

**INTERNATIONAL KONDRATIEFF FOUNDATION**

Yu.V.Yakovets,  
Prof., Academician,  
Academy of Natural Sciences

**TRENDS AND PERSPECTIVES OF TRANSITION TO POST-  
INDUSTRIAL CIVILIZATION**

**Moscow, 1995**

The history is to be studied to understand the present and to foresee the future. Basing upon knowledge of spirals of historical progress of twelve millennia (counting from mesolith) we can start to answer the most fundamental questions of vital importance which can not be treated indifferently: what are the reasons, how can we evaluate the essence and what are the prospects of impetuous changes, which have enveloped as a giant wave the mankind at the end of the 20-th century, and which have astounded or even destroyed the basis of traditional reality? What should from the present reality in the world and in Russia be condemned and go to the past, what should be given to the future generations as historical heritage and what from numerous mutations born by thousands radical innovations are really of great vitality and should be preserved in future and form a frame-work of incoming civilizations?

By answering these questions first of all we will give a general appraisal of tendencies of society's cyclic dynamics and for a possible scenario of their future development and then we will consider how these tendencies and scenarios are interpreted on each floor of the society's pyramid.

The preference of historical approach to estimation of the present (when, as a matter of fact, we are doing the history because then we can only study it as it is beyond ourselves to change what has been happened: the shaft of time, as it was noticed by I.Prigozhin, is impossible to be returned) is that it gives quite a deep retrospective for searching an analogue of events which happened in the recent and distant past, for estimating dimensions of ongoing changes by a scale of historical time. Analogy is not, of course, an absolute proof. Each event is peculiar in some way and unique - as each person is individual and unique. But it does not serve as an insuperable obstacle for searching relative, more or less similar events in the past. Without that it is impossible to classify and to understand the essence of ongoing changes and to foresee their possible outcome (its like only if the man is attributed to one family, one generation, one ethnos, one nation, one race we will find definite frameworks for understanding what he is ruled by and what we can wait from him).

## 1. Essence and Historical Scale of Transitional Period to Future Civilization.

Now there are few who doubt that the mankind enters the transitional period. Three main parameters of historical dynamics witness it: speed of changes (what has seemed to be unshakeable, what has been composed by years, decades, if not centuries suddenly is radically changed during the months or even days), their intensity (displacements are seen practically on all layers, all floors and apartments of society's pyramid) and geographical dimensions (it is hard to name any country which is not involved in this seething maelstrom of changes). Impetuously and oversensitivity, in the situation of very acute crisis which touches all sides of society's life, all the habitual, steady is changing and a future society is being born in torments.

It is obvious that these changes are far from limits of routine fluctuations and middle-term cycle, which regularly shock countries and continents. But how is it possible to estimate essence and scale of historical changes? And to the beginning of which type of historical cycle could the present transitional period be ascribed? Three answers to that cardinal question are possible.

1. Changing of long-term (half a century) historical cycles is on the way within framework of industrial civilization - the beginning of regular stage in its dynamics. The regular Kondratieff cycle is emulating, the leading technological, economic, social and political structures, predominate scientific, cultural and ideological paradigms are changing one after another. In that case the basis of industrial society remains unshakeable, only forms and machinery of its realization are changing; transitional period lasts about one decade in epicentre and lays the basis for an up-turn wave for two decades; on the periphery this process begins later and can last for a longer period.

The fact that there is a change of structures and Kondratieff cycle's is proved logically and statistically; it is confirmed by multitude of exposed tendencies in all spheres of public life. But, for the first, depth of upheaval excels dimensions usual for long-term cycles; the very basis of industrial civilization built for centuries is turned out to be touched, a break of main tendencies in society's dynamics is seen. For the second, despite expectations duration of the transitional period considerably excels that of usual period for change of half-century cycles. Two decades are already gone but earthquake shocks and flood's eruptions of historical changes do not cease. It gives reason to address next, more scaleful kind of historical cycles.

2. From the last quarter of the 20-th century the mankind has entered the transitional period for post-industrial civilization: a process of changing super long-term (civilizational) cycles, century tendencies begin. Then depth and duration of the upheaval turn to be understandable. Basis of industrial society itself, machinery system of production, growing concentration and centralization of economic and social power, transmutation of a person into fraction, a screw

of enormous technical, economic and social and political systems - all these are under the question and go to the past. Basis of new, post-industrial civilization is being born.

In that case the last stage of going civilization and the first of the coming one are equal in time and determine essence of the transitional period and its approximate duration of half a century equal to the duration of a long-term historical cycle. It prejudices essence, duration and outcome of the civilization crisis, as it was under preceding changes of civilization. During the transitional period a mixed character of technology, economy, social and political system is observed as well as instability and quick change of conjuncture, sequence of resonant and intensifying each other crises in all spheres of society. Rousing structures of new civilization (technological, economic, social and political) carry into themselves features of new as well as of old civilizations, and are transitional. And this stipulates their insufficiency, difficulties in formation under the environment which in many respects is incompatible with new trends. Only during the second historical long-term cycle post-industrial civilization will be built on its own basis. It will require change of two generations of people during the transitional period; speed of generations' change and renewal of spiritual world will be considerably accelerated.

3. There are indications and arguments which prove that transition to the third historical supercycle is on the way. This transition will embrace three civilizations going one after another. If the formed during two last civilizations rate of acceleration of historical progress (each next level is 1,5 times shorter than predeceased) will remain the same then the timing frames of next supercycle will be about three centuries.

Of course, these calculations are of relative character: there are too many factors which influence the historical progress to make it possible to determine time-table for change of phases and cycles within one year period. Nevertheless, it gives an idea on rhythms of historical progress for next three centuries with given rate of acceleration of progress, on possible succession in change of civilizations in future and on their structure.

Under such approach the limits of transitional period are widening. They include first two phases of post-industrial civilizational cycle (about one century, e.g. approximately two long-term cycles). Naturally, the structure of this period will also be more complicated - it includes several periods of recession and upsurge, several alternating one after another long- and middle-term cycles and crises during its change. As a matter of fact, such a picture is already observed - the world economic crises are recurring each ten years (1973-1975, 1981-1983, 1991-1993) as well as attendant social and political conflicts.

First long-term cycle will cover the period of approximately half a century - last three decades of the 20-th century and first two decades of the next century. This is a most complicated period in the history of mankind for the last millennium for it reflects overall crisis, an agony of the industrial society and

birth pangs of the post-industrial one which, gone from womb of going civilization, is too weak to provide definite influence on mankind's future.

That is why crises with hardly predictable, at times sudden, blow-ups and shocks are inevitable during this period. The evolving society will still be linked by navel-string with former world, will carry marks of its principal contradictions, will live and develop in the atmosphere poisoned with miasms of dying elements of going civilization. The dead catches the alive. Elements of public system doomed for death trying to prolong their existence are able for extreme measures which logically can lead to self-destruction of the mankind. However, deliberation of mortal fatality of this path, common sense and aspiration for survival prevail. It opens perspectives for step by step painful consolidation of the new civilization's elements which already exist and gain strength. Crisis during the transition from one half-century cycle to the other will evidently be requiem to the world going to the past.

It opens the path for consolidation of post-industrial civilization on its own basis during the second long-term cycle at the beginning of the second half of the next century. It will be a phase of youth, formation and dissemination of the new society, which will embody main characters and advantages of the first post-industrial civilization (it will possibly be given another name, as well as the next ones). But this is up to next generations, let's leave that fascinating job for them. Anyway, this long-term cycle will finish the transitional period to the next supercycle, next triad of civilizations. We shall hope that it will be finished on an optimistic note.

## 2. Alternative Scenarios of the Future

Futurologists, scientists and politicians come to boundary of the millennium with great hopes, they see beyond that boundary the overall prosperity, realisation of century's ideals. Not less loudly there are stem precautions that at the end of the second millennium the mankind has enough technical possibilities to destruct itself and all the flesh as a result of the nuclear Apocalypse.

It seems that most distinctly this alternative was formulated by German politician and scientist Fritz Baade in his book "Der Wettlauf zum 2000" with definite formulated alternative in the subtitle: "Unsere Zukunft: ein Paradies oder Selbstvernichtung der Menschheit"(Oldenburg, 1960).

F.Baade draws tempting picture of possible prosperity of the mankind at the end of our century. Let's give him a word: "The world of the year 2000 will perhaps be a beautiful and wonderful world. Maybe hunger will be conquered and none within inhabitants of the Earth will ever be hungry. All people will receive not only enough quantity of rice, maize or wheat, but also such quantity of milk, meat and fish which is necessary for them for full reservation of health and working ability...Misery may also be conquered. Each workable person on

the Earth...could, under enough nourishment, work at full strength. If additionally he will be equipped with necessary means it could be reached that manufacture of the peoples of Asia will be up at least till level reached today by European, Northamerican or Soviet workers. High outcome of each worker will be a source of high profits. Each family will receive deserving for a human-being house, at least with electricity and canalisation and with central heating systems in the regions where it is necessary...High outcome will allow to sharply shorten working time...Possibilities of vacation's use will be just fantastic. At that time air-travelling will be so available that workers from all over the world will be able to choose any place for vacation whether it is Nordcap, an island in the Pacific, or Florida or Russian Riviere at the foot of the Caucasus. No one of these travels will require any entry visa, may be even any passport because such beautiful world as a whole can exist only under condition that all states will voluntary adopt considerable restrictions of their national sovereignty. But even a more miraculous thing than saving from hunger and misery will be a miracle of free being - security. Complete disarmament and so liquidation of wars will provide people with security which all peoples are aiming at now, and this will save them from danger of mass self-distinction."<sup>1</sup>

Even more eloquently F.Baade draws contrary, pessimistic scenario of the future mankind's development: "After we have without sparing rose, sky-blue and golden colours drawn a picture of the possible world at the year 2000 we have to not scant most black point and to imagine for ourselves completely opposite possibility of self-destruction of the mankind.

A most dramatic in all history combat between mind and madness is going on before our eyes. There are three factors with serious danger of madness's victory over mind inside.

The first of them is terrifying effectiveness of the arms which "nuclear" nations have now.

The second factor - monstrous conglomeration of spiritual and moral garbage's which have been packed in minds and souls of people during all preceding eras of history.

And the third one is really not understandable inability of responsible politicians to find mindful solution of most simple puzzles before them...

During next 40 years of our century, as a matter of fact during next decade, we should perform a revolution on the Earth comparable only with great revolution of the era of getting rid of cannibalism...We should understand that the mankind has already entered a new phase of its history which is decisive for its future existence...

Everybody from us and from our children has one mortal enemy which endanger us for death. And this mortal enemy lives within ourselves, in our minds and hearts. There and only there must we fight it. So, a great task, not

---

<sup>1</sup> Бааде Фриц. Соревнование к 2000 г. М.: ИЛ, 1962, с. 237-238.

comparable with anything in its history is before the mankind. And it should be solved within so pressed period of time that it frightens.”<sup>1</sup>

Nearly the whole term, assigned for solving this cardinal problem, is over and we can assume that both two extreme scenarios of the mankind's development considered in the long-term forecast are not realized. People are wise enough to stop on the verge of disaster but are not conscious and organized enough to fulfill an optimistic scenario. To tell the truth the paradise on earth is impossible. This is a dangerous Utopia, fraught with stopping of the development's potential and there for death of the mankind from satiety and self-satisfaction. Fortunately, nuclear self-destruction has been avoided. It has taken, truly speaking, not ten but about thirty years. In any case, for the first time in the history a backward movement in armed race, real abolishment of most dangerous arms of mass distraction has began, the great opposition and show of hostility of two fully armed world powers and groups headed by them belong to the past. It postpones, if not liquidates, makes less real a danger of the mankind's self-destruction. Therefore, the mankind succeeds partly (but yet not wholly) in dealing with the greatest task mentioned by F. Baade in 1960. The pessimistic scenario has not been realised although there have been preconditions for it and the world has been not for once near a nuclear disaster.

However the time for optimistic scenario has not also come yet. Millions in Asia and Africa still suffer from hunger, hundreds of thousands die every year from it, tens and hundreds of millions are beyond the level of misery. Labour productivity in developing countries is still low and in post-socialist countries it is sharply down which brings a considerable part of the population to the condition of poverty and misery. A majority of people have to work more than an official working day in order to earn a living for them and their families. As for relaxation in nature reserve places, such pleasure becomes accessible for a new strata of "new Russians", but is still unaccessible for the majority of the population at least in developing and post-socialist countries.

So far voluntary limitation of sovereignty is observed only in Western Europe; in disintegrated federal states - the USSR, Yugoslavia, Czechoslovakia - new borders are born, a war of sovereignties far from all reasonable, economically and socially justified limits is going on. Having removed a danger of the world war, either nuclear or chemical-bacteriological, many countries have entered a period of multiple local and point wars with use of more and more dangerous modern weapons - wars which flare up again and again and which are conducted with unprecedented bitterness. The process of "Libanisation" of armed nationalistic, ethical and regional conflicts envelopes many countries. Tragic examples of former Yugoslavia, the Caucasus region and Afghanistan show what brutality and bitterness opposed sides can reach. Raging of terrorism, crime and drug addition doesn't give us any guarantee of security

---

<sup>1</sup> Ibidem, 239,244-248.

on streets, in metro, at aircraft, at ones' home for many people in different countries of the world, including the developed countries. So it is quite very far from the main "miracle of free being-security" and in many countries it is even farther than it was in the 60-s.

—

More closer forecast for the year 2000 and for the beginning of the next century is at the book "Megatrends 2000. The New Directions for the 1990-s" by J.Naisbitt and PAburdene, first published in the USA in 1990 and translated in Russian in 1992. This book quickly become a bestseller. It determines basic trends of the 90-s as "a wicket" to the 21-st century. Let's read the book.

"We stand at the dawn of new era. Before us is the most important decade in the history of the civilization, a period of stunning technological innovation, unprecedented economic opportunity, surprising political reform and great cultural rebirth. It will be a decade like none that has come before because it will culminate in the millennium the year 2000..-Already we have fallen under its dominion. The year 2000 is operating like a powerful magnet on humanity, reaching down into the 1990's and intensifying the decade. It is amplifying emotion, accelerating change, heightening awareness, and compelling us to reexamine ourselves, our values and our institutions...

As we enter this new decade, our candidates for the most important, overreaching trends influencing our life are:

1. The Booming Global Economic of the 1990-s.
2. The Renaissance in the Art.
3. The Emergence of Free Market Socialism.
4. Global Lifestyles and Cultural Nationalism.
5. The Privatization of the Welfare State.
6. The Rise of the Pacific Rim.
7. The Decade of Women in Leadership.
8. The Age of the Biology.
9. The Religious Revival of the New Millennium.
10. The Triumph of the Individual.

Like the ancient drama, the modern millennium ignites our vision for better world - alongside our nightmares of the world's end. The dichotomy is ever-present. Perhaps that is why arms control cannot eliminate our fear of nuclear weapons, while declining unemployment figures, record-breaking new business starts, and new job creation fail to calm fears of a depression in the 1990-s.

When we think of the 21-st century we think technology: space travel, biotechnology, robots. But the face of the future is more complex than the technology we use to envision it.

The most exciting breakthroughs of the 21-st century will occur not because of technology but because of an expanding concept of what it means to be human...

Apocalypse or the Golden Age? The choice is ours. As we approach the beginning of the 3-d millennium, the way we address that question will define what it means to be human."<sup>1</sup>

The forecast of J.Naisbitt and PAburdene was published three decades later than the book of F.Baade. Naturally, the spectrum of possible alternatives of the future is also considerably more narrow as well as the forecast is more real. Many trends argued in details in the book, show contours of changes on the threshold of post-industrial civilization.

Nevertheless, even comparatively short period of time passed after publication of the forecast - only five years - shows that the authors have chosen the optimistic scenario but real dynamics of the changes in the world has gone by a more pessimistic path. And the matter is not that wrong trends were outlined - they have been chosen correctly, almost all of them express real traits of forming post-industrial civilization. There is another explanation. Difficulties and contradictions of the transition period, uprising negative trends and postponing their assertion on more distant future, are underestimated.

Instead of the global economic boom of the 90-s first three-four years have come under the sign of the world economic crisis which has affected even such highly-developed countries as the USA and Japan (where succeses of the pastyears was popularly named "economy of the soap bubbles"). Even more strongly the crisis has affected post-socialist countries. Only from 1994 in some of them first indications of its overcoming have emerged. Whether the global economic boom will come in the second half of the 90-s - the near future will show, but there are beddings to doubt it at least as majority of countries is concerned. Planned tendencies in this sphere for "the extraordinary decade of the 1990-s" (economic considerations transcending political considerations; the movement to worldwide free trade; the relative abundance of natural resourses; competition for reduced taxes; our new attentiveness tt» the environment problems, etc.)<sup>2</sup> are more proclaimed than realised.

Trend to the Renaissance of art is really contemplated, especially in connection with impetuous success of informatization in the developed countries. Nevertheless the same successes of high technology help the dirty wave of mass anti-culture to sweep over post-socialist countries previously protected against it.

In the beginning of the 90-s the socialism with free market relations really began to emerge in the USSR and East Europe countries. But very soon not only Hungary, as it was assumed in the forecast, but also the majority of other socialist countries have overcome the limits determined by the forecast - and in these countries neither "market socialism" nor modern capitalism with mixed-

---

<sup>1</sup> Naisbitt J. and Aburdene P. Megatrends 2000. Ten New Directions for the 1990-s. William Morrow and Co, N.Y., 1990, p. 11,13,16,17.

<sup>2</sup> Ibidem p.31.

market economy (as in Germany and Sweden), but real aggressive capitalism with barbarous market and cruel primary accumulation of capital at the expense of plundering state-owned property and robbery of the population has emerged.

Integration trends and unification of life's style, which prevailed over past decades, manifest themselves in general only in Western Europe and in North America. On the territory of the former Soviet Union and Eastern Europe contrary desintegration trends prevail federative states broke down (the USSR, Yugoslavia, Czechoslovakia); gone to the past is the CMEA; economic, scientific and technical and cultural links between nations which had been forming during many decades turn out to be broken. Cultural nationalism quickly outstrips into political one, many new independent states have emerged; a wave of nationalism was raised which in its extreme display reaches racism, genocide, conflicts and wars between nations. Millions of persons, against their own free will were suddenly found in strange land, were robbed of civil rights which have resulted in unprecedented in peaceful time flow of refugees equal by its scale to mass migration of people during World War II.

Religious Renaissance in a number of countries turns out to be fundamental and religious fanaticism, religion again, especially in muslim countries, has begun to pretend to play a leading role in the state, court, education, moral, there are indications of persecution and calls for elimination of adherents of a different faith.

We have examined only five trends from ten but this is enough to make sure that real path of historical process goes quite far from the optimistic scenario which was presented in the book by J.Naissbit and PAburdene or at least goes at a slower pace and with sharply aggravated contradictions of the transitional period.

I shall present a more recent example. In March 1992 at the International Kondratieff Conference I presented a report "Formation of the Post-Industrial Civilization", basic ideas of which were developed in the monograph "At the Sources of a New. Civilization" published in Russian in the beginning of 1993 and in English in August, 1993. Main ideas and trends, formulated in the report and in the book, remain to be correct now as they are examined and argued in the present text-book. But yet, having prepared the book for publication in autumn, 1992 I have to add the Postscriptum of more pessimistic, at least more prudent content. The modern society is so complicated, characteristics which determines its cyclic dynamics and genetics are so various and hardly examined, as well as their forms and mechanisms of realisation are so polysemantic and capricious, are rich with zigzags and surprises in different spheres and countries that it requires much more detailed and fundamental research.

For the time being let us outline briefly the possible extreme scenarios of the dynamics of historical process in the transitional period - half-a-century and century-long. They are extreme because there is innumerable multitude of possible variants of future dynamics realised within a spectrum of possible

alternatives. This spectrum is widely open during transitional periods and slightly folded up during more calm, evolutionary development. But in any case it has its extreme variants, beyond them the trajectory of dynamics is surely unreal. The actual trajectory lays somewhere between these extreme variants, closer to pessimistic or optimistic scenarios. The limits themselves, brinks of the spectrum are active, from time to time they are changing according to stages of the cycle in connection with correlation of basic factors and initial point which is in permanent movement. Consequently, the main task of foreseeing of the future and main difficulty is to determine trajectory of the "snake" which is permanently curving and is narrowing during inertia phase of the cycle and is widening (but within the limits) during of the transitional period. Each floor of the society's pyramid, each element (flat) of this floor and each country or a group of countries have their own distinctive thickness and curves of the forecasting snake; by getting entangled and resounding they make the tangle of snakes. The present and the future of the mankind, the trajectory of historical cycles toppled over the future are formed by whimsical curves of this tangle. Incredible difficulty and multiregularity of these multicored process of the society's dynamics explain why there are only unreliable long-term global forecasts but there is no elaborated theory of such forecast. The mankind's intellect, even in aggregate impulse of best intellectuals, is still not capable of penetrating into the depths of historical process to imagine for certain - though in the first approximation - its path for coming 50-100 years. Each time the history smiles on unlucky prophets. But people again and again try to solve this unsolving task because without prediction of the future it is impossible to understand the essence of the present and to choose the right line of conduct and policy - for themselves, their family, their enterprise, their country, for the continent and for the world.

We will also try, proceeding from characteristics and trends of cyclic and genetic dynamics to make our contribution to this almost hopeless issue. Almost - but not entirely.

In the last quarter of the 20-th century the mankind has entered the transitional period for the next (the seventh) civilization and for the next (the third for 12 thousand years) historical supercycle, developing on the base of common starting principles. In that case the transitional period for post-industrial civilization will last approximately half a century, and for the next supercycle – about one century. The other historical approach, of course, will inevitably give different results in estimating the transitional period's essence and its time limits. But we will stick to one approach, concluded from analysis of historical rhythms for 12 thousand years of mankind's history; this approach has at least the same rightfulness as any other points of view and it will give a groundwork, starting versions for discussion during which we can get closer to the truth.

Let's exclude two ultra extreme scenarios for the coming century.

Extremely optimistic - MrP.Baade wrote about promising if not an Eden then something like it on the Earth<sup>1</sup>: full victory over hunger and misery all over the world in the manner that in Asia people can also eat meat and fish in plenty and their daily ratio would be not less than that of Northamericans or Germans by the beginning of the 60-s, so will be production and profits; possibility for workers from all countries of the world to choose any place for vacation and to reach it without entry visas and passports because the states voluntary limit their souvereignty, passports will become useless and the most important - complete disarmament will be accomplished, wars will be liquidated, people will be provided with security. Obviously it is out of limits of the spectrum of possible alternatives - even the most optimistic - by the years 2020-2025, e.g. by the end of the transitional period to post-industrial civilization, at best it will be possible only by the years 2060-2080 - when a transition to the new historical supercycle will be accomplished and post-industrial civilization will enter a stage of maturity, developing on its own basis.

We shall also exclude an ultra pessimistic scenario of global nuclear or bacteriological war. Consequencies of such global catastrophe ("nuclear winter") have been examined in the USSR (led by academician NP.Moiseev) and in the USA. Even under present scale of disarmament there will be neither winners, nor losers, nor detached observers; the mankind family will commit suicide (somebody will immediately burn down in the flame of nuclear fires, somebody will slowly die from radioactive infection or epidemics), earring away if not all animal and vegetable kingdoms, but next to it, all the flash under the best circumstances the new path will begin with few remained and preserving their genotype (with strong mutations) organisms, in the worst - there will be a lifeless planet like Mars with dead traces of living sometime civilizations. We will not also examine a scenario of global space catastrophe when a big asteroid crashes the terrestrial globe as uncalled strangers crashed Jupiter in the middle of 1994. The result was close to a nuclear catastrophe.

We choose a more moderate optimistic variant within the limits of really possible in the coming quarter of the century - hence from the fact that aproximately half of the half-a-century transitional period to post-industrial civilization the mankind (countries situated in the avangarde of the historical progress) has gone through.

We anticipate our trip by short survey of basic outlines of post-industrial civilization -how we see them today, from the middle of the transitional period when some main trends and elements of future society are already revealed but full clearness is still not reached because it is in the primary stage of the making born in sweat and blood and still built on mainly not compatible with its nature foundation.

---

<sup>1</sup> Бааде Фриц. Соревнование к 2000 г. М.: ИЛ, 1962, с. 237-238.

### 3. Basic Outlines of Post-Industrial Civilization

Approach to comprehension of characteristics of historical progress chosen by us helps to avoid dangerous delusions and false ways in foreseeing the future. We will not examine inevitable future as a final stage of long way through thorns and shocks to incarnation of ideals since earliest times (history teaches that ideals are changing during different stages of the long way); though the way itself is endless - since the mankind still exists and promises reiterated changes of ideals in future with radical changes in the mankind, society and external conditions of its existence and development. We shall not try hence from normative ideological forecast to form a priori a final aim of historical movement and reduce foreseeing it to choosing of ways and stages of movement to this aim (which inevitably carries an imprint of present level of knowledge and interests of researcher forecaster).

Let us choose another paradigm of the future foreseeing based on the Kondratieff ideas. It is resulted from the analysis of world civilizations pulsation presented above that the last phase of the leaving civilization meets not embryo, but already formed frameworks of the future society, able to enter the desperate and brave fight for its selfconsolidation despite trends for selfpreservation of the doomed but still prevailing, ruling and habitual system. Such approach facilitates - but simultaneously complicates - the process of foreseeing the future, the long-term trends of post-industrial civilization formation. It facilitates it because we don't invent the imagined, don't design the unknown, we only differentiate the present, dividing it into three streams: what will inevitably be gone to the past; what will be inherited from the past, what forms an essence, main body of the historical genotype; what will be consolidated in future, become correlated elements of the future civilization. We shall simply look attentively and impartially, by observing historical perspective, into the reality, which is desperate. It is complicated because to draw the ideal of the future society, to think up its structure, mechanism and details is easier than to digress from utilitarian, boiling antagonism of quickly changing proportions of the present with which a researcher is connected by thousand of visual and unvisual threads determining his points of view and ideals. It is not easy to shun by at least mental look from this motley routine, to deny oneself own past and to support sometimes weak future.

However, solution of this puzzle is simplified by the fact that half of the transitional period to post-industrial civilization is already run through and this time consists of historical experience which helps us to expose and appraise the trends.

1. The main distinctive feature of rising, coming through a primary period of the phase of formation of post-industrial civilization - the revival of humanism: that is why we call it humanitarian. It is not simply a return (as a result of multicentury swings of historical pendulum) to priority of values of free

creative person of the epoch of Athens (for the chosen) or of the Italian Renaissance which engendered the highest flight of the mankind's spirit. Return to humanism after oppressed machinery of industrial Moloch is going on the new base is stipulated by changed conditions of life and self-development of the society. What is the essence of these changes?

Firstly, the formation of noosphere, sphere of intellect, is going to change from being daring foresight to real trend. Multiple complicated-economic, technological, ecological, social and political liasons, accelerated rhythm of their changes make effective activity in any sphere impossible without modern scientific knowledge, its uninterrupted enrichment and renewal. Look at present-time Japan. Foundation of its economy is based on three whales: microelectronics, bio-technology and informatics. But a person deals with them not only in the sphere of production, but during everyday life: his foodstuffs and medicine are made with the help of bio-technological process, his flat is full of science-intensive technique: microwave ovens and colour TV-sets, computers, video and faxes; he uses a car full of electronic systems. In interrelations with external environment he manages, because of use of newest scientific technologies, to remove many obstacles, to minimize damages to environment. A network of technopolises arises in the country, because competitive production is impossible without scientific base. Japan which is as compared to developed countries mostly limited in its own natural resources, gains leadership in the world due to its primacy in scientific knowledge, quick and scaleful materialization of achievements of human cognition, demilitarization of the economy. At that point Japan can be considered as the model of the path to the civilization of noosphere.

I wouldn't like to give way to illusions, to see an arising world through rose glasses. A life of Japanese scientist and constructor, engineer and worker, programmer and designer is included into strict frames of industrial rhythm. It is not by chance that the Japanese are called workoholics": elements of noosphere are formed at the cost of exhausting, disciplined toil - not only physical but also mental (anyway the verges between them are washing away, and priority is given to the last one).

Secondly, the science turns to be not ready to ennoble its role and for its new functions in the society. Universal crisis engenders disappointment in the science. Science can not foresee it and to facilitate considerably torments of birth of the new society. Hence it follows a typical trend for the transitional period of rebirth of agnosticism and relativism, mystery and sorcery, disappointment in the strength of scientific cognition; in the science itself we can see a crisis of ideas, fight of incompatible conceptions and orientations, sharp weakening of prediction function. But this is a temporary phenomenon; it will hardly last more than one-two decades. Indications of the next mighty scientific revolution which will create a renovated picture of developing, irregular-naturally changing world are visible. Renewed science is called to be a

leader, a corner-stone of post-industrial civilization.

Thirdly, culture is gaining a priority role. New Renaissance of high culture is approaching. Families in the developed countries which have already reached comparatively high level of satisfying their needs in nutrition, clothes, comfortable dwellings, saturation of electronic household appliances and information devices are directed at spiritual sphere, various kinds of art. Revival of mass interest in high culture, peculiar to the Italian town of the Renaissance epoch, is promoted by the achievements of the modern information revolution: to visit Luvr or Hermitage, to go to the theatre or to see the ballet, to listen to Beethoven's symphonies, Bach's Fugues or best vocalists of the world, all this is now possible without leaving your flat - to switch on a TV-set, a video or a record-player is sufficient. High culture becomes public, open to general use. Along with that, demand for mass anti-culture is lowering; it will generally go to the past with doomed part of industrial civilization.

Forthly, essence, forms, methods and aims of the education are radically changing. It aims not at middling of a person, formation of zombi-like elements of industrial machine, but at comprehensive development of distinctive individuality with ability for creative thinking, for effective solution of numerous puzzles, permanently presented by our life, for adaptation for quickly changing conditions of work and life. Education becomes continuous, covering all stages of every person's life cycle, providing permanent renewal and replenishment of knowledge and skills. Informatization of the education, combination of logical and figurative thinking, coming spreading of multimedia means increase reiteratively the efficiency of learning knowledge, stir up trainees. Along with that essence of the education itself is changing: former place of orientation at obedient performers of partial functions and of strictly professional training is being occupied by humanitarian subjects, of wide introduction of polytechnic education, training of readiness for repeated change of work.

Perhaps, most distinctly trends mentioned above are visible in educational systems of France and Sweden; but many elements are assembled also in the USA, Japan, Germany and other developed countries. The result will be a system of education adequate<sup>1</sup> to post-industrial society - diverse as for national colour, local traditions but with common basic traits.

But transitional period for the new system begins with crisis of the old one. Growth of functional illiteracy and professional incompetence in practically all countries becomes a risk factor. Tens of millions of workers suddenly become aware of the fact that knowledge obtained during training and consolidated by practice is inadequate to abruptly changed situation. It provokes embarrassment, fall of labour effectiveness, demands reconstruction of general and specialized education, but first of all it requires a mass retraining of employees, gives stimulus to spreading of continuous education system.

Fifthly, elements of new ethics, rules of interpersonal relations are being

formed which underline strive for self-dependence and originality of each member of the society as unique and distinctive person with the right to behave independently taking into account however the interests of others. Perhaps the most fully the predominance of such moral standards can be seen in Finland; they are however typical for other developed countries as well. A person here is not a pooled particle, molecule of the collective in the name of which diverse interests and unique features of the person and of the individual family are restrained and leveled. On the contrary, the main aim of the collective, public and political institutions is to serve the interests of an individual person.

Sixthly, suoremacy of the ideology of the ruling elite which restraines and levels the individual ideals is removed. Independent person is free to choose ideology, religion and aims; the person paves the way to self-ideals via zone of strivings and delusions. This way begins with downfall of former prevailing ideologies, disorder and hesitation, extremist passions and personal collapse. This is promoted by unprecedented level of unemployment, unfavourable demographic trends and increase of children-mutants. Passion for religion becomes fashionable - since times preceding the Age of the Enlightenment such inclination to religion is not observed. It has its own objective roots - the spiritual world doesn't endure emptiness, unsettled and chaotic state of life push to choose easier way of recognising somebody's absolutely powerfull hand. Downfall-of terrestrial guides impels to seek them in heavens. But this is hardly a century-long trend; it is not worth considering post-industrial civilization as a time of Renaissance and triumph of world religions. It is rather a trend of the transitional period, as time goes the priority will again be given to knowledge, along with preserving tolerance and recess for those willing to surrender to religion without prejudice for associates, and imposing their ideology. It is hopeful that an attempt of returning to state religions and fundamentalism is short-lived. Japan again is seemed as an example of full tolerance, freedom of any ideology and atheism.

So, a free, creative person, brilliant personality, self-exposing in different activity and personal contacts gradually becomes an essence and the highest aim of the society's new model. It doesn't mean that contradictions, ignorance, crimes and conflicts will dissappear. But means of solving permanently arising conflicts will become more and more civilized, violence against person will become an exception, not a rule.

Perhaps, there will be changes in the bio-social genotype, preconditions for transition to the higher level of the human development as biological substance are accumulating; dangerous mutations are possible during this process.

2. There will be another technological mode of production, world of machinery, created and used by a person in production and housing sectors.

Spreading of flexible atomized productions, miniaturization and computerization of all kinds of working activity, liberation of a person from

hard physical activity and rigid subjection to mechanical rhythm free his time and force him for creating process, mental work.

Along with deconcentration, diversification and raising flexibility of more and more science-intensive production there is a change of a person's role in it: from a screw of industrial machine a person becomes a creative source, demiurg of the production process. There is a rise of. significance (as well as quota within employed) of scientists and engineers, programmers and designers, employees in the spheres of service, culture and art. An employee becomes more and more an innovator, who has to and is willing to present permanent improvements to the production process.

Mastering of biotechnology, non-traditional energy resources, waste-free technological process, more economic ways of natural substances conversion without irretrievable damages to environment allows to satisfy permanently raising needs in goods and services (along with that a trend for raising a share of different services will be preserved) with considerably less net expenditures and losses. The society gets rid of resource-intensive, environment polluting technologies. It turns out to be possible to satisfy growing needs of greater number of people with relatively (from time to time absolutely) lower volume of used energy resources and raw materials if to convert them in a combined way, lo low losses and most important - to consume them economically. High effectiveness and competitiveness of demilitarized and hightechnological Japan and South Korea, Singapore and Taiwan are obvious in comparison with the economies of the USA and Russia, Great Britain and France which are made heavier by the burden of military and heavy industries.

As the result of informatization the mode of life will be more satiated: a trend of transfer of centre of gravity in work and creativity into electronic colleges, equipped with computer systems and multimedia will be precisely emphasized.

However, the technological multistructure of the economy will be preserved. Where it is technologically needed, mines and pits, large factories and transport systems, production lines based on industrial or even relic technological branches (in the sphere of services, home utilities, in the home gardens near electronic colleges) will function.

3. Rise of humanism is based on radical changes in the economy, on its real humanization. It is evident in some trends.

The priority of small commerce and free competition is restored. The giants of industry -backbones of monopolism go lo the past, lose one position after another, the share of stale property is sharply reduced; the possibilities of interference of state-bureaucratic machine into the process of reproduction is lowering.

Indications of the new order of economic relations are emerging. They consist of privatization of stateproperty, rising of the role of small and medium-scale enterprises which open broader perspectives for business and innovations,

limitation of monopolism and restoration of free competition in the number of spheres; wages according final results of work - along with guaranteed social support for those who are unable to work, as well as for non-market sectors of the economy (fundamental research, education, culture and healthcare).

The economy however doesn't become mono-branched. The diversity is preserved of property's forms and economic branches, each of them occupies a niche where it functions more effectively, provides the best conditions of work and satisfaction of peoples needs. Global systems of telecommunications, transport, environment monitoring, exploring of outer space, maintenance of security will be based on national and international forms of property and consequent scales of regulation. The national and transnational corporations will continue to function under strict anti-monopoly regulations. Main share of consumer goods and especially of personal services will be made by enormous number of small commodity producers voluntarily united in diverse forms of temporary or permanent cooperation. Visual role in satisfying family needs will be played by home and private subsidiary small-holdings.

To some extent modern Finland or Japan could be served as standards of emerging post-industrial multi-branched economy. But there will also be qualitative changes in the making of new civilization.

#### 4. New trends are emerging in social and national relations.

Social stratification is deepening. Strict predominance and supremacy of one class, big social section which suppresses others go to the past. Glass struggle in straightforward way as presented by vulgar Marxism will hardly be preserved. It is anyway condemned to non-existence by Marxism itself - together with building of non-class society. However, the social uniformity and social harmony are hardly worth to wait for; interests of many social groups are discrepant to a considerable extent, correlation of their forces change, social contradictions preserve, and they are especially sharp in the chaos of the transitional period.

Desperate processes are on the way in national and inter-ethnic relations. The end of the 20-th century is characterized by awakening of national feelings, rich of sequence of international and inter-ethnic conflicts up to local wars. The process of "Libanization" has gone as a black line through Southern Europe, the Caucasus and Middle Asia.

On the stage of post-industrial civilization ripeness there will be seen a harmonic polyphony of social relations, removal of extreme forms of different social groups' antagonism and strengthening of cooperation between them in solving common problems which face the society. Maybe a new system of social relations begins to be seen more clearly in Scandinavian countries.

In future society it will be hardly to depend on renewal of trends for whipping of national and ethnic individualities, loss of national cultures originality distinctive for industrial epoch. Present opposition of nations, exaggeration of peculiarity and as if inherited priorities of different ethnic

groups have however no perspectives. Switzerland is an example of multinational state with full equality and worked off mechanism of different nations cooperation.

5. We shall not wait - at least during coming century - for the death of State and Law, as it was predicted by K.Marx and V.I.Lenin. And not only because the non-class and stateless communist society is put aside for uncertain future, but because in the very method of approach to role of State and Law in society's life too much is based on its compulsory function (machine of suppression, oppression). Meanwhile, from the very beginning a state was entrusted to important function of organization and regulation of macro-economic processes, expression and defense of common interests, especially in non-market sectors.

In industrial society, especially during its last phase, the role of state and law was excessively hypertrophied, it tried to embrace and determine everything in the interests of the ruling bureaucratic elite; this trend reached its peak under totalitarian regimes when remains of democracy were thrown off or reduced to fig-leaf. During last decades of the 20th century this hypertrophy goes to the past and the process of deetatization of the society, especially in economic process, prevails. Nevertheless, the aggravation of crime, narko-mafia, shadow economy and corruption is observed. State and Law institutions are to go through uneasy process of adaptation to changing conditions, priority of the individual, real defense of his life, property, rights and interests. In these - spheres - within strict limits proclaimed by law - "powerful state will be active in future. Elements of such legal state are now in the USA, Japan and Western Europe countries.

There are irreversible changes in political system, mechanism of the democracy functioning. There is an increase of role of regional bodies, local authorities which can consider more fully regional and local peculiarities and traditions, needs of people. There is a loss of role of mass political parties and trade unions, pretended to be unique, a sharp increase of diversity of numerous parties, public movements and organizations. Increased in the transitional period social apathy of the majority, periodically interrupted by social and political outbursts and conflicts, will be led by even and smooth flow of these relations. Of course, uniformity and commonplaceness of state, interstate and interregional forms and methods of legal and political regulation will not be reached; traditional differences between countries of the West and East, South and North will be kept, but it will not be a ground for wars and conflicts. At least for the period of mature post-industrial society a new balance of political forces will be restored.

6. Finally we shall mention new trends in the dynamics of the world society. The previously prevailed trend to accelerated formation of the world economy and market, integrated unions is now opposed by the trend to disintegration of some federative states, appearance of new independent states

(it is the third wave - previous two were observed after World Wars I and II), transition from two to many-polar world, to strengthening of disintegration process. But this is a transitional period' characteristic. The future is for integration processes which are on the way in Western Europe and North America and characterize step by step and voluntary process of removing inter-state limitations. But we will hardly see full removal of state borders and customs in the coming century. " New integration trends will prevail on the base of voluntary unions of equal states in some spheres. Contradictions between states and groups of states will be kept, on the first stages we can not exclude collisions and armed conflicts. But gradually war and forced solution of conflicts will go to the past. There will be strengthening of the role of inter-state and international arbitration and of mechanisms of maintenance of global security - the UN, International Court of Justice.etc.

These are only some global outlines of the future civilization as it is ripen in bowels of industrial society, and gradually (during crisis - imperiously) getting rid of its old covers. But this process will last not one but many decades.