth. Powerful instincts of maternity and paternity are inherent to any person, they are necessary for raising a normal child without a psychological damage. The now intensifying tendency to incomplete families deprives a child of normal childhood, becoming one of the reasons for a growth of infant delinquency, and wanton cruelty. Poorly endowed by society, he revenges. If this tendency persists and extends to developing countries, it will become a strong obstacle on the path to the revival of humanism that can't rest on rancor and cruelty.

There are reasons to assume that these negative tendencies that are mainly typical of developed countries in the transitional period will be surmounted to a great extent; that the family principles will survive in many countries of the world; that at the stage of maturity of the post-industrial civilization the tendency towards the revival of family will prevail as the main social unit.

The significance of the *second, economic role of family* increases, especially under difficult conditions of crisis, a growth of unemployment and struggle for survival. It seems as if a wide involvement of women in production and social life, tendency towards the leadership of women in many spheres counteract it. However, the increase of self-sufficiency and social activity of women does not mean that the instinct of maternity dies. But family is built on the basis of equality, implies a more involvement of man in family matters and household-keeping.

The third function of family is reproduction of a social genotype, in transmission of knowledge and cultural heritage, in education and upbringing of a growing generation, formation of its spiritual world. Personality is moulded in childhood, in family, in a pre-school period. A scope of knowledge and skills a child learns in the first years of life exceeds many times the scope acquired throughout the next period of education. The character is moulded, ethical rules are learnt, and understanding of good and evil, and emotional world develops. Each child tries himself in artistic activity; it is not by accident that children drawings are so ingenuous,

fresh and emotional. Communication of children in the kindergarten, in the street replenishes and enriches the inner life of a child; but the foundation is laid in the family, and nothing can replace it. A disintegration of families with children is a social evil which should be if not surmounted, but reduced to minimum, by the post-industrial society.

Evolution of human in future. A widely spread opinion that creation of miniature control devices, their inclusion in the human body, replacement of natural organs with artificial, genetic intervention in the hereditary substance will lead to a more and more transformation of man into a cyborg-cybernetized organism.

Fortunately, such kind of changes breaking fundamentally its biosocial genotype of man are unreal. The evolution of Homo Sapiens rests on the regularities of genetics as well as of any other kind of animate nature, (heredity, variability, and selection), a gradual accumulation of evolutionary changes occurs in the genotype.

At the same time it may be anticipated that under the implementation of the positive scenario of dynamics of civilization in the 21st century, qualitative changes will occur in man:

➡ The circle of *demands* will expand under a priority development and dominance of spiritual demands; the convergence of the level and structure of demands will be happening in various countries and civilizations;

➡ *The abilities* of man to satisfy his demands based on creative labor will grow essentially as a result of the overcoming of illiteracy, functioning of the system of permanent education and distance learning;

➡ A discharge of man from heavy physical and monotonous labor, making it creative will enhance the *stimuli* to labor, under a change of the nature in labor hours management and accumulation of free time for various and engrossing activities, free communication; and sports;

➡ Human *health* will strengthen considerably based on the profiting from the achievements made by the genetic engineering, achievement of successes in the overcoming of traditional and new dangerous illnesses, improvement of labor conditions and household activities of billions of people.

However, a negative scenario — degradation and depopulation of homo sapiens species — should not be eliminated; degeneration of humankind as a result of a demographic catastrophe.

7.3.2. Alternatives of Ecological Future

In the first half of the 21st century, humankind has to choose between the formation of a noosphere mechanism of rational co-evolution of society and nature — and an increasing threat of a global environmental catastrophe.

Ecological threats of the 21st century. The ecological factor played a prime role at all stages of the formation and development of world and local civilizations. In the 21st century, this factor will assume the nature of a global ecological catastrophe associated with two tendencies: a depletion of a number of available natural resources, especially in the densely populated regions.

By the end of the 21st c. prospected, available and cost-effective oil reserves, a number of non-ferrous metals, and then natural gas will come to an end. A shortage of sweet water, fertile lands, and forests becomes increasingly felt in many regions of the world. The forestation area reduces annually by 0.2% (94 thous. sq. m), and in Latin America — by 0.5%, in Africa — by 0.8% [132.P. 144]. It is necessary to find replacements of critical types of natural raw materials so that to meet growing demands of the population number increasing every year.

A growth of environmental pollution is associated both with the increase of a demographic load on it and a wide employment of technologies connected with hazardous emissions, toxic and radioactive pollution of atmosphere, sources of water, and soil.

At the turn of the third millennium humankind found itself in the state of a deep-seated and protracted environmental crisis. Its main causes feature a demographic explosion, a sharply increased population number, load on the natural environment, especially in the densely populated regions of the world; a general depletion of the potential of the industrial technological mode of production that carried to the highest degree the involvement of natural resources in production; pollution of the environment impoverishes the biosphere of its opportunity for natural self-reproduction; creation of weapons of mass destruction which is able to destroy not only humankind, but a considerable part of biosphere; the prevalence of a consumer attitude to nature of the ruling and business elite, TNC executives, a predatory consumption of the best resources and pollution of the environment for the sake of profit and super profit (rent), and a disunity and weakness of movements for ecology.

For the second half of the 20th c. the population density increased 2.4 times. The load on the natural environment, the scope of the employment of natural resources connected to the increase in the consumption

of each man and the priority growth of the heavy industry increased considerably. In the first half of the 21st c., according to the UN's medium forecast the population density growth will make 1.47 on the average. As a result of the employment of resource-saving technologies the load on the natural environment will slow down. In general, the population density growth will make 3.5 times for a century under the medium variant — an unprecedented rate for the elapsed periods. This will cause the ultimate overload of the natural environment in the densely populated regions and will make a global ecological catastrophe real unless stabilization of the overall number of population, reduction of primary resources consumption and emission into the environment are reached.

The increase in the emissions of greenhouse gases leads to warming of the climate on the earth that is fraught with melting of glaciers, increase of the level of the ocean, flooding of a number of cities and coastal regions.

The continuation of these tendencies may place in jeopardy the existence of humankind or lead it to degradation on the depleted and polluted earth.

Scenarios of ecological future. Today's ecological crisis has a complicated structure. In forecasting of ecological future of humankind it is necessary to take into account all complex structure of the interaction between natural-ecological cycles and crises:

➔ Natural-space, hydrological, hydroscopic, climatic, and biological;

➔ Nature management based — associated with preservation, reproduction and involvement in production of various types of natural resources (mineral-raw material, land, forest, water, fish, etc.);

➔ Purely ecological reflecting the level of man's impact on the environment (air, water, vegetal, radiation pollution, violation of natural processes of restoration and functioning of biosphere).

From the second half of the 20th c. with the advent and spread of the nuclear and bacteriological weapon, a sharp increase of the scale of production and life activity of a fast growing population number a threat to the existence of socium and the biosphere itself became real. It is possible to speak about the beginning of the next whorl in the co-evolution of natural and social systems, a qualitatively new stage in the cyclical dynamics of ecosphere.

Several possible global scenarios of the ecological future, interaction of natural and social systems on the Planet are taking shape.

The first gloomiest one: putting into action of the accumulated arsenal of weapons of mass destruction will destroy all flesh on the earth, it will turn into a lifeless planet. There is a destructive potential for that;

there are also social preconditions: a growing gap between the enormous majority of the poor and a handful of the rich nations. A clash between local civilizations will cross the whorls of the spiral of biosphere and social evolution. However, the evolution of the non-organic will continue.

The second is also disappointing: after the global environmental catastrophe biosphere will not be destroyed in full but remain in a largely transformed, primitive form, but no man will remain, social systems, thinking substance will vanish. In the course of further evolution it should not be excluded that they will revive, but in a different variant due to a radically changed natural environment.

The third best of the worst scenarios: after the clash of local civilizations humankind will survive, but it will be subject to strong mutations that might lead to the emergence of new worse biological species. Social systems thrown several whorls back will begin to climb the historical stair again; the epicenter of civilization will shift to the regions less affected by a devastating clash.

The fourth scenario is in the balancing between a constructive and creative variant of noosphere, with the surmounting of constantly arising threats, with a slow implementation of the potential of the post-industrial society and the maintenance of a sandy balance constantly breaking between natural and social systems.

And finally, *the fifth optimistic scenario* permits to hope for the triumph of a constructive variant of noosphere in the 21st c., harmonization of relations between society and nature, dynamics of social and natural systems. This will require the awareness from the intellectual, political and economic elite that the sliding to the abyss is ruinous and a conscious selection of the optimal path and its consistent implementation. It is the gist and the purpose of the humanistically noospheric post-industrial civilization. Developing of near (near-Earth), and then “middle” (within the solar system) cosmic space will begin that will lay the foundation for the next whorls of the spiral in the co-evolution of natural and social systems.

Each of the aforementioned scenarios of not that far future is real, not a conceptual fantasy. It is the first time that a challenge of such dimension, a need for a conscious choice of the future has arisen before humankind.

An arduous path to noosphere. The way to prevent a global ecological catastrophe, rational co-evolution of nature and society has been shown by one of the outstanding thinkers of the 20th century Academician **V.I. Vernadsky**. This is his theory of transformation of biosphere

by thought and labor of humankind into *noosphere* — the sphere of reason. “Humankind taken in all its integrity becomes a powerful geological force. And it, its thought and labor faces the issue of *restructuring of biosphere in the interests of a free-thinking humankind as a whole*. This is a new state of biosphere to which we are approaching not noticing it is “noosphere”... Man consciously and mainly inconspicuously sharply changes chemically the face of the planet — biosphere... Now we are seeing a new geological evolutionary change of biosphere. We are entering the noosphere” [16. P. 241, 242].

The theory of noosphere has been evolved in the works of one of the outstanding thinkers of the 20th century — **N.N. Moissejev**. His contribution is in the inquiry into the regularities and tendencies of the co-evolution of society and nature in the process of formation and development of civilization, disclose the essence of a threatening ecological catastrophe and determined the ways for its prevention, contributed quite significantly into the solution of this global problem through the development of a “nuclear winter” scenario and having demonstrated to the leaders of nuclear powers to what bottomless abyss they brought their nations and all humankind. “For biological species *Homo Sapiens* to be able to keep itself on the Planet so that to maintain and further develop own civilization, that economic and political order that had spontaneously formed by the end of the 20th century, should be improved through well-directed efforts. I believe that this is a prime task of the planetary civil society being formed now in the implementation of the sustainable development principle proclaimed at the congress in Rio. All other ecological programmes will remain just velleities failing a radical solution of such task” [65. P. 28].

What are the ***preconditions and ways for the formation of noosphere***, implementation of the optimistic scenario of eco-future for civilizations?

1. The key to salvation of society and biosphere is in the hands of intellectuals. All the depth and consequences of the forthcoming catastrophe, ways and means for its prevention could be realized only through concentration of scientific thought, to work out the strategy of the movement to a constructive variant of noosphere, to clothe this strategy in the ideal attractive for new generations, for most humankind. This is a hard and long way as the inertia of thinking, force of traditions, mercenary interests of social strata profiting from predatory exploitation of natural environment are opposed to harmonization. But there is no other way for salvation. Revolution in science, spiritual sphere, working out and dissemination of humanistic noospheric ide-

als and ethical standards is the starting and decisive precondition for harmonization of dynamics of social and natural systems.

2. Progressive social forces, social movements, the youth **should rally around a new ideal** – only then such ideal has chances to be implemented. The resistance of conservative scientific circles, short-sighted politicians, mercenary monopolies and transnational corporations, decrepit political parties, fanatic national and religious movements should be surmounted on this path. Society should be restored to health if it wants to survive. The enlightenment, formation of the system permanent ecological education may play a significant role here.

3. The first step should become rationalization of the structure of needs, their optimization based on real opportunities for their satisfaction. A wasteful consumption model spread worldwide is pernicious, leads to a fast depletion of resources on the planet. A fast increase in the population number in the developing countries threatens the future not in a lesser degree. Along with the efficient model of consumption, bridging the gap between the rich and poor countries and elimination of arms race it is necessary a global transition to resource-saving technologies failing this it is impossible to stop the sliding down to the ecological catastrophe.

4. A technological breakthrough is the tramline of the implementation of the global ecological strategy. Being aware that humankind may change natural conditions of its existence and development in a very lesser degree, and the tendencies of demographic dynamics change very slowly, a technological breakthrough, transition to the noospheric post-industrial technological mode of production is the major resource of the implementation of the global ecological programme subject to reason, will and labor of man. Historical experience endorses it: beginning from the Mesolithic humankind found itself in the state of a global ecological crisis not once, and each time a transition to a new level of technological development permitted to overcome the crisis opening space for speeding up of the economic growth and social development. The logic of evolution of industrial technologies put humankind on the brink of a global ecological catastrophe. However, no catastrophe can be prevented failing the assimilation of fundamentally new nature-friendly technologies with other social purposes.

5. In the face of the imminent catastrophe it is necessary to unite all healthy forces of the planet, elaboration and implementation of global ecological programmes and mechanisms for their implementa-

tion, using the UN, other international organizations, that are able to surmount national and religious extremism, a wave of local wars and conflicts, stop humankind before the point of no return and slowly, but surely to reverse the trajectory of the evolution of social system towards a constructive variant of noosphere. The vanguard core of sustainable development rendering an increasingly large influence on the world order and having sufficient forces and means so that resting on the acknowledged international mechanisms, stop the threat of extremist and fanatic forces, separate maniacs to throw humankind into the turmoil of self-destructive war, will be gradually forming. And the main point – to support and develop positive elements of noospheric dynamics resting on the growing awareness by new generations of a reality of the threat that might discontinue the spiral of co-evolution of nature and society, on consolidation of forces in harmonization of social and ecological dynamics.

7.3.3. Coming Technological Overturns

In the 21st century, a radical overturn is evolving in the scientific-technological base of society. This overturn is equal to the industrial revolution of the end of the 18th-beginning of the 19th cc. by its nature, depth, socio-economic and ecological effect; it may be called the *post-industrial scientific-technological revolution*, forming a material-technological base of the next world civilization, third historical super cycle.

Formation of the post-industrial technological mode of production. In the first half of the 21st century, a new technological mode of production is being formed and spreading globally and coming to replace industrial and changing fundamentally material-technological conditions of production and life of people.

The life cycle of the technological mode of production being formed is equal to the length of the post-industrial civilization. It is likely that a transitional period to a new technological order will take about a half of the century in the epicenter, and then followed by a semi-century period of its spread broadwise and depthward. And the maturity phase, maximum return from the potential of the established mode of production will follow thereafter and the phase of its gradual senescence, technological crisis, brewing up the preconditions for the formation of the germs of the next whorl of the large spiral of a technological advance will follow next.

The elapsed decades of the transitional period enables to formulate some major features of the post-industrial mode of production that are fundamentally different from the industrial mode of production doomed to leave gradually the historical scene.

The first feature — humanization of equipment that manifests itself not only in the change of the structure of production (manufacturing of equipment directly meant for satisfaction of human needs increases), but in the very nature of its employment reducing to minimum a hard manual and monotonous labor directly involved in the technological process, thus making labor more creative.

Second — increasing the research intensity in production, priority of high technological engineering systems that embody the latest achievements of scientific thought. The matter in question is the formation of a *knowledge-based society*.

The increase in knowledge, their diffusion through the system of continuous education, a skilful technological employment becomes a decisive factor of socio-economic development determining the competitiveness of products, level of wealth and quality of life of population in various countries and civilizations.

Third — miniaturization of equipment, deconcentration of production programmed for a flexible response to a fast-changing demand for products. It permits to expand considerably the field of action of small and medium businesses, to enhance the flexibility of production, to saturate each family life with electronic devices, and enhance the efficiency of labor in personal and private household.

Fourth — ecologization of technologies, complex use of natural raw materials, its replacement with synthetic (plastics and synthetic resins, composites, ceramics, etc.), application of nonwaste and low waste technologies reducing hazardous emissions, increasingly rigid ecological standards, transition to hydrogen power engineering. A material-technological base will be created for the implementation of the underlying principles of noosphere, ecological sanitation of the planet.

Fifth — a combination of localization and globalization in internalization of production. Irrational territorial division of labor associated with specialization of regions and countries on fuel and raw materials extraction and its large scale carriages gives place to local technological systems that ensure a complex processing of raw materials at the point of its extraction, enhancement of the self-sufficiency of regions and mutual exchange of finished goods. Integration ties intensify, but assume another nature oriented to a great extent at satisfaction of a diversified consumer demand. The mobility of population increases that

is facilitated by expansion of scale of transport and its cheapening. Information networks reach each man regardless of his place of residence, make him a citizen of the world, participant or observer of the events happening at any point of the globe.

Globalization of the scientific-technological overturn increases many times, the speed of acquisition and dissemination of knowledge, intensifies the interrelationship in the contents of and renewal of fixed capital in various corners of the planet, forms a single technological network of planetary reproduction, establishes the preconditions for a new leap in the improvement of efficiency of reproduction, labor capacity.

Change in the forms of organization of production and improvement of its efficiency. The post-industrial scientific-technological revolution changes the tendencies in the forms of organization of production, ways of the employment of scientific-technological achievements. Machine gave rise to factory supporting the system of machines; factory became a symbol of the industrial production. From century to century, phase to phase of the industrial technological mode of production, factories and plants became more and more powerful, concentrated thousands and tens of thousands of workers, grouped in large industrial centers, absorbing manpower from the adjacent villages and causing an increasingly large damage to the environment.

Electronization of production and everyday life, information revolution, miniaturization of equipment and deconcentration of production gave rise to the tendency of deurbanization, resettlement of people. Small business, especially in the manufacturing industry and in the sphere of services turns out to be more efficient, flexibly responding to changes. The giants of the industry survive, but their number reduces. The opportunity to make production maximum closer to man appears, thus creating a network of small businesses in small towns, supporting farms scattered countrywide. The environmental pressures decrease, pressures on large cities ease.

The nature of labor division changes. The enhancement of complexity of labor, a frequent change of generations of equipment and alteration of labor make unprofitable a shop division of labor: multifunctional workers, engineers, technicians, designers, managers and scientists who are able to adopt fast to changing conditions are necessary. A part-based specialization, highly tailored mono-product production also losses sense in many ways; it prevails only in mining industry for the time being. A one-sided territorial division of labor is removed, mono-product dedication of regions that results in the unreasonable growth of carriages. Intensification of complexity in

raw material processing, diversification of production, improvement of self-sufficiency of regions in combination with deconcentration of production and deurbanization will change the look of national economies, contribute to evening of the level in their development, elimination of deformity of extreme specialization, reducing the carriages of raw materials and fuel. This is the beginning of a new super long-term organizational-production cycle.

The overturn in the technological base of society will *noticeably improve the efficiency of production* as it was the case after the industrial revolution. This process will develop unevenly, wave-like. In the transitional period, especially at its beginning, under conditions of a general system crisis it is observed a fall in the growth rates, and in separate periods and some countries — also absolute worsening of the efficiency indicators of social reproduction. High growth rates of efficiency are anticipated in the phase of formation of the post-industrial technological mode of production that will promote the relaxation of social and ecological tension. In the maturity phase, the efficiency growth rates will stabilize on a relatively lower level, and in the senescence phase they will begin dropping again reflecting the approaching to the next general technological crisis (partial crises will be observed during a change of technological orders and prevailing generations of equipment). Apparently, the efficiency of such technological overturn will bring the largest fruit to its leaders, this process will run slowly and contradictorily on the periphery.

Contradictions of the scientific-technological overturn. It is necessary to warn against a technological euphoria that usually accompanies the beginning of each technological overturn and is replaced with a bitter disappointment thereafter. *Unevenness and contradictoriness of a scientific-technological advance* persists. It carries threats to the future of humankind, fates of civilization.

The formation of base directions of a scientific-technological overturn will require huge means and personnel of the highest efficiency, great scholarship of the users of the latest technological systems. Only highly developed civilizations representing a small part of the population on the planet have such conditions. Most of developing and post-socialist countries do not have necessary resources for the implementation of the latest directions of such technological overturn. Considerable efforts of the UNO and other international organizations will be necessary so that to arrange the flows of real technological aid for transformation of advanced technologies to the developing countries and civilizations, improvement of the level of education

of their population. It is in the interests of the developed countries themselves if they want to eliminate a global social explosion.

It should be taken into account that the latest scientific discoveries and base innovations may be used both for the benefit and to the detriment of man, hold new opportunities for global catastrophes in it. The race in the creation of the latest means of mass annihilation has not finished at all; new generations of nuclear weapons are developed, and conventional weapons become more precise and destructive. A powerful intellectual potential of the military-industrial complex is not demobilized, it is targeted at the creation of more sophisticated means of attack and defense. The nuclear weapon overruns worldwide, a threat that it will fall into the hands of terrorists who will draw a line at nothing becomes increasingly real.

Despite all precautionary measures the genetic engineering does not close out the chance of the creation of such organisms that after release will cause irreversible changes in the animate nature, change the heredity of man. Abuses of latest discoveries in the biotechnology, psychoactivity of people turning man into an obedient tool of the ill will are possible.

One should not overestimate these contradictions and threats of the technological overturn, but they should not be ignored too. There is no absolute good and absolute evil. It is necessary to assess soberly the contradictoriness of the technological advance and take reasonable steps so that to restrict its negative consequences and use its for the benefit of man and mankind, progress of all civilizations. There is no more powerful instrument in the transformation of the world.

7.3.4. Globalization and Transformation of Economy

The formation of the post-industrial society is inaugurated by radical changes in economy. It leaves the national boundaries and assumes a global nature, becoming humanized and ecologized, changes its structure and system of relations.

The essence and tendencies of globalization of economy. A rapidly developing globalization that has embraced all the globe like oecumenical fire has become the most vivid feature of changes and focus of contradictions at the turn of centuries and millennia.

The matter in question is not only the next stage of international trade developed for centuries and strengthening of economic integra-

tion of various countries and civilizations typical of the second half of the 20th c. A qualitatively new look of global economy is being formed: Its characteristic features:

➡ *Scientific-technological and ecological* foundations of reproduction have assumed a global nature, they can't function normally within national boundaries. Modern high-tech systems (for instance, a satellite network, web of the Internet and telecommunications) run through all world economy, become a technological skeleton of globalization. The problems of supporting economy with major types of natural resources, restriction of hazardous environmental pollution may be solved only by joint efforts of countries and civilizations.

➡ *The institutional base of global economy is being formed in the form of the network of powerful transnational corporations* (TNC) which in actual fact are of supranational nature, although they are registered in separate countries (mostly – in the USA) and control more than a half of the world GDP, are governed by own interests and getting out of control of states and civil society.

➡ *Integration assumes new features*, leads to the establishment of supranational unions within civilizations and cross-civilizational unions that form a reproductive-technological cores of the global economy. The European Union within the western European civilization may be adduced as an advanced example.

➡ *Global institutes are being established in the field of circulation* – the World Trade Organization (WTO), International Monetary Fund (IMF), World Bank and other international organizations that assume a part of functions with respect to the regulation of global economy, and also of international financial centers; the UNESCO role grows in the interstate regulation of the sphere of spiritual reproduction, UNEP – in the sphere of international ecological relations.

➡ *Synchronization of cyclical dynamics of economy intensifies in the global scale*, pulsation of the rhythms of changing phases of global economic crises in reproduction and in the financial and credit sphere.

Globalization will be evolving during a number of decades and be completed by the end of the 21st century with the creation of single global economy while national and civilizational economies persist as components inseparably connected with each other and developing in a common rhythm.

Contradictions and future of globalization. Globalization processes are contradictory by their nature and socio-economic effect.

➡ The neo-liberal model of globalization prevailing now is carried out in the interests of developed countries and TNC, it intensifies polarization of the rich and poor countries and civilizations.

➡ The major agents of globalization — TNC and world financial centers — have got out of control of national states, interstate unions and global civil society.

➡ As a result of globalization economic stratification, migration intensifies, contradictions between various social sections aggravate, the international movement of “anti-globalists” gathers head.

Globalization has objective foundations, it is impossible to stop it and moreover to turn back the clock. The matter in question should be *a change in the model of globalization* so that its fruit distributes more equally between various civilizations, countries, and social strata.

Two extreme scenarios of dynamics of globalization and its effect are possible in the first half of the 21st century.

The *negative scenario* is that a gap between the rich and poor countries will be growing as a result of a self-will of TNC to consume predatorily available reserves of natural resources and environmental pollution will increase with a changeless approach of a global ecological catastrophe. This will aggravate the contradictions in the split world that might lead to a global clash between civilizations. This scenario is quite real if now prevailing tendencies and today’s neo-liberal model of globalization persists.

However, the reverse, *positive scenario* of globalization is not less real as a result of transition to another humanistically noospheric model oriented at a global sustainable development. The preconditions and conditions for the implementation of such scenario:

Establishment of the post-industrial economy. The first half of the 21st c. will be characterized by the formation of the post-industrial economic mode of production going to replace industrial.

What are the major *characteristic features* of this mode of production?

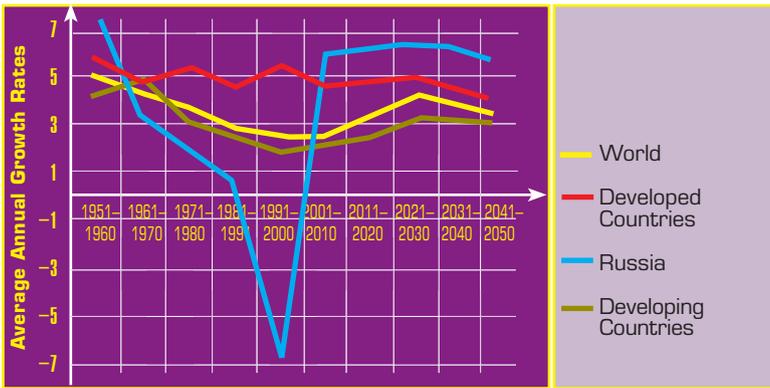
1. It can’t be called either developed capitalism or developed socialism. *This is a new economic system* inheriting the elements of industrial economy being adopted to the life of conditions of society radically changed and assuming qualitatively new features of post-industrial.

Capitalism as an economic system based on exploitation of hired labor by capital and unrestrained pursuit of profit has no future. Moreover, the system prevailing now in the developed countries has already lost many features of classical capitalism.

It is unlikely that a social revolution is real in the developed countries in the near century that will bring to power a new class and change

Figure 7. 2.

GDP Growth Rate in the World, Groups of Countries and Russia (data of 1950-2000; forecast scenario of the global innovation breakthrough), %



Source: [20. C. 119].

the nature of economic relations. Other tendency is more probable that is a gradual evolution of existing relations that will be assuming more and more the features of the post-industrial economic mode of production transforming into a new quality, into an *integral* system of economic relations,

2. In the period of the formation of the post-industrial world civilization *shifts* connected with the gradual humanization, mastering of new technological orders occur in *the structure of economy*. This will ensure relatively high and sustainable economic growth rates (Fig. 7.2).

In future, shifts in the reproductive and branch structure may be anticipated towards the sectors and industries manufacturing goods and services for personal consumption (while a share of food falls and a share of household appliances and services grows), intellectual product, mechanical-engineering and scientific-technological complexes due to a decrease in the share of intermediate product and fuel and raw material industries, and also public consumption and military-industrial complex.

3. *Radical changes are taking shape in property relations*, in distribution of public wealth between various groups of population.

First, a share of personal property of citizens, and first of all – housing and household effects (household appliances, transport vehicles,

furniture, clothes and shoes) will considerably increase. This tendency took shape in the developed countries in the second half of the 20th c.

Second, the relation of petty and big private property will change that is determined by a priority development of small business, first of all in the sphere of services and in manufacturing of consumer goods. However, big property will retain considerable positions in the industries with a high level of socialization of production, especially in fuel-raw materials industries and transport. Transnational corporations will operate under control of society and under a strong international and national anti-monopoly laws.

Third, a share of state property will decrease due to demilitarization of economy and privatization. This will limit the opportunities for the state-bureaucratic machinery to interfere in the reproduction processes. However, liquidation of state-owned property should not be expected: it will be retained for the prime natural resources, certain transport vehicles, strategic objects, manufacturing of weapons, major objects of public health and education, national cultural heritage, etc.

Fourth, an increase in share of collective property may be expected – due to increase in the number of enterprises owned by collectives of workers and cooperativization of the funds of petty commodity producers.

Fifth, the development of integration ties will find its expression in the growth of a share of international property (both interstate and owned by international concerns, consortiums, joint ventures, etc.). However, the internationalization rates of property will likely be more moderate than at the end of the 20th c.

Consequently, tendencies of dynamics of property relations are different in many ways in the period of the formation of the post-industrial civilization from those observed in the industrial society.

Mixed economy will persist and be optimized with respect to new conditions of society's development. A difficult task is to ensure a real control by national and global civil society over activities of monopolies and TNC.

4. *Tendencies of changes* are contradictory in the sphere of distribution in the period of the formation of the post-industrial civilization. On the one hand, the leveling in distribution widespread in former socialist countries and the dependency of a part of workers associated therewith will be surmounted. Everybody's income depends on the results of labor activity and entrepreneurial activity that enhances the motivation mechanism. On the other hand, polarization of income, a gap between the rich and poor sections of population, countries and civilizations

grows, a hidden re-distribution of income will increase as a result of expanding scale of operations of shadow economy, corruption. These are the tendencies of the beginning of the transitional period; they will be replaced by reverse in the developed post-industrial society.

5. *Considerable changes occur in the sphere of exchange*, market relations. Deformation of the market and restriction of the sphere of its influence connected with the state-socialist and state-monopolist regulation of economy will be surmounted, the opportunities will be limited for a bureaucratic interference in economic interests. With the expansion of the domain of small and medium business and weakening of monopolies an opportunity will be opened for the revival of competition, economic competition between manufacturers and consumers of goods.

The market assumes a global and more differentiated nature, meets specific needs of specific consumers. Does it mean that economy of the post-industrial society is an all-pervading and all-permeating market? **Alvin Toffler**, US futurologist holds the converse opinion:

“Humankind was engaged in construction of the world exchange network — market at least 10 thous. years. In the last 300 years, from the very beginning of the Second Wave this process went at a furious pace. Civilization of the Second Wave marketized the world. Today ... this process is completing... The Third Wave is creating the first “transmarket” civilization” in the history... I understand under the word “transmarket” civilization dependent on market, but not stricken any more by the need to build, expand, develop and integrate this structure... Now when the major task of building the market is nearly completed, huge energy directed before to the creation of the world market system may be used for other purposes” [92. P. 458, 463, 464].

A non-market sector of economy ensuring reproduction of human capital, spiritual sphere, prime social services will get priority development.

6. The above-mentioned tendencies of transformation, structure of reproduction and economic relations will require *radical changes in the management of economy* which will become softer, not breaking the rules of a market game, not suppressing the independence, freedom of choice for producers and consumers and at the same time more strategic combining interests of the present, past and future generations. The tendency towards democratization of the management directly at an enterprise will intensify, especially connected with the combination all in one: the worker and owner (small business, shareholders — workers of enterprises, collective owners). Economic unions (concerns, consortiums, holdings, trust companies, finance-industrial groups, etc.) will be under state and public control as a rule. All this will foster

the development of entrepreneurial spirit, innovation, responsibility of everybody for the performance results of the company.

7. The tendencies in the dynamics of indicators with respect to *efficiency of reproduction* change. It is unlikely that the previous records in the rates of economic growth, improvement in the labor efficiency ensured due to the priority growth of the military-industrial complex, growing consumption of power resources and raw materials, depreciation of natural resources will be attained and exceeded. A share of services distinguished by a relatively low share of previous labor will increase. Ensuring sustainable development will likely become the major guidelines, aims of economic policy (with a smaller amplitude of cyclical fluctuations), rationalization of demographic processes, reduction of material and power consumption in production, pollution abatement and improvement of the environment and quality of life, bridging a gap in the level of life of various social strata and regions, surmounting a dangerous gap between the developed and developing countries and civilizations. New guidelines will begin to make their way in the transitional period and become prevailing in the second long-term cycle.

Consequently, all system of economic relations will change radically in the period of the formation of the post-industrial civilization, a turn in a number of radical tendencies observed in economy of the industrial civilization will occur.

7.3.5. Transformations in the Socio-Political and State-Legal Spheres

Radical changes in people, technologies, economic system will inevitably give rise to the changes in all sophisticated system of social relations – in social structure, political life, state-legal sphere, relations between the states of the post-industrial society being formed.

Tendencies of social stratification. The industrial civilization was characterized by the tendency towards simplification of a social structure, division of society into social groups (strata). The major classes prevailed – capitalists and hired workers, large political parties. The unification of society was performed in the USSR and other socialist countries, the aim at the surmounting of social differences was set.

However, the tendency of unification contradicted the law of social differentiation, deepened social stratification. In the period of the for-

mation of the post-industrial society, despite the unific impact of globalization the tendency towards deepening of social stratification both inside individual countries and in global scale overpowers.

Pitirim Sorokin who had made profound inquiries into social stratification distinguished its major forms (economic, political and professional) and showed that the depth of stratification changes in various phases of long-term and civilizational cycles.

The class structure of society goes through deep changes. *Bourgeoisie* is divided into several social groups with a well-defined difference of interests. The monopolist bourgeoisie resting on the upper crust of bureaucratic machinery, generalship and gang leaders of the underworld became the force opposing a social advance, interested in militarization of economy, existence of “hot spots”. Having economic might in the international scale, this section resists the long-felt changes.

Small commodity producers — farmers, small entrepreneurs and merchants, owners of innovative firms, cafes, restaurants, etc. — see the process of revival. A share of small business grows in the gross output and its social force, political weight increases concurrently, political parties struggle for the votes of this stratum during elections. In actual fact, many representatives of “liberal professions”, emerging law offices, art salons, etc. join it.

The look of the *working class* changed. It is already not the proletariat deprived of property. Skilled workers have own houses, cars, and shares. The accumulation of tens of thousands of workers at the giants of the industry is passing. The software developer, operator of automated lines, processing centers, communication systems, etc. become major figures in making material benefits and services.

Differentiation involves an increasingly considerable section of *employees*. A part of them — top managers make a part of the ruling elite, merges with upper bourgeoisie, becomes a conservative social force, impedes radical reforms or tries to use them in own interests. Another, most numerous part of employees merged in actual fact with the working class.

The section of the *retired people* who live mainly on pensions, engaged in households or supplementing their pensions by working in the sphere of services or production becomes increasingly considerable.

The **outlines of the social structure in the 21st c.** that includes several base social groups and a lot of their variants are gradually taking shape:

a) skilled workers in the sphere of reproduction — workers, technicians, programmers, scientists, designers, engineers, teachers, and employees;

b) small and medium entrepreneurs running independent business in the industry, agriculture, construction, transport, in the sphere of services;

c) pensioners and rentiers living on income generated by their labor in the past or invested in securities;

d) big entrepreneurs, top section of civil servants, upper crust of the army, political party leaders, “kings” of the underworld – not numerous stratum with considerable economic and political power and resisting democratic transformations.

Among the age-sex groups the youth and leaders of female movement will enjoy a growing influence. Both these groups have their special interests. The youth becomes the major driving force for changes in society, and women being more and more actively involved in reproduction, especially in the information sphere claim the equal status in social and political life.

Changes in political life. In the transitional period, differentiation by nationality and race intensified. The tendency towards the leveling of national distinctions and increasing of the number of mixed marriages were replaced by a wave of nationalism – not only in the field of culture, but political field. The struggle for the restoration and strengthening of national sovereign states intensified and that is what local national elite is interested in. A number of federative states (USSR, Yugoslavia, Czechoslovakian SSR) disintegrated. It was often accompanied by territorial claims and conflicts, inter-ethnic clashes and wars (Transcaucasia, former Yugoslavia). National movements are a real political force to be taken into account.

However, the wave of nationalism has its limits. Assuming the burden of power the national elite begins to aware that equal relations and various ties between various nations and nationalities should be maintained inside the country and outside it so that to retain this power. A nationalistic and chauvinistic frenzy passes, good judgements and moderate approach to this ticklish problem prevail. The future is with the bloom of national cultures, equal union of nations and nationalities both in separate countries and international relations.

In the political field, the leading tendencies of the transitional period include:

a) a loss of influence and disintegration of political parties that served the foundation of totalitarian regimes in the former socialist and fascist states; a social base for such parties disappears, although they may persist long in some developing countries;

b) political pluralism, emergence of many parties and movements representing interests of various social groups and carrying on a struggle in the electoral race, but having no chance to get monopolist influence;

c) reducing the heat of political struggle and spread of apathy among electors in the periods of a relatively quite pace of political life changing by the periods of the political heat and conflicts in acute crisis situations under a radical change in the relation of forces and change of generations.

Regularities of cyclical dynamics of political relations, identified in the past will persist in future. It is possible to speak about the formation of a new socio-political system adequate to the humanistically noospheric post-industrial civilization during the first half of the 21st c. and its spread after the upheavals of the transitional period planet-wide transforming one civilization by another; about a long-term political cycle of the 70s in the 20th c. — till the middle of the 20s years of the 21st c. that will include several medium-term cycles of 15-20 years. One of them finished by the beginning of the 90s and reflected the evolvement of crisis in this field connected with the transition to the next semi-century cycle. The second embraced the 90s and will end by the end of the first decade of the 21st c. It is described by radical shifts in the political arena: weakening of the influence of communist, socialist and Christian-democratic parties; the downfall of the socialist political system in the USSR, Eastern Europe, Mongolia (under a possible revival of socio-democratic tendencies adapted to new realities); a wave of conflicts among nations; accelerated rate of generation change of political leaders. The third medium-term cycle will last approximately till the end of the 20s of the 21st c. and will be described by consolidation of new political forces, establishment of the system of political relations in the leading countries adequate to the post-industrial civilization. During the second long-term cycle that will likely last until the 70s of the 21st c. (time of the sixth Kondratieff cycle), the post-industrial political system will be developed broadwise involving new and new countries and civilizations and depthward polishing the democratic mechanism of implementation. At this stage the number of armed conflicts will reduce, the area of disarmament policy will expand, war will be gradually eliminated from the means to implement political aims.

The general tendency of this period will be extension of rights and democratic freedoms of nationals in most countries of the world, but also making this rights formal in many ways, strengthening of political passivity and electoral apathy of nationals, strengthening of the influ-

ence of a narrow group of people who concentrate economic force with them, mass media and impact on the state machinery.

It may be expected that the wave of international terrorism that has reached a new height at the beginning of the 21st c. and was born by socio-political contradictions of the transitional period and neo-liberal model of globalization will abate during the second long-term socio-political cycle of the post-industrial period.

Transformation of the state-legal relations. The increase of the role of personality and humanization of society, change in the relation of economic and social forces in the transitional period lead to the essential changes in the *state-legal sphere* of local civilizations.

In the last quarter of the 20th c., it was observed a deep-seated crisis of statehood unparalleled from the transitional period to the post-industrial civilization. This process was running in a relatively soft form in civilizations with a traditionally developed system of democratic management (northern American, western European). Crisis and transformation of the statehood evolve in a more rigid and radical form in the post-socialist civilizations (Eurasian, eastern-European, Russia and other former republics of the USSR, Romania, and Bulgaria). What tendencies are taking shape in this sphere and will be intensified in the transitional period to the post-industrial civilization?

First, the tendency towards the *reduction of the state interference in reproduction and social life prevailed*. From the end of the 19th c. the state was more and more persistent in taking the regulation of processes occurring on all floors of society's pyramid. It was performed on behalf of society and for its benefit, but in actual fact for the sake of the establishment of dictatorship of the ruling elite. Such processes peaked in the totalitarian states that were different by an ideological tint, but were united in their attempts to establish stifling control in all spheres of social life. The state-monopolistic capitalism prevailed in one country, and the state-bureaucratic socialism in other.

However, this system began to crack and break up already in the 70s-80s and especially at the beginning of the 90s. A new tendency towards narrowing the framework of state regulation of various spheres of society's life manifested itself. Spiritual life got out of control first. Scientists, cultural workers, journalists, dissidents made a good deal of efforts so that to undermine the image of all-mighty and all-good state in society's eyes. The downfall of the planned system, revival of market relations, democratic economic reforms reduced the opportunity of interference in economic processes for the bureaucratic machinery, re-distribution of social wealth at their discretion and in their favor.

However, as it turned out soon the process of “destatization” (reducing state involvement) of society has its limit that are dangerous to overstep. The state exercises prime functions in the existence and development of society: legislative, social, ecological, strategic-innovative, ensuring security of man and society. If the state weakens, ceases to perform its functions efficiently, the arbitrariness and lawlessness, crime, and shadow economy settle in society. This bitter moral may be drawn from experience of Russia of the 90s. The role and responsibility of the state especially increases in the period of crisis situations; this social law was grounded by **Pitirim Sorokin**: “Every time when a considerable crisis arises in a certain society in the form of war or a threat of war, great hunger, great economic depression or devastating epidemic..., then the scale and severity of governmental regulation increase invariably, and society’s economy, political regime, way of life and ideology experience totalitarian transformation... On the contrary, every time when a strong crisis decreases in society, scale and severity of governmental regulation decreases, and economic, political, ideological and cultural systems of society are re-converted to peaceful, detotalitarian, and a less regulated and freer way of life...” [181. P. 124]. Consequently, in various phases of economic, ecological and socio-political cycles the role of the state changes in society, it increases at one moment, and decreases at another.

Second, the *structure of state power* changes. The principle of division and balance of the departments (executive, legislative and judicial) begins to establish itself in an increasingly large number of states and civilizations. After completion of the transitional period the balance of powers will restore, and each will occupy the niche inherent to it (although this process is long and intermittent).

Third, centralization of power on the upper level is replaced with the tendency towards its *decentralization*, a transfer of a number of functions to regional and local (municipal) bodies. Administrative reforms are underway that extend the rights of such bodies. This enhanced democracy of the state power, made it closer to human needs. The optimum relation of functions of central and local authorities is restored. But reverse tendencies are observed from time to time.

Fourth, the *mechanism implementing the state powers* changes. A democratic electoral system is established itself. The state machinery is staffed on a professional basis. Non-professionalism widespread in the transitional period leads to great mistakes.

Society’s control over the activities of state authorities and abuses of officials is mainly exercised by the “fourth power” – mass media, especially television. To be mediagenic is a necessary feature of a

politician seeking the votes of electors. In the transitional period the struggle for influence on information channels assumes an increasingly vehement nature in a number of countries, the state actively interferes in this process.

Fifth, the tendency towards the *rule of law* prevails. The system of legal rules with respect to protection of human rights and establishment of equal conditions for everybody is replenished and updated. Conservatism is always inherent to law, it is its advantage, remedy against poison by adventurism and subjectivism. But also a lagging in the update of legal rules opens space for arbitrariness. Therefore the activities on legislative creative work are intensified.

The above-mentioned tendencies are implemented in various degrees and various forms in civilizations and countries in the context of their historical traditions and political culture. Cyclical fluctuations are observed in this field.

Geopolicy: the choice of the model for the structure of the world. As the period of the decline of the industrial civilization the 20th century was characterized by a considerable aggravation of political struggle in the international arena, several waves of war and revolutions, changes in the political system altering the geopolitical map of the world and political look of countries. The colonial system of imperialism collapsed after the waves of socialist and national-liberation revolutions, the world split into two confronting world systems that struggled for the influence in the liberated countries.

At the end of the 20th c., as a result of the disintegration of the USSR, Comecon and the Warsaw Treaty the geopolitical map of the world changed drastically again. The bipolar world became the past. Time has come to choose a new model of the structure of the world adequate to changed alignment of forces in the geopolitical arena.

The choice is between *three models or scenarios* of the world order for the first half of the 21st century – unipolar, bipolar and multipolar.

The *scenario of the unipolar world order* is most actively promoted. It rests on the indisputable fact that after the disintegration of the USSR the only superpower – USA with a considerable advantage in economic and military might against any other country of the world has left in the world. Furthermore, the USA is the leader in the military-political NATO bloc and in a number of international economic organizations, unions (International Monetary Fund, WTO, World Bank, etc.). This made **Zbigniew Brzezinski**, ex US Secretary of State and ideologist of this scenario to make a conclusion: “The aim of the US policy should, without any justifications, consist of two parts:

necessity to fix own dominating position... and necessity to establish the geopolitical structure that will be able to ease inevitable upheavals and tension caused by socio-political upheavals. The state strategic success reached in this will legitimate the role of America as the first, only and last true world super power" [8. P. 254].

The US claims to administration of the unipolar world intensified even more after the tragic events of September 11, 2001.

Another scenario — a *return to the bipolar world order* under the US leadership on the one pole and China and Russia on the other has less chances to be implemented. Russia is so exhausted as a result of a protracted crisis and has such inconsiderate economic might that it can't seriously claim the role of one of the centers of power. China gains strengths rapidly and international authority, but it is unlikely that it will succeed in consolidation of the group of countries around it that are able to oppose the US and western bloc. However, by the middle of the 21st c. the opportunities of China to become one of the geopolitical poles in the bipolar world will increase considerably.

The *scenario (model) of the multipolar* structure of the world where there are several centers of attraction seeking for and finding compromises in mutual relations and solution of global problems of the 21st century has more chances to be implemented in the second half of the 21st c. This scenario is actively advocated by China, Russia and other countries at the beginning of the 21st c., but somewhat narrowed by the US expansive geopolity. However, it has good prospects as such expansion contradicts the global tendency of the 21st c. to the diversity of the world and meets a growing opposition of other nations and civilizations.

It may be anticipated that the first quarter of the 21st c. will proceed in the atmosphere of choice between the unipolar and multipolar scenarios of the geopolitical structure of the world, by the end of the century the multipolar model of the structure of the world will establish itself under the optimistic scenario.

To peace without wars. Wars were an indispensable element of the existence and interaction throughout the millennia of the existence of world and local civilizations. A considerable part of warriors died in the armed conflicts, and economy worked for war, science invented new and new lethal types of weapons and means of protection against it, the cult of war was in the front rank of upbringing.

By the end of the 20th c., it became obvious that wars exhausted themselves as the means for reaching the geopolitical objectives. Invention and expansion of production of new types of mass destruc-

tion weapons, its spread among the powers, local civilizations means that no winner can be in big conflicts with the use of such weapons; moreover all humankind may die. It was convincingly proved by the scenario of “nuclear winter” elaborated under the guidance of Academician **N.N. Moissejev**.

Awakening to the fact that a further arms race had no future and a threat of self-annihilation of humankind, world leaders took the path to prohibition and liquidation of chemical and bacteriological weapons under international control. During a decade there was observed the world tendency towards reduction of the GDP share earmarked for the needs of defense.

However, a threat of military conflicts has not been removed from the agenda in the 21st c. Numerous military conflicts continue on the interstate and cross-civilizational basis taking tens and hundreds of thousands of lives. Many types of weapons are improved, high-accuracy electronic weapons with a greater destructive force are created. Military-industrial complexes of various countries, numerous generals and aggressive politicians are interested in the maintenance of military tension, in arms race. The international market of weapons develops, armies are modernized. The stockpiles of weapons of mass destruction are maintained, and their bringing into action may lead to the death of all humankind. A share of military expenditure has begun to grow again in GDP, so-called asymmetric wars conducted (Yugoslavia, Afghanistan, and Iran).

In the first years of a new century and millennium, the world was shaken by a wave of international terrorism. A new growth in expenditure for military purposes, aspiration for establishing the national system of the US missile defense, development of new generations of military equipment became a reaction to this threat. Nearly all globe became the area of national interests of the USA and active actions of the NATO. This causes the resistance of other civilizations, concern of the world social movement.

The UN undertakes measures for suppressing local periodically occurring conflicts, implements peace operations, evolves the campaign for promotion of ideas of culture and non-violence, dialogue among civilizations. However, these measures give little effect until now.

In the 21st century, humankind has faced the determinative alternative. Either a wave of terrorism, local wars that have a chance to develop into the clash among civilizations, leads to the maintenance of society based on violence oriented at production of weapons and

education in the cult of war that will lead finally sooner or later to self-annihilation of humankind, or the world will be built that eliminates wars and terrorism, oriented at the prevention and peaceful settlement of conflicts and contradictions, education of the younger generation in the spirit of culture of peace, non-violence, and tolerance. This is the main geopolitical challenge of the 21st century

7.3.6. Establishment of the Integral Socio-Cultural System

From sensual to integral socio-cultural order. Deep transformations occur in the 21st c. in the sphere of spiritual reproduction — in science, culture, education, religion, ethics, and ideology. **Pitirim Sorokin** expressed the backbone line of such transformations as “a continuing disintegration of the sensual socio-cultural system of the West and germination and growth of a new — integral — socio-cultural system — possibly more important for the present and future of humankind” [82. P. 16].

A *sensual socio-cultural system* helped the western civilization to reach the heights in science, culture, education, material life conditions, and the domination in the world. However, by the 21st c. this system exhausted its potential, found itself in the state of a deep crisis, disintegration of moral, legal, and ethical values. It generated two bloodiest world wars in the history, brought humankind to the brink of self-annihilation, used the achievements of science and information revolution for shaking moral values, dissemination of admass anti-culture.

As a reaction to the decay and disintegration of the sensual socio-cultural system the shoots of new, *integral socio-cultural system* oriented at the supremacy of man, integration of truth (science), good (ethics) and beauty (aesthetics) have begun to form and strengthen; it is this system that is adequate to the humanistically creative essence of the post-industrial civilization. “The epochal struggle between fruitless and destructive forces of the dying sensual system more and more growing and constructive forces of the arising integral socio-cultural system characterizes all spheres of life and affects deeply the way of life of each of us (Ibid. P. 30).

The formation of the integral socio-cultural system will likely take all space of the 21st century. But it will not lead to unification of society, a loss of originality of civilizations. On the contrary, the op-

portunities will be created for the maintenance and development of the system of values of civilizations of the fifth generation.

Scientific revolution and formation of the post-industrial paradigm. From the end of the 20th c. a great scientific revolution evolves that will last not one decade. Its result will be the formation of a new scientific paradigm, a system of world outlooks reflecting the realities of the post-industrial period. The preconditions for such revolution were created already in the 20s of the 20th c. when the evolved crisis of the post-industrial society generated an explosion wave of scientific creativity.

At the turn of the third millennium time has come for the second wave of the outburst of scientific creativity making a new picture of the world. Humankind enters the period of a *knowledge-based society* as only based on the cognition of sophisticated dynamical processes in society and nature, a skilful use of the regularities of cyclical-genetic dynamics it is possible an efficient solution of a host of problems arising before the world and local civilizations in the transitional period, to ensure survival and worthy development of the human race, preservation and advance of the global civilization.

Specific features of modern scientific revolution:

➤ Not physico-chemical and engineering sciences lead in it as in the industrial period, but sciences about life, man, society and his interaction with nature;

➤ New opportunities of researches and scientific generalizations, dissemination of obtained knowledge, discoveries and inventions are established by information revolution, opportunities of electronic data processing, use of the Internet and other modern information technologies;

➤ The formation of the system of continuous education establishes preconditions for a speeded up assimilation of the post-industrial paradigm by new generations of people, their rapid adaptation to the changed conditions;

➤ Speeding up of transformations rates in technology and society, creation of an innovative type of economy expands the demand for the results of scientific knowledge as the base of a scientific-technological overturn, reduce time from the birth of a new scientific idea to its practical implementation.

However, a scientific revolution does not mean the triumphal development of new scientific ideas and discoveries. It encounters the inertia of thinking and resistance of obsolete scientific schools – carriers of passing paradigms. In the transitional period,

prestige of science that found itself at the stage of painful transformations falls, superstitions, astrology, and quackery get new impulse. These are the signs of crisis in science that usually precede a scientific overturn. It may be anticipated that the authority of scientific knowledge will grow again in the near decades with the evolvement of the great scientific revolution and practical assimilation of its fruits.

The Renaissance of high culture. The decline of the industrial society found its vivid expression in the crisis of culture, a wave of admass anti-culture that breaks up with the cultural heritage of the past, with national and civilizational specifics, with ethical mastering of harmony. Using modern information technologies and pursuing the aim of generating super profit, the workers of admass pop-culture impose unified models of pseudo-art destroying harmony, raising trashy feelings promoting the spread of the cult of violence, sexual permissiveness, oblectation of the senses. However, new tendencies oppose the deep crisis of anti-culture. It is possible to speak about the new Renaissance as the like tendencies were observed in the Renaissance in the 14th-16th cc. But this is a new whorl of the development spiral of the world culture reflecting the specifics of the modern stage of the historical advance, formation of spiritual world of the humanistically post-industrial civilization.

What are the *features and factors of the tendency towards revival of high culture?*

1. This tendency is an indispensable component of a more general stream of *humanization of society*, the rise of spiritual sphere, priority of creative abilities of man. The 21st c. is the century of creativity, a new rise of human spirit. People have an inherent love of beauty since the childhood of human race, it finds its vivid expression in individual periods, contributing to harmonization of personality. It is not by accident that the Renaissance of art and the great scientific revolution coincide in time in medieval Italy; these are different sides of the same coin, twins that were generated by an ardent impulse of human spirit.

A vivid expression of individuality and fulfillment of spiritual potential of person, ethnical group, nation, civilization is inherent to the post-industrial period, cultural originality that was oppressed by the industrial standardization revives. Culture becomes the prime sphere of self-expression of personality, social and ethnical group, nation, one of the major channels of interpersonal, cross-civilizational communication. Consequently, the Renaissance of high culture is

the backbone line of the formation of the post-industrial civilization, spiritual world of man of the 21st c.

The future is not with art destroying or roughening man, but with art creative, disclosing beautiful in people and nature. Art is a school of beauty, harmony for each man in the overanxious, chaotic world. However, it does not mean the dominance and obtrusion of any art school or style. Beauty is in diversity. A wide selection of pieces of art will survive that meets the esthetical tastes of various people and their various moods. A forced imposition of these or those schools and styles claiming the monopoly through organized advertising will be no longer relevant. And the main point — the masterpieces of national and world art, world cultural heritage will become available not only to the select elite, but a wide public — through advanced information technologies, telecommunications and tourism.

2. The distinctive feature and advantage of the new Renaissance of art is its resting on modern high technologies, *informatization of art and esthetical education*. It enables to choose and record on modern media (videocassettes, laser video disks, computer guides, interactive disks, compact disks, and holograms) the masterpieces of painting, musical, opera art, ballet and architecture, replicate the media of such information in tens and hundreds of thousands, show them on TV, include in the Internet, international and national information networks, system of esthetical education. It helps to make the masterpieces of national and world art accessible at each school, in each family, create the environment refined by art for each man — from the childhood to the vale of years.

3. The revival of art promotes cultural drawing together of people, becomes a significant link in the *internationalization of spiritual life*, but not on the tendency towards unification and standardization of culture inherent to the industrial society, but based on the revival of national cultures and intensive exchange between them. The language of art (painting, sculpture, architecture, music, and dance) is clear without translation; it is the base of communication common to all humankind, formation of a global cultural space, and the world heritage.

Major transformations will also occur in other spheres of culture. Printing will be completed, and ousted at times by electronic editions, perception of information from TV screens and video monitors, computer displays and multimedia that enable to choose information individually. Electronic printing houses experience a real boom. The archive materials, rarities translated into laser disks will remain for

centuries and become in the public domain through channels of satellite communication, Internet, and electronic mail. There is not need to sit many days in the reading room of the library if necessary literature and documents may be got through communication channels and be used not leaving a “computer-based townhouse”. With time even more compact and capacious media will be invented that will make bold forecasts of fantastists a reality, form the structure of the next information revolution somewhere in the middle of the 21st c. However, it does not mean that existing libraries and archives, publishers will wind up. They will be necessary not only for lovers of rarities, but as the primary source of machine media, essentially changed their functions and opening its depositories using information technologies for millions of users.

The latter-day revolution in education. The formation of the post-industrial society as society of knowledge, scientific revolution and technological overturn can't, but be accompanied by deepest changes in the system of education which may be characterized as the *latter-day revolution in education* embracing all the globe a decade after decade.

As previous overturns in education, the latter-day revolution will embrace more than a half of the century passing through a number of stages. At the first stage (80s-90s of the 20th c.) a search for new ways and forms of education adequate to changed conditions of society's development, methods to overcome functional illiteracy and professional incompetence that have assumed a threatening scale will be undertaken. At the second stage (first decades of the 21st c.) the contents of education will be brought into line with the evolving scientific revolution, and informatization of the educational process will enable to increase its efficiency many times. At the third stage, the achievements of revolution in education will expand broadwise, embrace the developing countries, thus creating preconditions for a technological overturn and a gradual surmounting of lagging of these countries, bridging the gap in the efficiency of reproduction and level of life, formation of the global information-educational network however in the context of the specifics of civilizational and national cultures.

What changes will occur in this sphere as a result of the overturn already begun — based upon the tendencies that have already taken shape?

1. **The contents of education** will be changed in several directions. The first — *revision of textbooks* where the bulk of knowledge mainly reflecting the world outlook and conditions of development of the passing industrial society is accumulated. Several decades will

be necessary, a change of two generations of educators and several generations of textbooks before the bulk of knowledge being transmitted to next generations will be adequate to the contents of the post-industrial civilization. For that the coming civilization should crystallized and assume more well-defined and obvious features eliminating the chaos of the transitional period.

Another direction — *humanization of education*, overcoming of technocratic and narrow-pragmatic bias, expansion of learning the subjects of the humanitarian set on any level of education, combination of vocational education with esthetical and ethical. Only all-round educated people who have mastered the achievements of national and world culture, able to understand a contradictory cyclical dynamics of all processes and their genetic roots are able to adopt fast to a rapidly changing society, not to be lathes carrying by a rapid stream of the history to unbeknown vortexes.

The third direction — a wide *polytechnization of education* — both general and vocational. Each man has to deal with several generations of more and more various machines, electronic devices, technological processes in everyday life, in any sphere of labor activity. A wide engineering training is needed so that to adapt more easily to the renewal of generations of equipment and technological orders.

2. A constantly growing and fast updating extent of knowledge and professional skills are impossible to combine resting on the conventional **methods of education**; they are subject to a radical transformation in the transitional period. The aim at mechanical memorization of a huge scope of general education and vocational knowledge does not justify itself. This knowledge ages fast, hampers a free sailing in the rapid swirl of events. Inertia of accumulated knowledge and skills does not enable to distinguish new tendencies in life in a timely manner and adapt fast to them. A learned formula does not permit to solve creatively non-conventional tasks. The holder of a solid diploma goofs in an unaccustomed situation, and in the transitional period canons fail, life always uncorks surprises.

The way-out is in orientation at *creative pedagogic*, development of creative abilities of educatee, independence in setting and solving of unconventional tasks, potentiality to switch fast and successfully from one type of activity to another, formation of a multi-sided, dimensional look at objects, processes, partners, a skill to combine the specificity of approach with the open-mindedness. This implies deep and omnifarious knowledge learnt not mechanically, but for solution of puzzles generated by life in plenty. Under such active aim the

knowledge learning index is higher many times than tedious education for guessing tests, taking exams and getting diploma. It is important to combine education with specific practical activities.

The aspirations to unification and standardization of the educational system undertaken in the course of educational reforms in Russia and other countries contradict this tendency in many ways as well as aiming at a wide application of tests orientating at standard knowledge and solutions.

3. Approaches to the **organization of education** change. The education system from childhood and the youth that was established by centuries and with a longer and longer period of education and a substantial irrelevance from life in secondary schools and vocational educational establishments (colleges, technical schools, institutes, universities, and post-graduate education) so that to re-educate and master anew practical skills on-the-job or at the office not using and gradually forgetting a major part of knowledge got during education — such system of education does not meet new conditions and is passing. *The system of continuous education* that embraces all stages of human life and ensures the development of intellectual, physical, esthetical, and moral abilities of person comes to replace it; it is characterized by the variety of contents, forms and methods of education; it includes both general and vocational education establishing conditions for fast assimilation of scientific-technological achievements, and implementation of innovative ideas. The development of the system of distance learning promotes it, enhancement of the diversity of educational establishments and schools of pedagogic.

4. The technological overturn can't, but involve the sphere of education, transforming radically all set of **education facilities**. Informatization of education, a wide application of computers, educational television, video equipment, and interactive multimedia, Internet become the central link of such transformation as well as the fitting out of educational establishments with training equipment, devices, laboratory facilities and other advanced equipment that meets the world level. Japan, Western Europe and the USA have reached most successes in computerization and informatization of education where the level of saturation of educational establishments and families with such equipment is highest, flexible computer-based programs, tele- and videofilms are made in large scale.

The formation of *innovative generations* who will assimilate the system of knowledge faster and in full, replenish it constantly and

update and use efficiently in its practical activity being orientated at the rhythm of an innovative renewal will be the result of the latter-day revolution in education.

Ethics and religion in the period of the formation of the post-industrial society. Transformation of spiritual life has embraced all spheres of ethics and especially religion. Dynamics of these two spheres is inseparably connected and determines the goals, ideals and rules of relations between people.

Human ideals, his morals and restraining beginnings in relations with other people, society, in handling cultural values may be based both on belief and knowledge.

At the interface of periods both belief and knowledge shook in many ways, ceased to give an adequate explanation of the world and to serve the base of the serenity of mind. Time came for the general collapse of ideals. It caused three tendencies in the field of religion and morality that manifested themselves vividly at the end of the 20th – beginning of the 21st centuries and is a reaction to a great extent to the earthliness, tendency to leveling, unification of people inherent to the industrial civilization, especially in its last phase.

The first tendency – *spread of nihilism* that negates not only belief, but also science and all standards of morality. By a feel of a genius artist **F. Dostoevsky** showed this nascent tendency in the discourses of Verkhovensky (“The Demons” novel) that shadowed forth many extremes of socialism and fascism of the 20th c. The universal crisis, ruin of ideals, chaos of the transitional period generated a steep wave of nihilism, especially among the youth. Nihilism is incompatible with traditional standards of morality, it recognizes only the sword-law, devaluates human life. Nihilism is an ideology of the rampancy of crime, corruption, and lechery. However, it comes into antagonism with the interests of most of society and as chaos of the transitional period is surmounted, it will be ousted to the underground where it has always existed.

The second tendency – *revival of religions* to the extent of strong fundamentalist movements that sometimes can become prevailing and make the base for terrorism. This tendency has manifested itself to a great extent in the Moslem world where it has social roots: a fast growing population number outstrips the growth of productive forces and motivates to struggle for re-distribution of the world wealth umbrellad by a religious shell as it has already been not once in the past. It is observed the strengthening of influence of catholic and orthodox churches.

The aspiration for belief is a reaction to the tendency of secularization in the 19th-20th centuries, it is caused by disappointment and fear of uncertainty, necessity to fill spiritual vacuum that formed after extrusion of socialist ideals, find a spiritual shelter in the swirl of unexplainable events. Such tendency has a certain positive importance easing spiritual sufferings of people, strengthening ethical principles. But sometimes the features of fundamentalism, intolerance to adherents of other faith, claims to the leading role in the formation of the youth's world outlook, in the possession of wealth and state affairs begin to manifest themselves. Despite Marxists' forecasts world religions will remain in the 21st c. satisfying traditional spiritual needs of believers.

Many new religious sects appeared, some of them find fast a lot of adherents, and then vanish into thin air. A lot of sects calling for violence, murders ("satanic" sect in the USA, Aum Senrike sect in Japan), and suicides.

The religious revival somewhat restores the balance between material and spiritual that was violated by industrialism and dogmatism.

The third tendency is in the replacement of the cult of war, violence, intolerance with *culture of peace, tolerance*, wish and ability to settle arising conflicts not resorting to violence, through reaching a consensus, and finding compromises. The declaration of the UN millennium of September 8, 2000 orients at this, proclaiming that tolerance is one of the fundamental values having an essential significance for international relations in the 21st century and that it should include an active building of the culture of peace and dialogue among civilizations so that people respect each other with all diversity of their convictions, cultures and languages, do not fear distinctions within society and between societies, do not suppress, but cherish them as the most valuable property of humankind

However, the implementation of this tendency is impossible without changing the contents of today's mass media, press, television, Internet that are overfilled with the scenes of murders, violence, terrorism, pornography and bringing up the younger generation in such spirit. It is unreal to solve this problem through the introduction of mass censorship; the matter in question should be the sense of responsibility and self-restriction of those representing the "fourth power" that renders an enormous influence on human spiritual life, especially children and teenagers.

In the period of the formation and maturity of the post-industrial society it is likely that ideals and standards of ethics that meet the

essence of such humanistically society will establish themselves – ideals the core of which is in the self-affirmation and all-round development of human personality, in the optimistic recognition of the outlooks of a step-by-step cyclical advance of human society, in tolerance to ideals, beliefs, ethical rules of other people. The germs of such morals are already maturing in many countries, but they are not prevailing yet.

7.4. Outlooks of Dynamics and Interaction among Local Civilizations of the Fifth Generation

The world of local civilizations goes through deep upheavals in the formation period of the post-industrial society. Globalization and its unifying tendencies challenge the survival of local civilizations in future society. They respond to such threat by a deepening of civilizational distinctions, formation of a new generation of civilizations. The issue of the clash or dialogue and partnership of civilizations in the solution of global challenges of the 21st century comes to the forefront. All these contradictory tendencies require comprehension and studying, determination of their causes, driving forces in the outlook for the 21st century.

7.4.1. Challenge of Globalization and Response of Civilizations

A rapidly evolving globalization transforming all civilizational space is the deepest and most contradictory phenomenon in the dynamics of humankind at the beginning of the 21st century. All the system of the civilizational structure of the world is challenged first time ever for its five millennium history. It demands comprehension both the essence of this challenge and response of local civilizations to it.

Unifying tendencies of globalization. A threat to the existence of a motley gamut of local civilization originates from the very essence of a modern model of globalization being pursued under the leadership and in the interests of western civilizations, TNC world. What tendencies of this model of globalization are especially dangerous for the fates of civilizations?

First, under the now prevailing model of globalization the *system of values is unified according to the western model* that makes the essence, inheritable genotype, major distinctive feature of each civilization. Powerful, organized flows of information coming through tele-networks, Internet, mass media, through the system of education are used for such purpose and they render a determinative influence on the younger generation imbibing these flows. Unified needs, demands for goods and services, political assessments, and ideological aspirations favorable for owners of mass media information and internet companies form. Thus the generation of people not knowing their past, devoid of national and cultural heritage and civilizational originality, obeying implicitly to obvious and hidden decrees of people who dictate them the system of values and rules of behavior forms.

Second, *local civilizations are deprived of economic independence* in ways and methods for the performance of their business activities and in reproductive processes based on their own interests. Powerful TNC become the masters of life worldwide. They determine the structure of production and property, mutual flows of goods, services, capitals on the world, globalized market. Being consumed with a secret passion for super profit they direct to their side (and to the side of few rich civilizations where they are based) the flows of world natural rent, ecological anti rent, technological and financial quasi rent, re-distribute wealth made in various countries and civilizations. The main cause of the growth of the gap between the rich and poor countries and civilizations that has reached a critical depth, an increasing threat of a global catastrophe is exactly in the all-might and self-interest of TNC.

Third, *modern globalization orients at the unipolar world*, the dictate of the only super power assuming the function of transformation of geopolitical space according to the western model, establishment of ideals of western democracy worldwide, however regulated in the interests of the upper crust ruling in the world closely merged with the TNC top managers and advocating their global interests. And in doing so traditions and distinctions of various civilizations accumulated by millennia ignored, and attempts to resist are suppressed by force.

Fourth, *the present model of globalization unifies the way of use of natural resources and conservation of environment* — and again in the interests of rich civilizations and TNC, depriving other civilizations of the opportunity to dispose of their environmental assets independently and preserve them for future generations. It is not by accident that the concept of sustainable development approved at the summit

conference in Rio de Janeiro has remained practically not implemented, drowned in a crop of declarations, and a threat of global ecocatastrophe continues growing.

If the said tendencies persist in the century already in, they may lead to melting of local civilizations in the globalized super power. **A. A. Zinoviev** sees such prospect, believing that time of civilizations has had its day on the planet, and that they will melt in the global super society.

How can the historical place of globalization orientated at unification, melting of civilizations be assessed?

Some scientists believe that it is exactly the real post-industrial world one has to take into account. But it is likely the last bastion of the dying late industrial society sentenced to vanishing from the historical arena than the world of the future humanistically noospheric post-industrial civilization.

Globalization has objective grounds, it is impossible either to stop or to reverse it. Does it mean that the world will develop according to its present neo-liberal model dooming local civilizations to melting in the unified, westernized global super society?

Humanity is quite able to change the vector, nature of globalization, give it “human face”, make it serve the interests of most of humankind while maintaining civilizational diversity of humankind as an indispensable condition for its survival and sustainable development. The concept of sustainable developed and solution of global problems based on the dialogue and partnership of civilizations proposed by the Pitirim Sorokin-Nikolai Kondratieff International Institute is aimed at it, use of the world natural rent, ecological anti rent, technological and financial quasi rent as sources of global sustainable development [115].

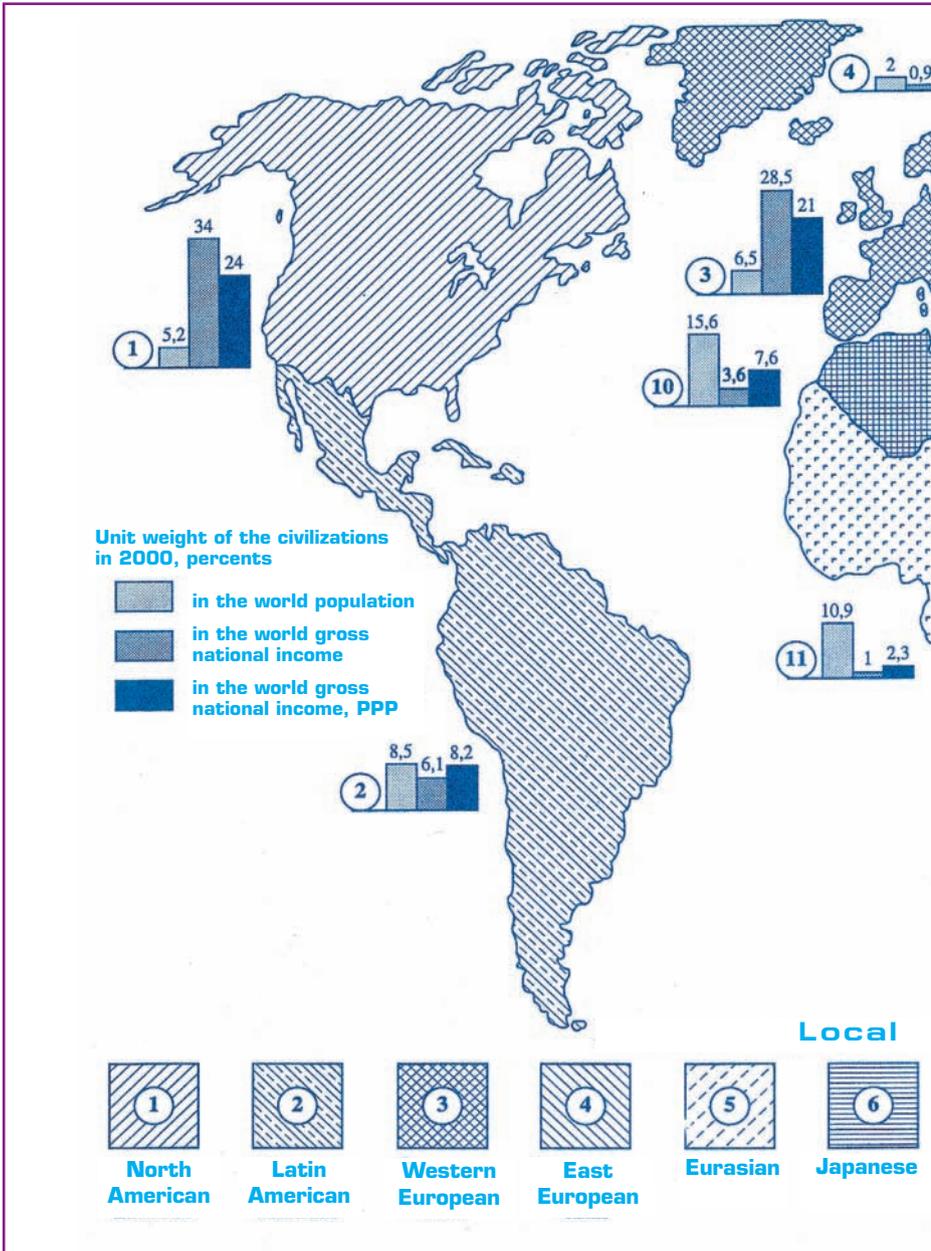
Formation of the fifth generation of local civilizations. Civilizations respond to the challenge of globalization by revival and strengthening of differentiation of civilizational values, formation of a new generation of local civilizations (*Figure 7.3*).

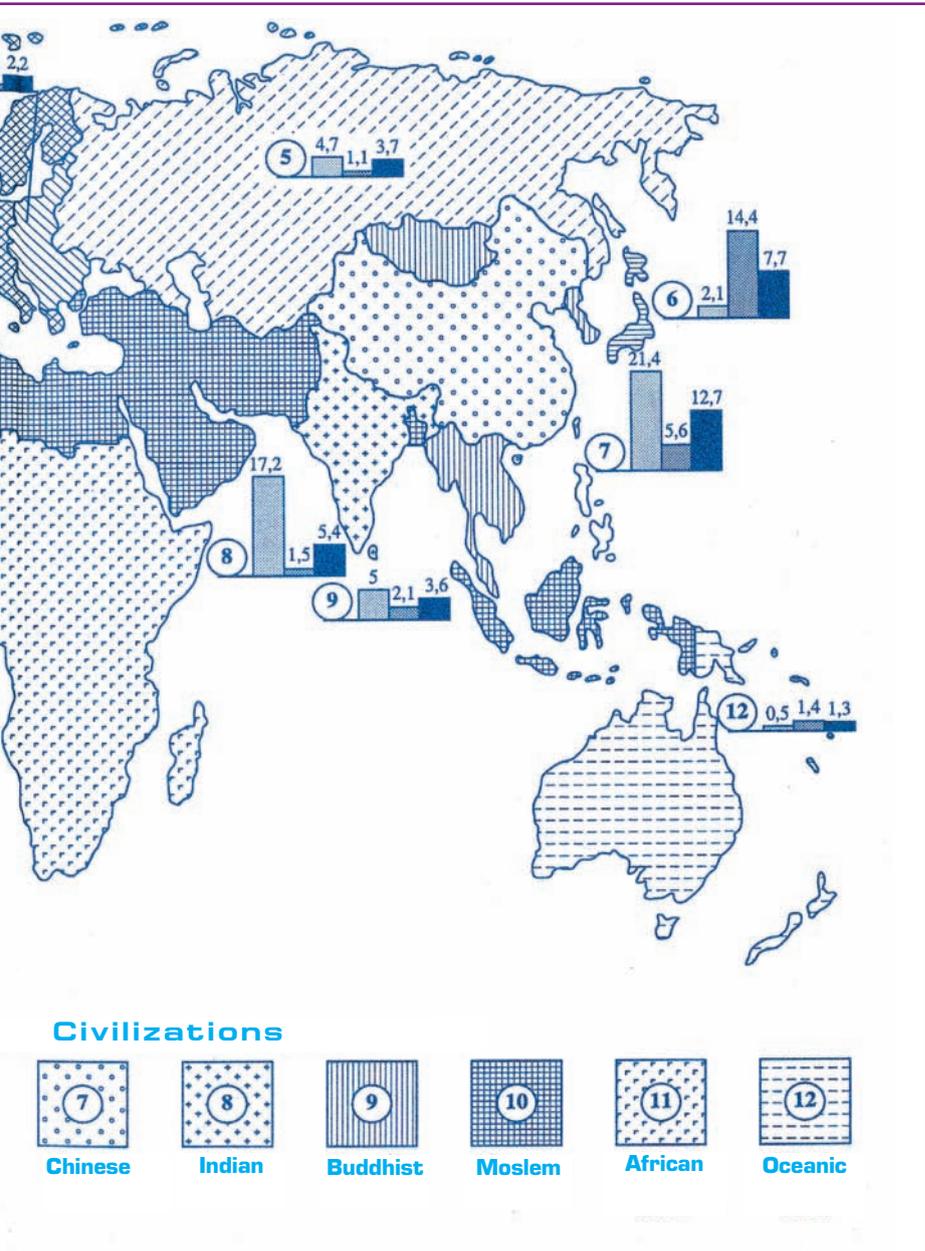
Arnold Toynbee who has formulated the postulate of a regular change of generations of civilizations, distinguished five civilizations of the third generation inherent to the industrial period [90]:

- ➡ Western society united by western Christianity;
- ➡ Orthodox-Christian society in Southeastern Europe and Russia;
- ➡ Islamic society – from North Africa and Near East to the Great Wall of China;
- ➡ Hinduist society in tropical subcontinental India;
- ➡ Far Eastern society in subtropical and moderate regions of Southeastern Asia.

Figure 7.3.

Local civilizations of the 5th generation





However, it is rather not third, but the fourth generations; the framework of the Far Eastern society is also extremely wide that unites Chinese, Japanese and partially Buddhist civilizations.

S. Huntington distinguishes 8 modern civilizations [121. P. 84-85]: western, orthodox, Islamic, Chinese, Indian, Japanese, Latin American, and African (south to the Sahara)

It appears valid to speak about the *formation of the fifth generation of local civilizations at the beginning of the 21st c.* that may be divided into three groups:

➤ Civilizations of Europe – western European, Eastern European,

➤ Civilizations of America and Oceania – North American (the USA and Canada), Latin American, and Oceanic;

➤ Civilizations of Asia and Africa – Chinese, Japanese, Indian, Moslem, Buddhist, and African (to the south of Sahara);

The formation of the fifth generation of local civilizations is determined by a number of factors:

➤ the problem of interaction among civilizations, alternative of either their clash or dialogue and partnership comes to the forefront in the system of international relations;

➤ speeding up of globalization according to the western model carrying a threat of melting of civilizations in the unified global super society;

➤ uneven formation of the post-industrial world civilization, changing the conditions of functioning and interaction among local civilizations;

➤ formation of the integral socio-cultural system, changing the system of values – the core of each civilization – in many ways.

However, the formation of a new generation of local civilizations is not completed yet; it may take all space of the first half of the 21st c. and be accompanied by changes in its composition. First of all, it refers to the *eastern-European civilization* that has no well-defined core. In the 50s-80s, it was under a strong influence of the Eurasian civilization (USSR), made a part of the world system of socialism. In the 90s, this civilization found its independent shape, but not for long. From the beginning of the 21st c. it is included in the composition of the western European civilization step by step, making a part of the European Union and the NATO.

Expansion of the western European civilization extends also to other components of once united *Eurasian civilization*. First of all this concerned the Baltic Republics which were a part of the USSR before.

Ukraine, Moldavia, and Georgia are next. In the distant future the claims to the European part of Russia may arise if the matter in question is the actual division of the Russian civilization. Central Asian republics may find themselves in the area of the influence of the Moslem civilization, a considerable part of Siberia and Far East — Chinese civilization (the Kosovo variant may repeat in some regions), and also the Japanese and North American civilization.

It does not mean that the Russian civilization will leave the historical scene that it will fail to find the place among civilizations of the fifth generation. It is likely its persistence, but already not as Eurasian, but the Russian or eastern Slavic civilization. But it has to get the second wind for that. To work out and implement consistently the strategy of a breakthrough into the civilizational space of the 21st century. There is no such strategy yet.

The fates of Buddhist and African (south to Sahara) civilizations are not completely clear yet. Thailand, Sri Lanka, Viet Nam, Myanmar (Burma), and South Korea may be included in the Buddhist civilization with a certain share of conditionality. But there is no well-defined core and tying up threads. But there are also no grounds for their inclusion into the composition of neighboring civilizations — Indian, Chinese, and Moslem.

The *African civilization* quite motley by ethnical and confessional structure, economic and technological development and where the pre-industrial or early industrial technological and economic orders prevail is in a state of depression, the area of a technological disaster expands, hunger, AIDs and other epidemics rage on vast spaces, bloody clashes occur. Meanwhile, the population number grows fast — from 17.7 mln. in 1950 to 653.5 mln. in 2000 and up to 1,557.4 mln. under the middle variant of the UN's demographic forecast in 2050 — in 8.8 times for 100 years [272. P. 32]. It is a weak link of the modern global civilization, and Africa is unable to handle a protracted civilizational crisis through own efforts. Concerted and efficient assistance of more developed civilizations, the whole world community is necessary.

Moslem civilization with no single center is heterogeneous by its composition or. Under the easing of confrontation with the USA, it may differentiate in the second half of the 21st c. (as it is the case now with the western civilization) into Arabic, Iranian (Persian), Islamic-Indian and Islamic-Far eastern (Indonesia, Malaysia, etc.).

The final composition of the fifth generation of local civilizations will be determined only by the end of the 21st c.; it may turn out different then at the beginning of this century.

7.4.2. Transformations of Local Civilizations of the Fifth Generation

Local civilizations have entered the 21st century being in the various phases of its life cycle, on the various level of socio-economic and scientific-technological development. They have a different natural-ecological and technological potential (Fig. 7.4).

Comparatively young civilizations – North American, Latin American like Moslem – are in their active phase, although in the polar state in terms of the level of economic development. Ancient civilizations of China and India which were ousted to the background in the industrial society and were dependent on the West, entered the new cycle being on its up wave. China demonstrates an example of a fast long-term growth. The Japanese civilization that went through the period of rise in the post-war period and became the second power of the world by GDP output, experiences the slack period, stagnation. The Eurasian civilization that was among the leaders in the second half of the 20th c. and headed the world system of socialism, suffered wreck at the end of the century, and it is in the phase of disintegration. The African civilization (south to the Sahara), its many countries found itself in the state of poverty of. The Latin American civilization demonstrates the signs of the revival phase that precedes the rise. The oceanic civilization is deeply polarized – along with Australia and New Zealand included in the developed western countries there is a large number of small and tiny states of Micronesia, Polynesia and Melanesia on the low level of development.

What will include the basic directions *of transformation of local civilizations in the 21st century?*

1. *Transformation of socio-cultural system.* According to **Pitirim Sorokin's** forecast a transition from the prevailing sensual system in the West and the ideational (super sensual) system in the East to the harmonious integral order takes place which however will have own modifications in western and eastern civilizations. This process will take a long period of time, will run from the various original state and pass through intermediate stages.

The transformation of a socio-cultural system suggests a priority growth of spiritual reproduction, bringing the level of science and education closer in various civilizations, maintaining and enhancement of civilizational cultural heritage, spread of the culture of peace and tolerance, surmounting of religious fanaticism. The diffusion of the ideas of dialogue and partnership among civilizations will foster it.

2. *Bridging a technological and economic gap between civilizations* and various social strata, change of the modern model of globalization so that to ensure sustainable development of all humanity. It is impossible to reach this without restraining the omnipotence of TNC, without profiting from the achievements of the latter-day technological overturn by all civilizations, without the elaboration and implementation of the mechanism of more even and just distribution and use of the world rent, anti rent and quasi rent, formation of the network of global funds for support of development of lagging civilizations. In other words, without the working out of efficient dialogue, interaction and partnership among all civilizations regardless of their level of development.

3. *In the geopolitical field, a final choice between the unipolar and multi-polar variants of the world structure will be made in the coming decades.* The intensification of tendencies towards the unipolar world under the leadership of the north American civilization is fraught with the aggravation of cross-civilizational contradictions, an aggravating threat of the clash among civilizations. The establishment of the multi-polar world on the principles of dialogue and partnership among civilizations will create the conditions for efficient transformation, development and convergence of local civilizations of a new generation. The increase of the role of the international organization UNO type will foster it.

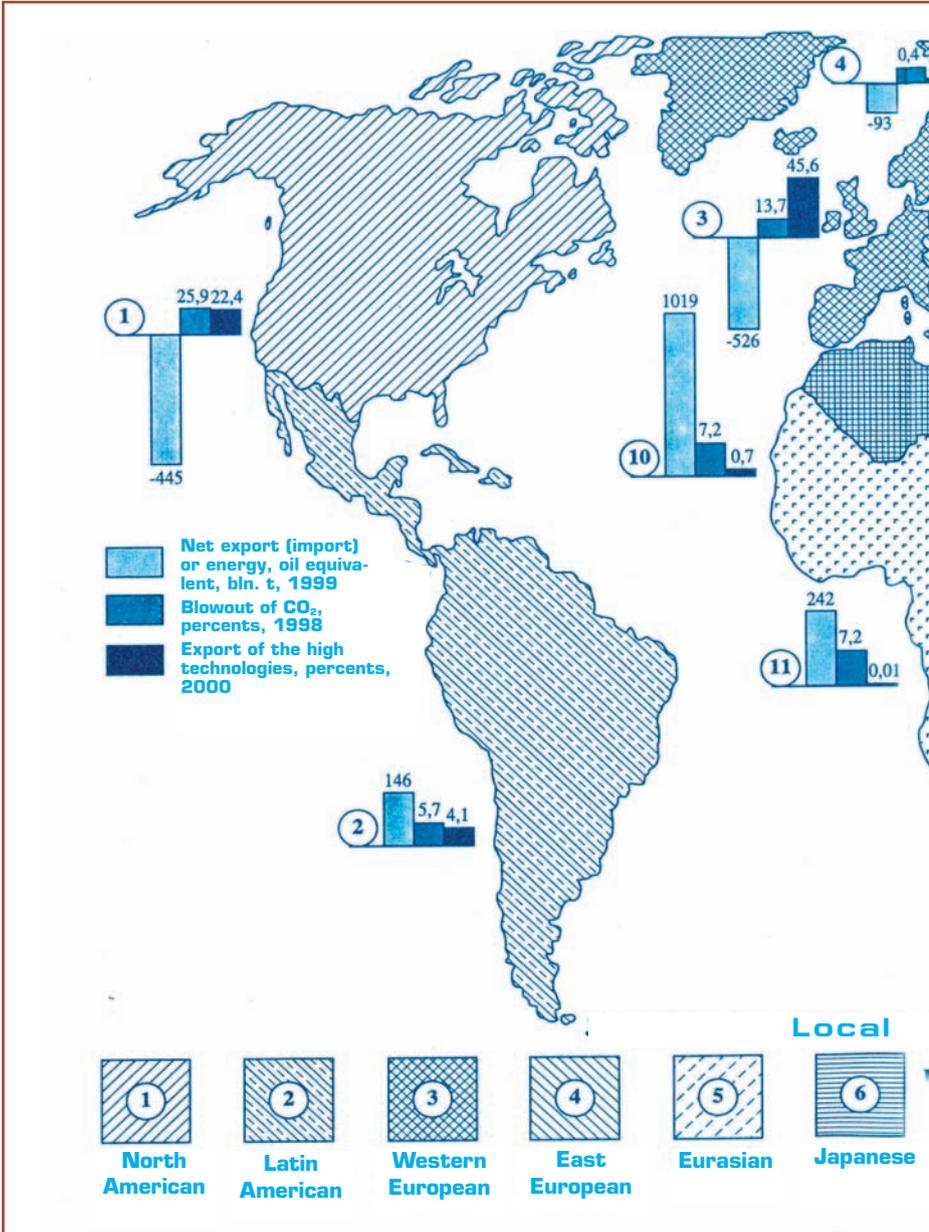
4. *It will be necessary to shape a concerted global demographic and migration policy* in two variations – for countries and civilizations with high growth rates and abundance of population and for countries and civilizations found itself in the state of depopulation. A demographic problem as ecological assumes a global nature and requires differentiated approaches.

5. The working out and consistent pursuance of a *long-term global natural-ecological strategy by the world community* that orients at the saving of natural resources, environmental pollution reduction based on resource-saving, environmentally friendly technologies becomes an impelling need, in all civilizations based on their partnership, many-sided assistance from the vanguard civilizations to lagging as mineral wealth and environment are of global nature in its essence, conditions of co-existence and development of humankind. The foundations of such strategy were laid at the summits in Rio de Janeiro (1992) and Johannesburg (2002). However, it is pursued slowly, and a threat of global ecocatastrophe aggravates.

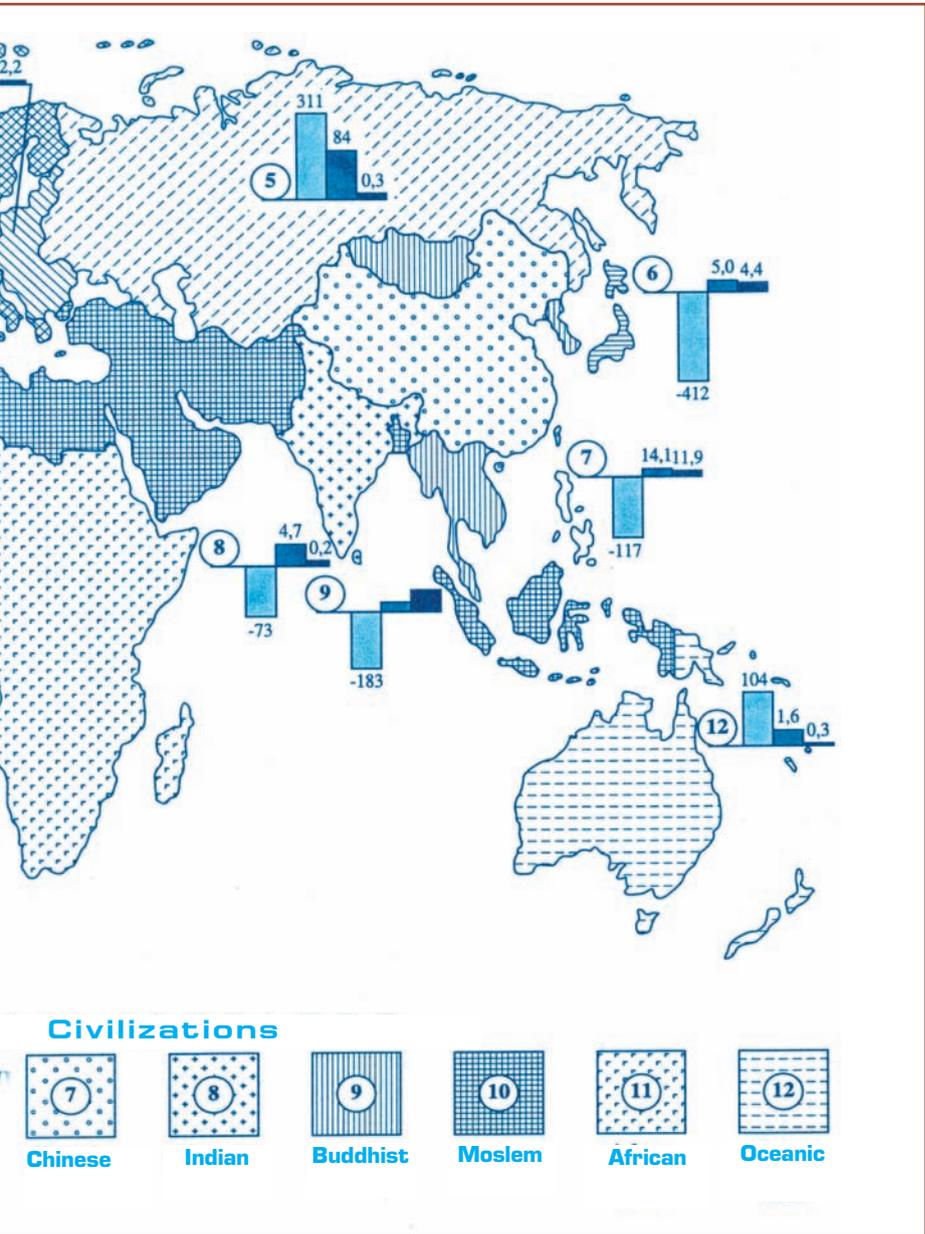
Development of the forms of interaction between civilizations. The transformation will embrace not only the contents of cross-civi-

Figure 7.4.

Local Civilizations in the Global Energetic, Ecologic



and Technologic Space



lizational relations in the 21st c., but their forms, it will require the development of new mechanism of dialogue, cooperation and partnership among civilizations of the fifth and fourth generations that will meet the realities of the post-industrial period.

First of all, it should be anticipated a gradual reduction of the sphere of application of the forms of interaction between civilizations associated with their *confrontation, and antagonism*. Although the first years of the century already in are accompanied by the outburst of international terrorism, local cross-civilizational conflicts in many ways of confrontational nature. However, it may be assumed that in the next decades these tendencies will ease under pressure of the common nature of planetary interests, need for the maintaining of the global civilization and survival of humankind in the face of new global threats. However, the reverse scenario of an aggravating confrontation (between the north American and Moslem civilizations, India and Pakistan) that might transform into the clash among civilizations with far-reaching destructive consequences should not be excluded in full.

The forms of interaction of the reverse direction – *dialogue, cooperation and partnership among civilizations* in ensuring their development and solution of the global problems of the 21st century have an encouraging outlook. The precondition for the implementation of such scenario is the awareness of the common character of the vital interests of all civilizations, their responsibility to the future generations, formation of the integral socio-cultural system and globalization with a “human face”.

The dialogue among civilizations is a primary form of their positive interaction. With all seeming simplicity of this notion it is very heterogeneous, and requires adequate preconditions and mechanisms for its implementation. First of all, it is not a senseless “dialogue among deaf”: it is necessary that each party in the bilateral and multi-lateral dialogue should be opened for perception of the voice and arguments of other parties, understanding of the originality of their cultures, mentality, and originality of interests, should accompany the dialogue; in such case only the dialogue will be fruitful, mutually promising, and orientating at the achievement of mutual understanding, mutual movement, compromise in the settlement of arising contradictions and conflicts in the context of interests of all parties (the hopes for the world without any conflicts is illusory even in the distant future).

Efficient fields and mechanisms of the dialogue among civilizations are necessary. First of all, the UNO, UNESCO, and other international organizations embracing all the world and its components (for instance,

the Asia-Pacific Economic Cooperation, Shanghai Cooperation Organization, Organization for Security and Cooperation in Europe, etc.) or directions (for instance, World Trade Organization, World Tourism Organization, and International Trade Unions) are the forums for such dialogue. The fields for dialogue — information (Internet, telecommunications, mass media), economic (mutual trade in goods and services, flows of international investments, credit-monetary sphere), culture and sports (exchange of cultural values, international sport competitions, translation of works of literature, etc.), international tourism, international youth movements, and mutual training of students.

The dialogue among civilizations is maintained not only between states, but also nongovernmental organizations, businesses and other economic organizations, and also between people and not only in international tourism, but between families and people in every day life and at work inside individual civilizations, especially with the development of a cross-civilizational migration.

With time the forms, field and mechanisms of the dialogue among civilizations will develop, enhance, become more varied and efficient forming the all-planetary tissue, a favorable background for higher forms of cross-civilizational interaction — cooperation and partnership among civilizations.

Cooperation of civilizations is of a more specific nature and a narrower field against dialogue. It is directed at the solution of matters where various civilizations have a common interest and which are impossible to solve within and by efforts of one civilization. The matter in question is ecological problems (for instance, a threat of a heat pollution of the planet), general policy in the field of sustainable development, regulation of transport and tourist flows, world currency relations, protection of intellectual property, and the preservation of the world cultural and natural heritage and the like forms and mechanisms of such cooperation are distinguished depending on its purposes, specifics of the object, level of interest, etc. A lot of examples could be adduced as such fruitful cooperation of civilizations, its sphere of application expands.

Partnership of civilizations is the supreme, closest and efficient forms of their positive interaction. It differs from cooperation by depth, stability, and many-sidedness, closer tying in of mutual interests on a constant base. The partnership in the nuclear power, control over weapons and reduction (modern weapons of mass destruction (nuclear, chemical, and biological) could be adduced as examples. The increasing interaction between European states within the European Union may serve as a model of partnership; this model may be an ex-

ample of partnership; this model may be an example not only for partnership within civilization, but a cross-civilizational partnership. The sphere of partnership is considerably narrower than cooperation and the dialogue particularly.

The development of partnership among civilizations requires the formation of the efficient organizational-economic mechanism. For instance, enlargement and closer definition of the functions of the UN General Assembly, Security Council, other international organizations will be necessary in order to solve the problems of sustainable development in global scale; adoption of international rules (formation of the elements of international law); establishment of global funds — ecological, technological, socio-cultural — on deductions from the world natural rent, ecological anti rent, technological and financial quasi rent; elaboration of long-term global programmes and bodies carrying them out.

Formation of the system of international transport corridors and international bodies representing states and civilizations concerned and ensuring their function may become another direction of partnership among civilizations; the source of their financing may be deductions from the world transport rent generated from their operation.

It may be anticipated with a certain degree of reliability that the sphere of partnership among civilizations will intensify in the 21st century. Mechanisms and fields of partnership will expand and enhance forming a base for a positive variant of globalization. And the forecast scenario may be different by rates and intensity of the development of such processes.

In the second half of the 21st c., under establishment and intensification of these tendencies it may be anticipated that the world community will finally enter the trunk line of dialogue, cooperation and partnership among civilizations and will mainly succeed in solving the focal global problems on this road or establish real preconditions for their settlement.

7.4.3. Outlooks of Dynamics of Local Civilizations in the 21st Century

The century already in is characterized by a number of new tendencies in shifts in a geocivilizational space. The differentiation of the western civilization takes place, divergence of the systems of values and vital interests of its elements once making the whole: western

European, north American, Latin American and Oceanic. The role of eastern civilizations increases. They go through the period of a passionate rise. The Eurasian and African civilizations are in the state of decline.

Integration of the western European civilization. Throughout of two millennia Western Europe was the arena of constant wars and conflicts, and in the 20th c. it became the source of two bloodiest world wars in the history. In the 21st c., a global experiment was carried out on the territory of Western Europe, a pilot project for the formation of a civilizational commonness on the principles of dialogue, equal cooperation and partnership of European states different by national languages, culture, historical traditions, faith, level of economic and social development. Also other multi-state civilizations may follow experience gained here in future.

In the first half of the 21st c., the following tendencies of development of the western European civilization may be anticipated:

➡ strengthening of economic unity on the basis of a single monetary-finance system, free flow of capital and people, bridging the level of development of lagging countries. This will give additional synergetic, integral effect, improve stability, sustainability of all-European development, permits to reduce the amplitude of cyclical fluctuations;

➡ the development of dialogue of cultures, formation of a single cultural-information, scientific and educational space will contribute to the formation of the integral socio-cultural system under the preservation of diversity of national languages and cultures;

➡ demographic (tendency to depopulation) and ecological (a shortage of natural resources, high level of environmental pollution) problems will be solved on the basis of dialogue and partnership with other civilizations, expansion of the influx of migrants, import of natural raw materials, and efficient environmental policy;

➡ in the geopolitical space, the western European civilization will play mainly a stabilizing role and at the same time it will become a pioneer in the formation of supranational civilizational-political structures and civil society, elaboration of common democratic institute, common policy of legislative, executive and judicial power.

The western European civilization will have to solve a good deal of difficult problems on the integral path:

➡ admission of the countries of Eastern Europe, Baltic in the expanding framework of the European Union, and probably the CIS countries – Ukraine, Moldova, countries of Transcaucasia in future, bringing closer the level of development with the countries of Western

Europe. The all-European civilization will be formed thereby, and the eastern European and a part of the Eurasian be absorbed in a “soft” form;

➡ overcoming the grounds of cross-civilizational conflicts on the Balkan, in Transcaucasia, solution of the problems of integration and consensus among representatives of various civilizations and cultures as a result of the influx of immigrants to Western Europe; maintaining of cultural heritage, diversity of languages and cultures in the face of unifying tendencies of globalization resting on the powerful information flows.

Assessing the latter-day state of the western civilization it may be said that it is going through the phase of rise of a new life cycles that began after World War II. “The Decline of the West” has not taken place. Having passed through terrible ordeals and drawing lessons therefrom it has found forces for a new whorl of the civilizational advance. Although a share of Western Europe reduced in the world GDP from 36.7 % in 1900 to 20.8% in 2000 [264. P. 509), integration becomes a launching pad for a new rise in the 21st c. if the problems that Europe faces are solved.

The might of the north American civilization. At the turn of the century the north American civilization (and its core — the USA) found itself at the peak of its approximately three-century history. It is youngest and most powerful of civilizations of the fourth generations, occupies a leading place in the world economy. With a share in the world population of 5.1% in 2002, 34.4% of world gross internal revenue falls to this civilization, 14.7% of export, and 25% of power consumption.

In the 20th c., the north American civilization was in extremely favorable conditions for development. Having taken part in two world wars it did not suffer its destructive effect, and got a powerful impulse to the rise in the military-industrial complex. With the disintegration of the USSR, the USA has remained the only super power heading the western civilizations and leading in the world with the most powerful economic, scientific-technological and military potential. This generated the aspirations for the formation of the unipolar world with the USA at the head, establishment of the US dominance in all regions of the planet, using globalization for such purposes and the superior forces of the NATO, turning all the world into the Pax Americana.

Three possible scenarios of the development of the north American civilization with various consequences are taking shape for the 21st century (its first half).

The first scenario is *the continuation and strengthening of the course for the establishment of the unipolar world structure with the US domi-*

nance under the subordination of other civilizations and suppression of their resistance under the guise of combating terrorism, active use of globalization according to the western model in the interests of building up of the US economic might. In actual fact, this is an attempt to form a technocratic unipolar variant of the late industrial civilization, the first global empire in the history.

However, this scenario will meet the growing resistance of non-western civilizations, intensification of the struggle for another variant of globalization and for the multi-polar world that will finally aggravate conflicts and might lead to the clash of civilizations with time, first of all the clash between north American and Moslem. The tragic events of September 11, 2001 are a micro model of such clash.

Also, internal factors should be taken into account. With the growth of migration the north American civilization assumes an increasingly mixed nature; by the middle of the 21st c. non-European population will prevail in the USA that will complicate the problem of internal cross-civilizational relations like in Western Europe. And also in the socio-cultural relation, the USA will unlikely be able to retain the leadership in transformation of the sensual socio-cultural system into integral.

The essence of the second scenario is that *having realized the dangers of expansion of cross-civilizational ties, the US will return to the course for isolation* (as it was the case after World War I), try to restrict their participation in the world affairs and in settlement of global contradictions. These elements are also observed now: a refusal to sign the Kyoto protocol. However, this scenario is less probable: US-based TNC are closely connected with the world economic space, the NATO operations rest on the US military might; the US economy can't develop successfully without external markets of commodities, capitals and manpower.

The third scenario is less realized in the USA so far and in general in the western world, but it is most promising and optimistic for the future of both north American and other civilizations. Resting on its economic and technological might *the US may become one of pioneers and engines in the formation of the humanistically noospheric society* based on dialogue, equal cooperation and partnership among civilizations, giving a "human face" to globalization. But in order to do so the north American politicians, ideologists, scientists have to "step on the throat of own song", change the socio-cultural aims, abandon the dream of "Pax Americana". It is impossible for the present generation of politicians and ideologists. But as **Arthur M. Schlesinger, Jr.** showed, generations change. And the political aims change with them reflecting changes occurring in the world. "It is life experience of generations,

that is what plays a role of a cycle... Generations overlap each other and intertwine... Political life of each generation lasts approximately thirty years. Each generation, coming of political age, spends first fifteen years challenging the generation that has already power and protects it. Then this new generation itself comes to power for fifteen years and its political activity decreases thereafter, and a new growing generation claims the role of a successor" [232. P. 50, 51).

The now ruling generation in the USA was moulded during the cold war and bears its imprint. But the next generation that looks different at the world and may elect other scenario of the future already begins to speak.

The revival of the civilizations of the East. The 20th century has become the century of awakening of the civilizations of the East embracing a greater part of the Eurasian and a part of the African continent and representing most of the population on the Planet. Gaining of independence was not only the beginning of a hard and long way of the revival of the civilizations of the East which assumed visible features from the 60s-70s years and will assume a new space in the 21st c. when according to **Pitirim Sorokin's** foresight the center of creative leadership of humankind will shift to the East. The following factors corroborate this tendency.

First, the overwhelming majority of the population on the Planet lives in the civilizations of the East, and its share will increase in the outlook for the 21st c. Literacy and activity of this population grow; its desire to ensure worthy conditions of life for themselves and future generations.

Second, a number of the states of the Buddhist and Moslem civilizations achieve a good pace of growth, improve the level and quality of life of their population following Japan, China, India, new industrial countries that have demonstrated an example of a technological and economic breakthrough. A share of eastern civilizations increases in the world economic product, this tendency will likely persist in the 21st century.

Third, civilizations of the East have the richest socio-cultural heritage, great culture that goes through the beginning of a new period of the Renaissance now and is able to oppose the unifying pressure of globalization according to western models. As L.N. Gumilev put it most peoples of the East are in the state of a passionate push and this state will likely persist in the first half of the 21st c. (unlike civilizations of the West where such push is already a historical past).

Therefore it may foresee with a considerable degree of probability that the century already in will become the century of the revival and

high activity of civilizations of the East. The priority of spiritual values and a feeling of unity with nature inherent to the eastern civilizations is a typical feature of the humanistically noospheric post-industrial civilization and the integral socio-cultural system which time of triumph will probably come by the middle of the 21st century.

The outlooks of the Japanese civilization. Japan that met defeat in World War II and claimed the role of the leader and the mistress of the East, was first to show an example of a rapid revival which was called the “Japanese Economic Miracle”. With an inconsiderable share of population in the world (total 2-3%) and inconsiderable natural resources, it has managed to rise to the level of the second power of the world in terms of its economic might for several decades and increased its share from 2.9% in 1950 to 8.6% in 1990 in the world GDP, thus it increased the GDP output 14 times for 50 years (in comparable prices) while the overall increase made 6.2 times in the world. [64. P. 505, 509].

However, by the end of the 20th c. the energy of such push turned out considerably exhausted for the Japanese civilization which reached the most heights in the East. Difficult times have come. The tendency to depopulation and its aging becomes obvious; according to the UN’s forecast the population number in Japan will reduce from 127 mln. people in 2000 to 110 in 2050, and the mean age will grow from 22.3 years in 1950 to 41.3 in 2000 and to 52.3 in 2050 to 37.8 years on average in the world [133. P. 20, 262]. A share of Japan reduced in the world GDP from 8.6% in 1990 up to 7.2% in 2000. [64. P. 509]. According to the forecast the Japanese civilization will remain in the number of the developed regions of the world, but it will be driven back by such giants as north American, western European and Chinese civilizations.

Two scenarios are possible for the Japanese civilization in the 21st century. One of them is a moderate growth and stagnation, a loss of a passionary push, a loss of a part of worked up markets, ousting to the 4-5th place in the world hierarchy of powers in terms of economic might under the maintenance of a considerably high level and quality of life and high efficiency of economy, strengthening of influence of the western culture and ideology on new generations.

Another possible, but less probable scenario: Japan will get the second wind, find forces for a new passionary push, modernization of economy based on the sixth technological order, reduce the tendency towards depopulation and speed up the formation of the integral socio-cultural system to which it is close, fix its place in the world arena (at least up to the middle of the century) as the third center of power after the north American and integrated western European civilizations.

Which of the scenarios will become a reality, the future will show.

A breakthrough of the Chinese civilization. The 20th century was the period of ordeals for China. Revolutions and wars took a greater part of the century: the revolution of 1911, a long Japanese aggression, civil war, and “cultural revolution”. As a result China’s GDP grew 2.4 times for 70 years with a population growth of 2.3 times; the relevant figures for the world — 7.4 and 2.5 times (Ibid. P 499, 500, 505, 506). But the Chinese people faced the ordeals and from 1978 it entered the period of a long rise. During three decades the GDP grew 9.4 times, Due to demographic policy pursued moderate population number growth rates were reached. As a result a share of China in the world population dropped from 22.5% in 1970 to 21.5% in 2000 and it will reduce by 15.4% in the outlook for 2050 [272. P. 20,154].

Two scenarios of the development of the Chinese civilization in the first half of the 21st c. are taking shape. Under the maintenance of comparatively high, but less than at the end of the 20th c., GDP growth rates (6-8% average annual), by economic might (GDP output) China will outstrip Western Europe approximately by 2020-2025 and the USA by 2035-2040 and it will become the most powerful economic power of the world. In the context of the active Diaspora closely connected with the motherland, especially in the countries of the Southeastern Asia and the USA, China will in actual fact become the super power by the middle of the century competing in struggle for the world leadership with the USA. And this fact should be taken into account by other countries and civilizations. Under such scenario the return to the system of the bipolar world structure by the middle of the 21st c. should not be excluded.

Another scenario is less optimistic. Under the conditions of globalization according to the western model the positions of China may be partially undermined on the world markets, the economic growth rates will drop by 3-4% a year that will reduce the opportunity for modernization of fixed capital obsolete in many ways and assimilation of the sixth technological order. The regularity of cyclical dynamics of economy will take effect interrupted by regular economic crises synchronized with the crisis declines in the world economy. This may intensify the expansionist tendencies of China in struggle for new markets and spheres of influence.

However, under any scenario the role of the Chinese civilization will increase in the geopolitical, geoeconomic and geocultural space, it will become one of the main actors in the world civilizational arena.

The awakening of the Indian civilization. After India got independence, it went through uneasy times of dissociation, division of its territory between the Indian and Moslem civilizations. Population grew at high rates and increased for 50 years exceeding 1 bln. people by the end of the century (16.8% of the world population), under a high density of population. By 2050 according to the UN's medium forecast the population number in India will reach 1,531 mln. people — 17.2% of the world population. According to the forecast of the Institute of World Economy and International Relations of the Russian Academy of Sciences (IMEMO RAN) India will rise up to 5.5% of the world GDP in 2015 occupying the fifth place after the north American, western European, Moslem and Japanese civilizations [63].

In the outlook for the 21st c. two scenarios of the development of the Indian civilization are possible. A favorable scenario is in consolidation of tendencies of the priority economic growth under a slowing down of the population increase rates. This will permit to improve considerably the level of life of population which remains extremely low. In 2002, according to the World Bank figures, GNP made only USD 450 per capita in India (161 place in the world) — 11 times lower than the world average level and 75 times lower than in the USA; a share of population with income less than USD 1 (international poverty line) made 34.7, less than USD 2 — 80%, the implementation of the optimistic scenario will enable to bridge sharply the poverty, increase the activity of population, speed up the rates of economic and social development. The Indian civilization will occupy a worthy place in the family of local civilizations of the fifth generation resting on the ancient traditions and it will successfully oppose the unifying tendencies of globalization.

However, one should not also exclude another pessimistic scenario of development of events. It is connected with the aggravation of cross-civilizational conflicts on the congested Hindustan Peninsula, including a military clash with the Moslem civilization (Pakistan). This will lead to a considerable diversion of the funds for the needs of defense, and in the event of the clash — a disruption of a part of economy. Under such scenario India will remain long in the less developed civilizations, and in the event of a protracted destructive war with the use of nuclear weapons it may be thrown back for decades. This scenario is not likely, but it should not be excluded from consideration so that to cool the hottest heads.

The intricate path of the Moslem civilization. The Moslem civilization entered the 21st century in a quite active and contradictory state. Occupying the third place by the population number under its prior-

ity growth rates (a share of the population number grew from 10.4% in 1950 to 14.5% in 2000), the fourth place in the world by the GDP output and remarkable for the high rates of its growth (a share in the world GDP grew from 6.1% in 1950 and 5.1% in 1960 up to 8.8% in 2000 – under the growth for a half of the century in 8.5 times in comparable prices), this civilization is remarkable for its high heterogeneity. It includes about 40 countries with a various level of economic and social development. It features a number of oil producing countries with a high level of GDP per capita, and the countries with income much more lower than the world average level (for instance, Bangladesh – in 13.5 times, Pakistan – in 12.2 times).

The Moslem civilization is one the most aggressive civilizations in the world now. It is due to several reasons. **First**, by the high rates of the population growth and its poverty in most of the countries that induces their leaders and the youth seek actively the way-out of the deadlock. The repartioning of old and conquering if new territories, forcible taking away of wealth and resources from those countries which are richer or weaker. **Second**, Islam – prevailing religion, – cultivates a high spirit of collectivism, self-sacrifice for the sake of common objectives, religious fanaticism, and extremism find a favorable soil here. On the boundaries of the rift with other civilizations armed conflicts often arise. **Third**, the dispersion of Moslem countries by various continents, a high level of penetration into other civilizations under the maintenance of own identity, diffusion of ideas of Islam in the western European, Eurasian, north American civilizations become the source of numerous local nationality and religion conflicts.

It should also be taken into account that there is no recognized leader among the Moslem countries, and Islam does not imply (unlike Catholicism) a single religious center (Saudi Arabia tries to perform such function to a certain extent).

In the outlook of the 21st century (its first half), several scenarios of the future of the Moslem civilization are taking shape.

The *inertia-based scenario* – the maintenance of the present state of the unstable balance under the priority world average rates of the population growth (an increase of the share of population in the world from 17.5% in 1998 to 19-20% in 2050) and GDP (an increase of the share in the world GDP from 8.3% in 2000 to 9.3% in 2015 – according to the IMEMO RAN's forecast) while a gap in the level of socio-economic development of the rich and poor Moslem countries remains. In such case, some countries and strata of population will remain a fueler for the arising conflicts and international terrorism.

The *pessimistic scenario* is in the aggravation of a threat of the clash among civilization on such soil and the implementation of this threat in a number of local cross-civilizational conflicts (Israeli-Palestinian, Indian-Pakistan, Balkan, Transcaucasia, North Caucasia, Afghan, etc.). This will slow down the growth rates of the countries of the Moslem civilization, and at the worst the military clash among civilization with the use of modern weapons could through them back, and even to create a threat for survival of all humankind. However, in the nearest decades under the NATO military superiority and preservation of the anti-terrorist coalition, such outlook is highly unlikely.

The *optimistic scenario* is that the countries of moderate Islam and its peaceful wing will overcome a danger of international terrorism and a clash among civilizations and direct a remaining passionary push for rendering support to the poorest Moslem countries so that to ensure the leveling of the level of development inside civilization, improve the general level of life and approximation to the world average indicator (it is 1.6 times lower than average world now). The development of dialogue and partnership among civilizations in the solution of urgent global problems, formation of the multi-polar world, assistance of the richest civilizations will promote the implementation of such scenario that has chances to success although less than the first scenario. A change of generation may play a positive role.

The tragic fate of the Eurasian civilization. The only civilization that has met the 21st century in the state of disintegration and retrogradation is the Eurasian civilization that was represented by the Soviet Union in the 20th century – a successor to the Russian Empire.

The Eurasian civilization is mixed by its nature. Along with its historical orthodox core (Russians, Ukrainians, Byelorussians, Armenians, and Georgians), it included considerable elements of Moslem population (Azerbaijanians, Kazakhs, Tadjiks, Turkmans, Uzbeks, Kirghiz, Tartars, Bashkirs, Dagestanians, Ingushs, and Chechens), bearers of western European culture (the peoples of the Baltic), Buddhist population (Buryats, Kalmucks, and Tuvins). After the Baltic states got independence, they together with the countries of Eastern Europe gravitated to the western European civilization. Therefore in the 21st c. the fate of the Eurasian civilization may be considered within the CIS. However, the centrifugal forces still prevail here, especially after the events of September 11, 2000. The “revolution of roses” in Georgia and “Orange Revolution” in Ukraine when the influence of the USA increased considerably in a number of the CIS states, and the NATO influence zone came nigh unto the southern borders of Russia. In actual

fact, it is possible to speak with confidence only about the Russian civilization at the beginning of the century.

The *launching positions* for the Eurasian civilization (and the Russian as its core) have taken shape extremely unfavorable by the beginning of the 21st c.

In the demographic field the period of a comparatively high growth rates of CIS population (from 174 mln. in 1950 to 282 mln. in 2000 – 62% for half a century) was replaced by the period of stagnation and beginning of the tendency to depopulation after 2010 – with the decline in the population number, according to the UN's medium forecast, up to 237 – by 16% mln.; a share of the world population will decrease from 6.9% in 1950 to 4.6% in 2000 and by 2.4% in 2050. However, various tendencies are observed in three groups of the CIS countries. The population number of Russia, Ukraine and Byelorussia will reduce from 205 mln. people in 2000 to 141 mln. in 2050 – by 34% (including in Russia – from 146 to 101.5 mln.), a share of the CIS population number – from 73% to 59%. The reverse tendency is observed in the countries where the Moslem population prevails: the population number in Uzbekistan, Kazakhstan, Tadjikistan, Turkmenistan, Kirghizia and Azerbaijan grew in 3.1 times from 1950 to 2000 (from 16.1 to 64.3 mln. persons) and continues growing in the first half of the 21st c. – up to 86.4 mln. in 2050. A share of this group of countries in the CIS population number grew from 9.3% in 1950 to 29% in 2000 and will reach 37% by 2050. In the third group of countries (Armenia, Georgia, and Moldova) a moderate drop will be observed, and it will practically stabilize for the total population number in the CIS (4.5% in 2000, 4% in 2050). At the beginning of the 21st c. these tendencies have been mainly surmounted, high economic growth rates and increase in the real income of population is observed.

The decline or stabilization in the mean anticipated life span, high level of sick and morbidity rate, a relatively low life level after its sharp fall in the 90s, many time increase of economic stratification, social stratification between a narrow stratum of the new rich and majority often beyond the poverty line should be included in the number of the prevailing tendencies.

In the *technological and economic* field, the tendencies to technological degradation of economy prevailed in the 90s, ousting of the fifth and partially the fourth technological orders, washing out of science-intensive products (under a considerable increase in the share of the third and especially of the relict orders), a loss of competitiveness of agricultural products and manufacturing industries and its replacement with the

import products, many-time reduction of a share of the state order as a result of privatization that transferred the most valuable property to private hands nearly for a song, a sharp fall in the efficiency of economy and its role in the world economic space. From 1950 to 1960 a share of the former USSR grew from 11.1 to 14.5% in the world GDP, and then it began to drop at the increasing rate – 13.2% in 1970, 11.7% in 1980, 9.2% in 1990, and in the 90s it dropped rapidly – to 4.1% in 2000 (a share of Russia: 7.0% in 1950, 8.9% in 1960, 5.6% in 1990 and 2.1% in 2000). From 1999 the revival of economy began in the CIS countries, in 2000 record rates of economic growth were attained and outstripped the world average further. In all CIS countries, fixed capital has aged considerable not renewed practically for a long time, an underloading of productive capacities is high; a level of investment and innovations has dropped many times. A private capitalist order formed at lightning speed turned out low efficient and parasitic to a greater extent, a large part of economy is under control of Mafiosi structures, foreign capital and TNC.

In the *state-political* field, under the development of democracy and easing of the influence of the state a tendency to the establishment of authoritarian regimes has intensified in some countries. In all countries, it is observed the intensification of corruption, increased bureaucratic machinery under a low responsibility for final outputs of its activity. Attempts to consolidate the state-political union and civilization unity within CIS were not crowned with success. A number of narrower unions – the union Russia-Belarus, Eurasian economic community, a link Uzbekistan-Ukraine-Georgia-Moldova emerged. Political ties between the CIS countries weakened, their influence reduced considerably in the geopolitical arena.

In the *social-cultural sphere*, there are observed considerable losses. Allocations of the state and industry for science reduced many times, and the number of research staff, many talented scientists moved abroad. The state support of culture, education, health care service reduced. A wave of crime, narcotism, alcoholism, prostitution, and dissolution of morals is observed.

In the first half of the 21st century one of three possible development scenarios for the Eurasian civilization may be implemented.

Pessimistic scenario. The consolidation of the disintegration of the Eurasian civilization and the disintegration of the CIS within one-two near decades. Smaller formations (union Russia-Belarus; Eurasian economic commonwealth, Central Asian Union) might persist in this space, which are under the increasing influence of both western and eastern civilizations.

The disintegration of Russia that was forecasted by Giulietto Chiesa, Zbigniew Brzezinski would be the extreme case of the implementation of the pessimistic scenario. Thus **Giulietto Chiesa**, Italian journalist in the book under the symbolic title “Farewell, Russia!” wrote: “The decline and disintegration which the Russians promoted by its laziness and stupid imitation of foreign examples have just begun. A loss of Central Asia will be followed by a loss of Caucasus. And then the Russians will give up Siberia, the strongest of “Asian tigers” will suppress it. This will occur as a matter of course as Russia is doing harakiri before the eyes of Asia, and a colossal demographic pressure of the Chinese will not be checked by anything soon”.

Zbigniew Brzezinski, American politologist, former US Secretary of the State, believes that a division of Russia into three sovereign states is desirable: “Russia formed according to the principle of free confederation which would include the European part of Russia, Siberian Republic and Far Eastern Republic would be easier to develop closer economic ties with Europe, with new states of Central Asia and the East...” [8. P. 240]. A disintegration of Russia would mean a final disappearance of the Eurasian civilization from the historical arena.

However, in view of the revival that has already begun economy of Russia, strengthening of the vertical of power and relaxing the centrifugal forces the scenario that Russia will disintegrate should be viewed as highly unlikely.

The *inertia-based scenario* (“scenario of vegetation”) of the development of the Eurasian civilization has much more chances to be implemented. Not only the common historical past and socio-cultural ties of peoples endorse the maintenance of the CIS, but also vital economic and geopolitical interests of the CIS countries. Only through uniting their efforts they may improve the competitiveness of their economy, oppose a powerful pressure of TNC under the conditions of globalization, and to strengthen existing and develop new niches on the world market. However, the awareness and implementation of such commonness under such scenario will have its limits, and meet with mercenary interests of local oligarch and comprador groups and short-sighted political elites, seeking to maintain its influence, and also a strong economic and political influence from the West. Therefore the state of the now unstable balance will remain, fluctuation and struggle of centrifugal and centripetal forces under the continuing loss of international influence as it loses its military and energy element as a result of going out of a considerable part of military-technological systems slowly renewed and depletion of reserves of fossil

fuel. In the more remote future it may be ended with a transition to the pessimistic scenario.

The *optimistic scenario* is in the revival of the Eurasian civilization and Russia as its core in the near 20-30 years. Historical experience endorses such scenario: Russia found itself three times in the state of national catastrophe for its millennium history and got out of it renewed and even stronger (the matter in question is the Mongolian invasion, Time of Troubles and civil war of the beginning of the 20th c.). According to **A. Toynbee** a challenge of the period causes the response of civilization. The awareness of the future death of civilization, responsibility to the future generations gives rise to new forces and opportunities. But a change of generations of politicians, business and intellectual elite, revival of a passionary push, elaboration and implementation of the strategy of an innovative breakthrough, priority of integral tendencies, and civilizational identification in opposing the unifying tendencies of globalization will be necessary for that.

The outlooks of the revival of the Eurasian civilizations are viewed as highly unlikely now, but they have real preconditions. This is first of all the socio-cultural commonness, a high level of science, culture and education still maintained that has a paramount significance for the post-industrial society. It is sufficiently complete support with the major types of natural resources which have not only national, but world significance. It is the need of joint actions on the world markets so that to survive in the competitive struggle. This is the commonness of geopolitical and military-strategic interests in the face of a threat of the clash among civilizations and international terrorism.

However, a lot of obstacles have to be overcome on the path to the implementation of the optimistic scenario. This is first of all a lack of a well-elaborated strategy of the revival of the Eurasian civilization, weakness and disunity of political forces and social movements struggling for the pursuance of this strategy, incompetence, strategic shortsightedness and self-interest of political and business elite, and finally a growing political and economic pressure from the outside of countries and civilizations opposing the outlook of revival, Eurasian civilization. It will be necessary a lot of efforts, change of one-two generations (and in the crucial periods the change rate of generations speeds up) so that the optimistic scenario will be implemented.

Latin American civilization. This civilization is one of the youngest: it formed a couple of centuries ago on the base of Spanish and Portuguese colonies in South and Central America. Although conflicts and

wars went on long between young states, nevertheless they become more and more aware of their civilizational commonness.

This civilization formed of three quite heterogeneous elements: the remains of aboriginal tribes stronger than in North America and states – descendants of the ancient American civilizations of Incas, Mayas, and Aztecs; the emigrants from Western Europe, first of all Spain and Portugal, conquered them: the descendants of Africans – slaves relocated from Africa by force. Quite considerable strata of metis, mulattos, and Creoles are the fruit of cross-civilizational amalgamation.

Latin America has quite considerable and fast growing population. Its share in the world population rose from 6.2% in 1950 to 8.5% in 2000 and will be increasing in the period before 2050 at the priority rates reaching 760 mln. people according to the UN's forecast – 8.6% of the world population. And economy grows at the priority rates: the GDP output increased 7.3 times for a half of the century, and its share rose from 6.4 to 7.6% in the world GDP. According to the IMEMO RAN's forecast this tendency will persist also at the beginning of the century, so its share will reach 8% by 2015. In terms of the level of economic development Latin America is somewhat lower than the world average level (in 2002, according to the World Bank, GNP made USD 3,280 per capita – 64% of the average world indicator).

Most of the countries of Latin America have necessary preconditions for sustainable economic growth and maintenance of cultural diversity in the 21st century. Therefore the scenarios of development of this civilization may be different by the rates of economic development in the near decades that depends on the dynamics of conjuncture of the world economy with which these countries are closely connected. The clash among civilizations, big military conflicts should not be expected in this region of the world.

The oceanic civilization is included in the number of being formed nowadays. It includes the developed core – a former part of the western civilization (the British Empire) – Australia and New Zealand with an inconsiderate number of aboriginal population which preserves ancient traditions and young states of Polynesia, Micronesia and Melanesia which have gained independence recently, and lagging considerably in economic aspect and often at the pre-industrial stage of development.

Australia and New Zealand occupy an inconsiderable specific weight in the world population number – totally about 0.4%; a share in the world GDP is approximately three times higher – 1.2%. According to the GNP per capita in 2003 Australia outstripped 5.1 times the average world level, New Zealand – 2.6 times. However, the island states of

Oceania are on the low level of development. For instance, Papua New Guinea (with 5 mln. population — more than in New Zealand by 1 mln.) had USD 530 GDP per capita — 9.7 times lower than the world average. These are the countries with the high rate of population increase so according to the UN's medium demographic forecast the population will increase 1.5 times by 2050 in general for Oceania (in Australia and New Zealand — by 32%).

An important problem of the development of mixed civilization is the bridging of a cross-civilizational gap in the level of economic and social development under the leading role and responsibility of Australia in the solution of this issue. It may serve as a model for the solution of a similar problem in general for the world civilization of the 21st century. If the gap persists or even increases, it will mean that the pessimistic scenario prevailed.

The African civilization (south to the Sahara) goes through the formation and is in a more complicated situation among civilizations of the fourth generation. It is remarkable for the highest increase rates of population (its share grew from 6.2% in 1950 to 10.6% in 2000 and it will continue growing to 17.5% by 2050 in the first half of the 21st c.) under a falling share in the world GDP (from 3.4% in 1950 to 2.4% in 2000 and according to the IMEMO RAN' forecast to 2.1% in 2015).

In many African countries the level of life is record low. In general the GNP per capita is 11.4 times lower than the world average in the African civilization, and in Ethiopia (population 67 mln. people) — 51.2 times, in Burundi (7 mln. people) — 51.2 times. Nigeria (135 mln. people — in 17.1 times). Admittedly, this indicator is 5.6 times higher than average for the African civilization in South Africa, but it is twice as lower than the world average. In many African countries the level of illiteracy is high, the scientific-technological potential is extremely low; the resources for the development are extremely limited.

Apparently, the African civilization can't be able to bridge a growing gap from the world level by own efforts, and approach the world average level and the post-industrial society. However, it is quite dangerous for the future of all humankind to leave the civilization in its modern beggarly state that totals to 540 mln. people in **2000**, and will number 1,557 mln. people by **2050** — more than a billion and a half.

The solution of the development-related problem of the African civilization, bringing it closer to the world average level is one of the central global problems of the 21st century. Under the optimistic scenario if the resources of developed civilizations can be pooled, this gap may be reduced 2-3 times by **2050**. Under the pessimistic scenario — a

gap may even increase in the second half of the century. This is a kind of a touchstone on which the efficiency of globalization will be tested, the ability of civilizations of the fifth generation to mutual support and partnership.

7.4.4. Scenarios of Interaction among Civilizations in the 21st Century

In the 21st century, the problem of interaction among local civilizations acquires a key, axial significance not only for their further fate, but for the future of all humankind, survival and development of the crown of evolution and nature — Homo Sapiens species.

This is connected with the **historical rift**, change of periods as a result of:

➡ a transition from the industrial world civilization that prevailed during more than two centuries to post-industrial the distinguishing features of which have not established themselves yet, confronting its various variants; the old world tries to extend its agony, as if simulating a new civilization;

➡ a replacement of the sensual socio-cultural system that prevailed during five centuries in the West and the ideational socio-cultural system inherent to civilizations of the East with the integral system harmoniously combining positive features of this and that system; this replacement will likely take nearly all space of the 21st century and connected with the change in the system of values;

➡ a speeding up process of globalization and confrontation of its two variants — aimed at unifying westernization of the world with the dissolution of civilizations or maintaining and intensifying the distinctions, formation of more differentiated the fifth generation of local civilizations and their partnership.

The following scenarios of interaction among civilizations in the 21st century are possible;

➡ scenario of the clash between civilizations on the lines of civilizational rifts is extremely unfavorable that might finally lead to self-destruction of humankind;

➡ scenario of the *dissolution of civilization* in the global super society;

➡ *optimistic scenario of the dialogue and partnership* of civilizations of the fifth generation in solution of long-felt problems in ensuring of sustainable development in the world scale.

Let's dwell on each of these scenarios and their possible consequences.

The clash of civilizations scenario was first analyzed in detail by **S. Huntington** [259] and has objective and subjective preconditions for its implementation under conditions of an increasing gap between the rich and poor civilizations. But a growing awareness that such clash is fatal for humankind opposes the implementation of this scenario in the form of a large-scale armed clash among civilizations.

The clash of civilizations on the local level are already going, they found its expression in a number of armed conflicts in the Middle East, Balkans, Afghanistan, Iraq, Transcaucasia, the Hindustan Peninsula, having modified in the acts of international terrorism. The international community has succeeded to this day to suppress these dangerous seats for at great or less cost, preventing their transformation into a global clash among civilizations. Under today's relation of forces in the geopolitical arena the scenario of a large-scale clash among civilizations in the near decades appears highly unlikely. However, in the long view under an essential change in the relation of forces this danger may increase again if its objective foundation — an increasing gap between the rich minority and the poor majority of countries and civilizations on the planet is failed be surmounted through joint efforts.

The dissolution of civilizations scenario in the global super society is most well-defined by Russian philosopher **A.A. Zinoviev**. It proceeds from the following logic: "Civilization is a historical phenomenon: it emerges, lives, improves, changes and dies. It emerges and lives under certain conditions. The emergence of civilizations in the past was not an absolute necessity. Far from any assemblage of people was able to create or maintain civilizations... The remaining civilizations, including western European are doomed to disappearance. New phenomena of other kind will replace them, more adequate to modern conditions on the planet... In the second half of our century the most considerable western European civilization in the history of humankind began to be absorbed by a social organization of a higher level — the union of western countries in single supranational blocs, single supranational super societies, in the global super society. Time of civilizations has passed" [79. P. 20-21].

A threat of dissolution of civilizations in the global super society has objective roots in the modern neo-liberal model of globalization under its unifying impact on the civilizational systems of values and the dominance of the West in economic, technological, political, information and ideological geofields of the beginning of the 21st century.

If these tendencies persist and develop in the coming decades, than a danger of dissolution of civilizations in the global super society may be viewed as one of probable.

However, powerful forces, historical experience accumulated for five millennia oppose this scenario. Local civilizations, some of which has historical roots of great depth oppose it having recognized danger. It becomes increasingly obvious that the overcoming of the civilizational, national, and social diversity is as detrimental to humankind as a loss of biodiversity for the animate nature. The viability of the system is determined by the diversity of elements making it, a loss of such diversity, differentiation as a potential of the system leads to a loss of viability, degeneration and finally to the death.

The formation of the fifth generation of local civilizations that is different by its greater differentiation against prevailed in the industrial period is a response to challenges of globalization and unification. It may be anticipated that in the 21st c. the civilizational-cultural diversity will not only weaken, but on the contrary it will intensify, although it will assume the updated forms in many ways under the influence of the developing tendency towards dialogue and partnership among civilizations in the solution of new problems and threats arising before humankind in the century already in.

The dialogue and partnership among civilizations scenario. The dialogue and cooperation of local civilizations is not new phenomenon. It exists as many millennia as civilizations exist, intensifying and modernizing from period to period, from one world civilization to other, weakening in the transitional periods saturated with wars and conflicts.

In the 21st c. the dialogue and cooperation among civilizations acquire new features and specifics, and modify.

First, only one scenario — *their clash* which might finally lead to disappearance of human race from the Planet *is an alternative to the dialogue and cooperation among civilizations*. Such outlook has never arisen before in the interaction among civilizations. The aspiration for self-preservation of humankind makes the dialogue and partnership among civilizations a long-term strategic global imperative.

Second, globalization, in its present model, threatens civilizations by its dissolution in the global super society modified according to the western model. This threat is felt by most civilizations as real and intensify the efforts of local civilizations of the fifth generations to self-preservation that is a common field for the interaction among civilizations.

Third, the opportunities for dialogue and cooperation among civilizations have never been so ample and all-pervading before, there was no

such vast field of global problems that are possible to solve only together. The matter in question is the world information field (telecommunications, Internet), an increasingly powerful migration flows and free movement of people and capitals, common ecological and socio-cultural problems and many other entwinements forming a close texture of cross-civilizational relations in space of the single global civilization. This was noted by **Kofi Annan**, UN Secretary-General: “What this history should teach us also is that, alongside an infinite diversity of cultures, there does exist one, global civilization based on shared values of tolerance and freedom. It is a civilization defined by its tolerance of dissent, its celebration of cultural diversity, its insistence on fundamental, universal human rights, and its belief in the right of people everywhere to have a say in how they are governed. It is this global civilization that we are called on to defend and promote as we embark on a new century”.

Therefore the implementation of the dialogue and partnership among civilizations scenario in the 21st century appears not only highly desirable, but also quite probable and inevitable. However, this process won't be fast and easy, it will take not one decade within which conflicts will continue on civilizational rifts that are found not only the state boundaries, but often inside the countries. The change of one-two generations will be necessary before the dialogue among civilizations will become recognized, prevailed. The implementation of the action plan outlined by UN General Assembly Resolution No 56/6 dated 9.11.01 ‘Global Agenda for Dialogue among Civilizations’ will promote this: “Dialogue among civilizations is a process between and within civilizations, founded on inclusion, and a collective desire to learn, uncover and examine assumptions, unfold shared meaning and core values and integrate multiple perspectives through dialogue. Participation in dialogue among civilizations shall be global in scope and shall be open to all.”

The total of transformations. The view on the future of civilizations expounded in this chapter shows that in the century already in they are going to have the transformation of great depth predetermined by a transition to the third historical super cycle in the dynamics of the global civilization, formation of the post-industrial humanistically noospheric world civilization and the fifth, more differentiated generation of local civilizations. Therefore the 21st century is the century of hectic, sometimes chaotic changes, ruining the primary foundations of society and formation of new the outlines of which have not yet gained perspective to the end. The beginning for such changes was laid in the last decades of the 20th c.

Reviewing possible periodization of the optimistic scenario of civilizational transformations for a century and a half — from the last quarter of the 20th c. to the first quarter of the 22nd c. inclusive it may be viewed as the period of transition to the third historical super cycle, formation and diffusion of the post-industrial world civilization and the fifth generation of local civilizations.

We divide this period into three semi-century long-term cycles:

➡ the middle of the 70s of the 20th c. — middle of the 20s of the 21st c. (the 5th Kondratieff cycle) — the crisis of the industrial civilization of the fourth generation of local civilizations and the germination of the post-industrial civilization and a new generation of local civilizations; this is the most difficult and painful period fraught with upheavals, threats and conflicts;

➡ the middle of the 20s — beginning of the 70s of the 21st c. (the 6th Kondratieff cycle) — the period of spread, formation of the post industrial civilization and a new generation of local civilizations, their spread from the epicenter to the periphery, more clear-cut manifestation of their distinctive features and advantages, implementation of the humanistically noospheric principles of the way of life and a model of civilization adequate to it;

➡ the middle of the 70s of the 21st c. — middle of the 20s of the 22nd c. — reaching the maturity phase by the post-industrial world civilization and the fifth generation of local civilizations, ensuring their partnership, and slowing down of the change rates.

Obviously, the suggested scheme is only one of the scenarios of the future geocivilizational development, and the optimistic scenario that does not exclude other scenarios — pessimistic and intermediary, the blackest of them — self-destruction of humankind as a result of the clash among civilizations or a global catastrophe.

Let's also consider possible radical changes in the major spheres making the genotype of civilization: demographic, natural-ecological, innovative-technological, economic, socio-political and spiritual life. It is obvious from the scheme both the depth of occurring transformations in each of the spheres and their comparative synchronization by long-term cycles.

The total of these transformations (under the optimistic scenario) is that the civilizational humankind will be able to respond to the challenges of the 21st century and get out of it innovatively renewed, full of force and vigor for a new whorl of the historical spiral, for a complete implementation of its civilizational potential.



Checklist and tasks to Chapter 7

1. What are the grounds for the conclusion that at the turn of the 21st c. a transition to the third historical super cycle began?

How much time may a transitional period take?

2. What is the essence and basic outlines of the post-industrial world civilization? Can it be described as information or humanistically noospheric? Reason your answer.

3. What are specific features of the establishment and development of local civilizations of the fifth generation? How may intensification of their differentiation be explained?

4. Assess the prospects of dynamics in the first half of the 21st century of civilizations of Europe (western European, eastern European, and Eurasian), America and Oceania (northern American, Latin American, and Oceanic) of Asia and Africa (Japanese, Chinese, Indian, Buddhist, Moslem, and African). Is the foresight of Pitirim Sorokin on shifting the center of creative activity from the West to the East coming true?

Chapter 8

GLOBAL CIVILIZATION: NEW CHALLENGES



The UN flag

The beginning of the 21st century has become the time of severe trials for global civilization as well as for the United Nations Organization that represents such civilization, and interest of all humanity. After the jubilee sessions of the UN General Assembly devoted to the embarking on the new century and the 60 years of the UN passed, it became obvious that the world community is not ready yet to give adequate, efficient answers to the challenges of the new century. They include not only the insurgent wave of terrorism, but a threat of the energy and environmental catastrophe, depopulation in the growing number of civilizations, a widening gulf between rich and poor countries, and epidemics of diseases. Fundamentally new approaches and decisions relying on super long-range global forecasts, activity of the institutes of innovative partnership should be sought while feeling a common responsibility for the future of humanity.

8.1. New Challenges for Global Civilization in the 21st Century

The century already in has generated **new, unexpected threats and challenges** to the global civilization. These are the challenges of depopulation, power crisis and environmental catastrophe, deepening of technological and ecological polarization of civilizations and countries as a result of a neoliberal model of globalization, moral and cultural degradation, and finally elimination of civilizational diversity or a large-scale clash among civilizations that may end with the death of humankind, the actual end of the history. The generations of the 21st century should find an answer to these global challenges. Let's consider the essence of such challenges and possible responses thereto.

1. Depopulation. A population explosion was a threat to the global civilization in the second half of the 20th c.: the population number on the Earth increased 2.4 times only for a century and a half that has caused the overpopulation and environmental overload, especially in the developing countries. In the first half of the 21st century, this threat will ease; the population on the planet will increase, according to the UN medium variant projections, 1.5 times by 2050 (up to 9 billion people). A threat of overpopulation will persist only for African, Indian, Moslem and Latin American civilizations, although the population increase rates will slow down. But a new more frightful threat not anticipated either by Maltus or his numerous followers has arisen: **a challenge of depopulation**. More than 40 countries will be hit by it by the middle of the century, including Western European, Japanese, Eastern Slavic, and then Chinese civilizations. If this tendency persists, then the population growth on the Earth will cease, and it will return to the present level of 6 billion people by the mid-21st century. This may end with the degeneration and extinction of humankind in the distant future — *demographic catastrophe* — not less terrible than a global ecocatastrophe.

But the matter is not only in the number, but also in the quality of the population on the Earth. Under reduction in the birth rate and a growth of an average life span, population is aging; a growth of the share of population in the old age requires support from society, a reduction in the share of employable and innovatively active population. A civilizational and racial structure of population will change: a share of civilizations of Asia, Africa, Latin America will increase considerably, and a share of Eu-

rope and North America will drop, especially the white race. The migration flows from the East and the South to the North and the West will intensify; many local civilizations will assume a mixed nature that will aggravate cross-civilizational and intra-civilizational contradictions.

The global civilizations may respond to such depopulation challenge (which also occurred earlier at the decay stages of civilizations) with elaboration and consistent pursuance of an ***active differentiated demographic policy*** that will contribute to the restraining of the population growth rates in the overpopulated countries and encourage the birth-rates and increase in the number of families in the countries and civilizations hit with depopulation. Religions and public morality, movement of the global civil society in support of the reproductive instinct, responsibility for the future generations may play not a small role in overcoming such depopulation. In such instance, it is possible to surmount a threatening tendency towards depopulation, keep moderate growth rates of the number and innovative activity of the Earth residents by the end of the 21st c. and for a further outlook.

2. Energy crisis and worsening of the climate on the Earth. This challenge is more and more taking shape already at the beginning of the 21st c. Fossil fuel depleting and becoming more and more expensive rapidly and polluting heavily the environment, thus causing unfavorable climate changes, remains the base underlying a fast growth of power consumption. The number of natural-environmental catastrophes is growing. Humankind is reaching a new power and ecological threshold; none of civilizations or countries will remain outside of such changes. A power and ecological imperative is becoming a vitally significant matter for survival of the global civilization.

A strategy for sustainable development adopted in Rio-de-Janeiro in 1992 and reaffirmed in Johannesburg in 2002 is already not enough so that to give a worthy response to such challenge. It will be required to elaborate a long-term — at least up to the middle of the century — ***global energy-ecological strategy*** aimed at a considerable replacement of fossil fuel with renewable sources of power and first of all with hydrogen and fuel elements), a sharp decrease in heat pollution of the planet, establishment of the global system of ecomonitoring, forecasting of natural and environmental catastrophes. It will permit to change the structure of the world balance of power by the end of the century. One of the scenarios for such change is suggested by the International Energy Agency at the summit in Johannesburg in 2002. National hydrogen plans approved in the European Union, Japan after the summit in the

USA, and the activities evolving in this direction in Russia, China and other countries show the feasibility of this way. At the summit of G-8 in July 2006 in Saint Petersburg the specific ways will likely be suggested for international cooperation in this field.

3. Polarization of technological and economic level in the development of countries and civilizations, an abyss between the rich minority and the poor majority of the population on the planet. The industrial revolution, colonial system, increase in the gap in the level of technological development and income in the countries and civilizations in the 19th-20th cc., a technological overturn evolving at the beginning of the 21st c. and associated with the assimilation and diffusion of the sixth technological order, globalization oriented at a self-serving use by TNC will aggravate such polarization, a division of the global civilization into a few rich and many poor countries and civilizations. On the one hand, the globalization processes are pooling the world economy and technology into the integral system; on the other hand, a gap between its separate parts as if living in different epochs and that has reached a dangerous level is fraught with explosion of this system, aggravates the threat of a global social conflict.

Examples of China, India, Brazil, and new industrial countries of Asia demonstrate that the backwardness and poverty may be overcome based on an innovative breakthrough during a life period of one generation. But such breakthrough is far from possible for all countries.

The urgent task of the agenda for the 21st century is to work out a global innovative-technological and economic strategy that would allow to unite the resources of most rich, technologically vanguard countries so that to bring up the lagging countries to the now level of development, a transfer of advanced technologies to them, training of the staff, bridging an extreme gap between rich and poor sections of population, creating tens of millions of efficient jobs so that to diminish motivation of locals to emigrate to the rich states.

4. A threat of the clash among civilizations and terrorism. In the first half of the 21st c. a threat of the clash among civilizations and a wave of terrorism that have hit many countries are coming to the forefront. Local conflicts and terrorist attacks often become local and pinpoint forms of the clash among civilizations. The attempts to respond to such dangerous tendencies using methods of violence, anti-terrorist coalitions, establishment of a global dictate of one super power do not give tangible results. The countries are frozen with terror; families lose

their feeling of safety. One should combat the causes, and not the consequences, poverty, disregard of national and civilizational interests. *The future is with the multipolar world* based on the dialogue, cooperation and partnership of equal civilizations, although unequal in technological, economic and military respects.

The UN General Assembly adopted the global agenda for the dialogue among civilizations on November 9, 2001. Now Spain and Turkey supported by Russia and other countries have launched a recent initiative to establish ***the alliance of civilizations***. The concept for ensuring global sustainable development and solution of global problems based on the dialogue and partnership among civilizations was adopted at the 4th International Kondratieff Conference in Moscow. A transition from the confrontation of civilizations to their dialogue and partnership is a significant condition for the preservation and development of the global civilization; under a large-scale clash its days may be numbered.

5. Degradation of the socio-cultural system and a threat to the civilizational diversity. The condition of survivability and progress of any system both natural and social is in the diversity and balanced interaction among its elements. In the 21st century a threat has taken shape to the civilizational and cultural diversity of humankind, global civilization. A decaying sensible socio-cultural system prevailing in the West and ethics inherent to it using powerful information channels are forced upon other civilizations, especially the youth. The industrial scientific paradigm has outdated in many ways, and is not able to explain the radical changes taking place in society and foresee their future course, and sometimes the achievements of science become dangerous to humankind. Education is being pragmatized, is losing its fundamentality and creativity, filled up with obsolete dogmas and mechanical skills. It restricts the establishment of a knowledge-based society, undermines the innovative-ability. Culture becomes petty and commercialized, is losing its cultural diversity. Ethic rules accumulated within millennia are emasculating, the Renaissance of religions is unable to counteract it. The ideals of violence are being diffused, human life is devaluating. ***The need is felt to unite the intellectuals, men of culture, education, religions of all civilizations so that to foster the establishment of an integral socio-cultural system*** that has been forecasted by **Pitirim Sorokin**, development of a new scientific revolution and its assimilation by new generations through the system of continuous creative education, humanization of information flows (Internet, telecommunication systems) under control of the global civil society.

8.2. On the Path to the World Confederation of States and Civilizations

The challenges unprecedented in strength and danger that the global civilization has faced at the threshold of the 21st century, the need to work out and implement the responses adequate in scale, depth and efficiency to those challenges indicates a pressing need to ***elaborate and implement new institutional forms of self-development and self-governance in the global civilization.***

The quests for such new institutes are underway for a long time. Already at the beginning of the 30s Herbert Wells set forth the idea to establish the World Federative State vested with large powers, but he also observed that this idea would take long and difficult to implement. In the period when the UNO was formed **Albert Einstein and Arnold Toynbee** advocated the idea of establishing the World Government. The leaders of the states of the Anti-Hitler coalition agreed to establish the UNO as the world representative organization that is able to prevent a new world war, settle arising conflicts and maintain the development of all mankind. For six decades of its existence the UNO and its organizations have mainly fulfilled their functions and transformed into the universal global body for cooperation of nearly all countries and civilizations.

However, the present powers and structure of the UNO do not already meet the complexity, long-term nature and scale of the challenges of the 21st c., a present-day state and outlooks for the development of the global civilization. It would be a fundamentally incorrect to refuse from the UNO or establish a new global inter-state organization in parallel with it. The UNO has really become the world forum for dialogue and interaction among the states and civilizations; despite all complexities and contradictions, the settlement of the most sophisticated geopolitical, economic, environmental, socio-cultural problems is ensured through it. But this unique organization can't continue without radical transformations being confined to the increase in the number of the Security Council members and change in the name of certain bodies as experience of the anniversary UN session of 2005 has demonstrated, is ineffective and even dangerous: a ship of the world organization could fail to endure a load of new problems.

Apparently, another path should be taken. As the ***morphological structure of any organization is determined by its functional structure,*** those functions that it should perform in the changed conditions. From

our viewpoint, one should begin with the **elaboration of a long-range forecast of development of the global civilization by 2050 and based on it the strategy (or the concept) for transformation of the UNO and other institutes of functioning and development of such civilization.**

It is a matter of science to work out long-range forecasts. The report of the group of scientists “Crossing the Divide. Dialogue among Civilizations” discussed at the UN General Assembly in November 2001 it was stressed that the scientists could stand first in the activities of this world organization. There is already experience of a long-range forecasting activity within the UNO. In the 70s the UN Secretariat applied three global models for such purposes, where the cross-sectoral model of the world economy of the Nobelist in economy **Wassily Leontieff** was applied to elaborate a long-range forecast of development of the world economy by 2000. In 2006, it will be 100 years from the birth of the prominent Russian-US scientist. On the initiative of the Russian scientists the activities on long-term forecasting the development of world economic using a modified Wassily Leontieff model have been launched, the international team of scientists for researching into development scenarios of civilizations in demographic, ecological, technological, economic, geo-political and socio-cultural aspects, determination of tendencies and challenges of the 21st century and possible answers to them. The monographs “Global Energy-Ecological Revolution of the 21st Century” (50), “Prospects of Socio-Cultural and Partnership of Civilizations (70a) addresses the concept for development and partnership of civilizations in the surmounting a global energy-ecological crisis and transition to the integral socio-cultural system. Scientists of Ukraine, Byelarus, the USA, France, Germany, China, Lebanon and other countries joint this initiated activities performing by scientists from Russia and Kazakhstan.

Based on such forecast that should be subjected to evaluation by scientists, repeated discussions, be published in mass media and displayed on the Internet, one should set to framing the **Concept of transformation of self-government institutes of global civilization** on a wider complex of problems, with the involvement of forecast authors, politicians and public figures representing all civilizations, all sections of the global civil society. Tentatively, certain considerations may be stated on possible and desirable directions of such transformation.

As a final objective that could be likely implemented only by the second half of the 21st century one should get orientated towards the establishment of *the World Confederation of States and Civilizations*. This confederation may be of a three-level nature: first level — states

which delegate a part of their powers to the upper level (in certain instances the boundaries of the states and civilizations coincide in actual fact — for instance, for Japan or India). The second level — civilizational unions as the European Union, NAFTA, African Union or CIS that represent vital interests of local civilizations with a multi-state structure. The higher level — UNO and other global institutes which will be vested with certain powers and resources for settlement of global matters delegated to them. And the powers of each level may be fixed in the global constitution or other similar mandatory document approved by an absolute majority of the states and civilizational unions. The global civil society should also be involved in the establishment and functioning of such confederation.

From the present-day viewpoint it may be said that the establishment of the global confederation is Utopia. **V.I. Lenin** evaluated the idea of establishing the united Europe just so in his time. But now new arguments speak for such path. First, nothing unites like the existence and consciousness of a common deadly threat, and the 21st century provides such threats addressed above in plenty. Second, the historical experience of the Swiss Confederation that has reached the prosperity and peaceful cooperation between various peoples and languages is before everybody's eyes. Third, a more recent example — the European Union that has turned into an example of union within a century and a half from the seat of two world wars and that has advanced far towards the confederative structure exercising a number of supra-state functions.

The way to the confederative union implies the establishment of the system of the organs of power on the global level based on the principle of separation of powers that has been tested for centuries. It means that the UN General Assembly (as the chamber of states) and the Security Council (as the chamber of civilizations) will gradually be transformed into the supreme representative-legislative body adopting mandatory acts within their terms of reference. The Secretary-General and the UN Secretariat will assume the functions of executive power, a kind of the world government where the functions of the ministers will be performed by many present-day UN organizations. The Economic and Social Council, UNDP, UNEP, UNESCO, WHO, FAO, etc.) The global system of the law-enforcement bodies — international courts, forces to maintain law and order, international peace-keeping forces, etc. will form.

The *global law* which separate elements already exist in the form of treaties banning nuclear and other weapons of mass destruction, banning nuclear tests, etc. will act as a regulator for the activities of the global bodies of power.

The most sophisticated matter is to ensure a *financial base* for the activities of the global bodies of power. It is currently built on the fees of the UN member states and other international organizations according to the agreed quotas, and also the establishment of separate funds (for instance, the Global Environment Facility) or sponsorship (for instance, in the UNESCO activities). However, these resources are absolutely not enough for the settlement of global problems set by the 21st century. At the meeting of the Round Table at the Summit on sustainable development in Johannesburg (2002), we proposed that the global funds – ecological, technological, socio-cultural should be established on deductions from super profits (natural rent, ecological anti rent, technological and financial quasi rent) received on the world market. This proposal was seconded by the Round Table participants.

A tentative structure of the future global Confederation of states and civilizations is given in *Fig. 8.1*. This structure may include six outlines.

➡ *Legislative outline* – the General Assembly as a chamber of representatives of the states and the Security Council as a chamber of representatives of civilizations;

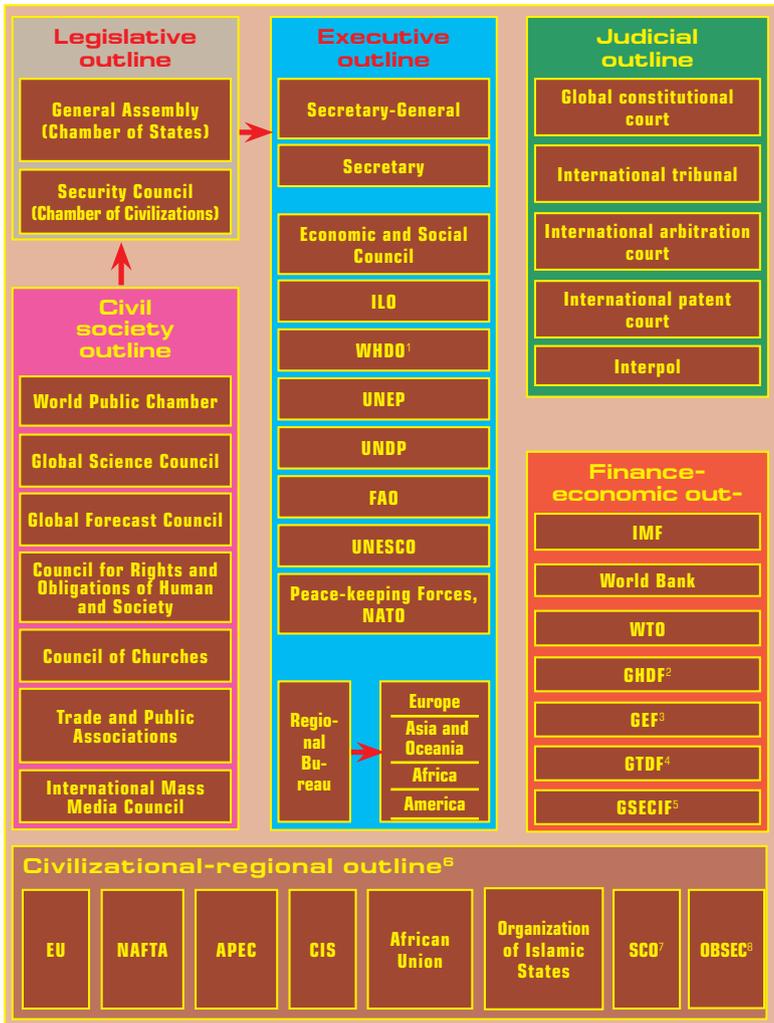
➡ *Three-level executive outline* – on the upper level the Secretary-General and the Secretariat; functional and sectoral bodies (performing the functions of confederative ministries) – the Economic and Social Council, World Labor Organization, World Health and Demography Organization, UNEP, UNDP, FAO, UNESCO, etc., and also international peace-keeping forces (with the reorganized NATO); regional bureau for continents – Europe, Asia and Oceania, Africa, and America;

➡ *Judicial outline* – the global constitutional court, international tribunal, international arbitration and patent courts, Interpol;

➡ *Civil society outline* – the world public chamber as a representative body of the global civil society; world science council (“Council of the Sages”) as the supreme scientific-advisory body; the global forecast council approving its activities with the latter; the council for rights and obligations of human and society; council of churches; international mass media council; international trade and public organizations and associations (like the International Red Cross, Greenpeace, etc.);

➡ *Financial-economic outline* engaged in financial support of programs and projects of a global nature and including the International Monetary Fund, World Bank, World Trade Organization, Global Health and Demography Fund, Global Environment Facility, Global Technology and Development Fund, Global Science, Education, Culture and Informatics Fund;

Figure 8.1
A Tentative Structure of the Global Confederation of States and Civilizations



¹ World Health and Demography Organization
² Global Health and Demography Fund
³ Global Environment Facility
⁴ Global Technology and Development Fund
⁵ Global Science, Education, Culture and Informatics Fund
⁶ Civilizational, cross-civilizational and interstate associations
⁷ Shanghai Cooperation Organization
⁸ Organization of the Black Sea Economic Cooperation

➡ *Civilizational-regional outline* including civilizational unions (European Union, CIS, Organization of Islamic States), cross-civilizational (NAFTA, APEC, African Union, Organization of the Black Sea Economic Cooperation, Shanghai Cooperation Organization) and regional unions of states (like Mercator).

Naturally, this is only an initial sketch for discussion and a further revision and may be implemented within a good few of decades. But it is important to determine the guidelines and strategy towards the real unity of the global civilization that is able to respond to the challenges of the 21st century.

Our recommendations were executed in the form of the report at the Second World Congress of Global Civilization (New York, November 14-16, 2005) and submitted to Russia's Ministry of Foreign Affairs and the Russian mission to the UN.



Checklist and tasks to Chapter 8

1. What challenges arise before a global civilization in the 21st century?

What is a possible response to such challenges?

2. How do demographic and natural-ecological conditions of development of civilizations change in the 21st century? Describe preconditions and ways to surmount a global energy-ecological crisis

3. What are prospects and ways for surmounting technological and economic polarization of civilizations, use of advantages of globalization in interests of all civilizations?

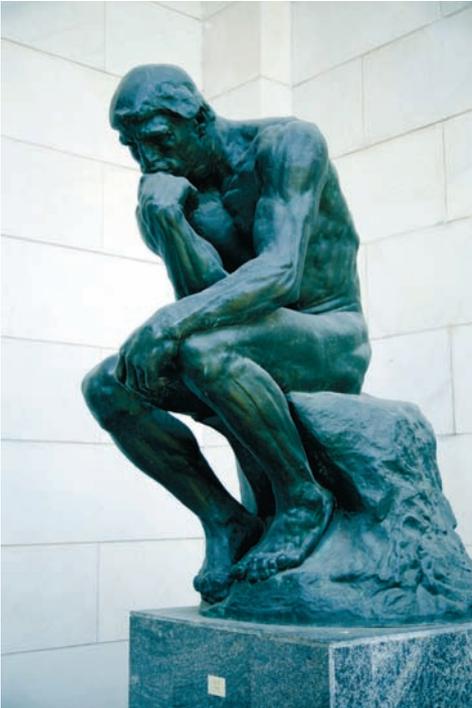
4. What scenario about prospects of future world order is the most real — unipolar, bipolar or multi-polar?

5. Describe outlooks for socio-cultural dynamics of civilizations, development of science, education, culture, ethics and religions in the 21st century.

6. Is it possible to establish in prospect the World Confederation of States and Civilizations? What transformations does the UN expect in such case?

AFTERWORD

**RHYTMS OF
CIVILIZATIONAL
DYNAMICS**



Auguste Roden. The Thinker. 1888

Our research into the past, present and forecast of the future of global, world and local civilizations is drawing to a close. It is high time to look back on the path we've walked, give a meaning to the findings. It will permit us to reveal the tendencies and regularities of a civilizational movement, pulsation of historical time, to make certain corrections to the concepts of periodization of the historical process prevailing now and possible variants of developments for the 21st century and next centuries, and also about the stages of development of humanity in general and its critical elements in a three-dimensional matrix of cyclical dynamics of various types of civilizations.

In order to summarize the results of our inquiry, let's recall in brief those theoretical-methodological approaches and original categories that we've applied to periodization of macro historical time.

The starting theoretical base of our approach to periodization of civilizational dynamics is the *cyclical-genetic regularities in the development of society*, which substantiation could be found in the works of great predecessors who have laid the cornerstones of the post-industrial paradigm of social science. These are such scientists as **Nikolai Kondratieff, Pitirim Sorokin, Alexander Bogdanov, Joseph Schumpeter, Arnold Toynbee, Fernand Braudel**, their associates and followers.

This starting point of the inquiry is specifically expressed in the following postulates.

➡ ***Dynamics of society is non-uniform as a matter of fact.*** Cycles of various duration repeat in it — short-term, medium-term, long-term (Kondratieff's), super long-term (civilizational), and millenary (historical super cycles). Overlapping each other, interacting these regular variations objectively determined could be seen through the chaos of accidental fluctuations forming an internal logic of historical dynamics.

➡ ***Each cycle of each civilization has a certain structure.*** It has some general features, despite the variety of specific manifestations, phases changing each other — nascence, innovative assimilation, spread (diffusion), maturity and crisis. The latter is inevitable: it indicates that a given civilization (or a period in its development) has mainly exhausted its resource and time has come of its painful replacement by the next civilization (or period). Civilizational crises of this or that duration are as inevitable as the twilights at the end of the day or winter in the annual pattern.

➡ ***Civilizational crises and revolutionary changes following them are the manifestations of how socio-genetic regularities operate: heredity, variability and selection in the dynamics of society.*** *Heredity* means that a complex genotype of civilization will survive in the change of cycle. The latter includes six major elements — “social chromosomes”: demographic, ecological, technological, economic, social-political and spiritual. *Variability* enriches the genotype and saves it from a superannuated material, adapting it to radical changes in internal and external conditions of development. *Selection* helps to implement such adaptation, to choose most efficient (though sometimes selection turns out to be wrong, generating an anti-innovation) from the thousands of possible variants of dynamics. *Selection* is made by people, social movements, states, interstate organizations and unions. Waves of innovations accompany the formation of a new civilizational cycle.

A concluding phase of the cycle is crisis followed by the development of a new cycle.

➡ *We'll take a revolutionary period following a crisis phase as the starting point, beginning of each civilizational cycle* (more specifically – beginning at its end).

➡ *A civilizational space is multilayer and inhomogeneous in its composition.* Local civilizations emerge and fade away into nothing, the leaders of their generations change. Concurrently there exist genotypes of various world civilizations, but one of them – after the end of a transitional period – becomes prevailing, describing the face of a global civilization in a given historical period. Vanguard local civilizations measure historical time, they are the ones that form the rhythm of civilizational dynamics. It used to be, and it will be.

These are certain starting postulates that determine our approach to the measurement of the rhythm of civilizational dynamics. They are likely not indisputable, also other approaches and criteria are suggested, but it is important to understand what we are governed by in the measurement of civilizational dynamics – global, world, and local.

Let's proceed to the findings on the rhythmic of each type of civilizations beginning from the *cycles in the dynamics of the global civilization.*

The first geocivilizational super cycle embraces the period from the 8th millennium B.C. to the middle of the 1st millennium A.D. – approximately 80-85% of all historical time. We believe that the *Neolithic revolution* preceded by a long crisis period of the end of the Mesolithic is the starting point of the emergence of the global civilization, beginning of the historical process. The Neolithic revolution evolved in the 8-7 millennia B.C. in a relatively narrow strip to the north from the equator where favorable conditions formed for the development of communities considerably increased in numbers and whose members were armed with efficient missile tools. However, the destruction rates of the surrounding animal kingdom by primitive tribes exceeded the possibilities of their natural reproduction; furthermore, the climate conditions also changed. In order to survive people had to start artificial reproduction – growing plants and cattle-raising. A decisive step was made towards reducing the dependence on nature, labor efficiency increased many times; the foundations of swapping were laid down. Crafts and construction gradually advanced, first towns sprang up (“city revolution”). A property-based stratification within the communities began (economic stratification). All these events made a *starting phase of the first historical super cycle* in the dynamics of a

global civilization (this phase took several thousand years more on the periphery of the oecumene).

The next, *early class, phase of the first super cycle* runs from approximately the end of the 4th millennium B.C. with the emergence of the first local civilizations in the watershed of the Nile and other great rivers (the Tigris and Euphrates, Indus and Ganges, and a little later — in the Yangtze and the Huang He). The genotype of the global civilization was completed by new elements: classes, states, commodity-money (market) relations, scientific knowledge, and religions. Society formed similar to the present day one by its structure. It was if we use the terminology of **Karl Jaspers**, the first axial age in the history of civilization; it could be described as the phase of spread (diffusion) of the first historical super cycle.

Then followed the *period of its maturity* — period when *civilizations of ancient society and the second generation of local civilizations prevailed*. It embraces the period from the beginning of the 1st millennium B.C. to the 5th A.D. — about a thousand and a half years. The Greco-Roman, Persian, Indian and Chinese civilizations became its apex. The first super cycles ended with the phase of decline lasted from the 2nd to the 5th c. A.D.

The second geo-civilizational super cycle started in the second half of the first millennium A.D. and lasted to the end of the 20th c. — about 15 centuries in a total. The formation stage of this super cycle embraces the period from the 5th to 8th cc., diffusion — the 9th-14th cc., maturity — the 15th-19th cc., and the stage of decline falls to the 20th c. The second historical super cycle includes the cycles of three world civilizations (medieval, early industrial and industrial) and two generations of local civilizations.

The third geo-civilizational super cycle has just begun to form. It is happening before our eyes and with our involvement. Therefore it is difficult to characterize it, as **S. Yesenin** wrote: “Face to face, no face could be seen.” Nevertheless, let’s venture to suggest certain conjectures. If the tendency towards compression of historical time persists that is clearly observed now, then this super cycle will embrace three cycles of world civilizations of 500-600 years of total duration and two-three generations of local civilizations. It will likely be the period of maturity of a global civilization. Therefore, the elements of a growing crisis will be typical of it at its last stage as well as an increasing risk of self-destruction of humanity as a result of environmental or technogenic catastrophes, depopulation or a clash of civilizations. A more definite picture is taking its shape only with respect to the initial

stage of the second super cycle — period of the post-industrial civilization. The features of a more distant future are hidden behind a thick curtain of uncertainty.

The typology of world civilizations is taking shape more clearly. The first of them, Neolithic, became the period of the nascence of the global civilization when its “building” had not been completed yet (a social-political, state ‘floor’ was missing), and the area of spread was quite limited, no local civilizations practically existed.

These problems were solved at the next stage, in the period of an **early class civilization** (the end of the 4th millennium B.C. — beginning of the 1st millennium B.C.). It is exactly when a social stratification and classes were formed, the state emerged as well as law, market with its main attributes, and a train of wars began. Religions views played a noticeable role in society’s life (great historical monuments of Egypt, Mesopotamia, and India indicate it).

The ancient civilization (this is a nominal name) with its chronological framework from the beginning of the 1st millennium B.C. to the 5th c. A.D. became the third in the list replacing early class. This was the period of the bloom of the second generation of local civilizations, expansion of its geographical range, formation of the world empires (Persian, Alexander the Great, and Roman), the period of efflorescence in the spiritual sphere (especially in ancient Greece). However, by the middle of the 1st millennium A.D. the potential of this world civilization was exhausted to a great extent, the period of its decline was followed by its disintegration. Such crisis gave rise to new, monotheistic world religions (Buddhism, Christianity, and Islam).

The medieval civilization that followed after ancient (the name is also nominal) embraces the period from the 6th c. A.D. to the 14th c. — about 9 centuries; at the same time it was the period of the formation of the second geo-civilizational super cycle. The picture of the world changed radically. The civilizational belt already embraced not only China and India, Near East and Western Europe, but also Eastern Europe, the territory of today’s Russia, America. The Byzantine civilization continued the traditions of Greco-Roman. Islam spread rapidly after Christianity: the Moslem extensive civilization absorbed Egyptian, Persian, a part of Indian and Buddhist. Religious and feudal wars were driven nearly non-stop. The sphere of spiritual reproduction was under control of religious institutes. The international trade developed intensively. A stable system of market mechanisms was formed, and the free cities became the ramparts of economy of the European countries.

The next civilization that maybe called early industrial existed from the 15th c. to the last third of the 18th c. The era of great geographical discoveries gave rise to it, expanding a geocivilizational geographical range many times. The ancient civilizations of America were lost in the clash with western European. In this period the guild manufacturing was replaced by manufactory, the capitalist mode of production was formed as well as the world market, colonial empires emerged. A social structure of society became more sophisticated too. The bourgeoisie made claims in increasing frequency to political power that resulted in the Netherlandish and English Bourgeois Revolutions. The Renaissance, scientific revolution of the 15th –17th cc., Reformation reduced the influence of religion on people's life, changed its nature, caused the outburst of activity in the spiritual life. However, by the end of the 17th c. the enthusiasm for a breakthrough receded in many ways, the signs of a civilizational crisis became an increasingly evident.

The industrial revolution of the end of the 18th – beginning of the 19th gave an impetus to the nascence of the **sixth, industrial, civilization** (the last quarter of the 18th-end of the 20th c.) that spread throughout the round world from the epicenter – United Kingdom and Western Europe in general. Then the leadership was taken by North America. “Economization” of society evolved, the huge industrial machine mastered all sides of society's life. The economic growth rates increased many times, the population numbers in Europe increased fast. While the inequality between various social strata and whole civilizations deepened rapidly. The first and second world wars, and also the “Cold War” challenged the very existence of humanity became the signs indicating that the industrial civilization entered its stage of decline. By the end of the 20th c. it became apparent that the industrial civilization is in the state of a deep-seated crisis and doomed to disappear from the historical arena.

The end of the 20th c. was marked by the beginning of a transition to the next, seventh, world civilization – **post-industrial**. Many researchers hold the view that this is a *humanistically-noospheric* civilization. Its main content is that in the period of its development both the position of man will change in society (he will not be anymore an adjunct to the machine system, and implement his creative potential in full) and the attitude of society to nature (the formation of noosphere as a rational co-evolution of nature and man occurs). The formation of the third geocivilizational super cycle begins concurrently with the post-industrial civilization, and the fifth generation of local civilizations emerges so that the geocivilizational space is radically changing its look. A new so-

ciety might be called *integral* as the integral effect of harmony both in it and its relations with nature will be reached, the integral socio-cultural system forecasted by Pitirim Sorokin is under way. All these processes develop against globalization, formation of a certain super society however maintaining the diversity of civilizations and cultures.

We've outlined an optimistic variant of the development of a new civilization. However, a pessimistic variant is also possible when many contradictions of the former industrial civilization persist, and some intensify. A tragic outcome — self-annihilation of humanity as a result of a clash among civilizations cannot also be ruled out.

The ***post-industrial world*** civilization will likely embrace the period of two centuries, and the next civilization will come thereafter (within the third geocivilizational super cycle), about which it is premature to speak anything so far.

Generations of local civilizations. Dynamics of global and world civilizations finds its specific expression in the fate of local civilizations, change of their generations.

The ***first generation*** formed at the end of the 4th millennium B.C. in the valleys of the great historical rivers — Nile, Tigris, Euphrates, Indus, Ganges, Yangtze and Huang He. The scales of such civilizations were minor from the modern viewpoint, but their contribution is enormous to the development of all humanity. They germinated, reached its bloom and faded away, but their heritage became one of the basic elements in the formation of civilizations of the next generations aborning on their ruins. The list of civilizations of the first generation is wide featuring Egyptian and Sumerian, Assyrian and Babylonian, Elamian and Minoan, Indian and Chinese, and also ancient American cultures. The Egyptian civilization was a recognized leader of the first generation with its monuments survived to this day and impressing by their might, variety, and beauty.

At the beginning of the 1st millennium B.C. the first generation of local civilizations entered the period of crisis. The time for their **second generation** came. (the 8th c. B.C. — 5th c. A.D.). The leading positions were taken by the Greco-Roman civilization, also the Phoenician and Persian, Indian and Chinese played a noticeable role. The Celtic and Scythian proto-civilizations did not complete its formation. The ancient American civilizations — Aztec, Maya and Incan — reached their summer time (in the later period), but they developed in isolation from the Eurasian center of the civilizational progress.

Unlike A. Toynbee, we distinguish the ***third generation of local civilizations*** in our treatise, associating it with the period of the medi-

eval world civilization (the 6th – 14th cc. The western European civilizations was in the vanguard of the progress; the leaders included Chinese and Indian civilizations – much bigger in terms of population and economic might, and also the Byzantine civilization that however was fading away during the last several centuries of its life cycle. The Mongolian civilization flared up not for a short time extending its influence on a larger part of the Eurasian territory. The Japanese and Buddhist civilizations strengthened their positions. In the East of the European continent the Eastern Slavic civilization emerged and reached its summer time in the 11th-12th cc.; then it was thrown back for a long time by the Mongolian invasion.

The period of early industrial and industrial world civilizations coincided in time with the stages of formation, diffusion, maturity and crisis of the *fourth generation of local civilizations* (the 15th-20th cc.). The Western European civilization retained its leadership subjugated Indian, Moslem, African and Chinese. Their revival as independent entities began only in the second half of the 20th c. The Eurasian, and then Japanese civilizations withstood the Western European and developed independently.

From the end of the 20th c. the formation of the *fifth generation of local civilizations* began. The Western European, Northern American, Latin American, Oceanic civilizations develop vehemently, and the Chinese, Indian, Moslem civilizations revive and conquer their place in the sun. While the Eurasian civilization is passing through a crisis, (its heritage is succeeded by the Russian civilization); the African civilization is in the state of a deep crisis.

Apparently, the change of generations of local civilizations, their differentiation will also continue in future. We do not support the position of those scientists who believe that the time of independent civilizations has passed, that they will melt in the unified global super society. Diversity of local civilizations will persist in the unity of the global civilization until humanity exists. And the duty of prime significance of the scientists is to cognize the essence, reveal regularities and contradictions in the development of civilizations, foresee their future, thus arming the billions of the residents on the planet, new generations who will take the baton of a civilizational advance.

The rhythm of the change of world civilizations and generations of local civilizations in a space-temporal dimension is given in the figure at the beginning of the Afterword. This figure characterizes a historical spiral of civilizational dynamics and permits to make several significant theoretical findings.

First, pulsation of a civilizational progress is quickening. The law of compression of historical time was identified in the research. Life cycles of the first world civilizations and the first generations of local civilizations, initial historical super cycle were many times longer than the life cycles of modern local civilizations and super cycles. It might be anticipated that this law will operate also in future, although the historical time compression rates will somewhat slow down.

Second, *a civilizational space is steadily expanding*. At the first stages of the historical advance it occupied only a small area of the oecumene, and man harnessed far from all firm ground. Now the situation has radically changed. By the end of the industrial world civilization and the fourth generation of local civilizations nearly all oecumene is included in the civilizational space; it embraces (although with a various level of population density) nearly all firm land and already goes beyond its boundaries — not only to the World Ocean, but near space. In the outlook for the post-industrial world civilization the population density on the Earth will be only increasing (provided that a challenge of global depopulation is managed to be overcome). Then the humanity will begin to master (at least in terms of science and technology) the middle space — within the solar system.

Third, at the first stages of the civilizational advance it was observed a considerable *gap in space dimensions of world and local civilizations*. During a long period of the Neolithic civilization that occupied about a half of historical time, there were no local civilizations, although their predecessors — cultural-historical communities, unions of tribes, leader-based proto-states, and proto-civilizations. At the next two stages of the first historical super cycle the space of the oecumene that was occupied by the early class and ancient world civilizations still remained wider than the space of the local civilizations of the first two generations. Only in the period of the early-industrial and especially industrial world civilizations and the fourth generation of local civilizations such space gap was reduced to minimum, but did not disappear in full. Small spaces where local civilizations interact have still survived and they could not be included in their boundaries with certainty.

Fourth, a general tendency is observed (perhaps, it might be interpreted as a regularity of civilizational dynamics) *synchronization of the stages of cyclical dynamics in a geocivilizational space*. At the first stages such space gap reached considerable sizes (several millennia) both between the Old and New World, and on the various parts of the African and Eurasian continents. However, due to an intensive interaction among local civilizations, Great Geographic Discoveries and

conquest of both Americas and Australia by the European civilization, the synchronization intensified in the scale of all the oecumene. The development of globalization from the end of the industrial period synchronizes the rhythms of civilizational dynamics in the oecumene to an increasing degree, admittedly, although it will not entail the disappearance of space-temporal differences in the cyclical dynamics of local civilizations.

The space-temporal measurements of civilizational dynamics are still waiting for their researchers. It is necessary to unite the efforts of the scientists of various specialties — archeologists and historians, economists and sociologists, politologists and culturologists, mathematicians and philosophers — for cognition of tendencies of such dynamics.

Fifth, by lapse of historical time the regularity of intensification of interaction, dialogue, and even the interpenetration of civilizations and culture manifests itself more clearly. The modern period sees it in globalization and mass cross-civilizational migration. Understanding of the unity of interests for all humanity and their priority, mutual enrichment with accumulated historical experience speeds up civilizational progress. On the other hand, cross-civilizational conflicts and clashes hold it back. The task of prime significance of civiliography, all social sciences is to study and give a meaning to these contradictory processes, frame a concept for approximation, partnership, integration of civilizations on a new whorl of the historical spiral.

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