

Mutual influence of economic growth and economic development and its impact on social transformations

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Abstract. *The purpose of the article is to study the mutual influence of economic growth and economic development as well as its importance for transformational changes in both economic and social systems. Author identifies the essential common and distinctive features of economic growth and economic development and describes the dialectical mechanism of mutual influence of these processes, which is represented as the key to transition of economic and social system towards condition of a new quality that allows to satisfy increased society's needs.*

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1. Introduction

Society's development is a general scientific category that reflects complex of absolute, complementary, progressive quantitative and qualitative changes in the functioning of the social system. While determining incentives of social development, modern institutional researches usually pay much attention to non-economic factors such as social, cultural and political. Just considering synergistic relations of different social subsystems, they rarely explore internal relationships within specific subsystems, which indeed cause significant impact on general social transformations. Most important relationships undoubtedly include mutual influence of economic growth and economic development - fundamental macroeconomic processes that determine society's development at all chronological stages. R. Lucas, P. Romer, A. Sen, J. Stiglitz are well-known modern researchers who had provided a significant contribution to the study of the processes of economic growth and economic development. However, the problem of their mutual influence remains still unexplored, which doesn't make it possible to determine the balance of quantitative and qualitative changes that are necessary for economic and social systems and their advancing to new conditions.

2. Economic growth and economic development as various aspects of economic dynamics

Common scientific understanding defines any system as a set of functional elements and dynamic relations between them, which are isolated from the external environment within a particular time interval (Sagatovsky, 1973: p. 322). Growth can be determined as process that characterizes overall performance of defined system, which emphasizes its relevance for the identification of dynamic transformations in quantitative terms. However, the concept of development serves as a measure of dynamic transformations defined in movements of existing structures, technological and social changes etc.

Economic system, being one of the most important social subsystems can be also characterized by both quantitative and qualitative dynamics that represent most common tendencies of its development at certain time period. Economic growth in clarified understanding represents quantitative changes of economic system and determines the increasing of country's economic power, production level and possibility of the national economy to meet the growing needs for goods and services. However, economic development can be defined as qualitative transformation of the economic system and its transition to a new condition & more perfect form that is irreversible (Prodanova, 2011: pp. 301-302).

In this perspective, economic growth and economic development can be defined as complementary processes that provide escalation of macroeconomic dynamics from different perspectives - quantitative and qualitative accordingly. The proof of this fact is based on related philosophical foundations, which are reflected in economic system - in particular, law of the passage of quantitative changes into qualitative changes in dialectics philosophy, formulated by Engels according to Hegel's Science of Logic interpretation.

The subject of this law is a passage from small, hidden and gradual quantitative changes to fundamental transformations where qualitative changes occur not by chance, but naturally, as a result of quantitative changes gradual accumulation. Movement of quantitative changes beyond critical interval (where system still remains current characteristics) leads to a change in the quality of the object, i.e. its development. Hence, law of the passage of quantitative changes into qualitative explains development as a qualitative progress through the accumulation of quantitative changes, resulting in going beyond an existing interval and abrupt transition to a new quality. Generally, dialectical philosophy defines development as a set of high-quality changes that became possible because of quantitative conversion.

Obviously, in this aspect we can also determine the reverse mechanism of impact not only of the quantity on quality, but also vice versa. As explained below, growth leads to development that results in qualitative changes. Accordingly, the new growth (quantitative change) occurs on new fundamental basis, which became possible because of the development at previous phase (qualitative changes). Therefore, we can admit continuous circulation of quantitative and qualitative transformations, which encourages each system to qualitative advancing.

Seeking the ways to continuous society's development as a strategic purpose of economic system functioning, we can arrive to conclusion that it may be possible only under the condition of effective both economic growth and economic development. Consequently, in long-term perspective it can be reached only by efficient mutual influence of these processes, which continuously supply each other.

Describing of economic growth and economic development as complementary processes, we can arrive to conclusion about their unity towards overall transformation of the economic system. However, understanding of these categories as indicators of different transformation levels determines their fundamental differences. These tendencies cause dialectical form of relationship between economic growth and economic development, which is based on two main aspects:

1. Their fundamental distinction based on the fact that these categories reveal different levels of transformation of the economic system.
2. Their mutual influence – as on the one hand, growth is the foundation of development, because of giving start to a dynamic changes and creating more complex dynamic forms towards development, etc. On the other hand, long-term qualitative changes affects both further quantitative (growth) and qualitative changes (such as progress, transformation, evolution), which may subsequently lead to a new wave of social evolution and modify existing structure.

The last statement can be considered as particularly important, because it gives possibility of identifying the effect of mutual influence for both economic and social progress, which is provided through structural transformation of the system. Economic growth and economic development can be identified as over-system categories, which reflect the movement of the economic system from one equilibrium to another one, just able to satisfy increased needs. New social and economic state creates higher-level entities such as advanced households, enterprises and state authorities, as well as modernized markets. This represents resolution of the dialectical contradiction of economic growth and economic development.

3. Transformational changes of economic system as a result of mutual influence of economic growth and economic development - theoretical aspect

While exploring the implementation of any structural changes in economic system, we can admit their realization through some specific mechanism. Scientific sources propose certain types of mechanisms such as market mechanism, pricing mechanism etc. In turn, generalized mechanism of structural changes can be defined as interaction of certain elements of economic system towards essential changes of them and their mutual arrangement. Concerning economic system structure, the mechanism of structural transformations is the coordination of changes in the structure of social needs and allocation of required resources.

Any structural change starts with changing technical and technological characteristics of the economic system and organizational relationships – technology, capital assets, labor, etc. The most important structural changes form and support a new quality of productive forces and techno-industrial and economic relations (Geets et al., 2011: p. 49). However, we should understand that not every change leads to profound qualitative changes in the structure of economic relationships or irreversible changes in the structure of social needs. Finally, it can result in acceleration or, otherwise, stagnation of economic

processes (structural crisis), or small deviation from the common tendencies, that usually did not represent evolution as usual for relatively closed systems.

Mutual influence of economic growth and economic development, what leads to quantitative and qualitative transformation, is a specific form of the internal contradictions of these processes. This process begins when new needs cause corresponding changes in the structure of production and allocation of resources, but at the same time, these changes cannot happen without the initial capital values involved. Hence, the internal contradiction of structural changes mechanism is the contradiction between the changes in the society needs and the capital availability to provide necessary changes in the structure of distribution of the resources. Further, due to the inflow of capital to certain elements, we can admit allocation of more resources for the development or a structural shift. Here we have increase of its capacity, speed and intensity (Krasilnikov, 1999: p. 26). The reverse process is an outflow of capital from structural elements, what causes falling down of relevant quantitative characteristics.

Saturation with the resources is necessary for the implementation of quantitative and qualitative changes. This problem is also raised in the theory of long waves by N. Kondratiev, who noted importance of mentioned saturation for the upward phase of the economic cycle - as the revival in the field of technical inventions and discoveries can be observed 10-20 years before the upward wave cycle (Kondratiev, 1993: p. 47). We can also admit that the question of prior investments that should initiate structural changes is particularly important for the current stage of economic development of Eastern European countries, many of which are still in process of deep restructuring of economic system.

However, it may be another reverse process where, first of all, system requires transformations what subsequently may result further quantitative economic growth. Such a situation is possible for societies solved the problem of basic material needs satisfaction as well as saturation of economy with capital, which currently require structural changes for better economic efficiency. One of the most effective ways to solve this problem is innovation activity. The process starts with providing of financing of various researches, which may require certain level of capital. It is also necessary at all other stages of the innovation process, up to the commercialization of innovations and obtaining beneficial effects in the form of profit, rent, etc. After innovative products and whole innovative sectors are implemented into economic activity, this ultimately leads to a qualitative transformation in the form of economic development that has impact on further growth.

4. Mutual influence of economic growth and economic development as factor of practical social transformations

Having explored the current stage of economic and social development, many researchers note that since the 60's of the XX century and up to the present economic and social system can be characterized by a number of distinguishing features and trends, which include increased globalization processes at different levels, the rapid development of science (including advances in engineering and technology) and, as a result - by scientific and technological revolution with the development of a new type of economic system and multidimensional social changes. Modern society that emerged as a result, according to one of the most popular definitions (Bell, 1999) is often identified as a post-industrial, describing its "immaterial" direction and commitment to meet relevant requirements.

The most common understanding of post-industrial society notes that due to scientific and technological revolution and substantial growth of average income, new priorities were shifted from production of goods to production of services. Accordingly, this economic system became able to solve the problem of products supply to meet basic society needs. The background of a new society is generated by implementation of technological progress to increase the volume and variety of goods, as well by change of the people's attitude to themselves and surroundings.

Material progress is a necessary condition for the formation of post-economic order; however, a sufficient condition is also the transformation of human internal values, which leads to the fact that improving of human potential became main incentive of people's activity (Inozemtsev, 2000: p. 23). Here we can observe how economic growth (quantitative changes) leads to the empowerment of social system, its transformation not only in economic but also in social terms (Prodanova, 2011: p. 28). On the other hand, economic development helps to provide social changes on the new material and technical background, what is just the result of structural transformations. Generally, having focused on modern social transformation we want to note that practical transition to a postindustrial society is impossible without both quantitative and qualitative economic transformation at earlier stages of social development. Accordingly, it is required to study the evolution of social evolution in its retrospect, with the projection on mutual influence of economic growth and economic development.

To our opinion, evolutionary changes in social systems can be described in accordance with the popular civilizational approach, which proposes the concept of the social history periodization by providing a historical cycle of different society types with the constant improvement of civilization, preserving previous experience for each of them. Related scientific concept by A. Toffler, where evolutionary process is represented through various waves of society's

development and particular historical periods, can be considered as most appropriate for this study. The first wave, according to Toffler, is the transition of humanity from a society of hunters and fishermen to agrarian civilization, the second – from agricultural to industrial, and the third that radically change the existing social structure – to over-industrial civilization (Toffler, 2004: p. 25) with forming a new historical community of people whose lives are inextricably linked with information technologies, and the new structure of needs that can be satisfied with application of advanced achievements of science and technologies. This periodization is appropriate for our study because it provides an opportunity to realize the basic scientific approaches for systematic research of practical social transformations:

- stadial principle for exploring various stages of social development, which allows to apply the principles of formation approach to our research;
- evolution of historical stages, what implies preservation and enrichment of historical experience and reflects the civilizational approach;
- necessity of systematic study of economic and social processes, implemented by systematic and synergetic approaches.

Economic and social changes and their intensity at each historical stage are essential for related society condition of today. In accordance with civilization and system-synergetic approach to research, as well as historical and comparative methods, the method of analysis and synthesis, principles of monism, pluralism and objectivity, previous historical experience is much important for studying mutual influence of economic growth and economic development in modern post-industrial society. For more profound exploration, it is much helpful to use the approach of Ukrainian researcher O. Melnyk, who proposes to study related processes according to basic production principle, where hunt-gathering and agrarian-handicraft principles correspond with pre-industrial society, machine-industrial principle – with industrial society, service-informational principle – with post-industrial society (Melnyk, 2004: pp. 19, 22-23).

Hunt-gathering production principle, just having opened world economic history and pre-industrial era in particular (which was realized around 40 thousand years ago), represents a stage of development of society productive forces, where the provision of human life is ensured directly by immediate appropriation of nature's gifts. Thus, the satisfaction of society needs at this stage took place without an established production process and the basic forms of human activities were hunting and gathering (Melnyk, 2004: p. 24). Under the conditions of this production principle, there has been a slow extensive growth with even slower economic development. Above we noted the important role of growth for resource accumulation and further development. In this case, the weak growth cannot allow resource allocation to ensure certain quality changes (economic development),

that's why qualitative changes occur rather spontaneously. This should make it impossible to provide adequate satisfaction of society needs, but this undeveloped society doesn't require as have primitive needs. Mutual influence of economic growth and economic development have poor both economic and social effect.

The dynamism of economic and social changes at various stages of development honestly proves that statics and stagnation can be justified only in the short term, while in general case system must evolve under the influence of the variable surroundings. Population increase, climate changes and other factors were those external catalysts that prompted pre-industrial system to develop. The main objectives towards improving the quality of life in the new environment was to ensure its economic preconditions – achieving higher economic growth, which would allow to obtain more product and economic development that would allow to do it with less labor input.

While exploring relevant factors in new, agrarian-handicraft production method, which also refers to pre-industrial development, we can admit either progressive quantitative or qualitative changes that would give the possibility of complex changes in the economic system. Agriculture and handicrafts became leading areas of activity, so general progress is emphasized by numerous inventions to facilitate and streamline updated production process. At this period (approximately 10 thousand years ago) we can observe not only the full establishment of economic growth and economic development, but also their mutual influence that moves forward both economic and social system due to synergy effect. On the one hand, material resources were allocated for various technological innovations, which, in turn, allowed achieving of better production results. The process begins with the cultivation of agriculture that provides some economic growth in form of achieving product from related activities. The invention of the plow and other means of cultivation (in Mesopotamia, Central Asia areas) caused the transition to a more productive agriculture, in other words - intensification of economic growth through economic development. Upgrading work equipment, extension of animal husbandry and so on caused even greater intensity of development, reflected in strong economic growth, which in turn, provides resources for new technological achievements – the promotion of irrigation systems, collective methods of cultivation etc. In some time interval, described above is typical for the period about 2 thousand years BC, and was realized in Ancient Egypt and Mesopotamia.

According to various estimates, the duration of this part of pre-industrial era is much shorter than the previous one because economic & social changes became much dynamic. In our opinion, it is quite possible to link their growing intensity with mutual influence of economic growth and economic development when

quantitative conversion determine qualitative changes, and vice versa, implementation of economic development provides growth being realized in another environment. As proved above, it causes different intensity of social progress.

Having explored new phase of economic and society's development - industrial society and related machine-industrial principle, we could admit that the most significant GDP growth (what means economic growth) and early start of the industrial revolution (economic development) occurs precisely in those regions that accumulated required resources at the final stages of previous production principles. The essence of the industrial revolution – a catalyst of rapid economic development – is the large-scale replacement of manual labor by machines, so that the dominant principle of production, which is key to the study of the cross impact of economic growth and economic development can be defined as machine-industrial. Massive use of various machines and mechanisms is what distinguishes economic development at this stage – while technique is not used at all under the conditions of hunt-gathering principle and acted only as a supplement to some operations in agrarian-handicraft principle, starting from the beginning of the industrial age, it becomes main attribute of economic activity.

As we know, the main purpose of various techniques is to improve general efficiency and productivity, as well as more efficient use of natural resources. Accordingly, its task in economic sense is accelerating of economic development. Such technological advances as the invention of mining hoist, drilling machine, various tools in the XV century (Melnyk, 2004: p. 62) have replaced the labor of tens of thousands of people and made it more efficient, which exactly defines economic development.

It is clear that early stages of machine-industrial production principle are associated with rapid economic development. In particular, the first phase of qualitative changes was the transition to the primitive industry in the form of various types of factories, various mechanisms, improvement of maritime transport, and the second one - industrial revolution associated with the use of machines based on steam engines (Melnyk, 2004: pp.17-18). Obviously, result of the mutual influence causes more productive growth, which is resulted finally in the industrial revolution. Formation and development of machine-industrial production principle is carried out in conjunction with the development of commodity-money relations. These economic forms contributed to unprecedented high rates of productive forces growth and deep changes in the structure of the economic system.

The most significant increase of GDP level, what defines economic growth, can be noted in countries like Netherlands and England, being considered as the

pioneers of the industrial revolution. Among the advanced technical and economic changes that characterize the economic development in these countries we can additionally admit rapid development of transportation (including shipbuilding) and trade, as well as implementation of a number of technical and technological innovations that have contributed to rapid growth of labor productivity and GDP. However, a new phenomenon has not become systematic at the vast part of European continent. This causes different levels of economic and society's development between different countries, sometimes even close neighbors. Differences in economic growth determine the orientation of the workforce to markets with better wages; however differences in economic development force governments of less developed countries to seek more effective ways to achieve a high level of production and general optimization of production process.

The distinctive feature of machine-industrial production principle at later stages is the spreading of new types of economic activities and intensive replacement of handicraft by industry on the greater part of Western Europe. The most important achievements that characterize economic development at this stage are associated with borrowed British innovations being expanded on the rest of the continent which contributed to strong economic growth at the first half of XVII - XVIII centuries. Strong economic growth, in turn, had formed required resources and investments for future development. The beginning of XIX century, therefore, is the height of industrial era development. However, growth at this time had slowed down for a little. This can be explained by the transition of economic growth rates to a more stable phase, in contrast to abrupt transformation at earlier stages.

In general, economic development, having converted industrial era to its maturity, provides a qualitatively new growth - not based on manual labor and use of primitive mechanisms, but on complex machines, some of which are used nowadays. Even at the stage of industrial development, economic progress can no longer be imagined without mutual influence of economic growth and economic development, while members of pre-industrial societies got along without it. Perhaps, it had sense for undeveloped society, where living standard are very low, and progressive changes had occurred over tens and hundreds of thousands years. It goes without saying that such a development is unsuitable for a society with newer, modern post-industrial mindset, where personal and social development, in contrast to simple survival, is the main purpose of existence.

As mentioned above, post-industrial society can be defined as a modern social system where the priority in economic system have primarily switched from producing goods to services, researches, education and life quality improvement, where a class of technicians has become the leading professional group and development and growth are implemented on the basis of innovations and

theoretical knowledge. It can be noted that despite the prevalence of social factors, economic growth and economic development still keep close mutual influence and influence on general economic & social situation.

The historical dialectic of these processes in the new environment is directed towards their effective combination to provide a new level of society well-being. In our opinion, one of the main characteristic features of this development stage is increased complexity of economic growth and economic development, which are adapted to the changing environment of human activity. In particular, in terms of post-industrial society, economic growth, describing quantitative results of economic system, is expected not only to satisfy basic needs, but also wide range of needs related to self-realization and internal development of individuals. In turn, economic development, identifying qualitative changes, also acquire new content under the conditions of radical social changes, becoming more complex. Transformations of fundamental macroeconomic processes become especially visible during modern update of post-industrial society, when the main sphere of human activity is not just immaterial sphere, but its informational and innovative environment. Additionally, human needs are not determined simply by getting services but specific informational products.

However, it should be noted also with reference to mutual influence of both processes that in this new environment it becomes a set of not only economic, but also social components. Emphasizing the development on the last stages of pre-industrial era, we admitted its low social effect, because the significant economic achievements are linked with underdeveloped public institutions, low average life expectancy, forced labor, and social inequality. This phenomenon, of course, is unacceptable for a new philosophy of post-industrial development, respectively, growth and development should have much expressed social complexion.

This approach to economic growth and economic development and their mutual influence, being based on the comparative method of the research, defines its essential difference under the conditions of post-industrial society. At the same time, this is important not only within a single pre-industrial, industrial or post-industrial era. We believe that mutual influence of economic growth and economic development obtains fundamental meaning while transition from one system to another and escalating of dialectical contradictions between growth and development, social and economic situation in general. The development of any system up to now would be not realized without mutual influence of economic growth and economic development, because of the controversy driven system development. The general recommendation is that this dialectic is a natural and unconditional phenomenon, and must always be resolved in order to meet the growing needs of that system that actually led to this contradiction. Naturally,

dialectical nature of economic growth and economic development mutual influence in post-industrial society acquire more complex form. Accordingly, it is important to define its further prospects within modernized socio-economic structure.

5. Prospects of mutual influence of economic growth and economic development in post-industrial society

Discussion about economic growth and economic development as balance of quantitative and qualitative parameters of society's development in the new socio-economic conditions of post-industrial society is a subject of particular importance. Under the conditions of the post-industrial research paradigm object of related analysis is a new socio-economic society structure, which is based on the intellectualization, humanization and informatization. Hence, the study of economic growth and economic development should be based on the transition mostly from quantitative to qualitative indicators. Most effective growth and development combination may imply zero growth and advanced development. One of the significant achievements of the post-industrial countries is solving of general dialectics of growth and development, for example, in cases where there is a lack of resources (material implementation of growth), financial support is carried out by the state. On the other hand, the level of development has reached a stage where private businesses also actively participate in entire innovation process (therefore, generate economic growth).

Important role of both economic growth and economic development in society's development generally makes it possible to integrate described concepts in the post-industrial research paradigm. This combination of techniques allows us to consider the economic and general social transformation processes in their interaction and impact on quantitative and qualitative changes that occur in certain countries. Taking into account the importance of the economic component, the comprehensive study complements the general knowledge of post-industrial development, which general trend of historical and logical methodology can be supplemented by neoclassical and neo-Keynesian pragmatic concepts of economic growth, abstract study of economic development and so on. For example, the official international statistics refers post-industrial countries including those that have a predominance of the services over industrial production and agriculture in GDP. Extended research methodology should include to distinctive features of post-industrial economies not only dominance of services but other characteristics such as the proportion of high-tech industries in general production structure, indicators of science and higher education development, the spread of information technologies and technical equipment into economy, trade, tourism and recreation

activities and so on. Given that general pattern of structural change is a decrease of raw material industries share as well as material production and agriculture, mentioned industries should maintain good performance and ensure physical increment (economic growth), which is the basis of progressive structural changes (economic development). In developed post-industrial countries production remains an important sector of economy and provides a high level of technological development of related systems. It is where latest achievements of scientific-technological progress are primarily accumulated which allow to build a highly diversified economy that focuses on latest scientific and technical elaborations.

Finally, despite critical importance of the economic system for social evolution in XXI century, we should appreciate social transformations also playing very important role in practice. The fundamental basis of differentiation for society types (even highly developed in general case) are mental and cultural factors. The formation of various post-industrial societies is based on their features expressed in the historic mission of religion, which formed unique social values and regulated its compliance. Thus, the economic and social structure of developed western countries such as USA, Canada, UK, Germany, Sweden etc. is based on Protestantism that preaches such human values as freedom of action and personal responsibility for actions, respecting the law and favouring of scientific knowledge. However, the formation of Japanese society is based on Shintoism, which preaches the harmony between man and nature (which facilitated the solution of environmental problems), proclaims respect to the man (which contributed to the formation of tolerant forms of interaction in the community).

At the same time, the limitations of personal desires, obedience to management and general discipline as important Buddhist religious values can be detected in use by Japanese government while post-war reconstruction and implementation of the post-war economic miracle (Grytsenko et al., 2008: p. 174). This clearly needs to be taken into account, as for example, projects for economic development, requiring resources that can reduce social welfare, in some societies (accustomed to high levels of the welfare) will inevitably cause a negative reaction. We can conclude that the coordination of particular differences and general civilization trends is an important task of strategic management, either in this concrete case, or in general, what concerns challenges for mutual influence of economic growth and economic development in post-industrial society. Economic transformation, that at macro level are detected in the balance of quantitative and qualitative transformations, should be carried out in accordance with national particular features.

6. Conclusions

Investigation of economic growth and economic development as a justification of quantitative and qualitative changes at the macroeconomic level determines their mutual influence as an important factor of economic and social transformations. Economic growth being defined as a process that reflects quantitative changes in the economic system is a basis for qualitative structural transformation, the implementation of which is actually economic development. However, our study also drew attention to the reverse impact of qualitative and quantitative changes, as economic development, expanding productive capacity of society, improve efficiency of resource use, as well as new methods of organization and implementation of the production process that ultimately leads to economic growth on a new material and technological base. It is reflected in dialectical form of relationship between mentioned processes, as one the one hand, they have fundamental distinction as different levels of economic transformations, and on the other hand, keep unity and close mutual influence. Resolving of constant contradictions (common for economic growth and development) is a fundamental condition of continuous changes towards new stages of society's development.

The study of society's development in pre-industrial, industrial and post-industrial societies show its progress being closely connected with the mutual influence of economic growth and economic development. Pre-industrial era is characterized by slow economic growth and development, which causes poor mutual influence of these processes (as well as poor social contribution of economic system). At the same time, its growing intensity in industrial era causes visible intensification of economic and social activity. Moreover, most significant growth at the beginning of industrial revolution occurs precisely in countries that accumulated enough resources at the final stages of previous era and related production principles. It proves the fact that economic development requires preliminary saturation with capital, accumulated by prior economic growth. However, mutual influence of these processes becomes extremely important while transition from one era to another while escalating of dialectical contradiction between growth and development, social and economic state and so on.

The formation of post-industrial system that developed either on the basis of quantitative economic performance, or on qualitative structural changes, is the result of evolution over the entire economic history. Establishment of effective mutual influence of economic growth and economic development at the current stage is also particularly important and requires consideration of a number of non-economic factors. Balancing between quantitative and qualitative transformations can be defined as essential element of practical social and economic strategies at the different types of economic systems and should be also coordinated with national particular characteristics.

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