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IDENTITY OF INFORMATIONAL SOCIETY: PROBLEMS OF REALISATION

Monography

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Identity of informational society: problems of realisation.

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The development of modern information sphere, based on implementation of digital information technologies creates a unique environment with increasing volumes of excess information. Such volumes put an increasing pressure on the nervous system, intellectual activity of a human. A human has to adapt to a qualititavely new information environment. The creative potential, instruments for information processes management, including librarian processes, have to be implemented carefully. Such an approach allows to achieve the most efficient information resoucres utilization for development of society.

Further study on this problem gives more prospects for library institutions work improvement under global informatisation.

The monography is targeted at scientific workers, students studying appropriate disciplines in higher education institutions, informational workers, and a wide range of readers.

KEY INDICATORS

DB — databases

SIR — state information resources

EU — European Union

SID — state information datbase

MCM — mass communication means

IAS — information analytical structures

ICT — information communication technologies

IP — інформаційні ресурси

K — society — knowledge society

VNLU — V. I. Vernadskyi National Library of Ukraine of NAS of Ukraine

NLL — National law library

UN — United Nations

SIAZ — Service information and analytical support of public authorities

SID — social information databases

SN — social networks

PUF — Presidents of Ukraine Foundation

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FOREWORD

All of the human history revolves around the human societies standing up to challenges of the environment and intersocietal influence of one societal subjects on another ones, or on all others. Such influence show different sides of the multifacetedness of human nature and have most various manifestations, from transformative to militarian, from mundane to high, creative, scientific and religious. Such influences has been based on the informational basis of each type of activity on all the stages of societal development. Its functional purpose is in outlining the goal, forming of certain ideas, action plans, in predicting possible intermediate results which facilitate the successful goal achievement and its analysis. Although in different ways, but this informational component of societal influence targets, as a rule, not only subjects but also the part of people who are both directly and indirectly belong to objects of influence. With the acceleration of the pace of social life, with the scientific technical progress, the societal influence gains global meaning, and touches wider sphere of societal interests, turns into mutual influence, and its meaning in all spheres of human activity grows. Informational embrace facilitates formation of the unified social organism with globalistic features, which is able to effectively unite the efforts for effective response to the hardest challenges of modern day.

Under such conditions socially important information circulation gets intensive on the civilization scale. The global informational space is being developed. Its relatively independent meaning has more and more influence on people's lives, reflecting processes and contradictions of the interglobal integration.

With development of digital information technology, the revolutionary feature of the modern age, second half of XX century and the beginning of XXI are characterised with the rapid increase of globalisation. Its influence is more and more noticeable on economy,

politics, cultural sphere, and it is based on the sharp increase of information production, development of scientific information, which is the most high-quality informational resources today. It is of special importance under condition of rapid global changes, as it is this resource that gains utmost importance for the humanity and is the chief argument before modern challenges; it is the prospective factor of further societal development.

Globalization, caused by development of information processes, accelerates transformation of society, it contributes to realisation of creative potential of more people for highly productive work, its intellectual meaning, adoption of best ways to change or development of new technological variants, in the information production itself including.

It is worth mentioning that increasing of global influence is a natural consequence of certain intersocietal processes on the quality societal transformation, which provides the increasing of internal potential for development as well as according informational equipment. This equipment facilitates the improvement of coordination, more effective usage and development of social structure of the society for finding solutions of global tasks. As a result, today our civilisation and its major constituents (states, nations, intranational unions, etc.) are the complex dynamic social systems with the web of vertical and horizontal informational, and under their influence, other social connections with each other and the environment.

The corresponding informational centers more and more often are included into the system databases, and with time form the librarian, archival and other cultural-educational institutions, special analytical structures, such as american "thought labs", etc. Today digital information technologies became the unifying technology for the whole system of informational centers. The energy level of such connections is characterised by the scope and intensity of information exchange. Their increasing importance has became the reason for recognising modern postindustrial level of society development as informational. Because of that, the gist of informational processes, problems of their management has become the center of attention of modern day.

Chapter I

INFORMATIONAL MECHANISMS OF HUMAN DEVELOPMENT

1.1. Information in development of a social human

Adaptation capabilities of the human civilization for changes of existence comparing to other known biological species are simply exceptional. This is the case due to the fact that all other species react to outer influence only with the biological evolution. And only the evolution is the condition for development of other species. In the plantage and animal worlds the viability of species is tied to the speed of, for example, climate changes and the matching pace of the biological evolution of a species. Thus, most of warmth-loving animals of before the ice age hadn't had enough time to evolve for the ice age that had upturned their cozy little world, and thus had disappeared forever. At the same time, according to the paleontologist J. William Schopf of California University, in the deep rocks of Western Australia, there has been discovered an organism that hasn't evolved in 2 mln years. The secret of this phenomena the researches explain in the unique stability of the environment in this particular part of the world ocean. There had never been need for evolution within its invisible borders.

Biological species Homo Sapiens, similarly to other species, is in mutual relationship with the environment. Other species' survival in their next incarnation depends on the favourable factors and the ability to adapt for the changes. However, in comparison with other representatives of biological world, the human has not only the biological processes for adaptation for its fight for existence (development of straight spine, improvement of the hand structure, etc.), the human also has other means. Such means, more or less, are being developed in the embryonic state, but they had no place in the evolution plan for the closest relations to Homo Sapiens in the animal world.

It should be noted that those features arise from the natural properties of our world. As has been rightfully noted in one of the researches, "any process of self-organisation can realise only those potential abilities, that the Nature has already planned. With the beginning of such a process, the continuous improvement of its details is underway… The complication of the system organisation of our world means, in essence, the deeper usage of potential abilities of Nature, of everything that is hidden and safekept within us when the Universe was born" [2].

The important factor of human affirmation in the nature environment, which constantly changes, is the consistent succession of the acquired properties not only on the genetic level changes, but also on the intra-generational passing of acquired skills, the first manifestation of the communal experience, the beginning of knowledge as it is, which are associated with work and which are expressed in development of a sign system for information. At first all the methods for increasing physical stats in order to adjust the existing world for the human organism needs, skills of primary labour, purposeful (efficient) human activity, targeted at modification and adaptation of nature objects for satisfaction of own needs [3], had been transmitted as movement imitation, primitive symbolical activity, with some vocal accompaniment.

Immanuel Kant stated that there is no such thing as "human nature", as the human is an unfinished projects and doesn't have inbuilt instincts. Communication norms, traditional values are developed as a result of social life and are passed from generation to generation as tradition [4]. If all other biological species in their fight for existence combine the abilities of biological evolution and the current level of social psychological reactionary abilities on manifestations of surrounding processes significantly increases. Bar for the existing mechanism of biological adaptation to the changes of surrounding world, which is more or less present in all of biological species, in its development process *it is the human that gains more and more experience in adapting the very environment to own needs.*

According to all the known established conclusions, it was the first production of labour tools that has kick-started the labour itself,

which in turn has created Homo Sapiens. The labour has become the first basing condition of human life, that chief feature, which distinguished the prehistoric human from the animal realm and gave it relative power over it, which in closer scrutiny, has given new challenges and responsibility.

Also a very important factor was that "…development of necessary labour contributed to closer relationship of community members, as thanks to people started to support each other more, started to work together more, and the usefulness of such group work became apparent for each separate member. In short, during the process of their development, the humans has come to realisation that they have the need to say things to each other" [5]. Yet, itis worth mentioning that before satisfying the need to "say things", the human had to know things. And even primitive knowledge arise with the need to do something on your own, in other words, it consciously precedes the action. Thus, in common work the experience exchange is being conducted.

Yet, the sound communication of proto humans in complex with labour improvement, with increasing of their transformative work, has been developing significantly different from sound communication in animal kingdom. Sounds, that gradually transformed into words, into human language, not only signified the signs for reflex system, but also carried more information about surrounding world for appropriate reaction.

It is important to note that the "language core," according to famous English philosopher Bertrand Russell, "is not in utilization of any communication means, buti n utilization of fixed associations… as in if something significant — a said word, a painting, a gesture, anything, can evoke certain "image" about something else. When this happens, then the felt may be called a "sign" or "symbol", and what evokes in your mind — "meaning" [6].

In comparison with animals, the human has reached a whole new level in communication. Respectively, the need has manifested in a new organ: the undeveloped larynx of a monkey slowly but steadily developed from modulation to a better modulation, and mouth organs slowly learnt to pronounce an articulated sound after articulated sound.

In addition the ability of a human for planning attracts attention as well, which has been developing pretty gradually until the novel unique mechanism which allowed to perform similar planning in a principally different from the animals, but in a very effective way. Such a mechanism was the language [7].

According to the famous French linguist Émile Benveniste the language form is not only the means for thought transmission, but chiefly the means of its realisation. The thought is comprehended with established language frames [8]. It is possible to agree with such idea in a sense that such frames cover a well-formulated part of the action oriented generalization. Beyond such frames are the intuitive and various other factors of motivation, which with the development of modern society will gain more and more importance. Also it is possible to say that the process of biological socialisation that is typical for animal kingdom, has improved as a social process due to such a quality leap in development of a protohuman. The new level of behavioural patterns, learning and labour activity, learning by each member of the society the common characteristics settings, values, which together provide the full becoming of a member of a society, is based on all of the experience of animal socialisation and accomplishes the quality leap in the development.

Next level is drastically different from the animal one with its effective transformative work, constant perturbation of system of internal relations, development of members' of society skills on exploration of surrounding reality, the ability to foresee its changes and to react accordingly. That, in turn, became the important stimulus for developing the formation process for a social community. Speaking of the importance of uniting people by common interests, Nikita Moiseyev has noted that people "people put an example of organisational forms that cannot appear and cannot exist without socially organised form of a memory, as such cooperative structures have heredity and are able to develop, and genetical memory cannot inherit them" [9].

The development of abstract thinking in proto humans has provided favourable conditions for memorising learnt knowledges on the fir for it material basis. Today archeology has substantial life records of

lives of ancient humans, made on flat surfaces of stone, of birch bark, papyrus, parchment. On clay tablets and various other information carriers there are depictions of the most important for the human objects of surrounding world and of the meaning of their own work — the first attempts at writing language, of first attempts at preserving information. Invention of writing is an important milestone human socialisation development, of hereditary nature of life experience of generations, which has become an important condition for viability of humanity.

Thus, with seemingly equal conditions for survival in wildlife world, the human has developed a unique aspiration to evolve, experience compilation, adaptation comprehension of natural environment, implementation for such adaptation of certain instruments and improval of social organisation, namely actions, oriented for future rather than urgent, temporal needs.

One of the defining features of human communities on all the development steps is the search for new opportunities of self-support, for new ways of environment transformation and manipulation to suit own needs, even under the accepted living conditions, needs further explanation.

The need for such explanation is dictated not only with abstract scientific interest. It is dictated also by the recent necessity for studying adaptive mechanisms of homo sapiens, starting with distinguishing from the animal kingdom, with certain traits exhibition and later full or partial loss of some of those (for example, intuition) that had been useful on a certain step, but useful nowadays, in the world of developing informational society. However, the level of scientific researches of today makes it possible to state the difference only of certain features between humans and the coexisting animals. Some topical hypotheses make assumptions that biological species Homo is much older than other known species, for some reason or another. During its evolution it has gone through long favourable for its existence periods of time, which had offered the opportunity for honing biological and social sophistication, and challenging periods that had facilitated development of current multivarianted reaction of its genome on the conditions of

existence, and of forming effective stimuli for cognitive activities, etc. All of this had given human additional biological resilience.

In general, this problem requires further study. As an axiom it is possible to state only that a human has features that put it several step above the animal kingdom. It is supported with centuries long history of development of human society, its uncontested competitiveness in comparison with the animal world.

"The individual has the infinite value" [10], "A human …is spirit" [11], "Human, the end consciousness…" [12], Hegel had stated. In his methodology the human is intimately connected with the Absolute and the world. The whole world turns into the modifications of a human "I"; on another hand, that very same "I" is only one of modi of the Absolute, the spirit that is changing itself in space and time.

The human that is interconnected with the world is just as internally deep and diverse as is the world itself. That is why Hegelian anthropology is a sort of an entity with endless circumference: all of the various incarnations of a spirit are the living particles, which present nature of a human being and its states of existence in various way.

In many ways, Hegel had rethought the very concept of a human individual in comparison with the prior understanding of philosophy. He had started considering a human as a multileveled being, as a complex social natural, and at the same time, absolute phenomenon, in which various layers of self-determination have met [13].

In human socialization such sum of determinations is manifested through various types of social activities in economic, political, cultural, etc. spheres, based on implementation of the acquired through social practice information foundations. Those types of activity are the mechanism of inclusion of a human in the system of social relationship and mastering of further social cultural experience. It is language that is the means of transferring the reflected in existing information resources experience, as well as all of presented in society systems for communicative mechanisms and the object results of human activity.

The human who had left behind animal kingdom through means of work and who now is developing in the society, who engages in communication with other people through language, acquires personality

characteristics, which are manifested in learning, transforming and predicative processes.

The evolution follows the merciless logic of adaptation, and as a result the organisms find themselves adapted to their environment.

Speaking as a whole, the biological mechanisms of human social communication, seemingly not too different from animal ones on the surface, at the very dawn of human history had gained a number of significant changes that later became factors for significant human superiority over the animal world in the end.

First, except for development of speech apparatus, human brain, developing its resources in a more complex work activity better than the animal one remembered the necessary reaction of the organism on the rapidly moving changes in everyday life, in environment. the collective memory of humans was more efficient than that one of animals, providing longer longevity. At the same time, respective biological mechanisms in animals are improved under the influence of development of reflexes system furthermore, conditioned and unconditioned reflexes. Their conditioning in animal behaviour takes much longer period of time and cannot reflect well enough the complicated perceptions of objects and processes around the world. Animal communication through sound signals, change of behaviour, etc. also doesn't allow to make proper access.

Second, human brain during its improvement has developed the ability to continuously memorize more and more information. Such an attribute is very important at teaching new generations of people, who, in order to face new, harder conditions, had to master the experience of previous generations, the experience that was impossible to preserve through the biological mechanisms of heredity. Improvement of memory, the need in transferring of all known to human knowledge to the descendants, contributed increasing of socially useful life of people even after they would be off the prime physical condition. Such people would be able to remain useful for the community, embracing the role of memory keepers, teachers.

Third, human's developed brain facilitates its further improvement. The human starts to consciously improve own actions, actions

in the community. Such recurring collective actions become acquisition of experience and are handed down generations, gradually becoming symbolic, slowly turning into festive ceremonies, the beginnings of various arts and crafts, that arouse and develop emotional sphere, cause collective emotions, and become a school of sorts for social and emotional self-education, while humans continue to self-improve in various types of activity, basing on the experience they already have [14].

Fourth, human improves the ability to study — certain preparation for future life situations, based on studying the available social experience, reflection in knowledges, and training the emotional system through mastering the art of information.

These qualities make it possible, with help of implementation of socially important information, that reflects the experience of the commonly used for a given human communal labor, in a way neutralising negative factors of existing, transforming the environment, improve societal social organism for the adequate reaction for new and new challenges. Providing of such adequacy, in turn, is determined by the development of an appropriate information resource.

In different time periods of humanity storing of information was at first conducted in the memory and was transmitted through oral tradition. "Language and communication had already served primitive tribes fully. For dozens of thousands of years people attempted to find in sound and visual metaphor means to express their thoughts, sometimes infinitely complicated and confusing" [15]. Slowly oral tradition had been enriched with gestures, various symbolic actions, that helped to transmit the meaning of real processes of life. the attempts had been conducted at transferring the necessary for success emotional state. In order to achieve such result, such means were used as: music, dances, singing, dressing up, into animal skins included, in imitating and imagining supernatural beings.

Respectively, the existing at the times informational resource, the information of social nature, had found itself being imprinted on physical carrieres: on stone, on clay tablets, on papyrus, on parchment, on wooden planks, on a birch bark, etc. Although storage centers for

such information, proto libraries, had been sparse and the access to written information had been restricted by clan prohibitions.

It is important to mention that social information undergoing improvement gains more and more influence on the process of human viability. Whilst for an animal any kind of influence from surrounding world is primarily the stimulus for reflex actions and the reflexive qualities are inherited between generations, and although the human reacting on influencing of reality is the system of reflexes plays a certain role, but the chief role in motivation of a certain behavioural reaction plays the analysis of received data from the environment.

Various types of social activity in which the individual engages are the mechanism of further development of social cultural experience, of engaging the individual into the system of social relations and assimilation. The means for the experience transference are informational processes in lingual, textual reflexion, in digital and other resources and objectioned results of human activity. One of such objectioning forms attracted attention of Nikita Moiseyev, who has noted that "we face a peculiar occurrence: the knowledges are being stockpiled. They hone our intuition, contributing to the phenomenon of discovery, generating spontaneous leaps in our understanding of the surrounding world" [16].

It should be noted that the activation of scientific exchange in all the spheres of human activity, the increasing importance of updating information resources as a factor of innovation development, what will be discussed further, has caused a growing number of definitions of the concept of information in various spheres of human activity. One of such definitions, related to the sphere of learning, sphere of reacting on the triggers of environment on the human, is the idea about information "as a perfect reflection in the minds of a person important for them signs of material objects and phenomena, conjugation of perfect ideas based on it, which becomes the guiding signs for motivation of existence and development" [17].

Such definition, as are others, reflecting one or another essential characteristics of the phenomenon [18], emphasizes the synthesis of similar phenomena in the available social information, generalizes the practice of their perception not only of individuals, not only by a certain

community of people, but also, in a major part of the cases, a mixture of various representations of experience of previous generations. The human has mastered the ability to store information on physical carriers and, thus, accumulate the life experience of generations.

Thereby, the efficient informational resources has become an an important component of affirmation of the human, of human society as a dominant biological species in modern reality, that significant force in the global dimension that has the duty to preserve the viability of the planet.

One of the most pressing intercivilization problems that arise as a result of human factor, is the problem of overpopulation, environmental and man-made hazards that had resulted from human activity, wars, unchecked immigration of suffering people, ineffective production, the backwards social structure of society, etc.

The scale of threatening for humanity problems at the present stage of its development needs not only the unification of local people, but consolidation of civilization efforts for their neutralization. And for such necessary call for consolidation the modern civilization reacts with the intensifying of globalization processes, which in turn, is based on global informatisation, improvement of information exchanges in the system of social structures of modern society. The former became possible only on the postindustrial level of development of humanity on a current level of scientific and technological progress, with the mass implementation of digital information technology.

In this regard, it is worth mentioning the pequliar hypotheses of Natalia Bekhtereva on the mechanisms of development of scientific and technological revolution. Amongst other things she stated that "The bigger number of novelties, the more times per short period of time the brain 'marvels' at them, the more information the sensor inputs receive, the faster a child brain develops, the better the potential of human brain is realised, the more opportunities it has. It is possible to say that it isn't an overestimation that the scientific and technological revolution of today is the result of collaboration between the positive feedback of a collective human brain and the environment, which in turn is being changed by this collective brain. Thus, on one hand, the

scientific and technological progress is the acceptance of the individual decisions, on another it is the mass increasing oh humanity abilities, mass generation, collision, co enrichment of ideas. Somewhere along the lines we have crossed the last level before the general activation of the collective human brain, after which the big 'bang' in a form of scientific and technological revolution has happened" [19].

In addition, D. Bell noted that: "Information and theoretical knowledge are the core of strategic resources of a post-industrial society. Moreover, in its new role those knowledges they represent turning points of modern history.

The first turning point — the change of nature of science itself. The science as 'general knowledge' has become the chief productive force of modern society.

The second turning point — the release of technology from its 'imperative' character, almost complete transformation into an obedient tool. Modern technology opens up many alternative ways for achieving unique and various results, and as a result the production of material goods increases. Such are the prospects, but the question is how to realise them" [20].

Having become the most productive instrument of all known instruments for implementation into practice the necessary informational resources and technologically being the closest to brain activity in information processing, had activated and accelerated the process of production of material and spiritual goods, contributed to the rise to the requirements of the present evolution of the human, discovering human potential and skills, had facilitated the development of new and new social communities.

At the same time, the members of society, of every social community in general, unlike from not-far past, in accordance with the needs of modern time activate the sphere of their infoartistry in the direction of professional and civic activity, as well as in all other directions of a person's development in the informational society. The defining feature and a prerequisite for social progress is the development of infoartistry processes, the growing attention to the studying of information resources, their productive usage.

The development of new information and communication technologies today has provided the access to informational resources of all categories of citizens of our country, opened new opportunities and became an impetus for the growth of social activity of members of society, for development of all spheres of public life, its socio-communicative properties and structures. Such a process, contributing to the manifestations of creative potential of people, provides the ever growing the viability of the social structures itself and the necessary adequate response of modern society to the whole complex of challenges that arise today. It is important to note that activation of the process of information circulation in society, increasing demands for its usage in all spheres of public life are also conditioned by the objective processes of librarian institutions transformations as storage for storage and organization of the information resources usage in a new institutional quality, in spreading "information on information", social orientation in the rapidly growing volumes of information, in efficient management of such a resource. In development of modern librarian work such activities gain major importance as improvement of information function of libraries, transformation into information-analytical with the development of own products for traditional, in reading halls, and removed, through internet, use.

1.2. The evolution of informational processes as a source for social changes

Studying socially useful work as purposed human activity, targeted on the transformation and adaptation of objects of nature to meet their needs, on the current level of research it is obvious it is necessary to emphasize the circumstance which previously hadn't been taken into account in the process on the sufficient level. It is a two-way concept of activity, its understanding by the executant and based on such understanding the execution of the operations complex, which in itself is the execution of the planned work. It is important to note that during all periods of human development the information has always been "an integral part of basic work

activity, survival and self-improvement of humanity, and has always been a global factor for intersystemanic balance in economical and ecological complex" [21].

In the context of development of representations on the informational and physical components of labor, on the consideration of information components in the aggregate of information, that immediately directs action, and indirect, analytical, scientific oral activity and in its approach of the practical social activity it transforms the understanding on activity as oral. In such case the oral activity is the source for human development, and of course under the influence of the realities of the surrounding world. The special meaning of artistic activity as a fundamental factor of spiritual upbringing, evolutionary development of a human is described in the philosophical system of Alive Ethics. It states, amongst other things, that "We can value an inventor's work on a global dimension in understanding of global evolution… New consciousness supported by technology, would give the powerful thirst for knowledge. It is the community that has to be the most sensitive device evolutionary. In such a conscious community nobody would be able to preach about the established world experience" [22].

Up until recently the informational activity was barely counted as a component of activity due to the fact that the structure of human activity the artistry, which included updating the information component, didn't take a major place. Technologies, specific skills for performing the necessary work had been transmitted between generations at the level of motion imitation or repeating of certain processes without substantially updating their content. And, thus, the process of development of technologies used to often be distanced from certain executors, and would lose their subjective importance of collaborating in the work process.

The situation has changed with the acceleration of evolution of the environment, which in turn, calls for acceleration of reaction to threats and dangers. In addition, the increasing population and, respectively, increasing volumes of products necessary for life, exhaustion of the resources that human could use with low level of recycling, all of

this has has led to the necessity for an ever deeper penetration into the system of connections of the material world, of upgrading the technology of transformative activity. M. V. Moiseyev has noted on this subject: "The nature activates new and new principles of selection from its arsenal… The more complex organisation of our world means the deeper usage of the potential of Nature, of everything that she has stored when she created Universe" [23].

All of these processes cause the need of enhanced reacting on the increasing number of challenges that raise before humans and need the efficient reaction; provision of adequate information activities. This activity, in fact is approaching the practical transformative work of society. The scope of important for viability of informational society increase and it becomes more helpful in the mind.

The realisation of evolutionary patterns of informational sphere of the common development is related to the organisational and technological changes in the work sphere, increasing of the transformative work of people in the context of environmental challenges. In post-industrial society space for quality changes of information in societal development appears. John Naisbitt noted that "Post-industrial society is the informational society" [24]. In addition, outlining certain characteristic features of such a society, Daniel Bell stated the uncertainty of its envisioning from the point of view of a 20s century researcher. In a way this warning had been confirmed by a figurative statement of the researcher that the society is "based on a 'game between people', where in front of the machine technology, the intellectual technology raises as well, which is based on information" [25]. Despite certain inaccuracy of the statement, as it is virtually impossible to imagine any kind of technology that isn't based on information, the given thesis points onto the increasing value of communication, information exchange on the given level of societal development, on a higher level than that of industrial society with its "machine technologies". This statement conforms with K. Tominaga's [26] opinion that the post-industrial society is a logical development of the industrial society, and in the renewed society it will be the engineers and scientists who hold the crucial position.

Yet, some theorists speculated that the post-industrial economy is based on services. Looking closer at the service sphere it is obvious that most of the workers involved are basically involved in developing, processing and distribution of information. The so called service sector without the workers of information sphere, starting in 50s, at all times takes up only 11–12% of all the workforce [27].

The objective need for development of scientific and engineering-technical activities, as well as the management and humanitarian work, had been confirmed with the following chain of the intersocietal evolution processes. Since scientific, as well as engineering-technical work, in itself is international, the logic of its development, the provision of the required efficiency is linked to the collaborative work of scientific centers, organizational-managerial and engineering-technical spheres on all of the space of civilisational transformations. The development of technical means of the informational sphere today enables the necessary documentation exchange on the global scale. During the process of global informational exchange the system of informational databases for civilizational development and appropriate technologies for informational exchange is defined, common for the process of societal transformations, which together make up the resources of the global information space [28].

During the period of entering the post-industrial informational level of societal development the feature of chief civilisationary processes is a previously unknown activation of two chief interconnected trends of the evolution of information processes. One of them is the increasing of quantity and quality of informational connections of the global significance, which together create conditions for the global information space functioning. German philosopher Otfrid Geffe defines "globalisation" as "increasing and consolidation of the network of world social relations" [29].

Today, entering this network, the information resource of the global informational space, is accessible due to the present technology for all of human communities and separate individuals, and is the base for the increasing unification, the integrity of humankind. it is important to note that the absolution of such tendency development will lead

and already is leading not only to positive factors of informational exchange, but to the wide uncontrolled influence of negative tendencies of globalisation, and one of the major threats is the unification of all human activity spheres.

The other tendency is connected to the transition to the level of development of each of social informational databases into their societal hierarchy, when due to improvement of partnership system with the global informational space and the horizontal connections system, as well as the development of social networks, gain the relative independence, opportunities for self-identification and more active manifestation in the information sphere of activity as an independent subject and object of information influences [30].

It is worth mentioning that on the given level of humankind development the important reserve of increasing the viability of modern civilization becomes meaningful, and it is connected with the process of self-improvement, being on the way of optimizing social organization.

The processes for general public informatisation has drastically increased the structural transformations in the modern socium. They also have become a major catalyst for societal work in informational sphere, in usage of the system of already formed social communications not only as the social instrument for provision of socially significant information of all the elements of the social structure from top to bottom, from organizational and managerial components of society — as the subject of information activity, to each member of society as the object of informational influences, but also in reverse. What happens is the establishing of public information exchanges in the interest of societal existence and development [31].

As a fundamental civilisationary tendency of social development is the improvement of internal unity and management of the social organism, the process of strengthening feedback on the basis of civic initiatives in vertical information exchanges [32] in the process of informatisation development for societal consolidation and efficiency of its functioning increasing. On the current level of informational technologies development not only the problem of lack of information

in all spheres of public life disappears, but also the problem of redundant information arises; the redundant information only complicates the quality of the effective use of information.

It should be noted that the efficiency increasing of the use of digital and most often used information space has started with the sphere of economical communication, the sphere that is chiefly financed with private, mainly foreign investments. This circumstance also explains also the implementation into practice the information exchange of foreign information technologies and major decrease of requests, with the neutral position of Ukrainian state on once leading in the world Ukrainian informational technologies. In accordance with the increasing societal needs, related to the inclusion in the process of informatization of the increasing number of Ukrainian citizens, at first in economical, and then in different spheres of societal work the multifaceted system of electronic information communications develops, including social networks.

1.3. The influence of the informatization process on the creative potential of the person

The solving of tasks of development of modern society requires the activation of the creative potential of society, providing access to available information resources and opportunities of new information development for present day solving problems of present day for each member of society. The importance of this process is supported with the introduction of relevant legislative norms into international and state law [33].

New technological processes in the sphere of informational activity made it possible to expand access to the use of information resources for a wide range of users, contributed to the rapid development of new information development, ensured the development of a global information space. All of this, on one hand, has contributed to the growth of the creative potential of society. On another hand — it has caused an unprecedented rise in information pressure on an average socially active person's consciousness.

Social informatization is a sign of a new stage in the development of civilization, associated with the evolution of a social organism: improvement of social structure, the strengthening of intra-social relations, the need to improve the quality and intensity of information exchanges. Such processes occur under the increasing pressure of negative environmental impacts on civilization. Such pressure needs its development in the direction of formating an integral civilizational organism.

Under the influence of transformative need in accordance with such a tendency in the society, first, the more effective methodology is being developed, more effective in comparison with the past provision of access to information resources available in society for, formally, all the categories of population in all regions of the world. These methodologies meet the necessity for a deeper self-realisation of the members of society as a whole based on learning new organizational, legal and technical and technological solutions related to the information revolution that has been happening in the last few decades, with the development of digital informational technologies.

Second, organisation of access to information resources provides also the opportunity of their active learning and practical use. It is necessary to mention that in comparison with not very remote past, when the information is of best quality, especially scientific, scientific practical, best examples of works of art, etc. was accessible only to the narrow circle of specialists, which only widened slowly with the societal progress, modern information technology have dramatically expanded this access and opportunities of creative use of available information resources. The increasing of opportunities for usage of developed by the society informational resources equals increasing the opportunities for their effective use. The last, in turn, is the evidence of the possibility of progress. It is important to mention that the access to information and opportunities of its usage is an important stimulus for the activating the creative potential of people. And, thus. it is possible to speak about creating conditions for the rapid growth of creative potential of society, as an important argument in relationships with the surrounding reality.

Third, the relationships of the humankind with the surrounding reality need active actions, adequate responses to increasing negative impacts. Active response to the new challenges have to be based on creating new information. And modern informatization opens new opportunities in this process for the growing number of potentially creative people, thus creating more conditions for new information development.

Four, the increasing complexity of task solving by society causes the need for structural improvement of the society, intensification of information servicing of the improved social structure, which is impossible without the development of global informatization.

However it is evident from the societal experience, the revolutionary process of the massive engagement in active information creation, which as been huge even without taking into account the increasing of human population in the recent decades, and it slowly highlights relevant socially important directions for creative information activities and provides better results. Countercurrent process in the development of traditional science in fundamental and applied researches as a whole in turn increases the efficiency of those researches and gives promise of the productive synthesis in the sphere of growth of public creative potential and its its realization in necessary practical activity in the near future.

Thus, the informatization, developing under the influence of the challenges of our time, contributes to the rapid growth of new information production, which, in turn, necessitates improvements in systems of social information communications, of structuring conservation and preparation for the use of information resources, search tools and orientation in large informational masses. From the philosophical point of view, "the emergence of new means of information processing, the invention of new information technology technologies — is a just as logical process of self-organisation of matera as is the creation of life, means for utilizing of Sun energy, development of brain, intellect, etc." [34].

The objective need for dramatic increase in societal information activities under the influence of new challenges of modern life

has led to a growing informational load on the society members, particularly on the socially active part of the society. During the industrial, except for a small amount of devotees of science, leading cultural figures, the creative part of the scientific and technical sphere workers and other small categories of citizens, who constantly dealt with new information, the overwhelming majority of the population of different countries utilised the vital for life information without any updates or any new efforts for learning innovations. The new information resource in the public consciousness was implemented slowly, in accordance with the pace of social development, and in some regions of the world halting for centuries, and didn't cause any great difficulty for learning.

The new informational step for humankind development [35] has introduced several significant differences from previous public practice:

– it has manifested itself in an inextricable connection between globalisation processes of the update rate for socially important informational resources, and was dictated by the informational technologies of the most developed countries;

– the meaning of the information update itself is observed, as noted by D. Bell, the manifestation of the tendency of direct perception, as the initial stage of the objet's studying, to the next steps of studying through empiricism and with stepping up to the abstract theoretical knowledge [36]. Today the prophecy of V. I. Vernadskyi has proved that "scientific thought is one for everyone, and same scientific methodology, one for everyone, now has covered all of humanity, spread over all of it biosphere, turning it into the noosphere. This is a completely novel phenomenon, which gives special attention to science development which we now see before our eyes, the explosion of scientific creativity" [37];

– the vital need for constant learnig of new information with the increasing amount of innovative elements, realisation of which requires ever greater mental effort, constant self-improvement, is proportional to the pace of social transformation, and also the expanding of the memory of the information resource, necessary for practical work, individual development and full-fledged existence. Nikita Moiseyev

states that "the entire process of self-organization of the living world may be explained in the context of the development of memory" [38].

Yet, under conditions of modern informatisation for the human one of the chief problems is rapidly growing amounts of information which requires memorising. As H. Potchepcov states, "it is important to not forget about oversaturation by information of a modern human. As the human physically is just as same as a thousand of years ago, the amount of information has drastically increased" [39]. Although the first half of the thesis on physiological stability of a human being during the millennium is very much disputable, the statement on oversaturation by information isn't. Moreover, the mentioned by the scientist phenomenon of the oversaturation of human consciousness with information in truth influences them even more than the scientists supposes. In this very example, it is about the availability at the disposal of a person of information products of various quality and content, which are to be realised by the human, compared between each other. From amongst them only those that meet the needs for further practical work are to be selected. Thus, the oversaturation by information requires a much greater resource of mental energy for selection and preparation for the use of information than simple memorising of the content.

With development of informational society increases the importance of the information as an important factor of viability, related to the necessity to usage of informational resources for rapid decision-making, oriented on the targeted activity. Actually, the content of a decision made, no matter was it memorised only by a human brain or whether it was written down on a physical carrier, is a new information in action. And this circumstance stimulates the increased attention of a modern human to socially important informational resources. The necessity for making fast decisions based on the new information once more underlines the increased stimulus of humans for information work, to utilizing of such mental potential, which would provide the best results.

In solving individual tasks on socially useful work of separate members of the society, and in intersocietal problems of development

the optimum result ensures the usage of innovative information, based on the most novel achievements of science and its scientific practical reflection. "The source for innovations more and more is the result of researches and prototypes (moreover, the new connections between science and technology appear, based on the central place of theoretical knowledge), the societal progress… is often defined with successes in the field of knowledge" [40]. Moreover, "the innovation is derived from a highly skilled workforce and existence of organisations for knowledge development" [41]. Operating such a resource needs the special training and also creates additional load for the mentality of participant for such activity.

In the process of informatization development outside of the individual labor contribution to the sphere of social work more society members take part in work on innovative information resources of open access, and they have to make decisions, produce new information based on the already existing, take part in creative activity. However, requests that aren't related to the specific needs of the individual, require a higher level of analytical work with information. In the earlier published works it is stated that that the new hierarchy of nations and states in the informational society will be defined by the efficiency of utilization of informational resources and the quality of new information producing, based on its societal usefulness [42].

In such a situation, interpreting an ancient wisdom — "as above as below", the philosophical understanding of correlation of partial and integral properties, it may be theorised that criterion of quality of work of the individual in the information sphere in the process of becoming a new society more and more will be related to its efficiency. Since in the information production the most productive one is creative work, it is the representatives of creative approaches to socially useful work are prognosed to constitute the elite of society. Already, the researches futurists come to the conclusion, that "we can see in developed societies the emergence of a absolutely new inequality — between skilled and unskilled to creative work people… a new biological barrier is emerging, which, unlike the social barrier, is almost impossible to overcome" [43].

The citation quoted reflects the extreme point of view in the problem, exacerbating it to a maximum with a prophecy about presence of "signs of convergence, at least, of practical public opinion towards racism, in fact, the perception of representatives of different civilizations as such, who can not expect for the universal, the same for all the scope of rights" [44]. Yet such an approach seems to be unproductive, even though the increasing demand in society for creative work, the obligatory growth of its prestige will undoubtedly create additional pressure on the mental activity of all layers of society. The unproductivity of such a point of view is associated with the lack of development of new information production in the context of the development of the information society, which is why today social relationships within this society are being misrepresented.

Such prognosi could only be real if the creative work hadn't been interconnected with the needs of social development. Such inequality and even the "biological barrier" are technically possible in some cases. However, the creative individual who is not guided by public interests, would not be using the support of society, material support, moral support, beyond the entertainment, a certain intellectual game, and instead would isolate themselves from them, as well from egoistical interests of similar creative individuals. Moreover, if the products of the work of this creative worker may hard the society, then the society not only can isolate them, but may take measures to ban this area of creative work altogether.

Another substantial argument against the separation with the "biological barrier" of free activity of "the aristocrats of the creative spirit" lies in the fact that the only criterion of reliability in the new information creation is the experience of previous generations of our civilization. Such reliability fully guaranteed to everyone through its previous existence, its successful struggle with trials of the past, that it had to struggle through. Which is why the information bases for the viability of our society is a reliable benchmark for current creative activity. Without this connection, the creative individual may easily lose both the sense of measure (proportionality in the ratio of the source and new material), and the criteria of reliability.

It's important to note that the problem of reliability, being the chief one in the creative work, has another, horizontal, so to speak, measurement. Oleg Bilorus justly noted that "the pace of economic progress depends on the intensity of natural discoveries as sources of formation of the primary-objective information system; the deepest parts of the global information basis of practical activity. The measure of objectivity, relative truth and practical value of any other, already produced information maybe only this, genetically primary and ontologically maximally close to objective processes information as a fundamental natural knowledge of the homo sapiens active, homo sapiens economic " [45].

Thus, discussing the prospects of societal development, the processes of disintegration and integration, the hypothesis about the actual distribution of society by the level of attachment to creative work finds serious counterarguments. Biological differences, present in modern humans and which are related to greater activity of the right or left hemisphere of the human brain in general, work for the effective work of brain activity of people in the complex, for successful production, structuring, organization of use and effective use of information produced by people. And that is why today in this debate a more convincing and reasoned view is that of the development of digital information technology creates "new possibilities of communication between individual organisms, which leads to a new type of connections. Furthermost such organisms provide the production activities of people, and they, of course, possess all the peculiarities of organisms … " [46].

With all this, the problem of increasing the impact of growing amounts of information in the process of information circulation in society is not disputable. The processes of global informatization, influencing states and nations with the corresponding specifics manifest themselves at the level of the entire system of social structures and find their significant reflection in the minds of each individual member of society, each individual.

The lack of preventive measures to neutralize the negative manifestations of such influences leads to the emergence of dangerous

trends, associated with the development of asocial tendencies in the behavior of some people, trained on Internet spaces. Among them are the following:

The tendency to completely fixate the interests of the person on the Internet. Huge arrays of very diverse Internet information today have the opportunity to satisfy the personal interests of a modern person and to satisfy all kinds of cognitive queries; household, entertainment, gaming, etc. Individual satisfaction of information queries can create an illusory sensation in a person acquiring those role functions that are hard to attain, or even impossible altogether, in real life. People, often those not strong willed enough to establish in real life, create for themselves in the information spaces of the Internet the comfortable, interesting, corresponding to their own dreams and fantasies of the world, transferring to it more and more of their own interests from the practice of real social life, get detached from it. This creates the problems of increasing seriousness not only for this particular individual, but also for the members of those real social communities to which they belong: for the family, the colleagues, etc. In addition, the doctors speak more of such tendencies with increasing concern, a deep immersion in the world created by imagination, the increasing duration of human being's stay on Internet creates the dependence on the computer, negatively affects the health, including mental health. This problem has already gained such a social weight, that it has made society organise rehabilitation programs, search for ways to fight the computer addiction, which is already being compared with the drug addiction.

Formation of closed off of public interests internet societies. Creation of such societies is based on the similarity of interpersonal interests, related to the development, expansion of the possibilities of digital information technologies, scientific, cultural, religious studies included, various kinds of creative directions in the information sphere, in the sphere of the reading clubs, gaming preferences, etc. The development of such informal online social structures today, as a rule, is out of major social interest and often the content of their activities also does not contribute to social development.

As Yulia Polovynchak states, today "in Ukraine there is already a community of people, educated, technically 'savvy', generally young and potentially socially active people, who, in spite of everything, choose the Internet as a online territory of internal emigration" [47].

Worth mentioning, that the development of social networks is a significant factor in modifying modern information exchanges, of horizontal communication in interpersonal communication with the means of internet technologies [48]. From the point of improvement of the social structure, this type of communication has both positive and negative aspects. Thus, people build friendly relations on networks, without feeling any kind of boundaries. For example, bloggers traditionally keep in touch with other bloggers they know [49].

One can talk about greater social autonomy of a user online, than in real life. Yet, Internet enables the accumulation of individual experience of using modern information resources in the interests of effective application, which is especially important today, in the period of the formation of social information.

The positive factors of the new communities activities are:

– they enable citizens to effectively exercise their right to participate in the management of public affairs (Article 38 of the Constitution of Ukraine);

– they are capable of influencing civic position on various socially significant issues;

– they can respond promptly to changing political and legal conditions;

– they don't require financing;

– they exist without an administrative vertical [50].

Unfortunately, partial advantages turn into disadvantages for such communities. They are primarily connected through the localization of interests of active members of social networks in information exchanges, topicality, range of interests that are characteristic of such exchanges. This is typical for the initial stage of such information process. At the same time, this isn't enough for the development of general interests in the process of development of the information society. As a matter of fact, that from the state, as a guiding and

coordinating force in the functioning of vertical information flows, doesn't give appropriate attention to the social networks development process. As of today:

    – the presence of Ukrainian state in them is very small;

    – the legal framework lags behind the development of technologies and does not cover new technological methods of using information and technologies;

    – the volume and quality of the produced by state information does not correspond to the scale of filling the social information networks [51].

The actual discrepancy between the real informational manifestation in social networks of citizens users and social institutes creates serious problems in the field of social solidarity. Certain intra-social stratification takes place because the consciousness of some people, especially older people, is not ready for the current intensity of information processes, new forms of information exchanges. It is harder for older people to understand computer technology and modern information technology, they often don't accept internet as a source for reliable information. At the same time, there is a certain intra-social gap in information exchanges between generations. It is important to not underestimate of the social significance of this gap, because it negatively affects the overall national information development, the realization of the creative potential of society, the influence of national information traditions, the carriers of which elder people are, on the information development.

Increasing influence of modern information sphere on consciousness of a human causes the necessity to adapt this consciousness to the challenges, in this case informational, which the human and society as a whole now face. "Individuals and institutions suddenly understand that they have to tackle great variety and rapid changes. Cross-vice pressures threaten to overburden their ability to make decisions. We have only one choice left. We have to rebuild ourselves and our institutions in order to face new realities" [52],— says E. Toffler.

Naturally, that the prospects of being and the development of civilization depend on the success of this adaptation. In the social

practice several directions of such adaptation have already been fully developed.

One of them can be conventionally called biological. Certain convention of this term is explained by social and socio-psychological reasons, under the influence of which it becomes necessary evolution of the human body. The results of research in this direction contradict the somewhat hasty conclusion, that was drawn by Heorhiy Pochetsov, mentioned above. Thus, according to conclusions of Nataliya Bekhterieva, "the results state that the brain develops the pulsed activity of ensembles of neurons, that depends on acoustic features of words, on the frequency of their use and the presence or absence of a suitable basis for long-term memory" [53]. And though this conclusion was drawn on the basis of the analysis of linguistic influence on brain activity, and all of the following practice of implementation of digital information technologies, and research in this field argue that visual information and its increasing volumes in the process of working with a computer to a much greater extent stimulate the biological transformation of a human. The growing importance of digital information in the lives of an increasing number of people, the advantage of this information stimulus over all other stimuli is the reason for increasing changes not only in the organization of brain activity, but also in the rearrangement of the visual apparatus, and eventually the transformation of the entire human body in line with new tasks of existence.

It is important to note, however, that the pace of a biological organism evolution today does not match the pace of scientific and technological progress [54]. Because of that the society uses also other forms of adaptation to modern information processes. One of them is selection and systematization of socially significant resources using computer technology and the improvement of the digital level of social information communications. The practice of working with digital information resources today proves the efficiency of this area of work on the way of developing the specialized digital information databases, based on the basis of computer technology transformations and the use of internet library activity, the development of information

resources catalogues on all types of carriers and efficient search engines, for large information chunks.

Another effective form of adaptation of society to the information realities of the present is cooperation, which further the unification of socially significant development resources, instrumentations for information processing, huge informational masses including, organization of efficient information use: providing the main qualitative indicator of the information society development. Speaking of "intellect of humankind" Nikita Moiseyev predicts the time when "Relationships between people, information exchange between 'local intellects' causes certain process of collective thought process, to the unusual acceleration of knowledge, accumulation and use of knowledge" [55]. The researcher rightly predicts that soon are the times when the network of human intellects, so-called "neurons" of a collective mind, connected through technology, will be the subject of special studies, and maybe even designing of them, since it will open a completely new stage in the knowledge and management of the world [56].

Thus, studying development of civilization informatization on a society, its social components up to a specific person, a primary component of modern humankind, we realise that the regularity of this process in the history of social development, the need for it for a quality breakthrough of civilization in the future. "Exploring the world-system, we come to an understanding, that intellectual activity is determined not only by intellectual or volitional qualities, but by social timeliness — in the world-system sense" [57]. The fate of humankind depends on the responding efficiency to the challenges of this timeliness.

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Chapter II

INTENSIFYING OF INFORMATION EXCHANGES AND THE DADPTIVE PROCESS OF INDIVIDUAL

2.1. National informational space-environment for an individual formation

The development of globalization processes due to implementation digital information technologies ensured the producing of gigantic volumes of information, used for social development. They have already reached that level of influence, that makes it possible, based on modern knowledge, modern humanity's experience to avoid dead ends, prospectless directions of advancement along the path of scientific and technological development and social experiments, that can lead to self-destruction or social degeneration. Such basis produces opportunities for "creative choice of logical ways of change", in a deeper penetration into the surrounding reality [1]. At the same time, according to a number of Ukrainian researchers, "the growth of unity, the integrity of humankind, the assertion of collectivity, as its natural property is one of the main tendencies of the general civilization process" [2]. Technical opportunities of access to global information resources have created a unique socio-psychological situation for a person, associated with the possibility of realizing themselves as active component of human civilization, made it possible to feel as an individual component in the infinite world of information without previously necessary intermediaries.

Already today the inter civilizational bases gives opportunity for global integration of human resources for solving the most important problems of economic, political, social and spiritual development. Global informational databas makes it possible to gain more and

more effectiveness in regulating economic processes in relations between states, interstate unions, economic regions on the planetary scale, creation within the framework of these formations of large economic complexes, specially regulated zones of economic processes, related scheduled interstate migration of labor resources at all levels of qualification, all kinds of goods, financial resources. At the same time, the unprecedented in earlier periods impact of global information resources on the process of convergence of internal economic conditions in different countries is taking place [3].

The development in the structure of Internet resources of increasing amounts of scientific information is important all on itself for the environment of informational exchanges. And even though such information today isn't reflected enough on the proportions of multipurposed information resources on the Internet, it is the development of such process of manifestation of scientific, higher content than all other types of information, it is the growing influence of the utilized informative resources becomes an essential lever to increase the value and effectiveness of scientific activity, activation of innovative processes in society.

As Hennadiy Boriak states, after analysing the reflection of the humanitarian component of the scientific segment on the Internet, such component "is not only an important communication mean of a modern academic environment, but a serious a tool for the formation of public consciousness, primarily through transformation scientific knowledge in 'textbook' and 'public'". The examples of the researcher are historical webresources, which demonstrate "certain positive changes: In the hierarchy of the most popular resources, academic sites have moved from the end of the third to the middle of the first ten; the amateur segment of the first three dozen resources has narrowed, while the educational component is confidently expanding" [4].

Increasing presence on Internet of scientific information stimulates the renewal of social activities, as they contribute to:

– rapid distribution of scientific information in electronic form, which distinguishes this distribution technology from distribution technologies of printed texts. "Before the end of this decade, for example,

the humber of cell phones will reach a billions in the world, all of them will be connected, and it will be possible to call from any phone to any other. The information spreads immediately" [5];

– increasing of the access to scientific information for all categories of users. Including those, who implement the scientific achievements in the practice of social activity;

– more productive in comparison with traditional printed version, utilization of the content of the information for building on its basis new knowledge through text manipulation;

– contacts of like-minded people on the global scale, who work on similar topicality, establishment of permanent scientific relations, exchanges of data and conclusions, possibilities of the actual creation of informal (or as called today, online) social communities, united by common interests.

As for the very fact of the evolution of the structure of Internet resources, then a small increasing in the ratio of this information to its other segments is explained with the fact that website visitors are now actively involved in the creation of content, which led to a sharp increase in volumes and dynamics of the global information space.

In general, the outlined processes have caused the situation, at which, for the first time in our history, our civilization faced the problem of the presence of ever increasing information resources, and it is harder and harder to identify their amount.

World web is a very crowded space. According to data by research company Visual Capitalist, in one minute on the Internet all over the world, users make billions of actions. Every second 60 seconds people watch 4,5 million videos on YouTube, send 188 mln emails and make online purchases for almost $1 bln. In 2018, in one minute 973 thousand people would join Facebook, and in 2019 the number reached 1 mln per minute. The same is true about Google: if last year during 60 seconds this search engine processed 3,7 million requests, than this year the number is by 100,000 more [6]. A study conducted by We Are Social and Hootsuite states that in 2018 the number of active Internet users has reached the mark of 4 billion, and the number of various social networks users is over 3 billion. The study also tells

that access to the Internet distribution is uneven over the globe: the lowest number of internet users is in the countries of central Africa and southern Asia. By contrast, those countries are characterised by the most rapid increase in recent years. For example, since early 2017, the number of Internet users in the African country Mali has increased 6 times. Also, researchers say that a large number of elderly people are beginning to use the Internet. Only on Facebook the number of people over the age of 65 during the past 12 months has increased by almost 20%.

According to the research, the majority of world population uses the internet via mobile phones — 52% of Internet traffic for 2018 falls on them. Researchers believe, that 9 out of 10 social network users use their devices to access social networks.

The most popular social network is Facebook — it has 2,17 billion active users in 2018. YouTube and Whatsapp closely follow. And the number of Instagram users over the past year has increased by a third. In Ukraine, according to the study, as of 2018, 25,6 million Internet users live, which is 58% of the whole population. Only 13 million use social networks, and 9,5 access internet through the devices [7].

According to a 2018 Kantar TNS Constituent Research study, the number of Internet users in Ukraine in 2018 increased by 7%: today 70% of Ukrainians use Internet (compared with 63% as of December 2017). Also increased time Ukrainians spend on Internet: 82% of user log in every day, 14% — once a week or rarer, and only 4% — a few times a month or even rarer.

According to the study, 74% of Internet users use the smartphone to access the Internet, and 45% users call the smartphone their main device.

Comparing to 2017, this data has increased by 18%. In 2017 56% used smartphone for Internet access, and it was the main device for 27% [8].

At the same time, according to the data of the State Statistics Service of Ukraine, the total number of Internet users is 26 million and this number includes subscribers of mobile and wired connections. The vast majority (25.3 million people) use broadband access.

Compared to 2017, when there were 23,6 million subscribers in Ukraine, wireless networks have undergone the biggest growth. During the year, about 2,5 million people joined them.

Also the State Statistics Agency has estimated that in Ukraine there are about 53,9 million mobile subscribers and about 2,2 million cable TV users [9].

One way to evaluate information circulating on the Internet is to measure traffic. According to Cisco [10], in 2019 traffic will reach 2 zetatabites a year. Cisco indicates that 1 zetabyte is equivalent to 36,000 years of HDTV-video. And it takes 5 years to watch all video content that is being transmitted every second in the world.

A characteristic feature of the current influence of global information resources on political part of social life is creation of international, interstate structures, which goal would be coordination of political processes on vlobal scale, solving the most complex regional problems all over the globe on the basis of positive overall social experience, the achievements of modern scientific thought. They also create new opportunities for bringing the highest achievements of the human spirit, spiritually valuable landmarks of the universal scale to population, the inclusion of an increasing number of people into the process of high morals development, spiritual values of different levels of existence, intercultural development, creating more and more effective conditions for the growth of the intellectual community of humankind, intellectualization of all human activity [11].

With all this, the gigantic volume of modern information itself contains the unsolved problems for the whole system of users, both on the level of the state and the nation, and on the level of the individual social structures, and also on the level of individual societal members.

First of all, it should be noted how low-quality quality is the structuring of existing information masses, thus having serious shortcomings in information management, which results in negative impact on the quality of informational resources utilizing. "The rapid growth of volumes of produced information under the absence of a approved concept of development of this process, a coherent understanding of the methods and forms of structuring available resources, multilingualism

on the Internet, as well as usage of other, not digital, creates more and more difficult search problems when filling the domestic information databases" [12].

Such a drawback is primarily due to the use of various forms of information keeping, and due to a weak level of coordination between printed information and information on digital media. In the libraries, having implemented hibrid resources [13], such coordination is carried out at the level of directories and work of reference and bibliographic units for the creation of thematic lists of literature for special orders. However, such information, often misannotated by the publishers, does not give a sufficient idea of the available content of information resources [14], requires additional study by the potential user of specific editions to make a decision on their practical use. And if up until recently, traditional library service technologies included the work of the reader with a book in reading halls, as well as work with digital resources in the library, then the acceleration of the pace of social life requires the development of technologies for the use of printed media and digital resources for productive use in a united form.

Oleksiy Onyshchenko states: "The modern library should not concentrate on a single type of information, be it printed, book, as it would turn into a museum. Today, all libraries are dealing with a variety of resources: handwritten, printed on paper, on digital media. In near future these institutions should become an experienced 'intermediary' between an almost infinite flow of information and a user. Currently, special attention is given to information on information, and the librarian's role in such an evolution is constantly increasing" [15].

Search in the direction in certain thematic projects already has positive practical results. "Already there are trends in the transformation of separate, earlier static resources into dynamic ones," remarks in his research Volodymyr Popyk. "Such an opportunity of independent, independent in the future from the printed principle of development is potentially laid down by the compilers, for example, in the Encyclopedia of History of Ukraine. It should not be forgotten that the idea of creating an electronic version of EHU was voiced in 1998, when the work on a multi-volume book project was started" [16].

However, as a whole, for the domestic information space the problem of combining static and dynamic resources in a single technological cycle of use remains very acute. The best way to solve it is to digitize information on paper. This is how the conversion of printed information into digital is being conducted in foreign countries. However, this is a costly process and due to the economic difficulties in Ukraine, the digitization of library funds is being carried out in a very limited scope. At the same time, introduction into the modern social circulation of the spiritual and valuable heritage, cultural achievement of the Ukrainian people is extremely important for national development under the globalization.

This problem is important for the nationwide national information space due to the pressure of globalised informational factors. It has a significant importance for the social structures of our society in terms of the need to preserve and develop progressive national traditions in economy, in the national science and culture, as well as in national infoproduction at the present, informational stage of society's development.

Complication of the structure of society requires the rapid development of various information exchanges using information available at the disposal of the society and the organization of the production of new resources, the development of sort of a signaling system for responding to changes in the environment of the modern human.

This information mechanism as a whole is an increasingly complex, multilevel system. This system helps to strengthen the social unity of society, and is an important factor in the development of opportunities for further development.

"The information, circling in modern communication means, in certain proportions is a new and established society in the past period of the current demand. It can fully meet up-to-date requirements, meet them partially and get into communication accidentally, for example, through external features in the use of low-quality search engine systems. And, finally, the information received by the social structures of society through the system of information communications may be relevant and belated. Fully relevant, partially, or inaccurate at all (false).

Partially false and misleading information may result in a number of causes and installations that lead to inadequate production of new information, or it may be the result of deliberate misinformation. The former with the development of informational digital technologies can develop in multi-combinations, known under the general name of information wars" [17]. In the conditions of globalization and introduction of electronic information technologies for the formation of a person In the national guidelines of the general social cooperation, the strengthening and development of the national information space is of great importance. This space today is interpreted by researchers not only for the definition of spatial, political, etc. frames, but as a "combination of information, which is stored and circulates in the social and cultural communication processes" [18]. Although such definition does not fully cover the content of processes within the information space, leaving out the process of new information production, significance for this process of available national resources, etc., however, it reflects the main mechanism for the circulation of information and is useful overall. It is important to note that "the main function of the information space is the maintenance of modern and development of future social relations, on which the further development or stagnation of individual countries depends, as well as the civilization as a whole. Therefore, each country is forced to develop its own national information space independently and in cooperation with others, trying to take a worthwhile place in the world division of labor and resources, in a competitive struggle for markets for goods and services, while protecting their own national interests" [19]. It should be noted that since societies are organized around processes of human activity, structured and historically determined in the relations of production, experience and power [20], then the state, the nation accumulates for this activity the necessary information basis. This basis consists of the information resource provided by the previous generations of this nation and useful for the development of this human community, compiled in the process of public practice in the past, and information with the new, necessary for activity in modern conditions.

In the conditions of the development of the information society, the basic human needs associated with its development, focus on attracting and using the innovative, necessary for this information. At the same time, it is becoming more and more pressing need of a person, not only for high quality, useful information, but also for wide variety of social information communications.

In today's globalized world, in order to preserve its mental identity [21], preservation of those unique and original Ukrainian qualities, which can be very useful in national development in the information society, citizens of today's Ukraine feel the need to preserve and develop their mental identity in the information sphere. Under conditions of development of the present society, such features of Ukrainian as productivity, patience and endurance, aspiration to a calm, independent, full-fledged life philosophy of labor are productive [22]; tolerance of Ukrainians to other peoples and cultures [23]; understanding and acceptance of the ideological basis of the Western life and, at the same time, the perception of these ideas and facts through the prism of its established worldview [24]; the democracy as a specific characteristic of Ukrainians [25], H. Skovoroda sees Ukraine as an place where "simplicity settle and friendship reigns, where small is big, cheap is valuable, and simple is enjoyable" [26] etc. Preservation of these traits, their development and additions in the conditions of modern society is one of the main conditions of national development.

With increasing pressure from global information resources on the information space of Ukraine with passive attitude of the society to the national information sphere becomes a real threat of total unification in this area and the loss of national identity. Today researchers note that the domestic authorities have allowed in the last decades a lot of omissions in the formation of the basis "for the dissemination and consolidation of Ukrainian values, in particular through the creation and promotion of their own cultural products. The peculiarity of these processes was that they took place under the conditions of the European integration option of Ukraine, which required a certain adaptation of Ukrainian culture to Western standards. The lack of a proper strategy in this regard has led to the fact that in information

space of Ukraine the dominance of not only Russian, but also Western pop culture, which negatively affects the development of national culture and promotes the spread of strangers, often immoral values" [27]. Therefore, in conditions of mass information production, the filling of domestic information communications with new information, including foreign production, requires a growing focus on the preservation and development of national information resources, and in this process — the preservation and effective use of sovereign information resources.

Among the latest most informative developments of today (which at the same time reveals the prospects for further research) the definition proposed by V. O. Oliynyk, O. Sosnin, L. E. Shymansky attracts attention. In it the informational sovereignty of the Ukrainian state is considered as "the exclusive right of Ukraine in accordance with the Constitution and legislation of Ukraine and the norms of international law independently and independently, upholding the balance of interests of a person, a society and a state to define and carry out internal and geopolitical national interests in the information sphere, state internal and external information policy, to manage their own information resources, to form the infrastructure of the national information space, to create conditions for its integration into the world information space and to guarantee information security of the state" [28]. Thus, sovereign information resources can be considered as such without which the existence of a nation or state is impossible. With the growing influence of the global information space on all regions of the world, it is those resources, unique and impossible to duplicate, and are the most vulnerable, since they can not be replaced by adequate matches when displaced from circulation. Sovereign rights of people to a national identity require the confrontation of such a threat.

At the same time, modern features of global development, including in the information sphere, in no way make it compulsory to violate sovereign rights of peoples, states, all social components of society for their own development, including in information field. More precisely, furthermost in the field of information, which is the basis for all other forms of social activity.

According to Steven Krasner, one of the most authoritative authors in matters of state sovereignty in the West, "globalization does not undermine the fundamental foundations of sovereignty of states. Globalization is a challenge to the effectiveness of state control, but this is not evidence that new challenges are significantly different from the old ones " [29]. S. Krasner, thus, does not speak of a threat to the fundamental foundations of the sovereignty of globalization. He underlines the effectiveness of activities in ensuring sovereignty at the level required by today's requirements. In the information sphere, the today practice has already caused the need for a thorough understanding of the problem of information sovereignty for the projection of relevant results in the methods of concrete activity in the interests of nations, states, all social structures of society (the basis of existence and development of which are sovereign information bases), and in accordance with the development of general civilization trends in the information sphere.

In the conditions of development of modern information, the intensification of information circulation increases the need for the use of sovereign information as an independent resource in information communications, social networks of the national information space with an educational, cultural and educational purpose. It is very important to use these resources in modern information production, as the resources of the basic, which should offer correct navigations in the information aspect of national development.

With the development of informatization, which resulted in the introduction of electronic information technology access to national and international information resources in this format, to all people, creators of the information society, gave an opportunity, being involved in information processes, regardless of personal preferences, not only to use the available, but to satisfy the social need in its nature of the new information production, to self realise in this new information, realise new multifaceted opportunities for communication.

The idea of freedom of expression and the freedom to access information for many users of network communications is fundamental. Availability of various resources, the ability to use the data which up

until very recently had been inaccessible for the majority of people due to geographical or lingual barriers, are the driving forces that contribute to the steady growth in the number of users around the world [30].

At this stage of the development of social networks, obviously, they can be considered as technological complexes of organization and management of exchanges of electronic information between subjects of social relations, intended to provide horizontal communication of subscribers interested in it, brought together with common interests, information needs and communication skills.

Such a statement gives an idea of social media as:

– organized and well-managed communication tools based on the use of digital information technologies (the Internet);

– networks for social communication are one-dimensional according to the characteristics of subjects, that is, communication at the horizontal levels of the organization;

– information technology complexes, connecting subscribers with common interests and needs and appropriate technical training, which today is already scattering participants in information exchanges [31].

In the long run, this has become an important tool for self-determining the user's level of interest offered information. This circumstance has contributed to the realisation of the internal needs of a large part of people, particularly creative ones, in establishing contacts with like-minded people, including those whose new ideas have not been yet sanctioned by any official structures, are distributed in the horizontal dimension of the information sphere. The exchange of information between like-minded people has sometimes been of practical importance to society, in other cases it was outside the area of paramount importance. However, for communication participants it may establish a form and stimulate the internal need for the formation of qualitatively new communities on the Internet, which are oftentimes called online in order to distinguish them from formal communities. What, in principle, is not entirely correct.

Expanding the scope of communication in social networks has actualized another problem — the problem of the reliability of information, responsibility for it. In social networks, in general, have no

censors, even the literary editors are absent. The audience of creators and readers of information is on self-service. And so the problem of reliability is solved largely by caring for the reputation of the author, through the possibility of checking messages on other sources, through the involvement of qualified, authoritative commenting. In general, however, along with the definition of criteria for the objectivity of information in social networks, the use of similar tools and technologies by disparaging participants in communication creates new and new problems in the network, their emergence and neutralization has become one of the permanent storylines of this form of communication.

With the development of technological capabilities of networks and their awareness of users of the field of horizontal information exchanges has become increasingly widespread not only in interpersonal communication, but also between one-dimensional social structures of society: between scientific institutions or firms, between local authorities or political parties, etc. Many Internet services with equipped with telecommunication links, taking into account the growth of relevant needs, form and use social networks, thus creating a new type of automated service — Social Network Services [32].

Social networks contribute to the structuring of the communicative space, the creation of virtual communities, which often turn into public associations in practice. And public institutions get an opportunity to spread their ideas, to involve new members in their roles and coordinate their actions. We are seeing the interpenetration of everyday social reality and virtual [33]. As G. Cardozo notes, "… we see a new concept of space, where physical and virtual influences one on one, laying the foundations for the emergence of new forms of socialization, new forms of life and new forms of social organization" [34].

In the course of its development, social networks are enriched with new opportunities to meet user queries. It is safe to agree with the opinion of L. E. Smola that the analysis of the reasons for the current attractiveness of social networks seems to be appropriate. "They are: — receiving information / support from other members of the social network;

– verification of ideas through participation in social interaction;

– social benefit from contacts (involvement, self-identification, social identification, social perception, etc.);

– recreation (entertainment);

– the main categories of the social network are: trust, opinion, influence, reputation" [35].

Social networks with an increasing number of applications become effective tools for the meeting the needs of members of the society by contacting the sites of official institutions, providing feedback to the authorities, with public bodies and, thus, an important form of generating new socially meaningful information. On this basis, a significant number of web-services is being developed today, which today is called "Web 2,0 services".

At the same time, the capabilities of "Web 2,0" are gradually being introduced into the work of Ukrainian ministries and departments. According to the National Center for e-Government, about 50 government agencies are accessible through social networks [36].

A review of the functions of social Internet networks makes it possible to see their undeniable impact on the development of civil society in Ukraine, on the processes of democratization, growth of social activity, effective structuring of political structures of society.

Gradually, with the technology advancement, with an increase in the level of installation of data channels of information exchanges into the structure of society, with the strengthening of a positive image regarding the use of social networks in the minds of people, they are becoming one of the important tools for the development of civil society, namely, to the independent media serving the public interest and needs, form a public opinion. In addition to active spreading in interpersonal communication, in the field of horizontal information exchanges, they win their place in the structure of communications related to communication of citizens through the means of:

– local governments;

– mass media of all types, including digital, with a wide range of interactive communication.

Summarizing the peculiarities of information processes within the framework of the national information space, it's important to mention

that the structuring of the statewide, national information basis of development differs from the general civilization. The basis of these resources is the sovereign information, reflecting the content, in fact, of the national, state specifics, developed by all previous generations of the people, is a benchmark for domestic infoproduction, selection of information resources from the global information space, preservation of national identity in the conditions of activation of global processes in the modern world. These resources are an integral part of all other resources of nation-wide, national significance, which is an informational basis for the existence and development of a nation or state. Insufficient consideration of them in the relevant bases can cause the loss of national identity, the realization in practice of the threat of unification under the influence of global information resources. Insufficient consideration of them in the relevant bases can cause the loss of national identity, the realization in practice of the threat of unification under the influence of global information resources.

Updating this resource is done through:

– state, national information production and production information government structures;

– selection, adaptation and introduction into the domestic databases publicly important information of the global information space;

– compilation of domestic information databases with resources obtained through market mechanisms;

– state information production (production of scientific information in scientific, educational, cultural, including library establishments, production of information by political and other public organizations, business structures, think tanks and foundations, and individual citizens), etc. [37].

Statewide and national resources are the basic component of the national information space [38], which is outlined by the possibilities of control of the national information security system. In this space in modern conditions there are opportunities for penetration of unauthorized domestic means of control, as well as harmful information for the Ukrainian state and the nation, which negatively affects the consciousness and possible actions of Ukrainian users, can penetrate

the system of domestic information bases, violating the traditional content and structure.

Speaking of vertical principle of the information circulation [39], then the negative informational masses get into the domestic information space primarily due to the information pressure of TNCs, lobbying their interests in Ukrainian markets, resulting in a attempts to influence the Ukrainian society of radical international religious organizations, criminal associations, as well as in the process of implementing sabotage information projects in the context of information warfare.

The horizontal principle of spreading information is used in inter-state information exchanges, in exchanges in establishing cooperation between parties, other public associations of national or national significance, religious organizations, official scientific institutions, and others. The horizontal principle of information exchange is used at the intergovernmental level in the process of information development market activities. It is being used today in information wars between countries. At the same time, the improvement of combat information resources is targeted for the most sensitive immersion in the information space of a potential enemy, the deepest possible penetration into the structure of its basic, sovereign information resources in order to disorganized them and reduce the efficiency of use. Operating mainly on the horizontal level of influence, combat information resources usually have a vertical component of their actions as well: their task is creating a positive image of the political position and actions of the State party to the conflict in the global community.

This is why the the organization of national security, of informational security of the state, the nation necessitates the creation of information products in the structure of national information resources, aimed at neutralizing this kind of threatening influences, as well as developing effective methods of combating informational aggression of productive appeal in this struggle to general civilization legal norms. The organization of information resources at the level of functioning of individual social structures as well as individual citizens on a national scale is connected, first of all, with the formation and development of the basic arrays of information necessary for the

functioning and development of structural components of society. Modern technical capabilities allow basic information to be stored in their own archives, in their own information bases, on the sites of organizations, institutions or business structures. This information, based on the principle of diverse information databases, can be stored at library institutions, subject to the constant access to their funds for all representatives of the community.

For the individual user and even for individual social structures, the scale of the already existing gigantic arrays of information on the Internet already creates problems when selecting the information needed for use. Experience has shown that for the productive use of resources created by humanity between a researcher, a practitioner and global resources of information, there was a need for an intermediary, information worker, specialist in orientation in massifs of information, in preparation for its effective use by the user.

At the same time, librarians will meet the requirements of the present, will successfully play the role of the main elements of the infrastructure for managing the information resources of society under the following conditions:

1) when their technological base will provide an opportunity to control electronic information flows;

2) when they can effectively work in the global information space, selecting the information necessary for our society;

3) when they will become centers of reliable preservation of a new electronic and translated from other media in the form of electronic information, structured and reliably managed;

4) when they become centers of reliable electronic storage and translation from other media in the form of electronic information, structured and reliably managed;

5) when at the expense of planned collection of funds with new information will be restored and strengthened internal inter-branch links that will contribute to the improvement of the entire system of information bases of society;

6) when librarians, for their part, will intensify the work of remote user services, will develop technologies that will increase the efficiency

of the use of information, including by adapting to the needs of the customer, taking into account the specificity of his perception, in analogy with communication processes;

7) when librarians begin the process of entering as full-fledged actors in the information markets, which may have for them not only financial significance. After all, the market is a good indicator of any activity;

8) when libraries as public information centers will also become centers of excellence, scientific thought, education and education for the categories of citizens involved in modern information technologies and introduce them in their way of life [40].

Certain experience in improving the practical activity of maintaining academic institutions with new scientific information by obtaining the right of access to the leading foreign databases of such information has been acquired by the National Library of Ukraine. V. I. Vernadskyi. So, in 2014, in accordance with the resolution of the Presidium of the National Academy of Sciences of Ukraine "On Measures to Ensure Centralized Access to Foreign Databases of Scientific Information and the Presentations of Periodicals of the National Academy of Sciences of Ukraine at the Leading Nuclear Databases," the main scientific and information center of Ukraine provides academic units of the Academy with bases Academic Search Complete (EBSCO), INSPEC, Scopus, SciVerse Science Direct.

Simultaneously with the development of document bundles and the development of an optimal procurement model, in recent years, the library has been conducting workshops with Elsevier corporations, EBSCO, Springer, Wiley for academicians of the National Academy of Sciences, editorial boards of periodicals and library and information departments of the academic libraries system [41].

Today, specialists of the library sphere with anxiety record the tendency of constant decrease of visitors in reading rooms of libraries. New generations of users of information are mainly addressed to electronic resources of the Internet through personal computer systems. The traditional library does not satisfy the needs of such a user. However, this situation is encouraging for the domestic audience

as long as electronic information performs a cognitive, educational role in the society, but has not yet become the basis for practical activity in the economy, in all areas where we need balanced, effective and timely decision-making. Widespread inclusion of electronic information into practical activities will form the public need for updating library institutions as publicly important modern information centers, will make society take care of upgrading, modern equipment of library institutions, and proper material provision. The user will have to return to the library service at a qualitatively new level, through her will be able to secure access to the most up-to-date information, achievements of advanced public opinion, and will be able to use these assets productively in the interests of active activity. And by doing this, it will make a significant step towards its own transformation as an effective member of a new, informational society.

Enrichment of the bases of social structures with new information is carried out both as a traditional own infographic by members of the data of social structures, and with the use of new possibilities of modern informatization. n this case, previously unknown activation of two major interrelated trends in the evolution of information processes. One of them is to increase the number and strengthening of information communications of global importance, which together create conditions for the functioning of the global information space. Today, this space, accessible due to the available technical capabilities for any human community, is the basis of the growing unity and integrity of humanity.

With the development of the domestic information market is also filling the social information bases information received as a commodity product [42]. Social structures, the entire system of legal entities and individuals, are included in the production of information, information services for sale, including abroad. At the initiative of information producers, the share of information production in the total production of products is steadily increasing, the information market associated with the introduction of Internet technologies is developing dynamically. So, according to a 10-K report, the results of which are reported by Visual Capitalist, last year, technological giants of the top five — Amazon, Apple, Facebook, Microsoft, and Alphabet — earned

a total of over $800 billion, outstripping Saudi Arabia from total GDP of 684 billion. Interestingly, almost all revenues (98.5%) Facebook provided online advertising. In Google, revenue from advertising is slightly lower (85%). And the main article of Apple's revenue (63%) is provided by iPhone sales [43].

At the same time, based on the data of the State Statistics Service, it should be noted that in 2018 mobile operators of Ukraine received income of more than UAH 38 billion. This is the maximum revenue in the total revenue of telecommunication and postal operators [44].

It should also be noted that experts predict the full deployment of the world's first 5G networks in 2020. Accordingly, several world telecom operators have announced their readiness to launch 5G. In particular, one of these was the American Verizon Cellular Provider. By the way, this company, in conjunction with the South Korean giant, has developed a smartphone with the support of new networks — the Samsung Galaxy S10 5G [45].

Thus, modern national information space as a sphere of information exchanges of national importance includes an extensive system of structures that provide the production of new information, storage of existing media on different types of media, and the organization of its use through a network of social communications within the society and on the international arena. This complex of information structures is a national information resource — the information potential of society. The level of this potential in the present world depends to a large extent on the preservation of the development of a national information base — an information basis for the development of our society, the contribution of the Ukrainian people to general civilization development [46].

At the same time, the development of domestic information processes takes into account the most significant factors of its development. Including:

– the supremacy of the institutions of Ukrainian society over the process of national production and the use of information resources;

– ensuring independence, conditions for equal international cooperation in the information sphere;

– provision of prospects:

a) development of state information production, wide implementation of global information volumes for meeting requirements of citizens;

б) ncreasing of the efficiency of the use of information resources, ensuring the growth of the creative potential of Ukrainian society in the use of information resources, in improving the informatization of society [47].

The social structures of Ukrainian society in their information activities are widely developing horizontal information communications that, with the condition of real reliance on the national information base, on sovereign information resources, in general, is a positive process of internal social consolidation. Acquiring experience, mastering modern information technologies, they go out with their information products to foreign information markets. These processes are governed by the relevant state legislation.

In the system of horizontal information exchanges there is a place and a manifestation of negative infoproduction, production of information products, or popularization through sites, in social networks of information that objectively inflicts harm to society. This information includes false information, information that forms the basis of manipulative technologies, connected in our society primarily with political activities, suggestive influences to achieve unlawful purposes. In the domestic information space, there are also manifestations of cybercrime. "At present, at the disposal of the society is a collection of various components of information infrastructure: social information communications, available information and analytical, library, archival and other centers of conservation and organization of the use of information resources, scientific institutions, structures related to the analysis of primary data types of information 'Factory of thought', research funds, sociological centers — all structures involved in the production of socially important information, including management, economic, political and for providing all kinds of other social activities, the system of law-making regulation of the information sphere. These components are computerized and related computer networks

with all branches of economic activity, vital centers of social life. Therefore, precisely cybernetic threats, cyberterrorism is becoming a particular danger to the national infrastructure, the protection of Ukraine's informational sovereignty" [48]. As a rule, all these negative manifestations are caused by the inconsistency of the pace of the law-making work of the development of information technologies, the slow development of methods of confronting negative developments in the information sphere, the lack of proper educational work among citizens who have already de facto become members of the information society, but de jure this status yet not sufficiently secured and not recorded in the mind.

2.2. Evolution of informational techniques and development of an individual

The human, as a social and biological being, constantly improves in different kinds of activity, responding to the challenges of the environment. Using their physical and mental capabilities, they try to adapt the environment to their needs. In reality, in one way or another, both ways of improving the viability of a person are combined.

Problems of socialization arise in front of a person, in the process of their development, and become more and more pressing. Any kind of socialization causes the need for communication, informational exchanges between the participants of the association of individuals, focused on joint actions. In human practice, the volume of information exchanges is increasing with:

– the complexity of tasks the human society is facing;
– the amount of work
– the development of creative activity in the social practice of society;
– the complication of the social structure of society and the development of globalization processes.

It should be noted that only in the social relations a human manifests, realizes and develops their intellect as a genetic quality. Outside of society, of public relationships, a newborn can not

become a human in full sense of the word, because the newborn at th beginning is tabula rasa — a clean slate, in the full sense of the word, and at the early stages of ontogenesis does not even have the functional asymmetry of the brain hemispheres. And only under the influence of communication, education and education the logic-sign thinking begins to dominate.

Different functioning features of the brain for processing information and the ability of abstract thinking help the human to overcome the limited perception of the world based on the sensations that exist in animals, and are expressed in the ability to construct maximumly accurate concepts, in other words, the ability to analyze and synthesize is developed. The ability of a person to perceive and process information as a natural global language attests to the genetically based cognitive need and cognitive ability, that is, to the informational nature.

The fact that the informational nature of human is realized only through public relations also speaks of the informational nature of society [49]. And, thus, at the pre-industrial stage of human development, according to D. Bell's dating, they have developed the means to meet the social needs of preservation and utilization of information resources in writing. It made it possible to operate the scope of information that hadn't already been preserved by the memory of an individual or even a group of people. And despite the increasing of information in public circulation, and the increasing of its volume in general at the disposal of the society, using the technologies of writing down the information, and in the Middle Ages the invention of revolutionary printing technologies of that time, human society for a long time has not experienced particular problems with the management of information resources. Book printing has become another revolutionary step in access to information by a much larger number of readers. From the point of view of information development of the society, this, in turn, became a significant step in meeting the social needs of the expanded information production dictated by the needs of the labor activity change.

Despite everything, the societal development pace had dictated a low pace of the information sphere evolution, consistent with the

pace of biological processes evolution in the human body. Therefore, the processes of memorising of new information, transforming it into concrete labor activities had never posed any insurmountable problems for people.

It should be noted that the previously mentioned statement about the organization of information activities of the processes of labor is valuable, since it ties together information and work as an inseparable whole. Such a statement is fair even for observational things. Even for the expression of A. Einstein that "it is the theory that determines what we are given to see" [50]. And although at first glance it would be more accurate to speak first about information, the production of which should precede activities, in fact such a discussion is similar to the discussion of what was first: a chicken or an egg. Because, when creating any information, a person already has certain ideas about certain actions of the lower order. And, consequently, socially useful activities are impossible without an adequate information basis, and vice versa — information that is not essential to the public, and which is is not related to social activities, can not, as had been confirmed by practice, stay in public circulation.

With society as layered as it is, with its structuring, the management activities with appropriate information had been developed. Pytyrym Sorokin notes that while "vertical mobility is present in one way or another in any society, and since there must be certain 'membranes', 'holes', 'ladders', 'elevators' or 'paths' between the layers, which allow the individuals to move up or down from one layer to another, then it is legitimate and we should consider the question of what these channels of social circulation really are".

The functions of social circulation are carried out by various institutes [51]. Sorokin names some of such social mechanisms of such a circulation, such as army, church, school, political structures, professional hierarchies, etc. In those institutions the main information is information from the management, from the top down, and the information from the down serves as a familiarizing information, and takes consequences of the orders. As a parallel process, also developed a horizontal sphere of communication, which served as functions

of social socialization between one-level social structures, between individual individuals.

With the complication of the structure of society itself and, accordingly, the relationship in it there is an increase in the amount of information at its disposal, mechanisms for ensuring the circulation of information in the social structure of society, increasing the intensity of these turns, increasing the masses of information in motion, affecting the consciousness of people, processed in consciousness and induced to certain actions.

This process manifested itself at the industrial stage of human development. This stage of humankind development, as well as the following post-industrial, have given the informational sphere of humanity characteristic, even revolutionary, features. Though Daniel Bell noted that "any division of historical processes into periods and stages is rather arbitrary, but assessing technological breakthroughs and their consequences, one can rightly speak of three revolutionary changes that have taken place in the West over the past two and a half centuries" [52].

The industrial stage has become the stage of machine technology in production activities. The machine became more often and often an intermediary between the human and the environment. At first, it was a steam machine, later the engine of internal combustion replaced the steam engine in transport, in production, in all possible spheres, and it was incomparably more efficient, and later were joined by jet engines. Machine technology became more and more productive, however, providing the growing needs of society, they demanded more and more energy, and increased the necessity for energy production with all necessary infrastructure. The energy waste of human evolution has became increasingly threatening for civilization.

The second technological revolution according to Daniel Bell was based on the development of electricity and chemistry. Electricity is a new, more sophisticated kind of energy that can be transmitted over long distances, through which it became possible to decentralize production. Electrical illumination has changed the way of life and mode of activity of the overwhelming number of people, communication has

been improved with its help, transmission to any distance of image and voice, the development of the system of social communications, etc.

Significant contribution to subjugation to the person of the surrounding reality was made with the development of chemistry. The human got the necessary new materials and substances, has increased harvesting of crops with the help of mineral fertilizers, has obtained synthetic materials and dyes, carried out a deep processing of oil and gas for a wide range of needs [53]. The industrial stage of human development has become a stage of growth of fundamentally new influences on human consciousness.

First, the overwhelming majority of people engaged in industrial production, loses direct traditional informational contact with nature as an object of maintenance of their needs of life as a result of social servicing of industrial production. Thinking with has been steadily and surely superseded by the indirect, abstract thanking, which has been unnatural way of thinking for the long period of the prior development of homo sapiens as a biological species.

Secondly, the industrial stage of human development was characterized by rapid growth of information production and the already existing scope of information that, combined, puts an unprecedented pressure on the consciousness of a particular person, social structures and society as a whole.

Thirdly, there is an increasing amount of information associated with the process of self-awareness of society and human in it in the social circle, the prospects of social development and self-improvement of a human.

Fourthly, the growing diversification of the social structure of the industrial stage of society's development has resulted in a significant increase in social information related to the servicing of these social structures, the forming of relations between them, and the consequences of the contradictions that drive these relations. "The mind intensifies the struggle, transferring it from a purely biological sphere to the sphere of social and public" [54].

Thus, studying the situation in which a human has found themselves as biological beings, we can conclude that in fact we have

found ourselves in another, not inherently natural for development world.

Ivan Merkulov wrote: "It is becoming increasingly clearer that the human ability to receive and process cognitive information is determined by genes… The connection of genes with culture is carried out indirectly, in combination with the feedback from culture to genes. Culture and cultural phenomena form specific cognitive mechanisms, although these mechanisms lie in the programs of the nervous system development" [55].

E. Ezer believes that our cognitive apparatus is conditioned not only to the organic-genetic evolution, but also to the molecular-chemical and physico-cosmological evolution, which we also carry cosmological information to which we do not have, however, direct access. Information coming from the open world, including the genetic, is a world manifestation. Realizing the natural ideal beginning through cognition, consciousness, thinking, man is open to the environment surrounding him, that is, he directly carries his cognitive purpose [56], consuming new information.

Hence, the new social order won't be the result of transformation of the known orders, but of the fundamentally new features, which, in comparison with labor activity, is an absolutely new type of activity that is characterized by significant creative content. It may happen on a global scale when "if not all, at least most people become more creative in their activity than they are today" [57].

Armed with industrial technologies, sensory organs in unprecedented short periods of natural development began to supply the brain with unusual data in huge amounts. Human vision, armed with the tools we have artificially created, began to take in the depths of the micro and macro world that previously hadn't been known. The human is able to fly, submerge into the depths of the oceans, into miles-long depth of the earth and eventually went into space. And in other environments, the human was being subjected to previously unknown informational influences. Humanity became capable of hearing sounds from thousands of kilometers, clad in special clothing we are able to withstand a huge range of temperatures, etc., etc.

With the help of our machines, various devices, a person extracts more and more information necessary for neutralization of new and new threatening situations. We need new tools, new machines, new information, new knowledge, everything that is putting more pressure on human consciousness.

M. Castells said that at the end of the last century "there are about 550 billion documents (95% of what is publicly available) on websites, and online information is growing at a speed of 7,3 million web pages per day. The annual world production of information in various forms is about 1,5 billion gigabytes, of which 93% were created in 1999 in digital form. Therefore, on the one hand, companies have access to an incredible amount of information … On the other hand, workers are therefore put under incredible pressure" [58].

And if the brain were able to independently assess the situation, it would say that the tools for information intake from the environment, which had been used for many generations of human history, are now inexplicably being replaced by others, with no power to perceive it. And it finds it harder to perceive information.

Could it say that … ot is it already?

Such a worrying situation is being observed by researchers. And a fraction of them is distrustful of the evolutionary possibilities of human body in comparison with the pace of development of modern information production. This is the basis for the so-called problem of "information overload" of modern society [59]. Nikita Moiseyev, to a certain extent, agrees with the aforementioned theory, however his outlook on the situation is more optimistic. He says that "the morphological development of the human brain has stopped several tens of thousands of years ago. But it does not necessary mean that the improvement of the 'intelligence of humankind' has halted as well, if such a term can possibly exist. Communication between people, the exchange of information between 'local intelligences' leads to some sort of process of collective thinking and then to the unusual acceleration of knowledge, its accumulation and usage" [60].

The works of a significant number of researchers in the second half of the twentieth century is largely in agreement with this point

of view. At the same time, one can agree that shifting the emphasis in human activity from physical to mental can become a source of new problems. Under the pressure of information stress and overload, a gradual transformation of the mental apparatus of an increasing number of members of society will take place in accordance with the need for effective management of information processes, work that requires the functioning of a person different from that required by the physical, and later all other non-work. These differences in increasing manner leave an imprint on worldviews, which may cause new social conflicts. However, the aggravation of this issue is to some extent postponed due to development of technical means for the processing of information resources, and later with mechanization improvement and automatization of information processing, producing of personal computer technologies. However, at the same time, the number of information workers includes computer experts and thus the number of the active part of the information society. For all the other citizens, time for mastering the latest technology is only delayed in the process of current informatization.

D. Bell as the characteristic features of the development of new technologies that stimulated the development of information processes, determined the replacement of mechanical, electrical and electromechanical systems by electronic, miniaturization, transformation of information arrays on all used carriers in digital form, improvement of information resource management technologies by developing computer software computer systems [61]. At the same time, more than 40 years ago, the modification of the American military project ARPANET found civilian use in the form of the Internet (Internet) and became one of the most famous phenomena of the present.

This system of computer networks has become a recognized civilizational means of communication due to the fact that it is characterized by:

"1. High performance, reliability, and calculation of network performance in any, even in extreme conditions.

2. Openness of protocols (rules), their availability for each.

3. Support, as a result, as a wide range of users, as well as the largest manufacturers of software and hardware.

4. The ability of the system to self-development, self-expansion. This is due to the fact that the more resources are introduced on the Network, so it becomes more interesting and more useful to users, the circle of which as a result grows. There is another reason — a constant reduction in the cost of work in the Internet" [62].The high pace of updating the technological equipment of production caused a qualitative growth of the content characteristics of the new socially significant information. And this became an important factor in the emergence of the structure of information exchanges for new, post-industrial relations. And he more and more reflects "the new principles of social and technological organization and a new way of life that displaces the industrial system, just as it itself has displaced once agrarian … Postindustrial tendencies do not replace the previous social forms as some 'stages' of social development. They often coexist (as sometimes the old parchments co-exist on parchment, and new ones are put on top of them), complicating society and the nature of its social structure" [63].

As part of the assessment of the trends in the development of the information society of a new society, attention should be paid to the fact that computer technology does not replace human meaning in the analysis and management of information resources. They only help her in these processes. With the complication of the technologies of social activity, there is a process of increasing the level of abstraction in information operations carried out by a person. Since modern man, as always, the operation of information should be correlated with his practical activities, this ratio is given to it with increasing mobilization of intellectual qualities, requires more stress, information overload.

Another problem for a person of modern society is connected with the characteristic of his approach of science to the practice of transforming the activity of the present, growing demands of society for creative work directly in the structure of production, the manifestation of creative abilities of man in a short time, in the atmosphere of radical changes in representations of the surrounding reality, the change of some previously unshakable ideas about energy, the driving forces of the universe. This direction of human activity also belongs

not only to the most productive, but also to the most difficult for a person, for its mental and biological resources.

2.3. Human computerized (Homo compjuterus)?

The development of a modern information communication system enables every member of society to reach the level of utilization of information resources of civilizational, international, national and interpersonal importance. At the same time, the use of these resources also causes a collision with the system of problems associated with the usage of these resources.

One of the major problems in the global information sphere is the problem of gigantic, ever-growing volumes of information resources constantly produced by society. Scientific comprehension of the most common processes of the information sphere leads to the conclusion that the documentary, and in the broader sense of the term, the information space has now developed to a level when its generalization requires new approaches. The "technocrats" in the information sphere argue that "the existing mathematical apparatus and tools can not adequately reflect the situation, and it is no longer about the final arrays of documents as about dynamic documentary information flows" [64].

The idea of information flows (in the dynamics of information processes) [65] and of information arrays (in statics), along with the idea of the global information space, on the information basis of civilizationary development, today is the highest level of abstraction when considering the evolution of the information sphere, the study of its most common patterns. Increasing volumes of information resources and the problems of management again draw attention to the period of initial stage of development of digital information technology, when the unit of information had been compared to the digital signal. "Technocrats" again turn the attention to the fact that from their point of view, "it is possible to absolutely successfully process the information without dependence on what meaning is laid in it. Which is why, there is once again interest in approaches based

on the understanding of information as a measure of a certain system management and, accordingly, to statistical methods of its processing … It has turned out that many tasks that arise when working with information flows, have a lot of common with the goals of statistical physics and hydrodynamics and can be solved by the same methods" [66].

Traditionally, decreasing the role of content sense, they state that "the 'knowledge' itself is a kind of structure over information flows, determined by the presence of stable links between certain information elements (data)" [67].

These quotations are cited because of the fact that the presentation of these views is typical for "technocrats", advocates for the consideration of digital information technologies, primarily as the problem of digital signal management. The attention has increased to the topic of the characteristics of information processes in the initial stage, the development of digital technologies (the first generation of computers) starting with the second half of the fifties of 20s century, the time of the more and more visible pressure on the public consciousness of the rapidly growing volumes of information. The objective social need served as an impetus for the development of a corresponding theoretical reflection. Some attempts had already been conducted to quantify the physical amount of the transmitted message as a measure of certainty in the transmitted message (Kuppmüller, 1924) [68], Hartley (1928) [69], and others.

At the stage of a tangible applied necessity, the development of information theory was laid down by the works of K. Shannon [70] and his followers. In the general mathematical theory of information this branch of research is now known as statistical.

New theoretical approaches made it possible to develop methods for managing volumes of information, both new and, chiefly, already compiled by previous generations. Such approaches had paid special attention the signal — the elementary carrier of information. The technical thought was aimed at ensuring its reliability, compliance with frequency indices and accuracy of the process of operation, etc. This approach, as well as other proposed solutions by the researchers to the

problems of information management in digital form [71] was historically due to the leading role of computer specialists, programmers at the stage of development of a new medium of information — digital, the necessity for organizing its development for the mass user.

Some of current computer specialists envision such circumstance had been absoluted as the main in the field of modern information activities, which sometimes goes beyond the rational representations of the essence of information processes. It should be noted that one of the famous researchers in the information field C. Cherry in 1972 drew attention to the ineffectiveness of the statistical theory usage in the study of social information related to psychological factors that are not subjected to their main manifestations of traditional methods of formalization and quantitative measurement [72].

At the same time the improvement of the mathematical approaches for the management of information flows and information processes in the intra-social information circulation is not disputable. On the contrary, rapidly growing masses of information resources require careful reflection with the use of mathematical apparatus. However, the development of information processes should be aligned with the implementation of the final task: the satisfaction of the information requests of a specific modern user, the use of solely meaningful information in decision-making, in the whole variety of practices of social development. Obviously, incomplete understanding of the meaningful features of information processes by technicians — "technocrats" causes a certain lag in the development of search engines, in the development of unwanted filters, static noise information [73], which creates tangible problems in working with digital information for any particular user.

Due to the information influences the political, cultural stereotypes typical of the leading globalization countries gain strength, along with technological, economic and other innovations, these processes taking place with increasing pace.

In the short-term period of time, the general unification can, to a certain extent, contribute to the upgrading of technologies in all spheres of public life, can facilitate the increasing of the efficiency of

production, etc. However, in the long-term prospect, such a path of global transformation is detrimental to civilization, since it makes the prospects of national development in the regions of the world impossible. And, therefore, it reduces the possibility of multivarianted responses of civilization to the new challenges of reality, thus reducing the viability of society.

Negative manifestations of globalism, which correspond chiefly with the resources of the global information space, modern information technology and are in constant development, are regulated today by international information law in insufficient manner. Technologies for preparation and implementation of international legislation today do not meet the pace of information technologies development, and the implementation of legal acts in most cases is late in comparison with realities of life. This circumstance is another problem related to the effects of the modern infosphere on the person.

By expanding the use of information resources produced outside the national information space, modern people also face the problems associated with the nature of modern information exchanges on the interstate, interethnic level. At the current informational stage of the development of a post-industrial society these problems are connected:

– with the increasing importance of innovative information resources in the practice of public life, transforming them directly into produce in market relations;

– with the complexities of defending national interests in modern information production;

– with the organization of security in the use of information resources.

Implementation of the state policy of informatization at the national level involves the organization of access for citizens to information resources, creation of conditions for their usage and the development of new information producing: "State bodies, within their competence, carry out the following functions in the process of informatization:

– … ensuring access of citizens and their associates to information of state and local self-government bodies, as well as other sources of information;

– defining the priority directions of informatization in order to further support it through state financing and preferential taxation;

– Informatization of science, education, culture, environmental protection and human health, public administration, national security and defense of the state, priority sectors of the economy;

– support of domestic production of software and technical means of informatization;

– support of basic scientific research for the development of high-speed mathematical and technical means of information processing;

– provision of training specialists in the field of informatization and information technologies" [74], etc.

And if the problem of access to the existing information resources in the state of the traditional format of expression in national legislation and in public practice is to some extent resolved (see the legislative rules), the practice of public use of digital information resources, the regulation of information activities on the basis of the development of computer technologies requires significant improvement.

On the international arena, a national producer of realisation-oriented resources does not have sufficient support from the state and is often forced to act as the executor of projects of foreign economic structures represented on the information markets, and not to be the rightful owner and seller of information products. For a large part of the information producers in Ukraine it is problematic to become a part of information production and information infrastructure production in the state enterprises, as Ukrainian state has not become an active producer of information products or an active participant in international markets for its implementation. At the same time, we have positive experience in a number of developing countries, which have rapidly developed the industry of such production, have prepared the appropriate personnel and have become successful participants in international information markets. Thus, over the past decades, India has put enormous finances into education. This country has made significant progress in the development of such knowledge-intensive activities as programming, information and communication technologies and the electronic industry [75]. The Indian authorities

were able to make the country the leader in the field of information technology. In 2000, an information technology law has been adopted and the Ministry of Communications and Information Technology has been set up, which has been tasked with "turning India into a superstate of information technology". 90% of the proceeds from the software export were freed of taxation. The parks of software technologies play a huge role in the field of information technology, which are 100% export oriented (80% of all software exports). It is these parks that have played a key role in the development of information technology in India. Another important factor for the prosperity of innovation business in this country is the cheapness of the workforce [76]. That is why many American and European companies use the opportunity of cheaper service for their customers with the help of Indian information companies [77].

The system for the production of information as a product both for implementation abroad, and for the domestic market is weakly developed in our country. There's is no organizational support for the development of this type of activity even for already existing highly skilled specialists. At the same time, foreign non-resident companies are successfully using the intellectual potential of highly skilled Ukrainian programmers, other specialists in the field of electronic information technologies for the development of profitable information production. Thus, according to a survey conducted by Internetua in 2018, 62% of respondents moved because of a safer and more stable life, but the remaining 48% said that the cause of the move was a sum of factors: more opportunities to work, the opportunity to live in another culture, the desire to see something new. None of the respondents denied the financial reasoning of the move, which also influenced the decision, but only 15% of respondents indicated this as the main cause [78].

At the same time, according to the Kyiv International Institute of Sociology, 12 to 17% of Ukrainians are seriously inclined to leave Ukraine. By the end of the year, about 6–7% of the population is planning to leave. People with higher education are emigrating, those who want to have long-term residence, who want to study, to find a job.

In the long run, this means "washing out" of the active able-bodied population. And whether they will return at all is unknown.

At the same time, the UN prognosis for Ukraine is not comforting, as it predicts that by 2050, the population will be reduced to 36 million. By 2100 this figure will drop to 25–27 million [79].

There is another danger worth mentioning. The lack of demand for intellectual potential of Ukrainian programmers can bring it to another, ill-fated plane. The characteristic for the current level of information society development as a whole and the level of legal support for activities in the field of the use of digital information technologies in Ukraine, in general, does not contribute to the use of hacker traffic in the interests of social development. That is, our society, like most other countries of the world, has not yet worked out the way to use the creative potential of its most educated members, those who known most in digital information technologies, which is the engine of the development of the information society.

The new opportunities that have emerged as a result of the development of information technology have become widely used by the criminal world. This, in turn, has led to the emerging of new types of crimes, including, in particular, unlawful interference with the system operations and computer networks, theft and unauthorized change and the dissemination of data or information, etc. Accordingly, cybercrime has turned into a major factor that has began to put a significant pressure on social relations. The researchers note that cybercrime has now become a sort of a many-headed hydra, given its characteristics such as transnationality, latency, dynamics of growth and transformations, anonymity, scale of consequences, etc. And today in their comments they note that Ukraine is a very noticeable hacking center, along with Russia, Brazil, China and, to a lesser extent, India. In these countries there is a fairly educated young population, high unemployment level and limited employment opportunities. In a context of deep latent penetration of cybercrime in both public and state life, its overcoming becomes the cornerstone of the development of the information society and the entry of Ukraine into the world's information space [80].

At the same time, one of the most common schemes introduced into the information space by cybercriminals draws attention: the introduction in digital media, through hacking sites, false news or any other harmful information [81].

Along with this problem there also has risen the problem of organizing the protection of intellectual property rights for products of the information sphere of production and defending this problem in the international arena. The protection of intellectual property is paramount, including for Ukraine's economic growth and development:

– protection of intellectual property should have a positive impact on the economy in terms of GDP, job creation, taxation income, development and competitiveness of companies.

– protection of intellectual property should facilitate the flow of foreign direct investment and technology transfer. Taking into account that the sphere of technologies and services quickly catches up with the industry, acting as the driving force of direct foreign investment, Ukraine will have to secure a sound legal base in the field of intellectual property for the full realization of its potential of foreign direct investment by the country.

– protection of intellectual property should foster the development of innovation activities, increase funding for research projects and help businesses to benefit more from innovation;

– protection of intellectual property facilitates cultural expression and diversity, the spreading of new technologies and development;

– intellectual property protection helps companies to monetize their inventions and provide growth. Owning the copyrights helps the company in persuading investors that they should invest in this particular company [82], etc.

At the same time, it should be noted that today Ukrainian legislation in the field of intellectual property is:

– a specific complex of normative legal acts regulating social relations, connected with the sphere of creative, intellectual activity, characterized by a certain autonomy, and a clear relationship with the norms of other branches of law. It simultaneously uses the provisions of civil, financial, administrative, constitutional, civil procedural,

criminal procedural legislation by regulating the regime of this or that object of intellectual property, etc.;

– numerous, that is, there are quite a lot (now over 100) of normative acts regulating intellectual, creative activity, however, the process of adopting new legal acts for regulating this sphere at the level of by-laws is continuous;

– not uniform, it contains normative acts of unequal legal force. Based on the Constitution of Ukraine, they include the laws of Ukraine, the resolutions of the Cabinet of Ministers of Ukraine, and departmental acts of the Ministry of Education and Science of Ukraine, the joint subordinate acts of the CMU and the Ministry of Education and Science, other subordinate normative acts, etc. An important place is occupied by international treaties, bilateral and multilateral agreements, etc., ratified by Ukraine properly [83].

The norms for the protection of intellectual property rights have been reflected in the Civil, Commercial, Criminal Codes of Ukraine, in the Code of Ukraine on Administrative Offenses and in special laws of Ukraine in the field of intellectual property. According to the legislative acts in this area, today about 100 sub-legal acts are developed and in force.

With the adoption in 2003 of the Basic Law of Ukraine "On the Fundamentals of National Security of Ukraine", it had been recognised at the legislative level that the intellectual property of the society is the object of national security, and the development of spirituality, moral principles, intellectual potential is recognized as one of the priority national interests.

The National Security Strategy of Ukraine, approved by the President of Ukraine in 2015, proclaims that one of the key conditions for a new quality of economic growth is ensuring economic security by: "… creating a favorable business climate and conditions for accelerated innovation development" [84].One of the main tasks in the field of improvement of the country's defense capability is the task of supporting "promising, practical scientific research in the field of national security and defense". However, it has been noted that "the development of the State Migration Service of Ukraine should be

aimed at ensuring the rights and freedoms of citizens … effective control over migration processes, the fight against illegal migration, the protection of the national labor market …" [85]. According to laws, for example, in the Law of Ukraine "On the Protection of Information in Information and Telecommunication Systems" [86], the Law of Ukraine "On Protection of Rights to Inventions and Utility Models" [87], the Law of Ukraine "On Electronic Digital Signature" [88] appropriate measures are being taken in this area.

At the same time, the experts state that the current legislation on intellectual property as of yet does not provide reliable and effective protection of such rights as a whole since each law on this or that object of intellectual property rights provides own measures of protection of the rights to the given object. They are still not always consistent with each other, contradictory and are not a unified system of protection measures for intellectual property rights. Accordingly, the study of the mechanisms of protection and protection of both intellectual rights as a whole and rights to certain intellectual property objects separately [89].

The proactive position of the legislator in the matter of the effective legal norms formation for the qualitative protection of intellectual property rights, ensuring the full implementation of intellectual property rights should be considered as an integral part of the priority tasks of the modern state. However, the reform of Ukraine's legislation is still underway, which gives hope that existing gaps in the system of regulatory protection of intellectual property rights and their practical protection will be well-adjusted.

In the context of the increasing intensity of global processes in the modern world, the nationwide social information system should become a guarantee of neutralization of modern information threats and the use of positive factors in the development of informatization [90]. The development of this system at the national level can ensure the successful development of Ukraine as an active subject of international information markets in interstate information exchanges, the development of national resources and opportunities for information

production is a leading area of national development in the context of the development of the information society.

Both international and national experiences of the modern society development in many regions of the world confirms such approach to be successful, facilitates meeting necessities of the society. At this stage of the society development, the state should intensify its influence on the organizational and technological processes of the development of the information industry, the incorporation into the system of information exchanges at the interstate and international levels, the inclusion of national subjects of information activities into international economic activity. The realization of this task should be guided by the release of reserves available in our society. Including:

1) Today, ensuring access of all categories of citizens to the information resources available in society should be realized on the basis of the improvement of the relevant legal, material and technical basis and a broad explanation of the need for development in this direction. The organizational basis for this process is to foresee the development of trunk information communications, the creation of real conditions for the establishment of its own production and the dissemination of information. At the same time, the development of information exchanges carried out with the help of state-controlled information communications is primarily due to vertical information communications, which must create a coherent framework for the functioning of the national information space [91].

2) Association for implementing plans, social development projects of scientific institutions potential, producing the new information necessary for development in the context of the formation of the structures of the information society, domestic informational, informational and analytical centers [92], creative potential of NGOs, etc. This work should be accompanied by the organization of the centers of acquisition and organization of high-performance use of available information resources, especially librarian, archival and museum institutions, with special attention to the preservation and enrichment of sovereign information resources, to technological and methodological renewal of their activities.

3) Assistance to the state to producing and improvement of the latest social communications, the development of the strategic communications based on digital information technologies, designed to provide for the modern information exchanges necessary opportunities for activation in the information sphere of social structures and all members of society. The system of these communications, supported by national organizational, legal and technical and technological means, should be an effective infrastructure for information exchanges within the national information space, as well as facilitate the successful release of domestic information workers in the system of international information exchanges.

The work of the state in the development of these branches should facilitate the achievement of transparency of power for citizens, transparency of its decisions and actions; promote strengthening of the legitimacy of the authorities, ensuring the possibility of an adequate response to the current problems of domestic development and international relations. At the same time, the establishment of feedback — from civil society institutions to state bodies — gives the latter the opportunity to formulate views on the relation between the activities of power structures and their support to citizens, the idea of the efficiency of the policy of power, which ultimately is a key factor for the stability or instability of the entire system [93]. The functioning of this mechanism will help with society consolidation, nurturing in its members the feeling of involvement in public activities, patriotism.

4) Information products, made in state scientific, scientific and information structures, and in private structures, non-state analytical centers, funds, etc. "should be equated to all other types of products and be subject to all rules relating to export operations. International legal legislation in the field of information should be implemented into the legal framework of Ukraine on time. The state should facilitate the participation of domestic lawyers in the preparation of new legal acts relating to the information sphere, and defend the national interests in the new legislation" [94].

5) The development of information technology necessitates the continuous improvement of the organization of the national information

space security [95]. Organizational activity in this direction should be aimed at elimination of the corresponding threats for society as a whole, for social structures in the national information space and for citizens-users of information resources, participants of active information work, starting from the present in our day displacement of the domestic information market of domestic products with more competitive ones due to the reliance on the advanced material, technical and technological base of foreign information products, to the illegal competition on international market.

In the context of information security the application against our country of a special category of information influence raises considerable concern — the military information resources, which are becoming increasingly powerful force in the battle for the minds of citizens in conducting information wars [96]. In this regard, for protection of its information space, the state is obliged to use all traditional legal, law enforcement levers, its influence on vertical information communications, means of completing domestic and foreign resources of national information bases.

One should also pay attention to the fact that due to events in the East of Ukraine, the growth of cybercrime in Ukraine in the near future may have an additional impetus without the corresponding strengthening of the reaction from the law enforcement agencies. Thus, increasing cybercrime levels is thus a significant obstacle on the road to the transformation of Ukrainian society, to increasing of its economic and political efficiency.

It should be noted that terminologically A. Muzika and D. Azarov determine the identity of the concepts of cybercrime and crimes in the field of computer information [97]. Scientists point out that cybercrime should be identified as a crime in the area of computer information.

In turn, V. Butuzov statesthe opinion that computer crimes and cybercrime are various types of crimes in the field of high information technologies, the classification of which occurs on the following grounds:

– an indication of the attribution of certain crimes in the sphere of high information technologies to computers is the instrument of the

crime — computer technology. Moreover, the object of encroachment is the social relations in the field of automated information processing;

– a feature of the attribution of crimes in the area of high information technology to cybercrime is a specific environment for committing crimes — cyberspace (the environment of computer systems and networks). Moreover, the object of a criminal offense may be the relationship of any branch of human activity, which has its manifestation in cyberspace [98].

Among the cybercriminals, the most prominent with the onset of the development of digital technologies in our country has become the hacker virtual community. Characterizing the development of this specific for information society community, Manuel Castells not only notes that its members are pleased to have a certain status in the community, from the joy of creativity, from rapprochement with the world of art, with psychological excitement — as a "drive" from the process of creation. He speaks of the development of a characteristic feature of this category of people "a sense of superiority over all the other computer illiterate world and the tendencies of communication with the computer or with other people through the computer, focusing exclusively on software issues that are incomprehensible for the rest of humanity" [99]. The researcher also draws attention to the fact that, according to the leaders of the hacker movement, only "when people satisfy their basic needs, they can afford to devote life to intellectual creativity and only then act in a culture giving" [100].

A. M. Babenko remarks about the existing dangers of cybercrime, which due to the way of committing belong to the information group. He points out that such crimes are committed through the use of illegal means of obtaining information, in particular through unauthorized access to computers and networks, and the dissemination of false information [101].

At the same time, it should be noted that any information expertly put into community is immediately replicated and distributed without any verification. One recent example of this may be the announcement by Chernihiv Oblast State Television and Radio Company that "hackers attack Ukrainian patriotic online groups and write false

information in there. They are spreading panic amongst the families whose husbands are in the Combined Force Operation Zone, especially whenever the battalions enter an active phase of fighting. Falsely citing official Ukrainian sources, Russian hackers get into the media and distribute false information" [102]. Earlier, the media also informed about the repeated hacking of the press center's site at that time, the anti-terrorist operation. The site was attacked by hackers as a result of which the untrustworthy information was published [103].

The head of the new media programs in Internews-Ukraine Vitaliy Moroz in his commentary on the "work" of hackers in social networks stated: "Separatists have created a fake press center ATO. They have used the identical to the original page, they stole the icon, photos, full description. And they began to publish content from the standpoint of terrorists. Of course, there was a large number of complaints, and after some time the fake press center of the ATO has been blocked" [104]. However, the information was already spread all over the Internet…

It should also be noted that more and more media informs about the work of such Russian hacking groups as: Fancy Bear, The Shadow Brokers, etc. Such tendencies are especially frequent during the election campaigns in the Ukrainian cyberspace. The Cyberpolice of Ukraine records the mass distribution of modified malicious software, which they have already used in attacks on critical infrastructure objects, as well as new ones that they have not encountered before. According to Serhiy Demediuk, the head of the cyberpolice, this situation indicates that Russian hackers are trying to access the networks of state bodies in any way possible. "There are attempts to test attacks on the site of the Central Election Commission and get information about its internal network. We find on closed forums several orders for obtaining relevant databases, including our voters' databases, but we do not yet have information on whether any of the customers have received the desired information. Recently, we helped to repel the attacks of the Ministry of Agrarian Policy and the Ministry of Justice",— said S. Demediuk [104].

According to ESET company, which has unveiled the main trends in the distribution of computer threats in Ukrainian cyberspace in July

2018 via the ESET Live Grid rapid alert system, in Ukraine the most active remain the threats to covert cybersquat extraction, programs that redirect the victim to infected sites, and adware.

The leading threat in Ukrainian malware ranking in July 2018 has become JS / CoinMiner. This Trojan program uses the hardware resources of an infected computer to hide cybercriminals. Another commonly encountered malware with similar functionality are Win32 / CoinMiner and Win64 / CoinMiner.

The second place takes HTML / ScrInject, which at the beginning of the year had been the leader in the ranking of threats in Ukraine. The HTML / ScrInject code redirects users to web resources with malicious software, and is typically embedded in HTML pages.

And it is SMB / Exploit. DoublePulsar that closes the top three threats, which prevents the exploitation of vulnerable systems by malicious software Win32 / Exploit.CVE-2017–0147.A and Win32 / Filecoder.WannaCryptor [106].

The media also has coined repeated attacks by hackers from so-called CyberBercut. The site of the President of Ukraine [105] has been attacked.

The aforementioned suggests that modern scientific and technological progress does not provide reliable protection of sovereign volumes of information from harmful influences, from resources produced by cybercriminals, even under the condition of high level of economic, technological and technological development, provided by the society. Moreover, with the development of the global information space, the processes of informatization around the world, sovereign volumes of information will become increasingly vulnerable to such influences, traditional ideas about ensuring information sovereignty will become less efficient in their practical implementation.

The necessity for information security dictates the need for continuous monitoring of all effective sources of information production, rapid response to possible information threats associated with the introduction of new information into the public circulation. Low quality content information, harmful and dangerous to society, affects public opinion as soon as it is introduced into already existing

system of social communication. The technologies of development of global influences on the national information space in each of the regions of the world are based on this harmful feature. It is this kind of informational influences, along with the use of technical means for violating the work process of the opponent's system of social information communications, that strategies for conducting information wars are based on, both focused on obtaining an independent result, and as a paralyzing information space of a particular state.

The national information system should be an important coordinating center for using socially significant resources, both domestic and foreign. It should play a major coordinating role in the production of information necessary for the society, involving the necessary information resources from the global information space, organizing the effective use of resources available to Ukrainian society in the interests of social progress.

Mass media has significant influence on modern users individually. With the development of digital information technology, the growing number of digital media, digital copies of print media, and with the increased efficiency of all media, they have become even more influential source of public opinion, the national position of each individual, they play a significant role in security situations of the country. In spite of all this, the practice of full denationalization of the media leaves the public authorities without their own rostrum for explanation of the content of their activities to the citizens, actually disarming the state in the sphere of mass media activity, and leaves the hands of the state devoid of any instrument for counteracting information and all other aggressors, devoid of any instrument for formatting public opinion in the country and in the international community. It can be argued that the policy of denationalizing the media has been brought to the point of absurdity, that is, until the complete loss of the state's position in the media sphere, and it is actually a violation of the democratic rights of citizens, their right to information on the content of the activities of government employees hired by the citizens in state structures. In the national information space during the last decade, social networks are becoming increasingly important.

Significant problems of the user with modern information technologies also arise in connection with significant changes in the system "information environment — human consciousness". It has already been mentioned previously that all of channels for information access into human consciousness by various technical means increases the outlet system of these channels in order determined by these technical means. Thus, increasing of data volumes is increasing exponentially, data:

– that characterizes the surrounding world,
– that characterizes social development,
– that characterizes the situation with the development of the information resources themselves that are found in human society.

In such situation, a person tries to convert the streams of information data to himself, under the possibility of their differentiation and their own ability to perceive and form the perceptions of the surrounding world. This process takes place along the way of generalization of data, generalization of integral images and representations at the growing levels of abstraction. Levels of abstraction occur, based on the needs of summarizing information files, which provides on the one hand a holistic view of the world, on the other — in relation with "traffic capacity" of human consciousness. With increasing array of information available to humans, the development of technical means within its arms, respectively, and the level of abstraction for understanding reality increases.

Since any kind of a generalization makes an error in the understanding of reality, the increasing levels of generalization errors of this primary material increases the objectivity of ideas about the world decreases and it becomes a problem for humans. A person finds a way out of the situation, specializing only in a certain type of activity and mastering, mainly, only the part of socially significant information relevant to a certain type of activity. However, at the same time, the person cheapens the ideas about the world, which is in the constant interconnection of all constituents. At the same time, in creative work, share of which in today's society is increasing, these connections are becoming increasingly more important and it's not without reason

that nowadays new achievements of modern science may be found in interdisciplinary planes.

In addition, the specialization in one or another activity field only partially limits the human's need for new information. After all, the human is as a social being is a part of the system of social ties, roles and functions, the implementation of which requires an increasing amount of information. "Thus, in the general sense, this is how an increase in the efficiency of the use of available information is happening. Such information exchange greatly enhances the information equipment of each particular individual who participates in the exchange" [107].

The point of view of the German philosopher G. Klaus of what he calls an "'external drive', in which the public experience is acquired and stored, is accumulated with the help of the appropriate means of communication …" is also useful for clarifying the essence of these information processes.

When using it, the individual achieves a double result. First, it saves effort to gain own experience. Second, the individual gets the opportunity to use the experience of other people, which they themselves would never be able to acquire… It's been a considerable time since the idea had been implemented in scientific research that it is the "external drive" that the individual derives not just experience, based on experience on the "treasury of knowledge" compiled over a long period of time by all of humanity. Moreover, not just knowledge, but knowledge of universal, proven through practice, subjected to selection and ordering, during which the essential information has been removed from the information society and the essential material was preserved.

Conversely, the break of social ties for a person is a tragedy that is sharply reflected both on the mental and on the physical states, leading to the degradation of the individual. We can observe similar tragic examples when unemployed, the elderly, lose social ties with communities, with their usual environment, etc.

It should be noted that mitigating the problem of the development of modern information volumes brings proves to be really effective only with the establishment of close, effective communication links in the society itself, when the system of social ties as a united social

body "safeguards" a person, provides a flexible, effective dosage of the necessary information. In turn, this effective dosage is conditioned by studying the information needs of societal members, studying the aspirations and trends of social development. This, in turn, determines the increasing importance of the humanities in the development of the information society, which is confirmed by the growing demand in the West World [108]. As D. Bell observes, "post-industrial society is a 'game between people', but such a game requires an increased level of coordination" [109].

Attention is also drawn to the fact that the use of machine technology in the selection of new data from the environment differs from the direct selection, using natural channels for the selection of information, characteristical to humans. Natural human channels for the selection of information — vision, sound, tactile, flavor and smell, in the natural environment, primarily, function as a complex and thus provide a set of data that reflects the image of an object or phenomenon in greater detail than a single feeling can reflect. The machine, the mechanism also performs a certain function, given by a person, and transmits to human consciousness data provided by the creator. And if the natural channels of data selection of objective reality, by virtue of their natural qualities, provide the human mind with a spectrum of both preset and unpredictable data, and this unpredictable part of it also remains in the mind, and may also be useful, adding a fullness of experience at the level of the subconsciousness, then the machine carries out only tasks that are foreseen by a human.

It should also be noted that the problem of the correlation of knowledge as a product of intellectual activity and as the process of biological development of a person has not yet been studied. Before the application of machine technology, humans, as well as any biological substance, had all body organs, including the brain, develop harmoniously. With the development of sensory organs, the brain received data, transformed it into information to be used in the interests of human existence. It is highly probable to assume that, based on the inherent nature of expediency, the possible overloads are regulated by appropriate biological changes during this process.

However, with the use of tools, and later with the use of machine technology, disharmonious deviations had began to occur in this process. After all, biology began to lag behind the information provision of human existence. This situation is well illustrated by one of the researchers: "Compare how smooth the landscape changes in front of us when we are just walking around the park, with what's happening when we watch the film. In the latter case, this happens in a few seconds. Such acceleration does not allow us to process information in a natural for us pace, and there is a stress, and a person is reacting with stress. One-time impact of a large stream of information does not tire the brain, but if it happens constantly, there is no time left for rest" [110].

The question arises just how much does the brain overload affects its proper functioning? Another issue altogether is that a person has began to receive information about those things and phenomena that would not be possible to receive without modern devices, which greatly enhance the functions of some organs, and not affecting certain functions of others. In this regard, the question arises whether an adequate representation of the human consciousness of the phenomena of the micro-and macro-world is possible, and if so, how adequate is it? How productive is the human brain's studying of those processes not processed by sensory organs? Can we understand the processes of the existence of dark matter and dark energy, which hypothetically fills the universe up to 95%? .. And so on, and so on.

Our civilization tries to some extent neutralize the aforementioned strain of brain activity with the help of computer technology. Indeed, the use of such technologies, the development of digital information technology has helped to contain the problem of information explosion, characteristic of the second half of the twentieth century, has intensified global processes, comprehensive informatization, which have opened new perspectives to humanity. Prospects, let's say, for a certain period of its development.

However, the total implementation of computer technology, the development of the global information society causes a system of new problems for modern humans. On the one hand, a modern person can

no longer imagine his life without a computer. In the administrative field, in the sphere of economic activity, in science, education, culture of functioning of our society without electronic technologies, without the use of information resources of the Internet is simply impossible. And for new generations, starting with modern children and young people, the notion of life without computer technology, without the Internet — is impossible.

However, there were side evidence that the human body began to negatively respond to the strain of the last decade. "This has recently led to the emergence of a host of professional illnesses associated with the computer: abnormalities, tunnel syndrome, tremor, inflammation of the skin, scoliosis, migraines, tendonitis, de Kerven's disease, impotence, asthenopia, epilepsy, angina pectoris, dizziness, depression, eye diseases (in particular, cataracts) and others" [111].

Also, work at computer can increase the risk of such diseases.

Such work can cause serious neuromuscular disorders, hand illnesses. Fingers, hands and forearms are particularly sensitive parts of the body. Hands perform the bulk of mechanical work when working at a computer, and it's not the amplitude of physical activity (it is usually rather low), but the time of work that carries the strain. As you know, finger pads are the most sensitive parts of the human body. A large number of sensitive nerve endings is concentrated (due to this, the fingers act as a touch) on the pads. During long work at the computer (on the keyboard), the nerve endings of the fingers are being constantly stimulated. Over time, this leads to the depletion of the nerve paths that are bind to the cerebral cortex. As a result, there is a defect of the coordination of finger movements, as well as cramps of the hand and forearm. English researchers called this a disease called RSI (repetitive strain injury), which is translated into Ukrainian as a chronic disease of the hands.

Often, a prolonged work at the computer can cause diseases of the musculoskeletal system: posture disorders or curvature of the spine. The most susceptible to this disease are children with the curvature of the spine developing into a type of scoliosis, that is, the curvature of the vertebral column to the side (laterally). In adults may occur

manifestations of an intervertebral hernia, which leads to compression of the nerve root and the appearance of radiculitis.

Work at a computer is, in general, intellectual work. And so the main part of the load falls on the nervous system, namely on the brain and can cause diseases of the nervous system [112].

According to researchers and practitioners, eyes are perhaps the weakest component of the chain of problems associated with information fatigue. When working at the computer their work with excessive overload is actually the most noticeable stress in the body and this stress is redistributed throughout the body and leads to its general weakening. "When examining a large number of users (5703 people) the Bulgarian specialists D. Dochew, he had noted the following symptoms:

– reddening of eyes — 48,44%,
– rash in eyes — 36,11%,
– darkening in the eyes — 2, 59%.
– dichotomy — 0, 16%,
– Itching — 41, 16%,
– pain — 17%,
– unpleasant sensations — 5,76%;
– heaviness — 3,94%.
– general discomfort — 10,48%;
– weakness — 3,23%;
– headaches — 9, 55%,
– dizziness — 2, 22%.

At the same time there were also objective changes in the visual system:

– reduction of visual acuity — 32,2% of cases,
– violation of binocular vision — 49, 42%, and others. defects" [113].

Long term work at the computer can increase the risk of such eye diseases as myopia, hyperopia, and glaucoma [114].

At the same time, according to A. Pavlenko, "the main reason for the negative influence of the PC monitor, TVs of other household appliances on their users is the torsion component of electromagnetic radiation" [115]. Today it is to some extent a hypothetical factor of

influence on a human, since it is not sufficiently supported by classical scientific research yet. At the same time, the unexplored factors of influence on the human body are being recorded. The computer stress of the display operator is being manifested. Today it is possible that with the use of computer technology in all spheres of public life, a person comes into contact with the system of such electromagnetic fields, a much stronger contact than the human body had met at the pre-computer period of its development. In addition to the power factor, the negative influence of these fields also manifests themselves in the torsion fields, according to a number of researchers, among which AV Bobrov [116], VP Kaznacheyev [117] — is the basis of information interactions in biology.

Certainly, based on the practice of working with a computer, it is obvious that it can be argued that, having created computers, the modern man created along with him artificial, much more powerful than natural field generators that affect not only the information reception channels, obtained from nature, but also affecting all cells of the human body, forcing them to work in an unusual mode — perception of information. That also causes the formation of negative feelings in the body, increases the levels of fatigue.

A. R. Pavlenko also observes that the influence of EMR and their information components on the human body is insufficiently studied. "But it is clear that it can not do without consequences (numerous experiments on experimental animals conducted in France, the USA, Switzerland, Ukraine, Russia, confirm the possibility of the influence of weak electromagnetic fields of the ultralow and low frequencies and their torsional components on biological objects, especially on the brain" [118].

The results of modern studies in this area are concerning, as they outline the tendency of computer technology to provoke severe pathologies, the whole range of serious diseases in people who spend a lot of time on computer equipment. At the same time "… the model of transition from norm to pathology makes it easy to explain why the course of the disease in different stages occurs at different speeds. Thus, at the initial stage, the total value of the information-wave process

corresponding to the pathology is small in both the studied part of the organism and in its size. In this case, the rest of the body in the state of the norm can actively resist this change because the change is simply more. This condition can be long-term and fairly stable (it can sometimes last for years). But the presence of the information-wave process, which affects negatively on the organism, leads to a steady and gradual rearrangement of it to the pathology" [119].

There are also many studies with the results that attest the harmful effects of mobile phones on human health. According to the Swedish National Institute of Labor and the Norwegian Department of Protection against Electromagnetic Radiation, "33% of subscribers immediately after a conversation on a cellular phone, have concentration and attention worsen, almost 25% of those who took part in the poll have memory problems, 50% suffer from headache, 65% complain about drowsiness, 84% noted the heating of the skin in the temporal area during the conversation, etc." [120]. As observers note, "the starting point in the mechanism of action, changes in the rhythm of metabolic processes, the regulation of all functions of the neurons are the obstacles in the natural electrical activity of the brain tissues, the neurons introduced from the outside by the electromagnetic field of the high frequency. We are not inclined to believe that the specified links of the mechanism of biological action of superhighways are exhaustive… An important link in the action of this field is the violation of regulatory mechanisms between the bark and subcortex, the regulatory mechanisms of other physically functioning complex functionalities, as well as the mechanisms that provide the integrative activity of the brain and the whole organism" [121].

A major problem for computer networks users is the Internet addiction, which develops in serious social, medical (psychological), culturological and other problems, becoming a significant problem of our time. This term was first used by I. Goldberg to describe the painful, obsessive attraction to the the Internet [122]. The generally accepted definition of this morbid condition does not exist as of yet. Specialists consider Internet addiction as a psychological phenomenon, which is that a person has an obsessive desire to stay permanently on

the World Wide Web. More precisely, the definition by Maria Drepa, who considers the Internet addiction as a kind of technological addiction, manifested by the displacement of the goals of the individual in the virtual reality to fill the frustrative spheres of real life [123].

A. Goldberg, along with the concept of Internet addiction uses the term "pathological use of the computer". This concept is considered to be somewhat broader. The specificity of this phenomenon is the usage of computers to establish social interaction [124].

At the same time, specialists agree that Internet addiction is a type of a mental illness. It manifests itself as a hard-fought desire to connect to the Internet and the lack of volition to stay disconnected from it even for a time. In some definitions, particular attention is paid to types of occupation on the Internet: communication via email, pornography, games, etc.

The opinion that the Internet addiction is "an obsessive desire to use Internet technology as a way to escape from reality" of the researchers of the Vinnytsia National Technical University deserves attention [125].

This definition satisfies the framework proposed by the authors of the study, but does not fully reflect the actual process, or rather motivation of it. After all, a person ds rarely motivated only by an attempt to change the state of affairs, the environment, etc. for an uncertainty. This circumstance is particularly significant towards Internet. After all, "leaving reality for the Internet", a person may encounter an online space reflecting situations that reflect exactly the reality from which a person wants to hide, or may encounter virtual worries of worse experiences. In this regard, it seems sensible to propose a following definition: Internet addiction is the obsessive desire of human to use Internet technology as a means of satisfying the realities of dreams and needs in the world of digital virtual images and actions and constructed situations.

This definition determines the motivation of this addiction and is confirmed by the above representations of various purposes of staying on the Internet by an addicted person. This approach to the problem is confirmed, in particular, by the results of Chinese researchers. With

the help of their clinical research, the criteria for online addictions had been identified:

– the sense of taste of future satisfaction;
– acceptance of the situation (internal comfort);
– lack of control;
– neglect of care for harmful consequences;
– loss (conscious refusal) of social communications and interests;
– softening (substitution) of negative emotions;
– secrecy from relatives and friends;
– abuse of the Internet [126].

Thus, Internet addiction can be a joy, euphoria, lack of control over time passage when you are online, and during inability to get into the virtual reality — sadness, emptiness and depression. This may be accompanied by somatic disorders — frustration and dryness in the eyes, back pain and elbow pain. Other consequences of online addiction can be changes in character, neglect of home duties and general indifference [127].

The scale of the fight against Internet addiction in the United States is striking. Most affiliates of the Society of Anonymous Alcoholics have opened groups of support for online addicts, and there are groups for relatives who want to return a family member to normal life. The program of 12 steps has been developed, the main goal of which is to fill the real life with new content and decrease the time spent on the Web. When a person completely controls the time spent on the Internet is considered a recovery [128].

At the same time, psychologists agree that the Internet in many cases contributes to the development of this addiction in a person, while, of course, a person may either become an addict, or may throw it off.

In connection with the above-mentioned attempts by both domestic and foreign authorities and international organizations to regulate the sphere of the use of Internet information, its production is not an encroachment on the future of humanity, the information phase of its development.

At the same time, today the interstate coordination of activities on the neutralization of illegal activity on the Internet is ineffective. A typical example of the ineffective usage of international contractual practices is the story of an international agreement The Anti-Counterfeiting Trade Agreement (ACTA) and the subsequent withdrawal of a significant part of the signatory countries from this document, the goal of which had been the influence the negative trends in the development of the Internet space.

Ultimately, nevertheless, the most significant reason for ineffective legal influence on the modern Internet environment is the backwardness of methods and means of practical implementation of the existing legal framework by law enforcement agencies and the judiciary in regulating the functioning of the Internet environment.

One must emphasize another important fact: the Internet community in the process of its forming, the development and protection of its own interests gradually comes into conflict with the interests of large business, large international companies. And the corresponding business pressure on governments with developed IT subculture will be only increasing.

Lack of technical development of the IT environment of law-making practice and technology for ensuring compliance with the law also creates serious problems in the field of information security organization in an intensification of globalization processes.

Considering the problems associated with the development of digital information technology, we must clearly understand the already existing ones and new "shadow sides of the network". Dr. Michael Chorost, a researcher of these processes and an worthwhile writer of the subject, observes: "… there are all grounds for serious concern. However, the new technology always has the other side. The development of language has created a threat of schizophrenia. The development of the alphabet could lead to the fact that the person was detached from the surrounding and locked in. Negative aspects of one or another phenomenon — this is not the reason to refuse progress. On the contrary, there is a need for targeted efforts to limit the negative effects" [129].

2.4. Mobilization of personal resources in neutralizing negative factors of modern communication in the digital resources sphere

The statement about the halting of the biological development of a modern person somewhere at the turn of the previous millenia [130] in the context of the researches of the last 10–15 years, which testify to the rapid increase in the pressure of the information sphere on the modern human and the corresponding socio-biological response — seem to be excessively categorical. Relevant representations are based on noting some slowing down of certain biological changes. Such a slowdown, as it has happened throughout the history of humankind, reflects a period of favorable conditions for the human population, when human adaptation mechanisms do not require any significant adjustments to biological evolution.

At the same time, during a long time of the society life there had been wars, came and went into the past epidemics of various diseases, droughts followed with holodomors; there had been various cataclysms, but non the past had threatened the prospects of the existence of the species as a whole.

The threats to these prospects came from the technical weaponization of humanity, with the rapid, ever-increasing rate of production of information, the processing of which became an increasing problem for the consciousness of the vast majority of people, with the emergence of a situation that more and more people qualify as information "explosion" in the second half of the twentieth century. The growing informational pressure on human consciousness leads to overstrain of field-biological mechanisms of assimilation of information data, and this consciousness has rightly stated an increasing separation from realities of the world. The separation from the realities of the world poses a real threat to the existence of the homosapiens, and again triggers the mechanisms of accelerated changes both in biological evolution and in the qualitatively new influences of human on the reality in which the humanity exists. Information pressure has also caused active processes in social evolution.

Another factor associated with the analysis of the impact of the information environment on a biological person is related to the value of the intensity of this effect. It is also means that the effect of constant changes in the information sphere, which is of little importance to a biological person, has small impact on the evolution of the human body. It should be noted that although changes in the human body during the last thousand years could not possibly not occur, in principle, these gradual changes created the basis for a more substantial and obvious changes in the organism, but bud had happened in such a way that they not were noticed by researchers of modern information processes. Analysing explicit changes in the human body in a short time, it is obvious that the conversation should be about the sharp manifestation during short periods of time of (in terms of the course of biological processes) external influences, on which the human body clearly has reaction.

Nataliya Bekhtereva stresses that as "the technological revolution of the [20th] century, which was a result of the development of human brain work — human thought, presented in its turn completely special requirements to the human brain, began to require the interaction of the organism with a virtually new environment. High speeds, and hence the need for urgent adaptation of the brain systems for regulating functions to a new era, strikingly different climate conditions, new linguistic, and sometimes social environment, are part of the practice of everyday life for an ever-increasing number of people. The requirements for the speed of reactions and their accuracy in various branches of the national economy are sharply changing, and in general, the modern system of – 'human machine' has, in many cases, led to the complication of operations required" [131].

Similarly, although this goes beyond the topic raised by Nataliya Bekhtereva, she touches on the acute modern problem, the problem created by human in the new situation associated with the contact with the machine, with a whole set of problems that arise. They arise before society today as a reverse side of the medal — a fee for the ability to meet the informational level, furthermost, as well as all other challenges of modern reality. The specifics of human functioning

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when using machines and mechanisms already require a person to meet certain requirements of the technical infrastructure:

– the need for constant processing of growing volumes of information;

– increasing speed and accuracy of responses to the processes of machine functioning, technological cooperation with the machine;

– development of fortitude to the accompanying machinery activity of previously strange radiation of the environment, harmful to the human body emissions;

– neutralization of ecological consequences of machine activity in the area of human existence, etc.

In this case, it should be noted that a person feels the pressure of evolutionary factors. Human organization and their cultures evolve.

In this regard, it is appropriate to mention "digital frontal lobes" [132]. Michael Chorost notes that they take on the general leadership of many areas of the human brain, carrying out higher cognitive functions, such as posing goals and dealing with abstract concepts. Of course, frontal lobes can not take on all intellectual work. The question is in integration and coordination. Frontal lobes collect "voices from places" that come from many parts of the brain, take them and use them [133].

Elkhonon Goldberg suggests that such search engines as Google are already beginning to implement similar integration functions [134]. In other words, take on the tasks that are born in the frontal lobes of the brain. Google uses a special PageRank search algorithm ("ranking information") responding to a request, displays the web pages that are of primary interest to the user. Each link is considered a "voice" of a given site and indicates that, according to users of the Internet, it should be read. The more a particular page has been linked, the more important it is recognized as.

Google also has other ways to measure the importance of the page from the point of view of the audience. This is a peculiar digital snobbery: sites elevate their status if they have related pages with a high level of recognition ("rank"). The duration of each individual request is also measured. It is assumed that the longer the user stays

on a particular page, the more important it is for them [135]. Thus, Google collects "voices" of many many people.

All of the above shows once again how closely the memory and knowledge are connected. A high-ranking page gathers even more links in it, thereby raising its "rank". It looks similar to the principle of organization characteristic to the work of neurons: we are together — excited together (fire together wire together). Internet pages that link each other, "think together". If many users visit a particular site again and again, its "rank" will become so high that it naturally falls into the long-term collective memory — computer and human.

Accordingly, one can assume that Google functions as a kind of simplest hippocampus — the part of the brain that determines which short-term memories should be transmitted into long-term [136].

In this case, Michael Gillings, Professor of Molecular Evolution, Darrell J. Kemp, Senior Lecturer in Biological Sciences, and Martin Gilbert, Professor of Communications, University of California all agree that we are being increasingly immersed in the digital world through various devices, and the direct connection to the brain is a matter of the near future. If we put our brains on the Internet, it will increase the capacity for perception and cognition.

Since our work and physiological state are observed, noted and analysed with increased attention, our every thought or action may be foreseen. Biological information systems can become minor predictable cogs in a large social system driven by the digital world.

Decision making systems and artificial neural networks imitate the human brain and coordinate our everyday contacts. Accordingly, experts say, we need to start thinking about the Internet as an organism capable of evolution [137]. And it does not matter whether it cooperates with us at this particular moment, or whether it is competing.

At the same time, it should be noted that human consciousness reflects the peculiarities of our evolutionary past, which, in fact, cannot be done by a machine. Researchers of artificial intelligence have begun to realize that emotions may be the key to consciousness.

Neurobiologists, such as Antonio Damasio, have found that when the connection between the prefrontal lobe (which manages the

rational thoughts) and emotional centers (that is, the limbic system) is damaged, patients can not evaluate anything. They cannot make even the simplest decisions, because everything around them seems to have the same value. Accordingly, emotions are absolutely necessary. Without them, it's hard for a machine to determine what's important and what's not. Emotions are the shortcut that human brain uses for the operational evaluation of information. Emotions that had previously been viewed as somewhat peripheral for the artificial intelligence are now on the forefront [138].

At the same time, it should be noted that the contemporary transforming human activity concerns not only the surrounding reality, not only the internal organization of society. Gradually the approaches to self-improvement of a person are being improved, the biological human, in accordance with the requirements of a modern informational society.

This, in particular, can be illustrated by the problems of one of the most famous brain research centers in the world — the Brain Institute of the Russian Academy of Sciences — whose staff are trying to find answers to the question "how not only enormous individual improvement, the manifestation of the possibilities of the individual brain, but also a sharp transition to new levels of interaction with the environment in increasingly complicated circumstances is possible, as the human brain has been able to adapt in less than two generations to a completely new world.

What will happen to the human brain, if with a huge acceleration the pressure on it increases? " [139].

As we see, the issue of the development of the brain of a modern person among researchers is not being actively discussed. And problems arise around the ratio of information production and brain evolution pace. In theory, one of the directions of the problem can be the intensification of brain activity through a variety of physical effects on the brain.

The presence of a brain activity resource necessary for intensifying of large volumes of information processing is evident due to many examples of the human experience of severe stress situations, the impression of

it, electric current, head injuries, etc. This, in particular, was reported by academician Nataliya Bekhtereva, who had introduced the results of research conducted at her institute the to readers of a popular magazine [140]. However, the stimulation of the human brain by acting on various strong physical influences (such as the method of accelerated learning of a foreign language by stimulating brain activity with painful effects on the body, etc.) is ineffective and inhumane. Such influences are not only not guaranteed to be safe and do not have the proper factual basis for thorough study, they are rude and primitive at the present stage of development of science. In addition, although the inhumane nature of such experiments has not been studied, hypothetically it can be argued that the aggressive impact on the development of the human body in the short-term results thus obtained will not be effective in the future, since in order to neutralize the violent actions to the brain, the body will turn on its defensive functions.

Michael Chorost rightly states that "the terms 'memory' and 'perception' are some kind of shortcuts, conditional names that help classify what is happening in our minds" that "the perception of something is largely determined by the content of memory, that "memories become perceptions" [141].

In the pre-computer period of its operation, according to Nataliya Bekhtereva, "the memory itself was the main mechanism that allowed us to survive in health and disease, and in the old type of education the memory was more cared for than it is nowadays.

From early childhood memory forms a matrix, and which continues to work automatically. By doing so, it frees our brain from recycling and using the huge information flow of the modern world, maintaining a healthy state. But memory itself needs help, and it is especially important to help at the very beginning its most fragile mechanism — reading of information" [142]. This problem has became especially acute during the "information explosion" and it is precisely what the humanity is trying to solve through computerization and, accordingly, the development of digital information technology.

It is also noteworthy that the natural mechanisms of memory in the segment of natural conditions of development for a long time will

not require the influence of digital or chemical, or any other kind of a doping. The existing brain power of a person will, for a long time, exceed the existing requirements for processing information that will be given at a biologically acceptable rate. Therefore, obviously, the biological memory of human (as opposed to the digital), as it is necessary in the social, and in purely informational terms, obviously, must also evolve, covering the consciously chosen by the person the most important on the scale of progress, in the social plan are most significant for development of a new society of the event. In one of his interviews, Nataliya Bekhtereva said that the science of the present is a thoroughly studied neuron. However, the combined effect of neurons, and especially the exchange in a very complex system of brain constituents, is very poorly studied. Thus, it will be difficult to deny the hypothesis regarding the measurement of brain power at the level of measurement of the functional purpose of the neuron in a degree that reflects the total number of neurons of a particular brain. Such a quantity is unlikely to be displayed on material carriers.

However, huge measurements of the potential brain power do not neutralize the problems that arise along with the pressure on it of rapidly increasing information production. Although no individual has used all the volumes of information produced by society for a long time, and this information is structured along with the social structuring of society, however, the overall volume of information used by it is constantly increasing. Modern human has:

– to acquire the required knowledge for living in modern conditions, to master professional skills in the field of work and communication in society;

– due to the acceleration of the updating of the amount of knowledge necessary for effective professional activity, to carry out additional training. Actually, at today's pace of modernization of knowledge in human society, for a full-fledged activity its members must study constantly;

– to use increasing amounts of knowledge for public benefit activities. Since this sphere of human functioning requires more and more close ties with the scientific sphere of activity, a greater proportion of

creative work, solving all the complex narrow professional problems, the volumes of such kind of special information used in the future will grow;

– constantly absorb increasing amounts of information related to the development of the social sphere of society and the satisfaction of their own communication needs. Mass media, both printed and electronic, are gaining importance in this sphere of information activity, as well as the activation of the modern person in the use of new sources of electronic information, new information flows, including international ones, in which the information policy of the country greatly helps a person;

– to meet their needs in interpersonal communication with the help of, first of all, electronic technologies, to intensify participation in the development of social networks, interactive communication with the media, etc.;

– to meet leisure needs in the field of computer technologies, etc.

The growing amount of information that the person who needs to use in order to have a full-fledged life in society in the everyday mode already causes the need to reduce the pressure on the human mental activity of mass media by selecting from the general volumes of the most socially significant, socially active, that is, the most active of it. In the system of information circulation of print media systems of structuring and searching information have already been worked out for centuries; library establishments have become recognized centers of preservation and organization of the use of these resources. At the same time, the most massive sector of the modern information sphere, digital information resources, due to rapid changes in the process of their production, circulation, renewal of interest, associated with the pace of updating knowledge as a whole is subject to management with increasing complexity.

The selection of qualitative, useful in life and human activity information in the field of electronic resources is carried out with the help of information retrieval systems (IRS), qualitative characteristics of which are associated with indicators of completeness and relevance [143]. The struggle for those indicators is constantly

exacerbated, because there is more information on the Internet than there is possibilities for its indexation in search engines. This situation is exacerbated by the implementation of information programs and access to the possibilities of infotment for growing masses of users of the Internet. Specialists note that the "information chaos is increasing. And the existing approaches do not meet the requirements of the rapidly expanding information space" [144].

With the growth of the general mass of information on the Internet, the problem of selection of high-quality information that provides high efficiency of modern social activities, reduces the pressure on mental activity of a person, that was previously spent on labor-intensive estimates of its completeness and relevance, becomes particularly acute.

The already existing number of search engines today testifies to the low efficiency of attempts at a systematic approach to solving a problem. Although, given the volume of digital information is also growing, the number of diverse designations of search engines helps to find the necessary information. However, in this case, in accordance with the volumes of total Internet resources, it can issue thousands, tens of thousands, or even millions of variants of responses to the query, which may lead to more extensive search in manual mode. And the problem returns to the starting point. Constant partial refinements of search engines do not contribute to a significant problem solving.

Thus, having learned to produce large volumes of information, the modern human so far has not found effective tools for the effective management. On the one hand, information technologists, who are predominantly the "technocrats" in origin, traditionally look for solutions to problems in the field of purely technical solutions, the transfer to search engines of library techniques, up to the creation of directories search engines, on the other — there is a certain passivity and the user who also has to turn to the technologists searching for effective information management tools.

Obviously, the prospect is on way of improving the content recognition of texts. "With the information space it turns out not only the semantic space can be accessible to our intellect, but also the space

of formal 'rules of reading', which allow to carry out a given set of operations.

'The reverse side of the medal' is the undoubted fact that the information space, ultimately, is generated semantically [145]. Indeed, the development of information flows can be imagined as the generation and movement of data sets associated with a certain message, which is understood as a certain semantic block" [146].

Using such an approach — content recognition of texts — can be successful both in the fight against information noise, and in the fight against parasitic (unauthorized) and deliberate harmful information, the infoterror included, with information formally relevant, as well as repeatedly duplicated information. However, one of the founders of Google Sergei Brin at the Supernova conference said that "for two centuries (!) no machine complexes will reach a person in the ability to search, sort, and evaluate information" [147]. However, there is no alternative to moving forward on the way to solving existing problems. This is primarily due to the fact that taking into account the needs of the near future, we must focus on increasing the proportion of creative work in total labor costs in society. And this work requires high-quality and relevant information. And workers engaged in this kind of work will not be able to spend a significant part of their working time searching for the necessary information. The problem is acute. A professor in the catalog halls is already an anachronism. This is ineffective use of working time.

In the meantime, the way out of this situation in practice lies in creating new professions for information workers, specially occupied by the management of information resources, teaching them them for effective utilization, meaningful analysis of information in the interests of the customer. Such information workers appear in research centers, socially important centers for the preservation of information resources, in libraries and archival institutions.

So, in the V. I. Vernadskyi National Library of Ukraine such special structures have been working for more than a decade as: Social Communications Research Center, National Law Library, Presidents of Ukraine Foundation, staffed with scientists and information

workers, who, in accordance with general social guidelines in the political, economic, and other fields. spheres of public activity carry out selection, analysis of new information in the global information space, domestic information research, prepare a system of relevant thematic bulletins for different categories of customers and carry out their distant operational service with these materials. Thus, the use of new information in the system of public authorities, in scientific institutions, in the business sector, etc., is considerably facilitated.

Conscious neutralization of negative factors associated with the influence of massive digital information resources on human consciousness, on its emotional mechanism of self-preservation is carried out in our time:

– at the international level, through the development of moral, ethical, legal, security and other. the principles of functioning of the global information space and international information exchanges;

– at the level of development of states and nations, by developing political and legal, socio-cultural base for the development of the national information space, sovereign information resources, international cooperation in the field of information circulation;

– at the level of individual social structures, individuals in the information society — through the formation of the moral and ethical sphere of information exchanges in the information society, the preservation of national-cultural identity, the development of better mental qualities at a new stage of social development.

Human functioning in the conditions of rapid development of digital information technologies necessitates the search not only for the means of neutralization of overload of information influence on human consciousness, but also the necessity of neutralization of adjacent information processes influence on human health and its strengthening in the conditions of constant action characteristic of the present and unprecedented previously radiation. "I firmly believe that the person, creating the good and the comfort of life in the development of civilization itself violated and continues to violate the sanitary and hygiene norms of the habitat, and now enjoys the fruits of these violations … Facts of the pathogenic effects of artificial EMF with

low intensity suggest that between the artificial fields and the fields of natural origin there are fundamental qualitative differences, which in no way can be explained by modern theories of electromagnetism and electrodynamics " [148].

As experts note, in recent decades, almost all of the computer manufacturer fight against harmful radiation from computers. "The measurements of the electrical and magnetic components of the EMF show that about 85% of the PVI (regardless of the brand) issued after 1996 met the SanPiN2.2.2.542–96 requirements for emission parameters. Only 10% of these PVIs are exceeded by the electrical component of the EMF in the low frequency range by 15–50%" [149].

To reduce the effects of exposure to radiation on computers, including on liquid crystal elements filters are being installed. In this case, high-quality filters capture the radiation of electrostatic fields by 95–98%, although this does not capture their electrical component.

It should also be noted that in the physical spectrum of any electromagnetic field there are still insufficiently studied components, the characteristic features of which are the transfer of information about processes occurring in physical objects. In this case, only the negative effect of such component fields on the user is uniquely established, even when applying special measures such as built-in protective equipment, the use of protective filters, voltage drop on the anodes of an electron beam tube, etc. The negative effect on the human body of such a component of the electromagnetic radiation of the monitor "may be due to a violation of the characteristic frequencies of certain organs" [150].

The inadequate study of the nature of these electromagnetic field components does not yet allow for the development of recommendations for full protection for the individual PC user. The literature reports on the design of devices for protecting users from the negative effects of monitors on the user, on the production of special mats to reduce the voltage field effect, the development of recommendations for the optimal placement of the computer, etc. [151].

In parallel with the development of systems for protecting computer users from the negative factors of the physical impact of computer

technology, in our time the problems of the necessity of adaptation to life under conditions of digital information technologies dominance, under the conditions of increasing technogenic radiation and conducting an increasing number of people in hypotonia, working at a computer. Therefore, recommendations for optimal behavior for eye protection are being developed and implemented in practice in order to avoid diseases of the spine, respiratory organs, stress, insomnia, nervous, mental disorders, etc.

Thus, despite the effects of the growing flow of information that is not natural to a biological person, despite all the harmful influences of the technogenic environment, the human mind has embarked on new challenges and is already fighting for the preservation and development of man in the transient changes of modern reality.

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Chapter III

TRANSFORMATION PROCESSES IN INFORMATION BASIS OF SOCIETAL DEVELOPMENT

3.1. Informational needs of a modern user and development of librarian work

The social significance of a person in the information society depends directly on the effectiveness of the utilization of available information resources for the sake of social development. This efficiency depends directly:

– on the quality of search work in rapidly growing volumes of produced by mankind information;

– on the quality of the processing of selected information resources for socially significant information activities practice;

– on the quality of the optimal solutions search to existing production problems;

– on the based on the quality of the available information synthesis new information, necessary for the organization of a new level of activity in the solution of socially necessary issues;

– on the pace of implementation of the aforementioned components of the effective use of information resources, that are provided through the level of human information society training for the technical base use, amongst other things, and, in fact, by the technical base itself.

The "virtualization" of the reader has been caused by the development of information and communication technologies. Over the last ten years, the number of "online" visits by far exceeds the number of users who physically visit the library (of course, it refers to library information institutions whose sites and resources are publically

available on the Internet). This is due to the available library internet resources increasing, that can be accessed through the libraries' sites (digital catalogs, databases, digitized rarities, digital versions of publications, etc.), as well as the development of libraries' own content in social networks, the development of phone-friendly other devices friendly special versions of sites, the development of appropriate services for distant service [1].

Given the current volumes of information resources, the accelerating pace of social development which cause the need for corresponding reduction of the time frame for the making necessary decisions in public activities, bringing of information processes directly to the problem of making specific and relevant production decisions, in the end, if necessary, the implementation of synthesizers, integration operations related to the creation of information for a new action, public practice shows the need for the division of professions in the information sphere of social activity.

And the very logic of the development of modern information processes in the civilization dimension, the opposition from the outdated algorithms of social evolution to the new trends in development, and the negative components in the development of new information relations (such as information terrorism, the organization of information wars, etc.) cause the trends to the formation of a inter-civilizational organism, with the strengthening of the internal unity of its components.

Measures in the organization of access to information resources carried out on the implementation of society informatization plans in the future provides the possibility of their active assimilation precisely for creative use in practical activity.

The development of information resources at all levels of their functioning, the creation of information in volumes that has never been encountered by human civilization before, global informatization and Internet technologies, have caused not only a new qualitative level of development of society, but also has generated numerous problems of increasing, which the realities of a new information of society require solutions of. These realities are based on the necessity

to implement the fundamental principles of society: increasing of labor productivity in the information sphere, improving the efficiency of the use of information resources.

Dr Rifgat Abdeyev rightly points the important feature of the evolution of civilizationary information resources, referring to the chief levels of self-organization of society: "… the cognitive aspect was dominant during the first stage, during the second — the energy aspect, and during the third — informational and managerial aspect, and the objectioning of one branch with the other meant not the rejection of the achievement of diversity, but the change of the general line of development, in which all the achieved earlier valuable persisted and was further development" [2].

However, the operation of the system of modern information resources is associated with a number of difficult to solve problems.

One of the problems is connected to the absence of practice of productive work with large volumes of information in the modern society. Solving present-day problems in mid 20th century, society was faced with difficulty of finding the right information in a rapidly expanding system of resources, spread, as noted above, around library institutions, archives, scientific and other information centers. At the same time, the labor costs spent one the research, the time spent on its conducting often equaled the cost of the relevant resources to solve existing problems through recreating the necessary information products. Duplicating a big part of innovative resources significantly reduced the effectiveness of using information in the most important areas of innovation development.

The development and implementation of processing of large amounts of information, primarily digital, technologies, has led to significant reduction of duplication and loss, which has been hotly discussed in the publications of the so-called "information explosion" time during the 50–60s of the previous century.

The rapid increase in new information production makes the problem of processing increasing volumes of information increasingly relevant worldwide. And the goal is not only in the constant necessity to improve the search tools and attempts to facilitate change of

volumes in labor of information workers who work on the selection and processing of information resources required by customers.

It is also the need to respond to the growing role of multilingualism on the Internet, based on the requirements of modern times, slow development of the quality text translation from one language to another, the bringing up to the civilization level of the specifics of the information presentation in the development of necessity of global importance resources on different sides of the world, with the development of systems of global and regional information communications as a single unified civilizationary information system.

At the same time, brining the user information on the aforementioned specificity, the key in the most productive in the creative identity and presenting information in native languages, is an important circumstance of modern information exchanges the value of which, with the realization of opportunities for national development and integration in solving common problems, is constantly increasing.

The complexity of selecting the necessary information from global resources is also conditioned by the development of market relations in the information sphere and the growing segment of information products and services that are marketed as a commodity product with increasing value.

It is getting more difficult to find narrowly specialized information, or simply information that thematically meets the requests of users in the total volumes of constantly increasing amounts of resources [3]. And users require high quality information. However, at the current stage of development of the information resources production, the global information space is full of low-quality information, which in turn complicates the search for quality resources. Significant volumes of poor-quality information exist due to:

– the lack of professionalism, or lack of sufficient professionalism, from new information producers that entered the production sphere through a non-professional as a result of the development of informatization that provides free access both to new information usage and production;

– non-compliance to international standards for information production (ignoring standards for one or another reason);

– poor quality of equipment for the production of new information, which results in poor quality of production, introduction of so-called technological noise to the information space, etc.;

– the presence of harmful and hostile to Ukrainian society information, misinformation and information related to cyberterrorism in the information space [4].

The realities of today correspond to the necessity for the transformation of national thought process into a new one that would meet the spirit of the evolutionary processes of the information society, the self-awareness of a person in the society, the understanding of the responsibilities that the society entrusts on its members. These realities should also be based on new organizational, legal and technical and technological solutions on the information revolution that has taken place in recent decades, with the development of digital information technologies, their implementation in all spheres of society, the library system including. The researchers of the transformation of modern library work at the international scientific conference in Kharkiv rightly believe that traditional forms of library activities, even with digital resources, are not enough, and that "the library should set new goals:

– to promote collaboration between the customers and producers who generate information flows;

– to create conditions for the work of various intermediaries who provide maintenance service for the information exchange participants" [5]. Thus, the researchers has come to the conclusion that it is necessary to restructure the library work towards the development of its active forms. And while in their proposals they do cower all the new forms of libraries — modern analytical centers that the society demands, the very voicing of the problem deserves support.

The processes of informatization of Ukrainian society, the intensification of information exchanges in it, and significant changes in the consciousness of society members, which today manifests major the features of informational society, those are important factors in modernizing library activities. These problems are related, furthermost,

to the necessity of updating the methods of the resources management and developing methods of active work in the information space, organization of effective use of librarian funds by the society.

In this regard, the improvement of the library institutions activities within the system structures, which collectively constitute the information basis of national development, is carried out under the influence of two main factors. One of them is related to the manifestation of the development patterns of the information society, the theoretical and methodological developments, the study of advanced foreign experience in the development of library activity. Another, one of the main ones, is related to the study of the domestic readership environment, users of digital resources that make up the most socially active part of society.

The studies conducted by the library specialists on the changes in the readership during the last fifteen years give some idea of the main tendencies of the reader's contingent evolution in line with the fundamental transformations in the economic, social, political and cultural life of Ukraine. Thus, the results of the market research of readers conducted by Department of integrated library service of VNLU show that readers of general library halls have their information requests fully satisfied, ordering scientific and popular science, educational literature from the secondary fund necessary for the educational process and professional activity (45%); auxiliary funds of periodicals also have a high rating (37%); fund of fiction of the department of integrated library service are preferred by only 5% of respondents; 13% use digital information resources [6].

Changes in the qualitative composition of readers have led to the necessity for appropriate adjustments in library services. Their function was to meet the requests from readers who wanted to obtain from the library information that would give answers to questions related to the specifics of the development of various business areas.

However, the improvement of library services for such category of readers is faced with a range of subjective and objective barriers. Subjective issues primarily spin out of the library staff's slow realisation for the necessary changes in the "librarian-user" relationship dictated

by the specifics of the present, which requires not only the conditions for improving access to funds, but also requires improvements in the methodology of providing information services. Such services should include the initial processing of the information requested by the customer (thematic selection of sources, allocation of the necessary material, etc.).

Objective circumstances are due to the following factors:

– first, for decades the fund amassing has been carried out in accordance with the requirements of the past, Soviet society, and have not fully corresponded to the demands determined by the realities of the present;

– second, for the libraries in our country the crisis of the 90s had meant a significant narrowing of opportunities, or the total loss for the acquisition of new literature, replenishment of funds with new information resources;

– third, publishing industry in Ukraine did not provide and still does not provide libraries with new, modern domestic literature the readers need;

– fourth, even the current limited stocking of library establishments with foreign publications is not effective enough, since language barriers are still a pressing matter for the reader in our country. In addition, the specifics of the post-Soviet reorganization of our society does not provide opportunities for an effective transfer of Western experience to the economic, political, social basis of our reality without proper adaptation. And the time for such an adaptation is very limited in the current rhythm of social life. This situation, as a whole, is due to the fact that today the demand for foreign literature in various spheres of public life is still rather limited.

The sociological researches of the late 90s of the last century confirm that library users are only partially satisfied by available library resources. So, for a large library, the number of satisfied readers was not lower than 35% [7].

In rural libraries, where in times of crisis for our society, the fund amassing was carried out only by some periodical editions, or only occasionally, the content of the received information was did not fully

meet requests of 56,6% of readers, and 36,6% of those who turned to libraries were completely refused to be provided with the necessary information [8].

The analysis of the sociological surveys confirms the logical, unfortunately, phenomenon — the loss of the number of specialists readers who had found themselves unemployed [9].

In the period of a major crisis in the economic sphere of public life in Ukraine, demand for state research has dropped dramatically, which in turn led to a decrease in the new scientific literature interest. As Tetiana Koval notes, although in quantitative terms, external migration from science at that time was rather insignificant, "however, talented qualified scientists were first to immigrate", there was also internal migration — the specialists leaving science for other fields of activity, "significantly decreased the segment of the academic reader, in particular, the staff of the academic institutes of the Academy of Sciences of Ukraine has decreased, who had been the predominant category of users of scientific libraries for many years" [10].

By the end of the 90s, according to Volodymyr Nemoshkalenko, Z. Savina, N. Berezina and various others researchers [11] a significant rejuvenation of the readership of libraries is happening by the student youth and school pupils. There are a lot of factors that determine this tendency, but they hardly indicate a return to the time of "nation that reads the most". And although it should be noted that both school and university programs are much more oriented than before to independent, creative work of young people during the process of acquiring knowledge, however, along with these changes, the visits to libraries are prompted by other reasons as well for this category of readers. For example, a rapid increase in the number of higher and secondary schools through foundation of private ones was not accompanied with the appropriate number of educational libraries (such purposes in new educational institutions are not, as a rule, the most necessary ones during budgeting). At the same time, the financial situation of most young people does not allow them to buy textbooks for studying. In addition, the publication of domestic educational literature is not supported properly by the state and does not provide

the necessary needs. Therefore, textbooks are the most sought after in libraries for young readers.

The high interest in the literature of the humanitarian profile, which in the last decade has been held at the level of more than 60% of the total volume of use, is due to profound transformations in the structure of modern Ukrainian society and the efforts of the reading part of the population to understand these processes, to find their place in them, in certain categories — show your activity. It is worth noting, however, that a high percentage of readers of the humanitarian profile still does not speak about their majority in the general social dimension.

The study of the peculiarities of the informational sphere of the post-Soviet modern society testifies that there are three main information oriented strata presence in our society: 2% to 10% — the establishment and its servicing, about 30% — information passive and conservative readers, more than 60% have been "mass media-ed" under the influence of a number of indifferent factors in relation to information needs [12].

On the other hand, with the existing financial situation after the collapse of the Soviet Union, "only a small part of the ruling elite was able to lead the western way of life. Accordingly, a powerful sphere service it has been formed. There was a catastrophically rapid stratification to a nearly homogeneous society …" [13]. The general irrefutable conclusion is the " 'unideologization' nature of the consciousness of the Ukrainian establishment … an extremely high percentage of those who are not politically conscious" [14], which is reflected in the political lack of structure of our society, which has been present until recently.

The changes found in the research in the interests of all categories of readership, in the interests to access to information and its use by citizens of Ukraine in a broader sphere, indicate the need for constant consideration of these circumstances and improving the activities of library institutions. This process will be effective and not lag behind the requirements of time, provided that the systematic analysis of such requests and conduct of predictive-analytic work will be carried out,

which will result in the presentation and changes in the structure of users, and their information needs.

The basic principle on which the organization of predictive research should be based on is connected to the general social situation, to the democratic choice of our society, its orientation to the constitutionally declared "social, legal, democratic" state. Society-forming and state-building tasks, the implementation of which should be facilitated by the library institution system in our country, are complicated by inequalities in access to social, economic, educational, cultural and other opportunities, and such inequality has worsened over the past year and a half, due to unequal access to computer information technologies [15]. For outlining the predictive characteristics in the study of evolution among users of library institutions this circumstance is very important. After all, in Ukrainian reality the aforementioned inequality not only exists, but also exerts its influence on the process of democratization of society, on the process of improving its self-government, self-organization.

In the face of inequality, professor of Stanford University Larry Jay Diamond considers the social process possible in establishing fair and inclusive competition between individuals or organized groups for influential positions in government; a high level of political participation in regular and legitimate elections where none of the adult social communities are deprived of such participation; such is the level of civil and political freedoms that ensures the integrity of political competition and political participation [16]. As a political scientist, Larry Jay Diamond examines the political aspect of democracy as a organisation of governance. However, the processes that take place in other areas of society's life can be considered oriented toward democracy in the same way with their own certain specific features.

It can be speculated that competitiveness, competitiveness, active life stance, aspiration for free, unbiased self-expression in all types of social activities will be among the characteristic features of library users, both in the near future and in the longer term. These characteristics will be increasingly realized in the process of modern social structuring of post-socialist society. The researchers describe

the features of the differentiation and diversification processes "in the context of the collapse and the emergence of various social groups, organizations, reassessment of regulatory mechanisms, values and attitudes. Reconsidering of many traditional goals and values contributes to the accelerated search for new forms of social organization, in which differentiation and diversification receive a new stimulus" [17].

Taking into account the aforementioned, the process of formation of the modern information environment — "the national system of information resources, which allows the gradual transformation of various information products to be user friendly, their preservation and sharing through computer networks, will be influenced by the motivation of future users of the library. In essence, it must be distributed database of various fields of production, science, culture knowledge" [18].

Iryna Davydova expresses her opinion on the patterns of formation of a single information environment in our country "of distributed domestic databases implementing the methods of information search in telecommunication networks of developed countries" [19]. Her opinion is not only consistent with the concept of information basis consideration of the society development as a complex system of interconnection of the social information databases on the scale of Ukrainian society, as well as in the global dimension. She also elaborates on, on one hand, the seemingly impossible opportunities of information services, on the other, on the increasing technological complexity of such services.

In this situation, the user faces some serious problems: the enormous amounts of information to browse to find in and effectively use only the necessary information for own activities. The rapidly growing volumes of information available to library workers also pose new technological problems for library staff working on improving the quality of service.

The activity of the domestic library system will increasingly be influenced by market transformations, the development of the national information space, the political and civil structure of society.

Library institutions as an important part of the national information potential should increase their presence in international information exchanges. These perspectives should already impose their mark on the process of funds acquisition of library institutions with new information resources. Necessary escalation of information activities on the international level in a post-industrial society necessitates the introduction of new qualitative indicators of the acquisition of library funds, providing modern users with scientific information of international quality. It is also possible to predict the growth of demand for information that will contribute to the general cultural and spiritual development of society [20].

The pace acceleration of modern society development causes the growing information needs in production, as well as public life, culture and leisure. In this regard, along with the already listed typical risks of the next generation user, one can also predict the education in computer literacy, the ability to navigate the available telecommunication means, knowledge of the common languages of international communication.

It may be market transformations, the development of political and civic structures of society, and the creative potential of the user will also be the circumstances that will absolutely influence the formation of the next generation user of the library.

The peculiarities of the student audience in the use of libraries will evolve in accordance with the development of educational techniques related to the upbringing of autonomy, creative skills. The complications of productive and, in general, all processes of social life, will cause an increase the amount of people of various categories engaged in self-education, retraining, requalification.

The necessity for the introduction of innovative technologies and the development of scientific activity as an objective condition for the dignified stay of Ukraine in the international community will give rise to the growing needs of new categories of readers of the scientific information of international quality standards. Simultaneously, it is possible to predict the growth of demand on information that will contribute to general cultural and spiritual development.

Today only the first signs of the changes that librarians' staff will face in the future are appearing in the structure of the reader's audience, as concluded by the study of readers' requests of all levels of libraries.

However, the constant monitoring of readers is now essential for the efficiency of libraries. The development of a strategy for acquisition of new information, and improvement of the methods of library work should be related to it. Finally, taking into account the changes trends in the reader's audience will help to effectively use those insignificant, compared the required, finances that the state provides for the library sphere.

The research on the the needs for innovation, requests, factors that indicate the need for change are of special importance in the management of library changes; as well as attitude to innovations for users and staff; market opportunities and innovations of "competitors"; features of the process of innovation implementation; the effectiveness of the implementation of innovations [21].

Simultaneously the practice of library establishments in the development of distant forms of service during recent years brings to certain conclusions. One of the most important and most urgent of them is the necessity for awareness among the library specialists of all levels to the needs of the new categories of users of the information and the tendencies towards the development of computer technology in the library sphere as a completely equal in service along with the traditionally existing ones. Library as a storage of books, as a center for the usage of printed information, is not being superseded by digital information technologies, but in combination with them provides efficient use of information funds, and accumulated information on other media types.

The experience of library servicing distant users, administrative structures, political organizations, science, business among them also attests to the objective necessity of the evolution of library establishments into the unified public information centers, of special and general aim, connected with means of modern communication and search engines systems with a powerful information resource. Such experience also points to the necessity of development in library

institutions of other active forms of cooperation with users due to the needs of customers for preparing their own information products, pre-processing of large amounts of information necessary for use by various social institutions. All this will contribute to the increasing of public attention and, most importantly, the increasing demand of library institutions in modern conditions.

3.2. Library institutions in satisfying needs of informational society users

Scientific and technological progress provides the production of volumes of information that is not advisable and, indeed, is impossible to hold in human memory. Holding those volumes of information is nonsensical as the bulk of this information can not be used in every-day life of each individual and thus will essentially be a burden. It is impossible to preserve the enormous and rapidly growing volumes of information in the memory of a human due to the fact that the memory of a biological person is developed in accordance with its biological development, served to develop a memory resource primarily in the interests of providing biological and, at a certain stage, the social development of the individual. Thus, the capabilities of the biological mechanism limit the amount of memory for information not to cause functional disorders through the needs of the individual, or, in modern conditions, the amount of other information that replaces the natural needs.

Thus, the information resources created in the process of development of social relations among people, with the development of this environment had been kept outside of human memory.

For a person the accumulation of external information was carried out by writing it down on one or another material carrier. The places of storage for such carriers later became known as libraries. The evolution of the library carriers can be divided into three main stages by the form of the use of basic material media: the stage to pre-paper carriers, the stage of the paper carriers and the stage of use of digital media.

For different peoples the prepaper stage of information carriers was marked by the use of various improvised materials, on the writing had been recorded. It could be birch bark, wooden boards, carved on stone inscriptions, papyrus, on specially processed animal skins or lithography on sheets metal, clay tablets, etc.

The invention of paper and, later, printing technologies had been the revolutionary stage in the development of the library business, which enabled the spreading of written and then printed information, and met the growing public demand for access to information for all new and emerging users through the organisation and spreading of library institutions. Information sources on other media had been kept as auxiliary or rare ones in these institutions.

The development of digital information technologies as an independent stage has become a new stage in the development of libraries an independent step of library sphere development, the computerization of libraries, including them as independent basic elements into the development of information exchanges based on Internet technologies. This period is chronologically connected with the development of post-industrial processes of the second half of the 20th century, with the development of the information stage of social development. This stage in the life of society is connected with global informatization, the process of expanding the opportunities of access to information resources, to the opportunity of their use in enrichment of all categories of the population of nations and states. The library institutions as public information centers gain, of course, particular importance in this process.

At the present stage of the development of information activities, library institutions, performing socially important functions, enhance the natural properties of human on the development of information sphere of society:

1. They open access the content of their funds, prepare information resources for effective use, take into account the specifics of the activities of all categories of users, thematically group relevant information to use for the implementation of programs and plans for social development; promote the development of the system of

social information communications in modern society, including the development of relevant sites, filling them with high-quality, necessary for the implementation of the objectives of innovation development information, thus providing real access to domestic information resources for all categories of users, promoting the efficient use of these resources in the mode of modern library service, and developing various forms of distant services.

At the same time, the modern person has the opportunity to get an idea of the information resources content available at the disposal of the society, located in library institutions, including those that are on paper and other traditional media, and if necessary use them in their work, to improve the educational level, for leisure and other purposes. Taking into account the process of convergence of the scientific and informational sphere with production activity, the expansion of access to information resources is contributed to the development of labor activity of people, increase of efficiency of their socially useful activity.

The development of the sites of such institutions is important as an important reference for potential users of library institutions. This form of communication with users contributes to the development of interactive communication, the increasing of the activity of modern people in the information sphere.

In current conditions, "without altering the essence of the process of service itself, the Department of Reference Service (RBS) uses the capabilities to meet the information requests of users, through the use of new technologies, which greatly contributes to its efficiency. RBS is the field of library and information activity, which is experiencing changes in the technological environment most rapidly and is forced to respond adequately to the demands and requests of users that change in accordance with the social and communicative situation" [22].

Access to modern information resources is facilitated by the active participation of librarians in the development of the entire system of other information communications. By integrating the possibilities of accessing information through such system, both individual users and social structures of our society, in the process of their development and organization of activities, have the opportunity to use the

qualitative information of library funds, which is increasingly easier to access through librarian computer technologies. Thus, the modern human, with the help of library institutions, has the opportunity to arm themselves with all information resources that constitute the national cultural heritage of past generations, to rely on this information basis, to participate in the development of the national information space in the context of global informatization, relying on to the national information resources, which is a guideline in the new information production.

In the process of their development, modern library institutions, mastering the Internet technologies, help the modern person to realize themselves as a structural component of a globalized society.

2. They conduct the study of the new volumes of information produced by society, the process of replenishing global information resources and resources of the national information space; preparation of the informational system, informational, analytical and analytical publications describing the information processes of today for different categories of users as "information — about information", the selection of new information necessary for solving urgent problems of social development, both in paper and in digital forms, enrichment of own funds with such information and transference to the customers the necessary volumes.

A specific person or social structure has significant problems at the level of communication with global information resources. On the one hand, these resources contain the latest achievements of the human mind, the most promising technologies, the use of which is the main factor of modern competitiveness in a globalized world. On the other hand — high-quality and useful information is hidden in the low quality volumes of information, or is completely inadequate or even harmful. And with the development of information production, the increasing number of low-skilled people entering this process, the growing volumes of low-quality information drown information of high quality, useful information, the one that is requested. Finding high-quality information is becoming increasingly difficult for the user. In this case, high-quality search engine software only partially helps in solving this problem.

And only the assistance of librarian institutions, as modern information centers, the inclusion of their professional information workers, studying the content of information volumes, carrying out of appropriate information, selection in accordance with the request of the right information by society, it gives the most complete opportunity for a modern person to quickly and efficiently search the information volumes and to receive the necessary information for utilization, not to get lost in it, to efficiently use the best achievements of human thought and become powerful through the use of information resources developed by the whole of society.

At the same time, it draws attention that, according to changes in the views on the organization of information and search systems of the global network, new technological models on the principles of designing and creating web resources are emerging. In this context, it should be noted that today scientific social networks and open access digital periodicals are rapidly developing as an alternative to the recognized commercial professional science and technology systems. These systems are democratic and publicly available. With the correct presentation of scientific publications in open access systems, today they are able to provide extremely useful information to researchers, owing to the development of semantic web tools. The idea of the model of the semantic Web (Web 3.0) is based on the fact that the addition of a certain data structure (metadata) to unstructured content of the global network will make it more understandable for search bots, which in turn will enable the transformation of Internet resources into analogue databases [23].

The model of the Web platform 3.0. in general, contains such basic ideas as the creation of an information resource based on modern technology and the transformation of unstructured content of the global network into a database. Smart linguistic technologies become particularly important as they will eliminate the ambiguity of search responses (synonymy, homonymy, etc.). According to Kateryna Loboozina, Web 3.0 has to focus on library technology, since it is where vast experience of knowledge organisation is accumulated. The ideas of this model are completely identical with the main function of the

library — to be the intermediary between the informational raw material and the user. All this should give to a librarian the role of an information expert and knowledge manager who will professionally process digital resources, who will form an intellectual historical, cultural and scientific digital environment [24].

Simultaneously, the problem of universal unification becomes acute with the active development of the production of information resources on a global scale. Its neutralization, preservation of national identity is connected with the organization of preservation and development of sovereign information volumes, which has fundamental importance to the development of national information production under globalization, promotion of the development of the national information space information security system, resistance to negative informational influences.

This process also promotes the active entry into a mutually beneficial system of international information exchanges, strengthening of cooperation ties in the field of library work at the national level and, in the context of the implementation of national information policy, at the international arena. Thus, the library system creates conditions for implementation of information exchanges of the most high-quality information, contributes to the development of information activities and information exchanges of its users.

Thus, the librarians do not lose their prospects for work with the spread of the Internet, but their work promotes the organization of information activities and should become an effective lever to support the socially active part of society in the development of information processes. "The current stage of development of society is characterized by the high role of information processes in which the product is not a material object, but information; the fact that this product requires the most intense introduction since the science has become a productive force. It is necessary to keep in mind the characteristic for today massive merging of science with production, when new scientific ideas are being introduced into practice in the shortest terms in fields that are seemingly far from science. This is how the information significance of science is already characterised at the start of the new, informational era" [25].

Although today the modern network of library institutions in Ukraine, as well as in all post-socialist countries, starting with the largest ones, does not meet the modern social requirements as information, research and information centers, however, the last decade still gave impetus to their significant renovation [26].

Computerization of library activity in the last decade has given impetus to the development of publishing activities of libraries, in particular the spread of digital information and analytical products with thematic characteristics, information analysis of information resources necessary for the development of society. It can be argued that digital publications should effectively promote comprehension of the entire information process in Ukraine, taking into account the features of periodical digital editions that provide an opportunity for meaningful system analysis of information volumes, from which funds are being acquired, the availability of information resources necessary for a modern user in the library's funds, analysis of the processes of updating national sovereign resources and their public use, and, finally, identification of the potential demand of Ukrainian citizens in information provision.

Transforming the methods of using such publications from sporadically used by individual library institutions into a united system throughout the entire library system, combined they can give a complete picture of contemporary domestic information production.

With organized use periodic digital editions can significantly enhance the processes associated with the production of domestic information. In this production, the most effective segment is the production of scientific information, information related to the solution of scientific and applied tasks of society, which should ensure its innovative development. Recently, there were many publications related to the problem of enhancing work in library institutions, especially scientific libraries, in the scientific process. The need for close partnerships of scientific institutions with libraries as modern information centers for analyzing large amounts of information and preparing it for effective use in the most convenient form of the user has been rightly noted. Thus, preliminary research work can be transferred onto

information workers of the library, and researchers can concentrate on scientific work. Periodical digital editions, accordingly, can become for scientists (and already are becoming) a benchmark in new information resources that are relevant to research issues.

These publications in their style, their genres in the framework of the creative community with the scientific structures will be able to effectively inform both domestic users and foreign, about the new achievements of Ukrainian scientists.

Such a line of activity will contribute to solving the problem of closer approach of the process of producing scientific information to the needs related to the development of our society and the need for its active inclusion in the process of international cooperation. This aspect of activity will contribute to the very urgent development of the prognostic approaches associated with the planning of scientific research in our time, the need to set goals in advance in this direction, and so on.

Due to the actualization in the Ukrainian society of problems related to the necessity of scientific analysis of the specifics of the development of intra-social processes in Ukraine, the search for its own, national path in the development of society, the role of library institutions, or rather their foundations, as guidelines for approval a national identity at the modern level, the synthesis of new characteristic features of the present with a national tradition, which is very important in the intensification of global influences. Periodic electronic publications in the implementation of this task can be very effective means of orientation in the system of electronic resources.

Library electronic media, using their existing capabilities, and those that appear in the process of their development as a whole, can become an effective tool for targeting ever-increasing amounts of information, in the peculiarities of their processing, including the use of computer technologies, and the formulation of proposals for their use.

Thus, information activity of libraries contributes to increasing the efficiency of the modern information base, which is the basis of development, according to Oleksiy Onyschenko's definition, is a strategic resource of the state [27].

Computer technologies made it possible to rise from specific to the analysis of summary information in information processes [28], which is the subject of the analysis of periodical electronic publications.

In the last decade there has also been a rapid development of increasingly high-performance personalized tools for users that help them integrate into modern information exchanges, help them use library library resources and other information centers, including in distant mode [29].

Individual computer systems make it possible for all its users not only to familiarize themselves with information resources, not only to use them according to their needs, but also to incorporate in the process of creating new information and, as a matter of fact, present it to the public.

In relation to the already achieved results of the Ukrainian society informatization, the participation of an increasing number of users in the information production raises the problem of rational use of the modern uncontrolled process of information production for aiming at socially significant informational activity [30].

Today, the attempts to study and generalize spontaneous infiltration in the library media are being made. Thus, in VNLU in the publication "Public opinion on law-making" [31] and in the bulletins "Social networks as a factor of information security" [32], thematic collections of blogging information are analyzed, opportunities of using social networks in the formation of civil society, management and economic activity are revealed, solving problems of public security, etc.

The process of increasing the spread of technology for personal computers, various personal tools for processing information creates conditions for the unification of various interests, the self-organization of new human communities, which is the driving force behind the further structuring of society. Library periodicals have the opportunity to analyze relevant requests for information, to facilitate the generalization of this social process, to support it with relevant information, information on the content of library funds that may be of interest to the new public associations activities.

Thus, these editions contribute to the fact that "the technological revolution in the information and computer basis in the socio-economic environment leads to the fact that …e-culture provides involvement in social spatial-temporal structures".

The role of periodical digital publications in libraries can be very important for comprehension of complex information processes related to the use of powerful computer equipment. Their special importance is conditioned by the fact that their source base is their own volumes of structured information in the process of their evolution under the influence of socially-friendly processing. It is worth noting that the volumes of information of the global information space are not comparable with the volumes of other existing carriers in the largest libraries of the world. There was no social practice of operating such arrays in the history of society. And although powerful computer systems and their associations structure this information, in one way or another provide acceptable use of it, deep ideas about these processes are still ahead. Periodic digital editions of libraries can significantly contribute to understanding these processes and developing appropriate responses.

The aforementioned chief trends in the development of information processes require a qualified reflection, and therefore need highly skilled specialists. Therefore, the efficiency of information processes is directly related to the effectiveness of using the human factor in the development of the information system of society. Today, there is a gradual, perhaps not entirely working, adaptation of every person to modern information realities. And in this adaptation, librarian institutions as the information centers of a post-industrial society must play a crucial role [33]. This role materializes in the presentation of modern technologies of society using library resources, orientation in the global information space, and practical help in the effective use of information resources. It can increase the efficiency through the development of all areas of information activity and, first of all, the development of periodical digital publications. It should also be noted that the organizational factors affecting the circulation of information in social information communications a significant importance is

played by the factors associated with the development of information markets, a qualitatively new stage in the field of information exchanges. The feature of this stage is the organization of information exchanges system with the guaranteed use of information resources.

Researchers predict significant changes in the structuring of information in accordance with market demands, improving marketing activities [34].

One can predict that the development of this process will have a significant impact on the national information space. Library institutions play an important role in it, as they are qualitatively new in comparison with existing banks, they are information banks. And market relations in the information sphere will obviously be related to the development of information, advertising and marketing activities of libraries.

It should be noted that the improvement of information exchanges within such an organism is a dialectical process. On one hand, they provide the necessity for new, up-to-date information, on another hand, they contribute to overall unification. In order to preserve national identity, the development of its own information production based on national traditions, the organization of information security, the preservation of national and cultural traditions and the development of sovereign information resources is an important problem in information exchange as a full-fledged partner in international relations. The library system of Ukraine, provides a solution to this problem as a structured, largely organized system for the preservation and use of available information resources available to domestic users.

The basis of any culture is the national spiritual values. And if culture loses moral principle, society is immersed in chaos. Formation of highly spiritual personality becomes one of the central directions of education of a citizen, and therefore becomes of a state importance. While libraries, in turn, play an active role in shaping information culture, preserving cultural and spiritual heritage [35]. "Many times the human culture was at risk of complete destruction and it owes its salvation to restoration of its writings and owes libraries its rebirth. Moreover, the collection of written monuments in various places of

the cultural world has become a magnet that attracts all those who seek knowledge, and the larger these collections, the greater is such an attraction" [36].

The cultural sphere is a component of the system of spiritual health of the nation. And it is necessary to clearly define and expressly state policy on the culture in the government for its preservation. Strengthening this sphere is an important matter for the entire civil society. It is necessary to declare the state protection of the activity of libraries, to increase the work for librarians in preserving the traditional national culture and its spiritual and moral core [37].

With the introduction of digital information technology in the library sphere, this sphere of activity of these institutions becomes the most vulnerable to various forms of negative influences that adversely affect domestic information resources and can be directly exposed to cyberterrorism.

The development of the technical and technological base of informatization, the expansion of access to production and the use of information resources by unlimited numbers of users creates increasing opportunities not only for the implementation of e-government and for the expression of free will of law-abiding citizens [38]. Access to information, as well as the possibility of producing it, offers practically unlimited opportunities for manifestation of anti-social actions with frankly criminal or simply irresponsible intentions. And therefore, they are still very weak in the computer equipment, in software antivirus and others. products, librarians often become victims of software development harmful to their funds and poor-quality information.

It should be noted that today the development of technologies for negative impact on information infrastructure is faster than the appropriate countermeasures. This is due not only to the classification of such developments in the most advanced in the computerization of countries, using them primarily in defense interests. In the national space to a large extent the present passivity is due primarily to a lack of awareness of such dangers on general social decision-making level, which, in turn, is due to lack of computer literacy, lack of awareness of the role of computerization in modern society. Lack of activity in

counteracting negative influences on own information resources are now also found in library institutions. This problem met with the lack of attention to this issue remains in information and analytical publications as well.

At the same time, in the network of digital information communications there is the increasing of types of cybercrimes: the number of computer viruses and worms is increasing, is is getting diversified, and the mechanisms of the influence of logical bombs, Trojan horses, whose neutralization becomes more and more complex, are being improved.

Along with this, there is a clear the development of various forms of hacker solidarity, up to the organization of coordinated unlawful actions [39]. This process develops against the perceived lack of co-ordination, the lack of organization of library structures in the fight against the negative influences on their resources.

The domestic library system already faces well known problems that require attention and response. Including:

– lack of equipment with modern software tools for processing digital information resources, as well as for neutralizing existing cyber threats (“antivirus” programs, etc.), and insufficient provision in this regard for the efficient functioning of library institutions as modern information centers;

– slow entry into international library associations, undeveloped participation in collaborative projects, which allow to learn the latest technologies, standards in the information sphere, international practice of information marketing, etc. The establishment of an equal, in accordance with the national interests of Ukraine, cooperation should promote the elevation of the technological level of domestic information activities to the needs of the present, to ensure the effective functioning of the national information sphere;

– lack of coordination with foreign librarians and their associations in the fight against crime in the information sphere;

– lack of effective methodological cooperation among domestic libraries in relation to the development of technologies for the conservation and replenishment of domestic information resources,

organization of relevant information, information and analytical activities.

With all this, the experience of developing information activities of modern libraries suggests that the technical and technological, as well as the associated economic factors of influence, are not finite, although very important factors of influence on domestic information resources. This circumstance was a concern and was first noticed by US researchers. They first drew attention to the fact that within the framework of the development of the global information space, the establishment of effective functioning of network communications, are experiencing the increasing influence of sovereign arrays of information of all states, including — modern state-leaders [40].

The language in this case is not so much about the techno-technological aspects of influence (although scientific and technological progress outside the United States can provide a number of challenges), but about the impact on the level of content: penetration into the array of sovereign information alien information for them with not always expected consequences for social development in the future. The practice of active work in the information space of Ukraine confirms these conclusions. Along with them, information officers of special structures on work with electronic information NBUV on their own practical experience are convinced of the importance of tracking such foreign influences, using for this periodical electronic publications [41].

An important issue in organizing the security of information resources is also a weighed, verified approach to the use of that part (bigger today), which is stored on paper and is now digitized. We are talking about significant volumes of high-quality, created and tested by many generations of Ukrainian people information. It is precisely this information that belongs to most of the national heritage, reflects the national specificity in relation to the problems of the surrounding world, is the basis for self-identification and the basis for the development of national traditions in science, culture and other spheres of social activity. There is no need for unnecessary reasoning to believe that, by activating our activities in international information exchanges,

our society should not disclose all available resources in information networks. Indeed, even in the most optimistic scenarios, the national information infrastructure can not fully protect them from negative influences and unauthorized borrowing. Obviously, the main burden on the popularization of these resources in the global information space should be placed on the relevant periodical electronic editions, except for special, contractual and presentation acts of international cooperation.

The activation of information activities of libraries also reveals a significant number of problems related to the need for a legal settlement of new aspects of this activity. Electronic mass media libraries should take an active part both in discussing these problems and in providing effective assistance to lawmakers in the prompt preparation of these documents. It is also about the study of relevant foreign experience, and the provision of information on the content of the information available funds that can be used in law-making.

It is obvious that periodical electronic editions may be useful in organizing mass educational work in the community among all categories of citizens actively involved in the system of public information communications, gain access to information resources and try to contribute to information cohabitation. One can predict that in the near future the society will decide on the necessity of creating certain structures, the function of which will include the disclosure of opportunities, first of all, in the youth audience for self-improvement in the information sphere, to explain the legal basis for such activities, including — the inadmissibility of such phenomena as hacking.

Thus, the evolution of modern librarianship in the context of the development of public information promises significant prospects for the development of periodical electronic publications.

The prospects for the development of library electronic periodicals are connected with two groups of tasks, reflecting growing public requests for electronic information resources, which are equipped with modern libraries, which enrich their resource in the process of digitization of fixed assets, the need for prompt information on these resources of all categories of users, and also an objective need for the

development of modern information relations between the domestic library system and the user.

The realization of these tasks is connected with the development of the specifics of periodical electronic publications, the stabilization of their species characteristics, which is very important for the correct orientation of the readership in the context of increasing the efficiency of modern library activities, ensuring their functional improvement, as well as the development and implementation of innovative organizational and technological development of these information and analytical products.

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Chapter IV

PROSPECTS FOR DEVELOPMENT OF A PERSON AND SOCIETY IN THE PROCESS OF DEVELOPING INFORMATIZATION

4.1.Current problems of social transformation

The development of social informatization takes place under the influence of changes in the environment in which modern civilization develops, and the social problems that arise in the process of evolution of human society. Global informatization in its essence is an instrument of social response to the negative challenges of our time, an instrument of mobilizing the creative activity of people, that is, the most productive response to the realities of our time by homosapiens. It is possible that the logic of the development of previous modern civilizations, even at high rates of their development, had been interrupted precisely because of the low level of information provision in the civilization dimension, the lack of democracy in access to knowledge and the low level of creativity.

Information support for the viability of our civilization is stimulated by three major civilizational problems:

– first, environmental changes appropriately to natural regularities of planetary development;

– second, the negative influences of civilization on the environment;

– third, the systematic increasing of social problems associated with the evolution of modern society.

In recent decades, the leading countries of the world and international organizations have undertaken to systematically study the first block of problems, the existing threats, the hierarchy of threat levels,

and take the first steps towards their possible neutralization. Among such threats, the researchers define the meteorite threat of impact of major meteorites with the planet, the new glacial period, the impact of harmful cosmic rays on the earth, the eruption of gigantic volcanoes, the traces of past catastrophes and their impact on the biological world of the Earth already studied by modern science, the possibility of introduction from space or reintroduction of already available pathogenic bacteria in areas of permafrost due to global warming, against which humanity does not have immunity and medication, and other various problems. Today those problems attract attention of researchers, methods of neutralizing non-negative influences are being developed. For example, the National Aeronautics and Space Administration (NASA) has already established a Planetary Coordination Unit the program to detect and track asteroids and other celestial bodies that are a potential danger to the Earth. The relevant EU structures and an expert group on space threats under the RAS Council on Space has shown willingness to cooperate with the United States on identifying the cosmic hazards. It is now possible to speak about the constant enhancing of international cooperation of medical organizations of different countries against probable pandemics, the spread of diseases under the influence of global development of the transport structure and the intensification of migration processes.

The second set of problems is related to negative effects on the environment of the Earth's man-made human activity. To this set of problems belong the threat of a nuclear war; the deliberate use or uncontrolled spread of chemical and bacteriological weapons; the unpredictable negative impact on the human body of GMO products; the increasing level of carbon dioxide in the earth's atmosphere due to the use of energy and transport organic fuel, etc. This set of threats is recognised in more and more countries of the world, intensive research in this direction is being conducted, mechanisms of global influence on the current situation. So, in 2015 the United Nations Climate Change Conference in Paris has outlined substantial steps in ensuring that the average temperature on the planet does not rise higher than two degrees Celsius annually. The negotiators came to the conclusion that

the world without fossil fuels is an absolutely realistic goal by 2050 with appropriate transformations, although only 8 of the 192 conference participants have set this to be their goal. Among them are Sweden, Austria, France. This goal is supported, financially as well, by large international companies, for example Microsoft, Google, Facebook, Apple, Amazon. Costa Rica, Vietnam, Bangladesh, Sudan, etc., a total of 43 countries are already threatened with extensive floods because of global warming, and call to the world to reach the threshold of warming of 1,5 degrees annually as soon as possible, which would give these countries a chance to survive [1].

Another type of problem: social problems are caused by the rapid growth of the population on the Earth and the development of social sphere lagging behind. By 2025, the population is expected to reach 8,5–10 billion people. At the same time, in relation to 1950, the already existing population has doubled since, and the increasing over past 20 years has amounted to 1,7 billion people, of which 1,5 billion people are in developing countries. The population of these countries constitutes three quarters of the world's population, while consuming only a third of global produce and the gap in consumption continues to grow [2].

Because of the aforementioned, the chairman of the World Commission on Environment and Development, Norwegian Prime Minister Gro Harlem Brundtland has emphasized that "human history has reached a crossroad, whereby the change in policy is inevitable. More than a billion people who cannot afford their basic needs today, our own children and grandchildren, and the planet Earth itself, demand a revolution. It will come. We know that we have the means to prevent danger, chaos and conflicts that are otherwise inevitable" [3]. This statement fully outlines the situation, the level of challenges faced by modern civilization.

In addition, according to UN data, sever threat to the world pose the effects of climate change. It is anticipated that by 2050 crop yields may decrease by 25%, while the population of the Earth will increase up to 9 billion people. Due to temperature changes in the water surface, many species of fish will migrate to the northern waters and the catch

will decrease by 50% in the tropics and Antarctica. Negative weather influences will cause floods, droughts, shortages of drinking water, and fires in large areas, which combined together will lead to increasing mortality rates due to heat. All of this will lead to forced migration and possible conflicts between states, as well as to significant changes in the distribution of water and food resources.

Mostly poor countries will suffer from climate change, but the effects of these processes in the modern globalized world will be felt more and more in developed countries [4]. The analysis of these prospects at the end of the last century found its reflection in the activities of the representatives The Club of Rome. Thus, in the report "Growth limits", the authors concluded that "if the current trends in population increasing, pollution of the environment, food production and resource depletion continue continue as they are, then during the next century the world will approach the limits of growth, there will be an unexpected and uncontrolled recession the population and produce output will sharply reduce" [5].

The somewhat mystical veil of such prospects covers the rapid growth of social problems related not only to climate change, the decreasing of space suitable for human living but also the uncontrolled increasing of the human population (even China has recently announced the elimination of the one-child policy), which results in various types of migration processes, and even to the military solution of problems including.

The problem of rapid increasing of population and the fact that socio-cultural processes are lagging behind also create a number of other difficult processes in the society life.

The important, although far from all, problems that our civilization will face in the near future have been outlined above. And for the solution of such a complex of vital problems will require the production and use of incomparably larger volumes of information resources than those that it operates with today. We have to prepare for this prospect today already.

It should be added that, in addition to the existing factors of aggravation of social problems the exacerbation of social problems

related to transformation of civilization in the information stage of its development should also be included:

1) Increasing contradictions between the features of the modern information society functioning and the development of the industrial societies in the majority of countries lagging behind in the development of the industrial society. In this case, the arguments of the countries that have already adopted digital information technologies in all spheres of social activity are largely leveled by the overwhelming majority of countries at the industrial, and even at the pre-industrial stages of development, by far the larger number of people is not yet ready today for post-industrial forms of development, with the appropriate level of social consciousness, moral traditions. Such features do not allow to demonstrate quickly the benefits of innovative development to the world. In addition, it is beneficial for a certain part of the players of the global economic space, to suspense the economic development of countries, usually those with valuable natural resources, to receive superprofits in those areas, where, as a result of the lagging economy, there's possible to pay low wages, low taxes and to have the opportunity not to spend profits on the environment production.

2) G. Cardozo notes on the problems related to the updating of the social structure of society at the information stage of its development: "We see the presence of a new concept of space, where physical and virtual influences one another, laying the foundation for the emergence of new forms of socialization, new ways of life and new forms of social orientation" [6]. It should be noted that even in countries where computerization is successfully being carried out, there are still problems, primarily, with the division of labor and the corresponding social adjustments in the society structure. In this case, "the science and theoretical knowledge are the technological basis of post-industrial transformation, which receives a completely new role in developed industrial countries in the postwar period" [7].

Today the increasing pace of social transformations requires the even closer collaboration between science, innovative technologies and production, its progress is entirely due to successes in the field of knowledge, and social production requires more and more a "class of

professionals of four classes: scientific, technological, administrative and cultural" [8]. Projecting such a thesis on the idea of biological evolution, it is important to remember the famous statement that only an effective social organization gives a chance to a given biological species, humanity included, to remain a dominant species on the planet.

In general, according to Daniel Bell, the central role of information in a post-industrial society generates fundamentally new problems. However, with the development of technologies in information society, they gradually find their solution. The researcher refers to such problems:

1. Huge amounts of information that a human needs to process as a result of the expansion of various spheres (economic, political, social), requiring attention and energy. "…but a larger amount of information does not mean it is more complete: on the contrary, increased amount of data makes information less and less complete" [9]. It should be noted, however, that certain confusion resulting in this conclusion, is due to the loss of the scales at different stages of cognitive activity.

2. Information is becoming more specific …[and] difficult for perception. From the experience we know that to weaken the barrier of the perception of digital information the improvement of the structuring of existing digital resources is required, as well as the specialization of databases and the development of search engines.

3. There is an increasing need for comprehension of information. New information becomes effective only when it is used promptly for decision-making, for immediate, effective response to new emerging circumstances. The development of information-analytical and analytical activities both in specialized analytical structures and in library institutions that become the information centers of the post-industrial society is required.

4. Limited scope of information that a person can absorb.

5. Post-industrial society is a "game between people", but such a game requires an increased degree of coordination [10]. This coordination is carried out on the basis of the appropriate structuring of the information basis of social activity.

Francis Fukuyama in his book "Our posthuman future" [11], at the very beginning of this millennium, predicts that the non-convergent pace of biological and information evolutions will affect human relationships shortly. He makes his conclusions based on the results of fundamental research at the end of the last century. Those conclusions, in general, state that "intellectual abilities are largely imitated.

Murray and Hernstein argued in the language of statistics that from 60 to 70% of the dispersion of intelligence is caused by the genes, while the rest is related to external factors such as nutrition, education, family composition, and the likes" [12].

The intensive development of scientific information exchanges and the increasing importance of the innovative technologies introduction into all spheres of human activity has caused the growing significance of social structures that provide scientific and technological progress. At the same time, "the development of the information sphere depends on scholars in applied sciences, while communicative research — from scholars in social sciences" [13].

Today we observe a certain lag in the development of social sciences and the process of introducing the results of research of this field into public practice. The researches already pay close attention to this fact [14]. It is possible to predict that the necessity for humanitarian research as a guideline for improving further socialization will increase as their development is an effective way to organise the very structure of the information society and the knowledge system it is based on.

Which is why "today there is a qualitatively new inequality — between gifted people and those who aren't capable of creative work. Due to the qualitative increasing of creative work, a biological barrier has started forming, which, unlike the social barrier, is almost impossible to overcome" [15]. We can find evidence of such a barrier formation analyzing the resources of the modern information space. The regular in the social evolution of modern information is in a poorly prepared field in our country. Therefore, the self-expression of the citizens of our country has a very low socially significant level in the national information space. The scientific information produced in Ukraine gets lost in information resources produced in society,

which reflects the process of expression of citizens, characteristic to the initial stage of the development of democratic processes. Certain societal differences raise between producers of scientific information and producers of information of a lower level of significance, primarily everyday information. From the status peculiarities (and more and more noticeable difference in the salaries of information workers comparing with other categories of producers), the new information developers have increasingly more "…inner joy to creativity. It brings closer the world of art and psychological excitement, so called 'drive' from the process of creation" [16]. One can predict that this feature in the process of its development will become an important stimulus to the transformation of the social structure of the post-industrial society in conditions of improving network technologies in information exchanges.

At the same time, "the production of scientific knowledge brings happiness only to a small segment of humankind… holding interest in science can only be achieved through an additional effort, and it the authorities who are are capable to bring it. People do not want to venture to those areas where they get paid less and have to work more. In Soviet times, a lot of popular science magazines and, incidentally, films and TV shows that could uphold such interest and demonstrate the population various options for a life, except for the singular model 'money equals success' " [17].

Various types of motivations contribute to deepening of inconsistency of public interests and this is a worrying tendency. Such contradictions are most acute in our society and even are a characteristic feature. Today, the general low level of public demand for Ukrainian produced information resources is acutely felt in Ukrainian science development. And this is the reason why the significance of resources in the national information space has not become yet a significant unifying factor. The lack of strategic developments that take into account not only the specifics of the present, but also provide the necessary adaptation resource for the future is acutely felt. "International experience dictates that in global coordinates the most effective are the long-term national strategies, those highly adaptable

to global instability and dynamic changes, ensuring maximum harmony between national and corporate interests. Those strategies are implemented by a group leaders of the most developed states, forming the configuration of the core of the international economic system, making management decisions on the world stage and defining the key trends of global economic development" [18]. The implementation of the imitative strategy in implementing the scenarios for development, written by the state leaders gradually leads to the fact that in Ukraine the production of new scientific information that is controlled by society is decreasing. It should be noted that the short-term policy of state leaders in this segment of public activity may be the reason for the implementation of a long predicted by professor Heorhiy Pocheptsov situation in which "if we do not produce our own information or virtual product, then we will never be the winners. We are readers and not writers of the free world. And the matter is not in the size of the country or number of people, but in the size of the brain" [19]. However, with the development of the information society, this lack of insight increasingly affects the brain centers of leading states, because in a new society they should be concerned about the crop of innovative solutions on a global scale, to understand the need for a pragmatic approach to utilization of creative potential of the present civilization. However, today the manifestations of such a pragmatism are being developed only in certain favorable regions of the world, particularly in the western world, and focus, primarily, on the economic sphere. And gradually, under the influence of the development pace of social consciousness of the new situation, the process of innovative information production starts meeting the needs of other spheres of society, developing in the direction of social use, and reflecting a tendency associated with the public interest in the individual self-expression.

Researchers of this process argue that "the spread of the Internet in society depends not only on entrepreneurial activity. Its success is also a product of the university and research community, where criteria for excellence, professional judgment and open communication during research work had been developed" [20].

The effectiveness of the functioning of modern society is directly related to the effectiveness of the use of information, which, in turn, depends on the quality of the resources used and the level of access to them. "If labor is a source of productivity, then the creative power of labor and the effectiveness of business organization ultimately depends on innovation. Innovation is derived from a highly skilled workforce and the existence of organizations that produce knowledge" [21].

Thus, the creation of new high-quality information is inextricably related to the formation of qualitatively new social structures. At the same time, along with the intensification of the information space, which manifests itself in the development of public structures specializing on information producing, in the branching of social communications, the acceleration of information circulation, the quality of the use of information in an increasing degree depends on the involvement in the active public use of that part of the basic information resources that is needed today for the implementation of social development plans. The importance of enriching this basic resource process with the new relevant information is constantly increasing in the dynamics of modern information processes.

4.2. Development of information base for societal transformations

The practice of modern society transformation attests that the provision of information adequacy of the modern person to the information challenges of the modern day is related to the obligatory constant update of the basic informational resources. Mostly, it is the funds of library institution. According to Olena Voskoboinikova-Guzeva "the formation of an organic information space has become the purpose of the modern library activity, and hence the strategic result, which includes:

– integration of information resources that exist in different environments;

– providing quick and easy access to available physical and remote information resources;

– high-quality navigation throughout the spectrum of integrated information resources;

– ambivalence of architectural and design spatial solutions (presence of both private and public), etc." [22].

According to Valeriy Gorovyi, a characteristic feature of all social developments and its information stage is, to a certain extent, constant information production and its preservation in libraries and other socially significant bases in the most optimal for use form.

It is the basis of all types of social activities in the information society. At the stage of formation of this society, the characteristic features of the organization of information production significantly differs from all previous stages [23]. They should become guidelines for library workers. First of all, it should be taken into account that special attention in recent decades has been given to the development of scientific applied research, the results of which can quickly be introduced into production or (in the field of public relations) in the process of social transformation.

At the same time, it is necessary to take into account the increasingly noticeable lag of fundamental research from the scientific and applied research. So, say, the rocket building and space industry, the nuclear power industry, and others that have been the flagships of scientific and technological progress in the last century and have been leading the main branches of technological development, are still based largely on the fundamental achievements of the 60s and 70s of the previous century, and a lengthy period of time without replenishment of fundamental sciences with new discoveries gradually reduces the pace of scientific and technological progress in important areas for social progress. Therefore, when completing library establishments attention should be paid, primarily, to the results of the fundamental academic science. The resources of the global information space should be studied as well in order to identify this kind of information,.

As scientific effectiveness information, the highest level of influence on human development, largely depends on the pace of its implementation in public practice, library institutions and other information centers have to worry about the introduction of scientific

information through their own websites, digital newspapers, [24] remote forms of service, etc., to help convince the authorities of the necessity of utilization the domestic scientific product, to facilitate its implementation into practice.

The growing complexity of the challenges posed before our civilization by the twenty-first century does not enable even the most advanced countries with solutions to complex problems of social development independently, without the participation of partner countries, and without partnering links between leading librarians institutions in the area of international exchange of information. Such a situation attracts particular attention, especially taking into account the current cost of scientific problematics for countries with low economic potential. And these countries are forced to focus on the development of their own scientific work, the relevant information production for the most important areas of research and the capability of their own budget. Some areas of research often are not conducted at all, and at the same time there are sometimes quite significant lacunae in the absence of new knowledge, which makes social development uneven, and may create negative intra-social contradictions, increases the risk of making ineffective decisions not only in the scientific environment, but also on management level, creates barely solvable problems for the development of the state or nation.

It is a well-known fact that library institutions are, in essence, storage for the written heritage, that reflects the life of society on all stages of its life. In their funds information resources that reflect all socially significant sources of public information are kept. Which is why, the problem of completing the growing volumes of new information, which appeared recently in the national information space, influenced by the success of informatization, became a rather pressing matter for librarians. In essence, the informatization is undoubtedly a positive phenomenon, however, without the guidelines from the state, it develops amorphously and is, to a certain extent, managed only through companies that control the production of necessary for informatization equipment. This state of affairs is due to the fact that for a long time, informatization was seen as a technical experiment of

narrow exchanges between scientists and was not perceived as a new and effective social integration mechanism. This process has played mostly entertaining and informative role as its first achievement, was barely used by state authorities, public organizations, educational institutions as a new high-quality instrument of civic self-expression, educational, educational work. However, voluntary increasing of activity in this segment of information production has led to Internet being filled with low-quality volumes of information, the usage of which is even more complicated because of low level of user training, lack of internal readiness for a new level of communication between people. Those are serious obstacles at the acquisitions of library funds, for example, materials of social networks. V. I. Bondarenko rightly sees that "today, with the help of blogs, chats, social networks, forums, photo and video services, tags, etc., a new world of global partnership is being created, where everyone is a creator …For the library blogs, forums, social networks are a kind of feedback tool for users and employees. For users, a platform for the development of new knowledge that they need. Also, with the help of such innovative library services, the user is able to influence the development of library services in the direction they needs and in a way that is interesting for them" [25].

Amassing library collections, librarian workers should take into account the fact that today the development of technologies designed for special negative informational interventions in the functioning of national information communications and for use of sovereign information resources that have reached the scale of information war. Conducting these wars, the establishment of certain social interests with the help of specially organized informational influences, requires the appropriate response from the staff of library institutions as well. The funds of libraries should not collect low-quality, insignificant for the interests of national development, and, especially, hostile information resources.

Thus, the high-quality acquisition of new, primarily, digital, often requested resources, even with the significant increasing in the future, will enable the information society members to rely on an ever-updated knowledge base in their work.

As the growth of the proportion of creative work in the total volume of work is expected in the future, it is creative work that needs both significant resource of new information and a mandatory referral to existing social experience. Therefore, the library work on the spreading of available information resources amongst the society will become increasingly important. One of the most effective areas of such work is the digitization of information in paper media and other traditional media. As Oleksiy Onyshchenko observes, "The digital era, with its powerful equipment, technological, socio-cultural potential, has opened unprecedented opportunities to the libraries, such as:

– for the first time to integrate into a single unit all kinds of documents basing on the universal language of numbers;

– for the first time to act on a planetary scale — to obtain information from any corner of the world and send it to any corner of the earth;

– for the first time to operate the unlimited volumes of information;

– for the first time to cooperate interactively with an unlimited number of readers/users;

– for the first time to create international library networks" [26].

Of course, the issue of digitization of library resources in the context of Ukraine's time is very complicated, due to material constraints (digitization is a rather costly business, and its costs abroad are measured by tens of millions of dollars), and due to the lack of relevant specialists as well as due to insufficiently developed methods for basic national resources use as important guidelines for new work, for the production of new information. However, despite everything, the search for innovative solutions is caused by the necessity of high-quality information provision for social development. And such decisions are actively included in the practice of information activity: "Modern libraries in Ukraine are implementing various promising directions of Internet-based service, such as the use of mobile services for services provision through mobile phones, Skype, social media" [27].

One more important direction of information activity of libraries as attested by the experience of special information structures of VNLU (Service information and analytical support of public authorities, National law library and the Presidential of Ukraine foundation), and

the majority of leading librarian institutions of Ukraine being related to the further development of informational-analytical, analytical activity in them. Actualization of this activity is related to the rapid increasing of information volumes necessary for social development and the necessity for special analysis of them for targeting different categories of customers.

The system of periodical digital editions of libraries becomes important because of the necessary:

– comprehension of the process of formation of funds of the All-Ukrainian electron library;

– acquainting all categories of users with the information content that will be stored in the funds, but with the content and not just abstracts, but the ideas presented in the materials, prognosis, hypotheses, proposals necessary for the operational use of information products;

– coordinating the use of the national digital resource in the interests of national development and for international information exchanges in the global information space.

Under globalization the development of domestic information space depends on a number of internal and external factors, that are connected with all other characteristic features of the society life. Development of a system of periodical digital publications those circumstances should be taken into account by librarians.

As a single organism, they should influence the quality of formation and processing of the main goals and objectives of social development by all categories of users. The nature of such influence in the publications of library institutions differs from the influence of other types of mass media, as the library media conducts its influence, basing it on specific information base, funds in which the positive experience and experience of many generations of the Ukrainian people is stored.

Consequently, today's library periodical digital publications should be focused on the issues of social development related to the progress of Ukrainian society democratization, improvement of management, coverage of technical and technological, educational development, organization of social incentives for effective use of existing and creation of new public resources, promotion of the process of ensuring the

system of library institutions of Ukraine enter international informationtion exchanges, Ukrainian library system inclusion into international library associations and other associations on equal footing, amassing resources of information society.

It should be noted that the hybrid war, launched against Ukraine, introduces significant adjustments into the logical process of developing the information sphere of the post-industrial society. At the same time, in Ukraine, there is an urgent necessity to give a powerful impetus to the development of the latest forms of cooperation between scientific libraries and information centers, research institutes, universities, scientific societies and associations, effective cooperation of their efforts in implementing large-scale science and information projects, including those related to the situation of the information war Ukraine is now in. To succeed, libraries need to urgently solve tasks of coordination, cooperation and integration in their own librarian information environment, simultaneously leaving the established directions of activity and assuming functions of a much broader nature. It is important to move towards a new understanding and implementation of the role of library institutions in a much broader range of educational, scientific, informational, managerial institutions, non-state information centers and public initiatives.

If we approach this from the standpoint of our own library and information work, then we are talking about a substantial expansion of its subject and functional range. In the new conditions, preserving and strengthening the role of the leading centers of social communication, the library are able to only cover a wide range of diverse information about scientific and educational activities. Having integrated this information into its library-information orientation, it would integrate itself into the scientific and educational process more firmly.

Today it is obvious that the future of Ukrainian state should be based on the social awareness that information is a resource of power struggle in the modern world, and significance of information grows on traditional ideas about military power and economic potential. Negative information influences become an obligatory component, or even become the means in inter-state confrontations. Therefore,

Ukraine, as a sovereign state that is developing at the stage of the formation of an information society, must create an effective, constantly improving security organization for the national information space. This nationwide structure should continuously monitor information threats, effectively predict the development trends, coordinate the use of national resources during the period of information aggression to ensure a reliable neutralization of information threats on the domestic information space, to withstand informational aggression in the global information space.

In the context of the increasing intensification of global processes in the modern world, which, the dangers of information aggression are created along with the positive aspects of its influence on the world community, it is a nationwide information system that should include a powerful component of technologically up-to-date library institutions, the state coordinating its activity, can become a guarantee for neutralization of modern information threats and the use of positive factors in the development of information. This is especially important today, when the active phase of informational confrontation has not passed modern Ukraine. Even earlier, the President of Ukraine Volodymyr Zelenskyi announced a "powerful information war" for end of the war in Donbass [28]. At the same time, it should be noted that if the military actions in Donbass today are qualified as an operation of the joint forces of the Armed Forces of Ukraine, then the information pressure that is being conducted today against our state, even for purely technological reasons, can not be local in nature. It is acquiring the features of a full-scale information war. The war necessitates the appropriate stance organisation, which, in turn, requires the study of contradictions in the information stage of development, the specific features of its information influences and the development of effective ways for their neutralization.

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CONCLUSIONS

Intellectual information resource has become an important part of the self affirmation of a human, of human society as a dominant, viable biological species in modern world, whose duty is preservation of the viability on our planet. At the same time, changes in the surrounding reality, new and new challenges that society faces, dictate the pace of the evolution of society itself.

Today, the scale of threats for humanity on the present stage of its development requires not only local unification of people, but the consolidation of civilizationary efforts for their prevention. Modern civilization responds to the necessity for such consolidation, primarily through intensification of globalization processes, which, in turn, are based on global informatization, improvement of information exchanges in the system of social structures of modern society. The latter became possible at the level of development of scientific and technological progress, characteristic to the post-industrial stage of human development, the massive introduction of digital information technology.

Such technologies, having become the most productive of all the instruments for the introduction of the necessary information resources into the public practice today, and technologically being the closest to brain in the processing of information, intensified, accelerated the pace of the process of material and spiritual goods production, contributed to the rise to the requirements of the present evolution of human, the disclosure of human's capabilities and skills, led to the creation of new necessary social commons for solving existing problems.

Modern informatization, based on the introduction of digital information technologies, contributed to the rapid intensification of globalization processes, the transformation of our civilization into a single social organism, that learns it internal coordination better each day. At the same time, informatization has caused a radical reconstruction of the outlook of each person that is surrounded by such processes.

Since the improvement of internal unity and controllability of a social organism is a fundamental civilizationary tendency for social development, the process of strengthening feedback on the basis of civil organisations in the vertical information exchanges in the informatization development process opens up new potential opportunities for society consolidation and the efficiency increasing of its functioning. At the present stage of information technologies development, the problem of lack of information in all spheres of public life is no longer a problem at all and the corresponding problematics has changed to ensuring the necessary quality of information resources and the effectiveness of their use.

At the information stage of society development, along with the development of its social structure, there is an intensive production of social information communications. This process differs significantly from the formation of traditional information communications of industrial society. The existing communications in this society are accompanied by a variety of communications based on digital information technology. These communications can be differentiated by:

– by means of organizing information exchanges: vertical and horizontal. Along with the channels through which the organization of all types of social activities are carried out, citizens are informed about the content of their work by state authorities, economic, political, etc. structures in the vertical dimension, there is a rapid development of interpersonal communication without the actual control of organizational structures of society with the development of informatization. The horizontal dimension, at the level of development of social networks, is based on the principles of self-organization, on the realization of certain interests of citizens, the creation and functioning of so-called "virtual communities", which is a new form of information exchanges;

– by types of contact with the user: informative and interactive. At the same time, interactive forms of communication between the new information producers and the user provide a sufficiently effective feedback, which helps to clarify the requests, the effectiveness of the impact of the information produced, provide a certain level

of democracy in relations with the reader and, at the same time, using certain information technologies, can carry out information manipulation;

– by the organization of presentation of the data: informative, information-analytical, analytical and graphic. With the development of focused on various social structures of society information exchanges, the development of genres of information provision is conducted. In order to increase the efficiency of using information resources in accordance with the requirements of users, their level of preparation, the forms of data in the whole spectrum of genres from information to analytical, from artistic to scientific, etc., is varied. The formation of large information volumes has predetermined development of various graphic materials for their characterization;

– by the form of presentation of the data: text, or combined (image and sound). Digital information technologies enable the use of voice and image (photo-cinema document) information along with text. Usage of various sound forms along with the visual and voice forms of information supply, helps to make it more effective;

– by the form of combination with the basic resources: isolated, independent materials and equipped with a system of links, bibliography for the extended study of the topic. This method of submitting the material is related to thematic structuring of the basic resources and gives the user the opportunity to dive deep into the problems that interest them as deeply as they wish.

The problems that modern civilization faces, require the increasing effectiveness of cognitive activity of society, the creative activities of an increasing number of its representatives. Similarly, the cognitive process requires an ever-increasing resource of information, and an increase in the effectiveness of using publicly-owned information. In this regard, in the process of modern social development creative work becomes of paramount importance, and in modern labor activity work in the information sphere becomes prerogative.

Under the influence of transformative need in accordance with such a tendency in the society, first, the more effective methodology is being developed, more effective in comparison with the past provision

of access to information resources available in society for, formally, all the categories of population in all regions of the world. These methodologies meet the necessity for a deeper self-realisation of the members of society as a whole based on learning new organizational, legal and technical and technological solutions related to the information revolution that has been happening in the last few decades, with the development of digital informational technologies.

Second, organisation of access to information resources provides also the opportunity of their active learning and practical use. It is necessary to mention that in comparison with not very remote past, when the information is of best quality, especially scientific, scientific practical, best examples of works of art, etc. was accessible only to the narrow circle of specialists, which only widened slowly with the societal progress, modern information technology have dramatically expanded this access and opportunities of creative use of available information resources. The increasing of opportunities for usage of developed by the society informational resources equals increasing the opportunities for their effective use. The last, in turn, is the evidence of the possibility of progress. It is important to mention that the access to information and opportunities of its usage is an important stimulus for the activating the creative potential of people. And, thus. it is possible to speak about creating conditions for the rapid growth of creative potential of society, as an important argument in relationships with the surrounding reality.

Third, the relationships of the humankind with the surrounding reality need active actions, adequate responses to increasing negative impacts. Active response to the new challenges have to be based on creating new information. And modern informatization opens new opportunities in this process for the growing number of potentially creative people, thus creating more conditions for new information development. At the present, initial stage of this mass process, it prevails the spontaneous stage of information production, with a low quality of information products, and a low social significance.

However it is evident from the societal experience, the revolutionary process of the massive engagement in active information creation,

which as been huge even without taking into account the increasing of human population in the recent decades, and it slowly highlights relevant socially important directions for creative information activities and provides better results. Countercurrent process in the development of traditional science in fundamental and applied researches as a whole in turn increases the efficiency of those researches and gives promise of the productive synthesis in the sphere of growth of public creative potential and its its realization in necessary practical activity in the near future.

Thus, the informatization, developing under the influence of the challenges of our time, contributes to the rapid growth of new information production, which, in turn, necessitates improvements in systems of social information communications, of structuring conservation and preparation for the use of information resources, search tools and orientation in large informational masses. From the philosophical point of view, "the emergence of new means of information processing, the invention of new information technology technologies — is a just as logical process of self-organisation of matera as is the creation of life, means for utilizing of Sun energy, development of brain, intellect, etc." [1]. All these tools and mechanisms for working with information are aimed at increasing the efficiency of the use of information resources. Actualization of their accelerated development, on the one hand, is connected with the avalanche-like growth of information production, with a real threat for a modern person to "drown" in information, on the other hand — it relates to the transition from raw materials and energy as the main productive resource to information [2], with the necessity for constant use of information as an assignment to work in its new for most members of the society of quality — creative work.

At the same time, members of society, every single social community in their mass today, in contrast to the recent past, has activate the sphere of its information production in the direction of professional and civic activities in accordance with the requirements of modernity, as well as all other areas of personal development as a informational society. The development of information production processes, increasing attention to the study of information resources,

their productive use — a characteristic feature and a prerequisite for social progress.

The development of new information and communication technologies today has provided the access to informational resources of all categories of citizens of our country, opened new opportunities and became an impetus for the growth of social activity of members of society, for development of all spheres of public life, its socio-communicative properties and structures. Such a process, contributing to the manifestations of creative potential of people, provides the ever growing the viability of the social structures itself and the necessary adequate response of modern society to the whole complex of challenges that arise today.

In the period of entering the post-industrial, information stage of the development of society, the features of the main general civilization processes is the activation of the previously unknown two major interrelated trends in the evolution of information processes. One of them is the increasing of the number and strengthening of information communications of global importance, which together creates conditions for the functioning of the global information space. There is "increasing and consolidation of the network of world social relations" [3].

Today, entering this network, the information resource of the global informational space, is accessible due to the present technology for all of human communities and separate individuals, and is the base for the increasing unification, the integrity of humankind. it is important to note that the absolution of such tendency development will lead and already is leading not only to positive factors of informational exchange, but to the wide uncontrolled influence of negative tendencies of globalisation, and one of the major threats is the unification of all human activity spheres.

The other tendency is connected to the transition to the level of development of each of social informational databases into their societal hierarchy, when due to improvement of partnership system with the global informational space and the horizontal connections system, as well as the development of social networks, gain the relative

independence, opportunities for self-identification and more active manifestation in the information sphere of activity as an independent subject and object of information influences.

It is worth mentioning that on the given level of humankind development the important reserve of increasing the viability of modern civilization becomes meaningful, and it is connected with the process of self-improvement, being on the way of optimizing social organization.

Thus, the processes of the societal informatization have greatly accelerated the course of structural transformations in modern society. They have also become a strong catalyst for social activity in the information sphere, in utilization of social communication system that has already been formed, not only as a social tool designed for provision of socially significant information to all members of the social structure of society from top to bottom, from the organizational and management part of society as a subject information activities, to each member of society as an object of information influence, but in the opposite direction.

The new, informational stage of human development at the very beginning of its development has established several significant differences from previous social practice:

– it has manifested itself in an inextricable connection between globalisation processes of the update rate for socially important informational resources, and was dictated by the informational technologies of the most developed countries;

– the meaning of the information update itself is observed, as noted by D. Bell, the manifestation of the tendency of direct perception, as the initial stage of the objet's studying, to the next steps of studying through empiricism and with stepping up to the abstract theoretical knowledge. Today the prophecy of V. I. Vernadskyi has proved that scientific thought is one for everyone, and same scientific methodology, one for everyone, now has covered all of humanity, spread over all of it biosphere, turning it into the noosphere. This is a completely novel phenomenon, which gives special attention to science development which we now see before our eyes, the explosion of scientific creativity;

– the vital need for constant learnig of new information with the increasing amount of innovative elements, realisation of which requires ever greater mental effort, constant self-improvement, is proportional to the pace of social transformation, and also the expanding of the memory of the information resource, necessary for practical work, individual development and full-fledged existence. Nikita Moiseyev states that "the entire process of self-organization of the living world may be explained in the context of the development of memory" [4].

The objective need for rapid increasing of information activities in society, under the influence of new challenges of modern life, has caused an increasing informational burden on members of society, especially on the socially active part.

The increasing importance of information influences on the modern humans consciousness is due to a number of factors characteristic to the stage of human development:

First, this process is related to the growing importance of information as the main resource of development in the information society.

Second, the high pace of updating of the information necessary for constant use is a characteristic feature of the informational range in which the modern person is. It is connected with objective parameters of acceleration of public life and increasing volumes of informational production, the process in which new and new members are getting involved.

Third, the ever growing nomenclature of technical means, technologies of production and use of information resources causes the diversification and deepening of the influence of information on the consciousness and subconscious of a modern person.

The fourth essential feature of this process is the not effective enough ability of a person to navigate the array of new information and skills of meaningful assessment of the resource required for the practice of social activity at the present stage of development of a society.

The processes of global informatization, influencing states and nations with the corresponding specifics manifest themselves at the level of the entire system of social structures and find their significant

reflection in the minds of each individual member of society, each individual. The lack of preventive measures to neutralize the negative manifestations of such influences leads to the emergence of dangerous trends, associated with the development of asocial tendencies in the behavior of some people, trained on Internet spaces:

– the tendency to completely fixate the interests of the person on the Internet.;

– formation of closed off of public interests internet societies;

– the tendency for the imaginary complete isolation of the individual from society in the virtual world of computer information. This tendency is based on the intuitive aspiration of people included in modern information flows, to restrict the use of information resources to the extent that they are interesting to a particular user.

Worth mentioning, that the development of social networks is a significant factor in modifying modern information exchanges, of horizontal communication in interpersonal communication with the means of internet technologies. From the point of improvement of the social structure, this type of communication has both positive and negative aspects. When exchanging information through networks, social relationships are based of common interests, positive emotions of common action, friendship, without experiencing any boundaries or obstacles.

During the last decade the active development of social networks as a mechanism of horizontal information exchanges has increased so much that it can be qualified as a starting point for the development of the information basis of social organization of society on new principles of joint activity in the far future, but natural for a new information society, the future society of knowledge. In favor of this point of view are the following:

– if up to recently the use of network technologies the system of social communications shaping and the extent of their influence on the formation of social consciousness tone has been set up by the guidance and coordination centers that ensure the functioning of society through vertical methods of information exchanges, now the initiative and rules of the game with the use of digital social communications

transfer to socially equivalent entities of this method of exchanges on a cooperative basis;

– not only the need to meet the demands of the functioning and development of a society is the stimulus for such a form of communication, the member of which is any given individual, and has own motives, desires, hobbies that only indirectly correlate with public interests. They can be supported in society, be neutral in relation to their interests, or contradict them in one form or another;

– today, social networks are the means of information exchange with the least-controlled legal system of Ukrainian society. They are unique in this regard, since all previously created tools had evolved under the control of management structures and have been in one way or another a tool for mass management. The same applies to so-called democratic, "independent" media. In spite of declarative democracy, their dependence on the sources of funding in our society necessitates defending the positions of these sources and reflects the objective processes from their point of view.

At the same time, social networks for the first time became the means of information exchange between people, the control over the content of which is significantly limited by the state. Actually, the development of these communication tools as a whole is an improved individual way of developing their socialization, taking into account their own preferences, interests, tastes and ideas about the future.

One can speak of a greater social autonomy of the user in the network than in real life. However, along with this, the network provides an opportunity to accumulate the individual experience of using the information resources of the present in the interests of their effective public use, which is especially important in the present period of the formation of social information.

Pros in the formation of network communities are:

– they enable citizens to effectively exercise their right to participate in the management of public affairs (Article 38 of the Constitution of Ukraine);

– are able to help form a civic position on various socially important issues involving the creative potential of a growing part of society;

– can respond promptly to changing political and legal conditions;

– they do not require significant financial support for the process of their development;

– exist without the formation of a rigid administrative vertical.

The development of social networks with its main features gives grounds to assert that we are dealing with a new kind of manifestation of sociality, or more precisely, social solidarity, which is characterized by:

– lack or rather weak manifestation of a formal organization, often it only requires formal registration on one or another site;

– possible anonymity, in which only the declared position from the problems discussed on the sites becomes important;

– voluntary entry into the Internet community or exit from it, if it ceases to satisfy for one reason or another any of its members. This circumstance ensures the existence of a factor of sincerity, which has long been questioned by real politics;

– the potential ability to transfer the discussed problems into the real social practice sphere (up to the creation of "virtual parties", almost instant organization of protest actions, other coordinated real performances on the basis of equal treatment of events of real social life);

– the democratic nature of such organizations, the possibility of equal sharing of information between members of the community, regardless of the real social stratification.

Unfortunately, the benefits of these forms of communication have the opposite side of influences. The existing disadvantages, first of all, are related to the localization of interests of active members of social networks in information exchanges on subjects, interests, linguistic, etc. features. At the same time, on the part of the state as the directing and coordinating force in the functioning of vertical information flows, the development of social networks does not receive due attention. Indeed, today the legal base lags behind the development of technologies and does not cover new technological methods of using information and technologies; production of state information by volume and quality does not correspond to the scale of filling of social information networks.

Actual disparity in the real informational manifestation in the social networks of users-citizens and public institutions creates serious problems in the field of social solidarity. Certain intrasocial stratification takes place due to the fact that the current intensity of information processes, new forms of information exchanges, the consciousness of some people, especially older people, is not ready.

The increasing of resources of the global information space in modern conditions is also related to a number of other related issues, such as:

– disproportionate increasing in the level of information noise;

– the dominance of parasitic information (unclaimed, obtained as unauthorized "applications");

– weak structuring of information;

– multiple duplication of it.

It should also be noted that the new information technologies stimulate the search for new models of information influences in the ongoing information and psychological warfare that continues between Russia and Ukraine. Since social networks have the ability to concentrate information in order to form opinions, views, moods, mass media, to intensify or weaken the positions of groups of the population, to identify, group, consolidate the contingent of a certain opinion and mood, they have become one of the main mechanisms of influence of Russian informational technologists on the population. our country.

For all this, the problems associated with the entry of a person into contact with the computer, with the machine, as well as with a set of technogenic problems related to the influence on the person as a socio-biological being become actuality. They face society today as a payment for the ability to meet the level of information, as well as all other challenges of modern reality. The specifics of human functioning when using machines and mechanisms already require from a person to meet certain requirements of the technical infrastructure:

– the need for constant assimilation of growing volumes of information;

– increasing speed and accuracy of responses to the processes of machine functioning, technological cooperation with the machine;

– elaboration of stability to the accompanying machinery activity of previously unusual for the environment of radiation, harmful to the human body emissions;

– development, constant updating of forms of neutralization of ecological consequences of machine activity in the area of human existence, etc. [5].

In connection with this, in parallel with the development of systems for protecting computer users from the negative factors of the physical impact of computer technology, the problem of the need to adapt a person to life in a domination of electronic information technology, in the conditions of increasing technogenic radiation and conducting an increasing number people in hypotonic mode, at work on a computer. Therefore, recommendations are being developed and implemented in practice with regard to optimal behavior to protect the eyes, to avoid diseases of the spine, respiratory organs, stress, insomnia, nervous disorders, etc. possible problem situations of this nature.

Thus, despite the effects of growing information flows, despite all the harmful influences of the technological environment, the human mind has embarked on new challenges and, at this stage of development, is struggling to preserve and develop its identity in the transient changes of modern reality.

Challenges of the near future, requiring the operation of infinitely higher amounts of information, require the emergence of new reserves of collective consciousness of mankind, and further modernization of existing work in the field of information resources management. In addition to the development of existing organizational and technological innovations in the information production and the development of information exchanges already existing in the process of information, special attention should be paid to the organization of preservation, structuring, preparation for the use of available information resources, development of the library business on a new stage of its development.

They must bring the content of their funds to the users, provide effective access to information in them, and become more relevant today's requirement, promote the productive use of information resources, taking into account the specifics of socially important activities of

all categories of users, thematic grouping of relevant information for use in realization of programs and concrete plans of social development. Librarians should also contribute to the development of the system of social information communications of modern society, including the development of relevant sites, the filling of this system of high-quality, necessary for the implementation of the objectives of innovation development information, thus providing real access to domestic information resources for all categories of users, promoting effective the use of these resources both in the mode of traditional library service and with the development of various forms of distant services ingestion

They carry out: studying in the interest of social progress new arrays of information produced by society, the process of replenishment of global information resources and resources of the national information space; preparation of the system of information, informational-analytical and analytical publications describing the information processes of the present for different categories of users in the mode of "information — about information"; carry out the selection of new information necessary for solving urgent tasks of social development, both in print and in electronic form; Enrich this information with their own funds and transfer it to the required volumes of customers.

The intensification of the process of information circulation in society and the growing demands for its use in all spheres of public life determine the objective processes of transformation of library institutions as centers of storage and organization of the use of information resources into new institutional quality, forms new requirements for modern library services. In the development of modern library activity, the improvement of the information function of libraries, its transformation into information-analytical with the development of its own products for traditional, in reading rooms, and distant, in Internet-mailing, use becomes essential.

The prospects for the development of library electronic periodicals are related to two groups of tasks that reflect:

– growing public requests for electronic information resources that are equipped with modern libraries, which enrich their resource

in the process of digitization of fixed assets, the need for prompt information on these resources of all categories of users;

– the objective need for the development of modern information relations between the domestic library system and the user.

The problem of digitizing library resources in the conditions of modern Ukraine is very complicated and due to material constraints (and digitization is a rather costly business, and the costs of it are measured by tens of millions of dollars), due to lack of relevant specialists and due to insufficiently worked out methods of using basic national resources in the quality of guidance for new work, for the production of new information. Actualization of this activity is connected with the rapid growth of information volumes necessary for social development and the need for meaningful structuring for targeting different categories of customers.

Experience has shown that library electronic media, using their existing capabilities and those that are emerging in the process of their development in this sphere, can become an effective tool for targeting ever-growing volumes of information, especially in the process of processing them, including the use of computer technologies, and thus facilitating access to the necessary information by different categories of users.

Today, the existing network of library institutions in our country is, in fact, a model of the future network of general-purpose and sectoral information and information-analytical centers of a new generation, computerized, adapted to operate with all available types of information carriers. A united future network of such centers will have the opportunity to effectively use the public information resource, to provide all categories of users with the necessary information in the required volumes.

The development of this mechanism becomes especially important with the growing importance of the creative potential in the interest of community development. Since in the future the growth of the proportion of creative work in the total volume of work is projected, it is this work that needs both a growing resource of new information and a compulsory referral to existing social experience.

The development of social informatization takes place under the influence of changes in the environment in which modern civilization develops, and the social problems that arise in the process of evolution of human society. Global informatization is in essence an instrument of public response to all the new challenges of the present, an instrument of mobilizing the creative activity of people, that is, the most productive response to the realities of modern times by homo sapiens.

Information provision of the viability of our civilization is stimulated by the necessity of solving three main civilizational problems:

- – firstly, changes in the environment in accordance with the natural laws of planetary development;
- – and secondly, the neutralization of the negative impacts of the development of civilization on the environment;
- – and, thirdly, the active maintenance of processes related to the system-building of social problems and, accordingly, social transformation.

Among these problems should include:

1) The growing contradictions between the peculiarities of the functioning of the modern information society with the peculiarities of the development of those countries lagging behind in the social development of the industrial, and elsewhere, and at the pre-industrial stage of development, with the prevailing number of people not ready today for post-industrial information relations, with the corresponding level of social consciousness, moral conditions. These features do not allow you to quickly convinced the world of the benefits of innovative development. In addition, in the interests of certain players in the global economic space, delays in the economic development of countries, usually with valuable natural resources. These delays ensure the receipt of excess profits in backward areas where there is a possible low wage, low taxes, and do not adhere to the requirements of the cost of profits earned on the environment production.

2) Problems related to the updating of the social structure of society-va at the information stage of its development. The practice of transformation of modern society shows that the provision of real equality for citizens at the present stage of social development is

ensured by the creation of equal opportunities for access to resources and instruments of social transformation, first of all, to information resources and technologies for their use. These opportunities help the person of the information society in its evolution in accordance with the conditions of its functioning in this society. In its relations with the outside world, it needs to use ever larger amounts of information from the global information space produced in the national information environment and concentrated in library institutions, in databases of other information centers. The modern individual must efficiently operate these resources, drawing on the improvement of technology.

Thus, modern information bases and technologies become a non-biological component of the information activity of a modern person. They mitigate the level of pressure of information volumes on the human biological system and form requirements for the processes of development of its mental activity at the next level of human evolution. At its present level, not so much a response to the manifestations of reality in their primary informational mapping is provided, but rather on the generalization of the primary volumes of information at the level of the information-analytical or analytical. This approach, in principle, softens the problem of growing pressure of the information sphere on a biological person. Prospects for improving the organization of socially useful information resources and technologies for their use promise to solve this problem in the future.

The growing pace of social transformation in our time necessitates the ever closer approximation of science, innovative technologies directly to production, its progress is conditioned precisely by the successes in the field of knowledge, and public production is increasingly in need of professionals from four classes: scientific, technological, administrative and cultural. In the context of the projection of this thesis on the idea of biological evolution, one should recall the famous point that only an effective social organization gives a chance to a particular biological species, including humanity, to remain a dominant species on the planet.

The major development of scientific information exchanges and the increasing importance of the introduction of innovative technologies

into all spheres of human activity has caused the growing social importence of social structures that provide scientific and technological progress. At the same time, the development of the information sphere depends to a large extent on applied science scholars. The need for humanitarian research as a guideline for improving further socialization will increase, as their development is an effective way of streamlining the very structure of the information society and the knowledge system on which it is based. The efficiency of the modern society functioning is directly corelated with the efficiency of the information use, which, in turn, depends on the level of access to the resources used and the quality of the information activity process. The creative power of labor and the effectiveness of the organization of social activity in the end depends on innovation. Innovation is derived from a highly skilled workforce and the existence of knowledge-based organizations.

At the same time, along with the development of the process of cognitive activity and new information production, in the various types of social communications, the acceleration of information circulation, the quality of social evolution is associated with the process of accelerated intellectual development of the human information society based on the harmonious combination of the basic information resource with new relevant information. Thus, the information society is evolving stadily towards a society of knowledge in the intellectual environment of the society.

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Monography

(Second addition — revised and updated)