

PROSPECTS FOR THE RISK SOCIETY AND THE ECOLOGICAL STATE

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Перспективы общества риска и экологического государства

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We are confronted with huge social change all over the world. Under this situation, we should find another idea of state's aim. The organization of state aimed at protection of human rights formerly, and then it placed emphasis also on guarantee of a person's living as well as right of liberty. But in contemporary stage of state, which is remarked by the risk produced in information knowledge society, we should search for new idea of the ecological state

Мы сталкиваемся с огромными социальными изменениями во всем мире. В этой ситуации мы должны найти другую идею цели государства. Организация государства нацелилась прежде на защиту прав человека, и затем это сделало акцент также на гарантии жизни человека и его права на свободу. Но на современной стадии развития государства, которое отмечено высокими рисками, произведенными в информации общества знаний, мы должны искать новую идею - экологического государства.

Introduction

Since the end of the 18th century, when the French Revolution set the scene for the creation of democratic systems, the state system in developed countries has sought to increase the overall wealth of the nation, regardless of the ideological differences which have existed between liberalism or individualism and collectivism. This is quite simply because the people, who are the agents of democracy, seek for their happiness not only peace and freedom, but also economic affluence. Meanwhile, the industrial revolution, which began in mid-18th century Britain and spread around the world, brought about an expansion of scale from light industry to heavy industry in the mid-19th century. This expansion moved in step with the democratic transition in the state system and was supported by the development of science and technology.

From the latter half of the 19th century, democracy under this state system meant the mobilization of the people and mass participation in governance. But following the experience of the two world wars in the 20th century, this democracy faced the choice between liberalism and totalitarianism, between the capitalist market economy system and the socialist planned economy system. This choice was resolved in favor of the former system at the end of the 20th century. However, the problem for the human race is not this choice between two opposing economic systems, but the culture of environmental exploitation and the belief in the omnipotence of science and technology which are features of both systems [1].

Developed countries must now join with developing countries to address these problems.

1. From rights-based state to welfare state.

Although the state in pre-medieval agricultural society is generally defined as an authoritarian state founded on the traditionally contracted relationship of ruler and subject, the fundamental purpose of such states, if we view it in terms of practical effect, was to maintain peace. Thus for instance, the role required of a king was to ensure the people's safety from outside enemies. It is true that the people's happiness or welfare was also a mission to be achieved, but it can be seen as a secondary purpose for which internal peace was a precondition; it was furthermore a mission that was frequently ignored in historical reality.

In western Europe, agricultural society developed from the 17th century through an intervening commercial stage into industrial society. A number of states experienced bourgeois revolutions through which they overthrew the preceding authoritarian state and were transformed into rights-based states. The economic system promoted by the rights-based state guarantees a free market economy including a free labor market; the mission it encapsulates is to protect the individual citizen's life, freedom, and property as basic rights in a society created by the free actions of the citizen. What should be noted here is that the maintenance of peace, which had been the purpose of society up till then, was also carried over as a purpose of society into the liberal state?

An industrial society since late 19th century was formed in many states, but as it developed, it created a

deprived and indigent social class. These conditions led late industrial society to establish a welfare state to deal with the poor. This state can be said to have altered the political forms which had existed previously. The new state system of late industrial society was not the rights-based state system that guaranteed individual freedom and the market economy, in other words, it did not leave the people's livelihood dependent on the formation of an order based on free action; instead, it adopted an interventionist system which guaranteed the people's livelihood in a systematic fashion.

This welfare state consisted of two kinds: the socialist state, which completely reformed the capitalist economic system; and the social democratic welfare state, which introduced modifications through an interventionist system while still maintaining the capitalist structure. Today, the socialist state system has undergone major changes, while the social market welfare state system is now in the majority in world terms, although with differences in detail from country to country. Just as the rights-based state inherited from the authoritarian state the mission of maintaining peace, so these state systems have inherited from the rights-based state the mission of guaranteeing basic human rights centered on individual freedom. However, a difference arose in the practical manifestation; so, whereas the foundation of the rights-based state is provided by a legal system that protects the people from infringement of freedom and other rights, the foundation of the social democratic welfare state consists of a legal system that guarantees the people a certain level of livelihood.

2. Contemporary society from the perspective of developmental trends.

Contemporary society seems to have already undergone the transformation into the welfare state. The emergence of environmental rights, for instance, is a concrete example. A theoretical debate is under way as to how environmental rights should be understood in an academic sense. In the past, the classic rights of the welfare state have been social rights, or rights through which the people require the state to guarantee a certain level of livelihood. The idea that environmental rights belong among these social rights is one academic theory. This theory takes the view that environmental and related rights can be included among social rights and that environmental problems can be resolved within the theoretical framework of the welfare state. I, however, support the competing academic theory that a set of principles to resolve environmental problems cannot be adequately derived from the principles of the welfare state. For the ecological state, we require a set of principles other than the distribution of resources and equality which are the principles of the welfare state.

The reason for this lies in the fact that society has already changed from an industrial society into an information society and that this has created a situation in which a change in the governing principles of the state is

necessary. Alvin Toffler's *The Third Wave*, which has already become a classic work, posited that the contemporary human race finds itself living through an information revolution which is the successor of the agricultural revolution of the Neolithic Age and the industrial revolution of the modern age [2]. Because of this revolution, we are said to be undergoing drastic change in the social structure. What 'information' refers to here is not limited to information in the process of communication, but is to be understood in a wider sense as denoting the totality of knowledge that is accumulated and passed on. Industry, particularly manufacturing industry, has achieved dramatic progress and reached advanced levels. This advanced-level development has been made possible by computers that manipulate information. Moreover, industrial products which have attained advanced levels of intricacy and precision have made possible the application of cutting-edge technology in the manufacturing and construction activities of sectors such as food processing, pharmaceuticals, and engineering, and in the methods and techniques of sectors such as communications and transportation, electric power generation, and medical treatment. These advanced-level products are not like the earlier products of industrial society, which possess an added value that can be deduced simply by observing the object in question. For instance, the vacuum tube, which was a mainstream electrical product 50 years ago, has been replaced by the IC chip. The IC chip is much smaller, but has an immeasurably enhanced functionality. The chip is a product resulting from a massive volume of knowledge-based information, but this is not apparent from simply looking at it.

This advanced-level development in science and technology progressed through the synergetic action of two factors: firstly, the human desire for convenience, amenity, and affluence in societal life, which was inherent from the start in industrial society; and secondly, the economic primacy of production which is the result of this desire. But this advanced-level development simultaneously imposes on us the risk of being exposed to unpredictable disasters. Of course, it can be argued that the information society has simply maintained unaltered the structure of industrial society which gives primacy to material desires and production, and that the risk therefore existed before. However, where the information society differs from the previous situation is that the degree of risk has undergone a qualitative change. The achievement of high levels of intricacy and precision in technology is based on raising the accumulation density of scientific processes. The increase in the number of processes brings a corresponding increase in the number of effects they exert and an accompanying increase in the proportion that are unpredictable. The increase in the level of risk relates to a qualitative change, compared to before, in the dangers that people are exposed to in contemporary society through the conjunction of two categories of risk: risks that have become clearly manifest, such as pollution inci-

dents, and risks that have not yet emerged as realities. Here, the term risk encompasses a range of situations, from those where the danger is clear and present to those where the danger does not arise and is not realized, and additionally situations of insecurity not normally recognized as involving danger. The overall term for the totality of these dangers and insecurities is risk, and it is in this sense that contemporary society is aptly described as the risk society.

The early pollution incidents were precipitated by an insensitivity to risk which appears surprising in the light of contemporary knowledge; nevertheless they are classic examples of risk surfacing as a result of two factors: the pursuit of convenient lifestyles and the advanced-level development of technology. For instance, in the pollution incident that resulted in Minamata Disease, the organic mercury which was the cause was discharged originally by a nitrogen-based fertilizer manufacturer. However, the mercury was formed in an acetaldehyde manufacturing process, which is an electrochemical engineering process. The reason for manufacturing the acetaldehyde was that it is a material used in octanol production; octanol is a plasticizer for vinyl chloride; vinyl chloride is a major component of a material called plastic; and plastic was beginning to be used in large quantities at the time for reasons of convenience. Moreover, although the mercury sulfate which was used in the production process for this acetaldehyde is an inorganic form of mercury, the reaction process ended up producing mercury in organic form. The advanced-level development of technology extends the range of impact of an action and raises the degree of unpredictability.

It is similar with incidents of drug-induced damage; So, for instance, in the issue of drug-induced AIDS, the non-heat-treated concentrated preparations for hemophiliacs which were the cause of the AIDS depended as a precondition on the technology improvements that facilitated their manufacture, while their widespread use was promoted by convenience and favorable profit margins. It seems likely that similar sets of circumstances lie behind food contamination incidents. For instance, in the BSE incident, the cause may still not have been identified, but there is a plausible theory that the causative substance was a kind of meat-and-bone meal which was manufactured from the carcasses of sheep and cattle and which was used as an economically efficient feed for dairy cows. According to this theory, the raw material for this meat-and-bone meal consisted of the carcasses of cattle and sheep which had been infected with scrapie by prion pathogens. On top of this, the meal was manufactured using a boiling treatment temperature that had been reduced, in the wake of the oil shock, from over 100 degrees Celsius to 80 degrees Celsius.

3. Contemporary society as the risk society.

As I outlined earlier, the difference between risk in contemporary society and risk in previous times is that the degree of unpredictability has increased to a different

order of magnitude. Science has so far used technology to manipulate nature, but now that the advanced-level development of technology has raised enormously the degree of intricacy and precision of this manipulation and the width of range of this manipulation, the ability to control repercussive effect has diminished in inverse proportion. Given this reality, the special qualitative character of the risk society in the contemporary era can be described in terms of the primacy of technology.

From the standpoint of science, the risk resulting from the repercussive effects of science and technology is produced by side-effects and relies on the fact that side-effects are unpredictable. No doubt it is because it is based on a science that deals with a theoretical world that risk can be called a side-effect; when we look at technology from the core of the world of science, it may well also appear to be a derivative and applied field. However, the order of precedence of science and technology nowadays appears to be reversed. In many fields, it is clear that technological advances have a strong determining influence on the development of science, while within science itself, applied science has come to occupy the core position.

When science is viewed with a bias toward technology, we can see that it is in the real world that science comes to fruition as action, while scientific states that exist as phenomena in a theoretical world remain incomplete. Indeed, it is only when these scientific phenomena link up with technology that they are invested with real action and come to fruition as complete phenomena. This means that it is impossible to speak of scientific phenomena in isolation from their repercussive effects in reality. The synthesis of acetaldehyde comes about not within a scientific experimental formula, but as a phenomenon in a certain plant in a factory, in which the unforeseen product organic mercury is also contained. From the standpoint of technology, the production of organic mercury through phenomena of this kind is not a side-effect; nor is it any longer a secondary effect. We can see from this that the actions and effects of technology, including the production of organic mercury, need to be assessed as a comprehensive whole?

In the context of the reversal of the positions of science and technology, the risk society is sometimes characterized with descriptions such as 'a society defenceless against technology'. In the book called *The Whale and the Reactor — a Search for Limits in an Age of High Technology*, Langdon Winner gives the example of the contrast between a person walking and a person driving a car [3]. The restriction suffered by the person driving compared to the person walking because of the fact that they are using a car is quite aptly described as an inevitable repercussive effect of the use of advanced technology. What is more, people adopt the world of this new technology and are drawn into it without conscious forethought, but this also leads to changes in the structure of society. In his work, Winner calls this 'technological sleepwalking'. What is important in Winner's argument

about 'technological sleepwalking' is the repercussive effects on society that are brought about by the introduction of a certain technology. The technological innovations of the automobile and the telephone, the television and the personal computer, are not so much accepted defenselessly, in sleepwalker fashion; rather, they penetrate daily life irresistibly, as if part of the march of history. This is because the structure of social life itself is reordered to adapt to them. We are left with no room to question what the spread of this technology revolution will mean?

The qualitative change in repercussive effect in the risk society has also occurred in the field of scientific predictability. Nowadays, when the manipulation of nature through technology affects not only material objects external to human beings, but also invades human beings internally, the scientifically unpredictable element can be said to be growing ever greater. Originally, the control of nature through science was the control of nature external to human beings. Human beings used science and technology to resist natural disasters, animal attacks, and other onslaughts of nature, to modify nature, and to obtain useful materials from nature. Inventions such as the automobile and the aircraft did bring with them accidents, but although the damage to human beings might be of a serious scale, it involved an external infringement of the human body?

However, as we saw in the examples I gave earlier of drug-induced damage and food contamination, drug- and food-related risk is connected with nature internal to human beings, inside the human body. Here, nature, which is supposedly an external entity, reaches into the internal space through the support structures of human life, and risk is also internalized in this process. In this way, the introduction of risk as an internal factor for humans is a major characteristic of risk in the contemporary era. The same situation applies to environmental risk, but what is exposed to risk here is not foodstuffs but the human life support structure known as the ecosystem. The modification of this support structure through science and technology inflicts internal infringements on human beings through the ecosystem. Theorists of the contemporary risk society, for instance Ulrich Beck in his book entitled *The Risk Society*, assert that nature, which was previously an external given, is now an entity reproduced by humans. Nature has now become a nature manufactured by a process controlled by knowledge-based information. What this signifies is not, however, a conflict between nature and society but the interpenetration of nature and society.

As I have already stated, the ideology of the welfare state is unable to derive an organizational principle which accounts for the fact that the industrial society has been transformed into the information society and has undergone a qualitative change in the way I have described. The ideology of the welfare state limits the problem to social distribution of resources, and fails to

grasp the reality of the penetration and internalization of technology that has been brought about by the risk society. The problem for the risk society lies not in how to guarantee the improvement of unfavorable living environments, but in the fact that this living environment is from the outset exposed to risk?

Conclusion

It is no exaggeration to say that society in the contemporary era is formed by science and technology standing on the pillars of information and knowledge. The higher the degree of intricacy and precision of this technology, the lower the possibility of controlling or foreseeing risk. Nevertheless, within this uncertain world, the advance of science and technology continues to pursue goals that are seen to represent happiness. If we accept that contemporary society is an information society in this sense, then the ability to respond appropriately lies not with the welfare state but with the ecological state. But what governing principles should the ecological state uphold? Of course, response to risk in the living environment should in principle be implemented initially on a preventive basis. In late industrial society, pollution law to remedy human health damage dealt with the problem through regulation that was designed to prevent infringement. In contrast, environmental law in the information society should emphasize aspects related to environmental management and should aim for systematic environmental improvement.

The likely successor to this principle of prevention is the principle of responsibility. This means a switch from a stance centered on rights ideology, and the responsibility in question relates also to other people's and one's own behavior; but the foundation lies in responsibility toward the environment. Rights can be said to seek a starting point for the formation of society in action to demand rights for the purpose of self-realization. In contrast, responsibility seeks this starting point in action, including action by other people, for the sake of the environment.

Under the banner of these principles of prevention and responsibility, the natural environment, which transcends the living environment, must be taken account of as an object of protection. As I have already mentioned, the interpenetration of society and nature no longer allows a limited definition of the living environment. Furthermore, knowledge of the ecosystem teaches us about its organic interlinkage; the fact that damage to a part of it impacts the whole has been established by successive academic studies. Moreover, the present situation of the risk society suggests that we need to establish an awareness that risk is faced or must be faced, that we need to emphasize risk communication in situations where risk is present, and that we need to recognize the existence of decision-making responsibility and responsibility for self-determination.

Under the governing principles of this ecological state, the missions of the rights-based state and the welfare state that have existed previously should not be discarded, but rather introduced as additional missions to be emphasized. In the information society which has been created by the dramatic development of science and technology, the preservation of the ecosystem may be the chief characteristic of the ecological state, which addresses risk

through prevention and oversight, but the ecological state should also address the reality of the advanced dimensions of risk which are developing in issues from livelihoods and individual rights through to the maintenance of peace. In other words, the ecological state must retain at multiple levels the missions of the states that preceded it, and must maintain peace and freedom and guarantee welfare under the conditions of the risk society.

References

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HUMAN MIND AS THE INVALUABLE COMMODITY AND INFRASTRUCTURE TOWARDS WORLD'S ECOLOGICAL PROTECTION AND SUSTAINABLE MACRO-ECONOMY (PROBLEMS & SOLUTIONS)

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Человеческий разум как неоценимый фактор и инфраструктура защиты окружающей среды и жизнеспособной макроэкономики (проблемы & решения)

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The Human Civilization is on the verge of collapse. Humanity's sustainable behavior is the foundation towards the World's ecological protection and towards a realistic World's sustainable macro-economy; nurturing Human Mind is the key to the long term success. The roll of States and Governments, Schools and Universities along with Religious Organizations is highlighted as the need for partnership towards education. Human's personal health and welfare is an integral part of our planet's health. Anti-smoking, obesity prevention, sporting activities and parenthood training backed by financial incentive programs are recommended.

Человеческая Цивилизация находится на краю краха. Жизнеспособное поведение человечества — путь к экологической защите планеты и к реалистической жизнеспособной макроэкономике. Развитие человеческого разума — ключ к долгосрочному успеху. Освещается роль взаимодействия государств и правительств, школ и университетов наряду с религиозными организациями в повышении образовательного уровня людей. Личное здоровье человека и его благосостояние — неотъемлемая часть здоровья нашей планеты. Обосновываются программы отказа от курения, профилактики ожирения, занятия спортом и обучение статуса родителей, с учетом возможных материальных стимулов.

Word ahead

Within the past few years, the World faced countless weather related disasters conducting to loss of human lives, property damages, conducting to huge ecological and economical implications. Countries such as Australia,

China, Brazil, United States of America, France, Spain, Greece, Pakistan, Poland, and Romania, just to name a few, suffered from the devastating rain falls, floods, landslides, heat waves and fires. In Russia, during the summer of 2010 it has been registered for long periods of time air temperatures of 34—36°C up to 40°C (*), claiming as