

Information Anthropology: Methodological Approaches of the Russian Scientists

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Abstract

Background/Objectives: The article aims to reveal the specifics of understanding a wide range of anthropological problems arising in the informatization processes due to the current social changes in terms of information anthropology. **Methods/Statistical Analysis:** Publications by Russian authors, investigating the problem of information anthropology and the specifics of the *Homo Informaticus* formation were studied by the content analysis. The characteristics of existing methodological approaches to understanding the information anthropology content were correlated using the comparative analysis. The systematic approach was applied by the authors to identify possible options for the structure of information anthropology in different approaches to its constitutioning. **Findings:** For the first time a comparative analysis of methodological approaches to the understanding the content of information anthropology by Russian researchers was conducted. The differences in the approaches are determined by different understanding of anthropology as a study of humans; differing views about the role of information in the society; particular emphasis in the analysis of human qualities, manifested in the communicative processes - either essentially biological or mainly social qualities are distinguished. Eight possible variants of information anthropology formation are characterized on the basis of three criteria groups. It is revealed that in most publications modern society is defined as a historical framework for the information and anthropological studies, and the information anthropology is more often associated with the Internet-anthropology or computer anthropology. The authors oppose their approach to the conventional understanding of the information society. They developed a broad approach to understanding the information anthropology, enabling to extend its problems to all stages of human history, and to identify the main historical types of "*Homo Informaticus*". **Application/Improvements:** The methodological approach substantiated by the authors can be effectively used to perform further analysis of anthropological problems of informatization and to form the main directions of information policy.

Keywords: Information Anthropology, Information, Informatization, Homo Informaticus. Methodological Approach

1. Introduction

At the beginning of the 21st century, among the factors that determine the prevailing macro trends of the social development one should name the level and nature of social communication, as well as the technology of information exchange processes, which define the society as a social organism. Modern society is moving towards the information age, and in the industrialized countries informatization itself has turned from the subject of

researchers' academic interest into the object of state regulation.

Changes and development of social relations within each particular type of society is directly linked with the change of the dominant type of the personality; that is why anthropological issues come to the fore when studying the information civilization. By now it has become necessary to separate information anthropology as a relatively independent line of research.

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2. Methodology

The authors of the article aim to identify the existing methodological approaches to the understanding of the nature and content of information anthropology, and on this basis to compare the variants of information anthropology structuring. To achieve this goal, at the first stage of the study the authors conducted a content analysis of publications of Russian researchers, which were published mainly in the last decade and are devoted to the issues of information anthropology and *Homo informaticus* evolution; the second stage involved developing a comparative description of the main ways of information anthropology structuring.

The basic concepts were defined through the use of hermeneutical methodology. Comparative analysis was applied for comparative description of existing theoretical concepts of information anthropology and stages of the modern society development. The authors used the system approach to identify possible content patterns of information anthropology in various variants of its structuring.

3. Results

Links between anthropology and information reality can be analyzed according to various aspects (see, for example, works by¹ and so on). However, a comprehensive study of this relationship can be carried out only within the framework of information anthropology. The conducted research showed that the need for separating information anthropology as a relatively independent line of research was acknowledged by Russian researchers at the turn of 21st century. For example², notes that in modern literature we “can meet a mention of philosophical, social, historical, legal, cultural, educational, physical, visual anthropology”, and in this connection she points out the following: “the absence of information anthropology in this wide spectrum of contemporary human sciences cannot be anything but confusing”. Since a modern man, his intelligence, his creativity are the products of information technology created by him, it is precisely due to this pattern why *Homo sapiens* may be called *Homo informaticus*. In turn, *Homo informaticus* is the main focus of the research of information anthropology. The need for information anthropology development was stressed in the works by^{3,4} and others. Actually, issues

of information anthropology (without using this term, though) were explored⁵.

At first glance, the range of problems and content of information anthropology are similar to those of cyber anthropology⁶. However, this is a rather narrow definition of the subject: “Cyberanthropology considers a man as a digital equivalent of the information transmitter”. This approach narrows the content of anthropology, as here the man acts only as an analogue of a cybernetic device and is virtually reduced to a technical system.

K. K. Kolin⁷ may be considered a pioneer in addressing the issues of information anthropology in Russian science: he suggested a possible structure of this research field, defined its subject matter and the scope of the research and formulated the range of problems, which, in his opinion, should be solved by this branch of science.⁸ M. Abramov was among the first Russian explorers who considered the transformation of classic *Homo faber* (Man the Maker) into *Homo informaticus*. He explained this process by the prevalence of work in the virtual office implying the wide use of computer technology: “Such an employee has literally “merged with” the information environment and is entirely dependent on it, whereas the role of social environment, more habitual for us, is less important here”.⁹

Content analysis shows that direct stimulus for intensifying research in the field of information anthropology was the study of social processes associated with the widespread adoption of the Internet. Indeed, the most significant changes, triggered by the introduction of the Internet, occur on the anthropological level: they concern the changes in the individual’s way of life in the modern society and changes in the personality structure. That is why anthropology of the Internet is the most developed version of the information anthropology. V.V. Tarasenko¹⁰ was among the first to formulate the problem of the anthropology of the Internet in Russian humanities. He introduces the idea of “a person clicking” as a resident of a special society, where people press buttons with their fingers in the world of the Net surfing. He demonstrates that the basic strategy of behavior in the Internet is the so-called “surfing”, that is rapidly moving over hyperlinks in opening windows. The user does not actually read, but scans the information to generate the meaning.

The works of other authors define a whole range of anthropological characteristics of the Internet. Taken together, these qualities characterize a new type of a

personality in the age of information. We will mention only a few of these characteristics¹¹ states some new information qualities that are necessary for the formation of a personality's survival skills: "in a virtualized society the skills of obtaining, processing and evaluating information, the ability to combine and organize life in both cyber and physical planes are necessary survival skills".

Many authors write about the new - virtual - forms of social plane. V. A. Koutrev¹² draws attention to the informational nature of virtual forms of reality: "Information generates virtual forms of reality, creating totally unprecedented conditions for the body and mind of the human. They are radically different from those in which he has been living over thousands of years of natural evolution"¹³ describes a new type of *Homo informaticus* as the "Internet generation" or "web generation", one of the basic characteristics of which is that its representatives naturally and effortlessly work with any Internet technology, they love blogs and social networking, surf the Internet on trial and error basis, ignore textbooks and tips, have no doubts in the validity of everything what is written and posted on the Internet".¹⁴

A number of authors¹⁵⁻¹⁷ examines the social and anthropological risks associated with the widespread of the Internet and with the innovations generated by it. Besides, many researchers state that under the influence of the Internet a new type of social interaction is formed in the social networks.¹⁸ Thus, Russian researchers often identify information anthropology and its problems with the anthropology of the Internet, or at least – with digital anthropology¹⁹ gives a good definition of such anthropology as "anthropology of the digital civilization".

However, the content of the methodological information anthropology can be also understood in a broader way. For example, A. A. Morgunov²⁰ believes that a person acting in the system of information exchange processes of the society should be considered as the subject matter of information anthropology, while the scope of the research is a person as a special system, who interacts with the reality around him through communicating information. The author also formulates some problems relating to the person of the information age:

- What personality type is emerging in the context of domineering information culture?
- What personality type "is likely to dominate the current daily life, taking into account intensifying

socio and cultural processes of globalization and the formation of the global network society"?

- How will a human of the information age develop such elements of spirituality and value system as self-awareness and self-identification?
- What criteria will he use to determine his own identity, where will he draw the line between the individual and social?

In fact, A. A. Morgunov formulated a coherent program for research on information anthropology that is understood as anthropology of information-accumulating society.

Similar to the position of A. A. Morgunov is the approach²¹ who consider "the human in the information-exchange process of society" as the subject matter of information anthropology and name "the human as an information system" as the scope of the research. They formulate the basic concepts of information anthropology, among which: the thesis on the originality of information and its transformation into a special qualitative state, intrinsic to a personality, society and nature; on the formation of the information environment and the information acquisition of certain environmental qualities, etc.

Methodological grounds of information anthropology are thoroughly examined¹¹ who states that "any modern anthropology necessarily acquires the information characteristics" She describes the range of methodological grounds of information anthropology – from the idea of pan-information, pan-communication, technological and psychogenic transformation to the idea of a superman, the revision of the concept of human rights and humanity. Y.V. Shichanina focuses on the most important, in her opinion, function of information anthropology and points out that "modern information anthropology shifts the emphasis from considering a human in his present state to the possible human of the future".¹¹

Thus, according to Y. V. Shichanina, the historical framework which may become the subject of anthropological research is not so much a modern process of society's computerization, but the future of the information "superman": "The superman of the future will not necessarily be an anthropomorphic creature. On the contrary, it is more than likely that his information nature will be materialized in the high-tech material substrate... He will use an unlimited range of effective technical

and biological structures, creating his own doubles in various, including material, planes of the universe”.¹¹ The most comprehensive methodological approach to the content and structuring of information anthropology was developed²². From his point of view:

- Subject matter of this branch of science is a human in the world of information;
- Scope of research includes patterns and problems of his origin, evolution and life in the new information environment;
- Research objectives involve studying “information qualities and abilities of a human regarding the perception, storage and processing of information, as well as the new trends, which are generated by the human’s position in the global information society”;
- The most important problem is exploring “the development of a new type of personality - Homo informaticus”, who is understood as a person of modern global community.

4. Discussion

The review of publications, undertaken in this study, demonstrates that Russian researchers analyze a wide range of information anthropology issues and its subject – Homo informaticus. At the same time, the majority of researchers narrow down the problems of information anthropology to the issues of the modern information age. Works by K. K. Kolin^{7-8,22} provide the best example of such an approach.

The methodological approach proposed by K. K. Kolin and most researchers of information anthropology, at first glance, is quite logical: *information anthropology should deal with problems of the human living in the information society*. At the same time, K. K. Kolin contrasts the modern (“information”) society and the previous stage of its development – the non-information one. This is actually how most Russian researchers define the concept “the information society”, the main methodological prerequisite of information anthropology.

However, information exchange is a crucial social prerequisite and an essential condition for the formation and development of the man and society; that is why it is impossible to speak of non-information societies. It is a different matter though there may be revolutionary changes in information technology. Thorough understanding of the specific place and role of information technology determines an approach to information anthropology structuring.

Defining the content of key terms that make up its name helps to understand the scientific content of information anthropology; these are anthropology (the study of humanity) and information (the key category for the study of information processes). At the same time, the role of information in the society may be understood in different ways:

- Only modern society is named an information one,
- Information exchange processes are seen as an immanent part of any type of society.

The content of anthropology can also be understood differently:

- General anthropology considers the human from physical and biological point of view;
- Socio-cultural anthropology studies the human as a subject of culture and social relations.

Thus, there are several options of informational anthropology structuring (see Table 1), in each of them *Homo informaticus* being the central object of study; however, the content of this phenomenon and the approach to its study are fundamentally different. Firstly, such an approach depends on what understanding of the subject of anthropology forms the basis of this scientific field (these understanding is represented in the table columns).

Secondly, the considered approaches depend on the understanding of the role of information in the society: whether it is recognized as a significant factor in the development of any types of society, or it acquires such a function only in relation to modern society (this parameter is represented in the lines of the table).

Information is quite often identified with social information; what is more, regarding information resources it is understood only as a type of knowledge processed and expressed in a specific way.²² Under this approach, information anthropology explores *only the impact of social information* on the human, while information processes related to the human’s functioning as a biological organism are not taken into consideration. A more fruitful is an *attributive approach* which defines information as an attribute of all systems of the world. This approach allows detecting specific differences of particular information processes at each structural level of the human, who is viewed as an *information system*.

To avoid complicating the table, only attributive approach to information was used when considering possible options of information anthropology. Thus, there

Table 1. Possible content options of information anthropology

The concept of information society	Physical anthropology		Sociocultural anthropology	
	Concept of Homo Informaticus	Structure of a human as an information system	Concept of Homo Informaticus	Structure of a human as an information system
Only modern society can be considered an information society	Homo informaticus is a <i>biophysical being</i> in the information field of mostly <i>social information</i> originating from information exchange processes made possible by modern information and computer technologies.	Determined by the biological composition of human body and informational characteristics of <i>human organs and biological systems</i> , as well as information processes at the cellular level.	Homo informaticus is a <i>biopsychosocial being</i> in the information field of mostly <i>social information</i> originating from information exchange processes made possible by modern information and computer technologies.	Components of the structure are determined by the information characteristics of the biological systems of the human body, but mainly - <i>specific features of human psyche and consciousness (id, ego and superego</i> in their information aspect) regarding the impact of <i>modern information and computer technologies</i> .
Any stage of human development is an information society	Homo informaticus is a <i>biophysical being</i> in the information field formed by <i>the complex of the surrounding flows of information</i> : abiotic, biotic and social ones.	Determined by the biological composition of the human body and informational characteristics of <i>human organs and biological systems</i> , as well as information processes at the cellular level.	Homo informaticus is a <i>biopsychosocial being</i> in the information field formed by <i>the complex of the surrounding flows of information</i> : abiotic, biotic and social ones.	Determined by the information characteristics of the biological systems of the human body, but mainly - <i>specific features of human psyche and consciousness (id, ego and superego)</i> in universal information field. Proposed by Z. Freud <i>id, ego and superego</i> can be viewed as the components in their information aspect.

are at least four variants of information anthropology structure depending on the selected methodological grounds.²³ Here, methodological approach, presented in the first two columns, focuses on the biological conditionality of the man's information abilities. It takes into account, for example, the ability of the human eye to perceive electromagnetic radiation in the optical range only, the range of the ear sensitivity to the volume level of audio signals, etc. This approach focuses on the biological component of the human as an information system, and the findings of physical anthropology are among the methodological grounds of information anthropology developed in this framework. It is this approach that formed the basis for many of the conclusions in the classical work²⁴, which analyzes, for instance, the problems of biological limitations of human perception in the context of ever-increasing flows of information. The problem of information risks posed by modern informatization is also to a great extent determined by

the biological nature of the man.^{15-16,25-27} Here, exploring the impact on the biological nature of the man from the information technology together with bio-, nano- and cognitive technologies is especially relevant. This complex influence is marked with an abbreviation BNIC.^{28,29}

Let us call this type of information anthropology "IA-Bio". The next two columns do not ignore the findings of IA-Bio, but treat them only as the basis for the next level of research: Identifying the social aspects of the information-exchange processes development and their technological basis. The methodological basis for development of this line of information anthropology is the findings of social (cultural) anthropology. Let us call it "IA-Socio".

It includes two methodological approaches. Methodological basis of the approach proposed by K. K. Kolin and those authors who relate information anthropology only to the modern type of society is represented in the last two cells of the first row of the table. The concept, developed by the authors of this study,

is represented in the last two cells of the second row of the table. The authors believe this concept of information anthropology has a higher methodological potential, since it allows, for instance, classifying the types of Homo informaticus. Indeed, talking about the modern society we can define only one type of Homo informaticus – “Human – Computer User”, i.e. a person actively using computers and Internet social networks in his social communication. If, however, the leading problem of information anthropology is the analysis of the system of information and communication processes in connection with the social history of information exchange and social communication, the modern informatization serves as a specific manifestation of the general laws related to information relations in the society.

However, the following approach requires a broader understanding of the term “information society”. In fact, according to the traditional interpretation of this term, the information society is associated only with the present stage of the society development. This perception inevitably leads to a situation when all previous stages of social development are considered as “non-information” ones. However, the genesis of human society involves the formation of social relations, their inseparable element being information exchange, social communication. Therefore, there cannot be non-information societies, and the term “information society” in its most common usage seems not to be fully accurate.

Relative appropriateness of the term has been noted by a number of researchers. For example, Manuel Castells³⁰ uses this concept, while F. Webster³¹ questions virtually all existing theories of information society. However, the term “information society” can be interpreted in a different way: as an “information snapshot” of any historical stage

of human society development, just as we can define different types of “economic society” at the specific stages of society development. The methodological significance of this understanding stems from the fact that it allows identifying historical trends of information-exchange processes in the society, as well as the laws of information and communication technologies development parallel to the development of a “communicating human”, including “information professional”.³²

This approach allows defining the main types of information societies and their basic types of Homo informaticus, viewed as a result of information and communications revolutions (ICRs). A detailed analysis of ICRs is given, for example, by K.K. Kolin.²² According to the types of ICRs; we can define the following types of Homo Informaticus: 1) a verbal human, 2) a writing human, sriptor (also reading written texts), 3) a human reading a printed book (bibliohomo), 4) an electronic person 5) a human – computer user.³³ It is possible to define one more aspect in the structuring of information anthropology if we consider the specific methods used by it and research objectives set (Table 2).

Futurological line of information anthropology seems to be incredibly important, as it will allow exploring the trends in information reality development, both in the near and distant future. This field of research was actively explored by Russian researcher A. Narinyani³⁴⁻³⁵ who developed the concept of e-HOMO (electronic human) – the man of the near future. Sociological line of research explores primarily trends related to the man’s place in the modern information reality, putting aside, to a certain extent, the historical trends of this reality.

The position of the authors of this article corresponds with the third row of Table 2, which implies the widest

Table 2. Research objectives and types of information anthropology

Methods applied	Type of information anthropology	Research objectives
Futurological	Information anthropology of the future	Predicting information processes in the foreseeable future, anticipation of new types of Homo informaticus
Sociological	Modern information and computer anthropology, anthropology of the Internet, etc.	Sociological research of communication processes of modern society, the study of social networks of the Internet, analysis of a human as a computer and Internet user.
Historical	Historical information anthropology	Historical analysis of the development of information and communication processes, the study of successive types of Homo informaticus, identifying trends in the development of information reality for a deeper understanding of the essence of Homo informaticus of the modern age and the immediate future.

possible understanding of the content of information anthropology. This involves studying the specific characteristics of information and communication processes at all stages of human development and the analysis of all successive types of Homo informaticus. According to this position, the category “Homo informaticus” acts as a generic term for the study of the subject of information relations in any type of society. In this case, the problems that seem to be completely new are actually only another aspect of the old information problems, typical of the former types of society. Under this approach the subject matter of information anthropology is represented by information exchange processes of the society, while its scope can be defined as “a human in the information environment”³³

5. Conclusion

The undertaken study showed that most works of the Russian authors relate the problems of information anthropology only to the modern information age, and these issues mainly deal with predicting the nearest information future. At the same time, the trends of information and communication processes which result from the previous stages of the information society development and the previous types of Homo informaticus remain beyond the scope of the analysis.

According to the authors of the article, information anthropology should be structured as a relevant field of modern scientific anthropological knowledge. Here, the broad approach to information anthropology seems to be the most fruitful in terms of methodology, when the scope of its interests includes information and communication processes and their anthropological implications, emerging at different stages of society development.

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