Vorstellung, dass sich durch Kommunikation eine neue Kultur bildet, einem Menschen, der sich im fremdkulturellen Umfeld zurechtfinden muss, weiter? Außerdem stellt sich die Frage, wie sich die Annahmen empirisch untersuchen lassen. Wie lässt sich feststellen, wie Dialogabläufe kulturspezifisch geregelt sind, und wie man prüfen kann, ob ein Dialog symmetrisch ist? Es ist noch Anfang der Entwicklung einer umfassenden Theorie.

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**MODEL OF WRITING**

**IN THE STUDY OF THE ASYMMETRY OF KNOWLEDGE**

**Abstract.** Until now, no one considered writing as an economic type of activity. Traditionally, it was the object of research for historians and philologists. Archaeologists delivered written records; historians put forward and substantiated various hypotheses and theories about the origin of writing and its functions.

This article shows that writing should be considered as an economic activity. A versatile model of writing is proposed, and the operating conditions defined. All writing products are identified and analyzed.

Actually, writing is the most ancient information technology to transfer knowledge in space and time used till now and the model of writing allows investigating its structure and operational conditions, therefore we can identify the points where the knowledge asymmetries can emerge. So, it is proposed to apply the model of writing as a tool to investigate the asymmetries in the transfer of knowledge and it was demonstrated how the economic factors as indispensable components of writing (cost of writing and capability to pay for writing services) influence the process of knowledge distribution in the modern world.
Анотація. Дотепер ніхто не розглядав писемність в якості економічного виду діяльності. Традиційно, це був об’єкт досліджень для істориків та філологів. Археологи знаходили пам’ятники писемності, історики висували різні гіпотези та теорії щодо походження та функцій писемності.
У цій статті показано, що писемність є економічною діяльністю. Запропонована універсальна модель писемності та визначені умови її функціонування. Були встановлені та проаналізовані всі продукти писемності.
Фактично, писемність є інформаційною технологією для передачі знань у просторі та часі, що використовується дотепер. Модель писемності дозволяє досліджувати її структуру та умови функціонування та ми можемо ідентифікувати місця, де виникає асиметрія при передачі знань. Тому було запропоновано використовувати модель писемності як інструмент в досліджуванні асиметрії при передачі знань. Було продемонстровано як економічні фактори, що є невід’ємними компонентами писемності (вартість писемності та наявність коштів для сплати послуг писемності), впливають на процес розповсюдження знань у сучасному світі.

Ключові слова: писемність, модель писемності, економічна діяльність, асиметрія при передачі знань.

Problem statement. Writing is most important way of knowledge distribution in the modern world. But until now the model of writing was not available. So, scientists used another methods for studying the problems of asymmetry of knowledge in the modern world.

Considering the current trends of artificial intelligence usage in scientific research, modeling of writing is also an important task in building up a system of artificial intelligence for studying this type of activity and projecting its development.

While studying writing as a new type of economic activity, the model of writing was developed. The model describes the process of transmission of information in space and time and therefore it is useful to study the causes of asymmetry in the process of knowledge distribution in the modern world.

Analysis of the latest research and publications. A specific feature of research of this new type of economic activity is the absence of literature sources, based on which the author could analyze the status of research in this field and the unresolved problems science faces in this sphere. Until the present time, writing was studied as an object of science by historians and philologists. Archaeologists excavated writing monuments, historians raised and justified various hypotheses and theories on the origin of writing. Philologists built up various models of genesis of different types of writing [2; 3; 4]. Within the framework of these models, no definite answer still has been obtained on who, when and what for invented a particular type of writing. Accordingly, there was no possibility to detect factors affecting emergence and development of writing, and to project the directions of its development. Analysis of publications also demonstrated absence of a generally accepted and justified definition of writing [1]. The proposal of Bagley R.W. to view writing on «other physical principles» [4] has currently found no feedback in further research. The economic science did not take part in this research, and no literary or other sources on this subject are known to the author.

Until the present time, the model of writing was not available and nobody considered the application of this model for the studying of asymmetry in the process of knowledge distribution in the modern world and the literature sources are not available.
The purpose of this research is to show how the writing model can be applied for studying the problems of asymmetry of knowledge in the modern world.

The writing should be viewed as an economic activity, and to present the writing model developed by the author, which enables forecasting the direction of development of this type of activity in the future and comparing various types of writing according to economic criteria. This model will allow to reliably reconstruct the genesis of various types of writing (cuneiform, Egyptian hieroglyphs, Chinese hieroglyphs) as well as to demonstrate how the economic factors influence the process of knowledge distribution in the modern world.

The following results were obtained in the course of the research:
1. It was shown that writing is an economic activity, with production, distribution and consumption of goods. The definition of the prime function of writing was given.
2. The information model of this activity was built up, explaining all currently known types of writing.
3. It was demonstrated how the economic factors as indispensable components of writing (cost of writing and capability to pay for writing services) influence the process of knowledge distribution in the modern world.

Description of the principal material of the research.

Modeling and defining writing. The need to create a new model of writing was dictated by several reasons. Various approaches to description of writing, known from the philological literature [1], did not include a number of essential components. For instance, the need to conventionalize the message code between the recipient and the sender was not taken into account at all, while a system never works without this component. Any viable model of a system must include the necessary sufficient number of elements for its existence and for fulfillment of its main function. Elements of a model have to interact with each other according to clear algorithms describing all processes and conditions of holding them. Therefore, the author decided to work out his own model having none of the above drawbacks.

From among known ways of description of system models, the algorithmic form was chosen to describe the life process of writing, without reference to a particular writing, but incorporating all features of actually existing writing types.

In spite of the various approaches in describing writing, authors had a common opinion on one thing: the main function of writing is transmission of a message in space and time [4]. Thus, any process of transmission starts from the moment when the sender has a message which needs to be sent to the recipient, who is in a remote location from the sender, thus direct sound or visual communication between them is impossible. I.e. a sound message needs to be recorded on some medium for transmission in space within certain time sufficient for the message on the medium to remain fully intact at the time when it is handed to and read, and if necessary — archived by the recipient. Further the medium with the message is transmitted in space to the recipient’s location, and the recipient uses the medium with the message for reproducing the message in its original form. Now let us review each element of the process in detail.

1. Emergence of the need to transmit a message in space and time.
2. **Choice of the recording technique.** This choice is done according to the requirements to the recording result, and leads to selection of the recording medium and tool.

3. **Choice of the code for recording a message on a medium.** The code is chosen jointly by the sender and the recipient, according to the requirements to such a code among the already existent codes, or a code is created specifically for a particular message.

4. **Teaching the sender message recording and encoding technologies** or commissioning someone else, trained to do so, to record a message.

5. **Recording the message with a conventionalized code onto a medium,** using a recording tool.

6. **Delivery of the medium with the message from the sender to the recipient** in space and time.

7. **Teaching the recipient the technique of message decoding** from a medium into the original message form, or commissioning someone else who went through such training, to decode the message.

8. **Receipt by the recipient of the medium with the message** via means of communication.

9. **Message decoding** into the original form.

10. **Receipt of the message in the original form by the recipient.**

11. **Messages archiving.** Producing means of archiving according to the requirements to archiving and storage of message media, or destruction of the media for confidentiality purposes.

   **Note:** Each writing has got a unique set of requirements to each point of the model, which changes in the course of life of the writing. Therefore, depending on the type of goods, a detailed model incorporating all requirements in each point has to be built up.

   It was established that the technological processes listed in points, are material and labour consuming and thus require material expenses. Therefore, apart from the purely technical requirements, the economic factors have to be added (time spent, labour costs, material costs, costs for message transmission, cost of training). A condition for commencement of the process is both the need to transmit a message and availability of material resources to enable such transmission. In this case, **availability of material resources is the decisive factor.**

   As seen from the above process, linguistic models describe only the processes mentioned in point 3 i.e. consider only message encoding systems without detailing all requirements to this process, which does not enable projecting development of events for the future. Throughout the years of existence of linguistic models, they still have not helped to find answers to key questions on the origin of writing, because they do not take account of all processes in the object of study. The possibilities of a linguistic model are limited to constating facts from the history of development of message encoding systems. Generalization of these facts has allowed us to get beyond the limits of such models and to create a more comprehensive model of writing.

   The above-mentioned model of writing describes the actually existing writing systems, which are dynamically developing with feedback. No question about the predecessors of writing is raised within such systems, because their functioning does not
start from a developed message encoding system. The initial message encoding system writing starts from, may be of any type, but as far as it fulfills its function within the initial requirements, it continues to exist. When requirements change at some stage of its existence, the components of writing also begin to change. The system begins its life after all the necessary components are united in response to the need for transmitting messages in space and time, and ends when the client is no longer in need for the functions of a writing system.

Analysis of the model obtained by the author, allows assuming that writing most probably constitutes economic rather than philological activity, with products, their manufacturing, and distribution. On the other hand, as far as writing covers such KVED (Codifier of Types of Economic Activity) sections as C, H, J, G, M, P, O [5], which have never been viewed as one single activity in their combination, it was necessary to check the economic activity hypothesis. While no contemporary research has been carried out on this issue, the author had to analyze the historical facts on the genesis of three types of writing (Sumerian cuneiform, Egyptian hieroglyphs, Chinese hieroglyphs).

One should mark that this model consists of the necessary and sufficient number of components, and elimination of at least one component makes it impossible for writing to perform its main function.

**Analysis of writing products.** The table presented at [8] shows the results of the analysis of the main writing products on media for visual code.

The analysis demonstrates that each product has its direct or nominal sender. In one case (contract), the sender and the recipient exchange copies of a contract, and in this event the sender is also the recipient of its counterpart of the contract. A particular recipient has not been determined for inscriptions on monuments but determined as the person presumably interested in such a product. In case of letters, as practice shows, a medium for visual code can be also used as a medium for invisible ink which becomes visible in certain conditions, as a technology for confidentiality protection. For inscriptions on monuments and objects, visual codes conventionalized only with a particular recipient or group of recipients can be used, or visual code can be applied in hidden places as a technology for confidentiality protection. For works, where technologies for concealing the visual code can be used, accordingly, other reading technologies, different from the normal ones, are applied. The same refers to the visual code itself, designed for a narrow group of people (cryptographic code). A different reading technique is also used for it. One should note that a message can be put on several media (tokens, tables, scrolls, books), and each medium can bear only one sign of the code.

The following generalizations can be made from the table below:

- Availability of the sender and the recipient, of the confidentiality protection technology, conventionalization of the code between the sender and the recipient, the code reading technology and tool manifest that all these types of writing works correspond to the definition of the message transferred in space.
- Availability of a medium and usage of the technologies of applying a visual code onto it and archiving demonstrate transmission of a message in space.
Considering the above, one can conclude that writing is a process of production and transmission of a message encoded with visual code, in space and time, from the sender to the recipient via accessible means of communication. The modern science knows not only visual but also invisible codes on invisible media, for instance, electromagnetic waves. Therefore, due to this fact, the definition of writing should be as follows: **Writing is the process of production and transmission of a message encoded with a particular code, in space and time from the sender to the recipient via accessible means of communication.** Thus, the main function of writing is the **process of production and transmission of a message in space and time**.

**Writing as an economic activity.** As seen from the definition of an economic activity [7], it includes three components: production, spreading, and consumption of wares. Let us analyze each component sequentially.

**Production.** Production processes in writing consist of several blocks of operations: 1) production of the message medium and tools for applying messages onto a medium; 2) design and conventionalization of the message code; 3) works on applying a message onto a medium in the selected code. These operations result in any of the seven types of products. These blocks of operations correspond to the following types of activity in the KVED – C, M, P [5].

**Spreading.** Spreading is different for different products of writing. Except for inscriptions on monuments and directional signs, all other media can be moved in space via postal messages (KVED code H). Apart from that, lexical lists, textbooks, alphabets, books, magazines, newspapers, inscriptions on objects can be spread through trade (KVED code G). Inscriptions on monuments and directional signs are spread through approach of the consumer to their location (as an option – KVED code N).

**Consumption.** Consumption of writing products consists of the following operations: 1) reading a message from a medium (KVED code P); 2) destruction or archiving of a medium with the message (KVED code O). The message received and read is used by the recipient for its own purposes.

**Asymmetry in the process of knowledge distribution**

Hereinafter as an example of the writing model application, we consider the impact of such factor as the payment for using writing (indispensable components of writing) on the channel for knowledge distribution.

One should note that the activity on knowledge transmission in space and time appeared to be in demand among various peoples for different reasons, and it became a paid service. In this case, those who paid for it (goods manufacturers, state functionaries, religious staff, etc.) could use it.

We can only make assumptions on the size of the ancient markets of writing in different countries based on the number of messages found. It is highly probable the value indicators are no longer accessible to us. Archaeological finds enable us to assess the scale of this activity. Based on the number of personal seals, archaeologists counted 80 scribes in the city of Shuppurak having the population of 15,000–30,000 people. This was far not the biggest city in Mesopotamia, which existed for a thousand years.

Museums of the world contain:

- Over 8,000 clay and stone tokens from 108 locations;
- 130 unopened envelopes and 80 opened envelopes from 8 locations;
• Over 430,000 cuneiform tablets, of which over 30,000 come from the library of Ashurbanipal, the catalogue of which counted over 300,000 names, plus wax tablets and parchments;
• Egyptian Book of the Dead having over 3,000 copies, papyrus scrolls in museums of the world — over 4,000 exhibits;
• Chinese casting bones — over 100,000 various fragments.

If now it is difficult to describe the ancient markets, because no such research has been carried out, while archaeological finds do not give a full picture, the contemporary markets of writing can be studied and described quite easily. The present paper does not have such a task, but as an example, one can give such figures which question the widely spread hypothesis about writing being created to pass knowledge to the subsequent generations. Production of paper in the world comprises 300 million tons, of which cca 100 million tons are consumed by the USA. 16 million tons are used for publishing books and magazines. These are the biggest figures in the world. All the rest is used for commercial purposes. As one can see, only 16% of paper is used for recording knowledge. For comparison: most documents recorded on early clay tablets are commercial documents (85%). The remaining 15% are lexical i.e. reference and educational texts [6]. Thus, the proportion has not changed a lot. So, the dominating consumer of the channel for knowledge distribution is business as it can pay for this service, and in this way support it. The other institutions very much depends on funds availability to support this activity.

Viewing writing as an economic phenomenon, one can also implement such a parameter as the cost of writing. Among the eleven points of the model, only items 4 and 7 determine the price, while all the rest of the cost characteristics can be virtually identical. If according to the statistics for the year 2016, one year of training one student at a secondary school in Ukraine costs cca 3,000 USD, while 1–2 years are enough for teaching students to read and write in case of alphabetic writing, teaching cuneiform required 12 years. According to Irvin Frinkel, 6 years are needed for university students to master cuneiform writing, i.e. the cost of teaching in Ukrainian prices would comprise 18,000–36,000 USD. For Egyptian hieroglyphs, training lasted 17 years, i.e. the cost comprised 51,000 USD. The author does not know how long it took to learn Chinese characters in ancient times. Today, with 12-years’ school education, Chinese schoolchildren have to learn 4,000 characters, while 7,000 characters are needed for normal reading, for which 6 more years of university studies are required, i.e. 54,000 USD in total according to Ukrainian prices. Thus, one can obtain a quantitative tool for comparing the competitiveness of various types of writing. Now we can give a valid explanation why alphabetical writing became so widespread, while the pictographic writing in Egypt died and the Chinese writing reduces its territory of use (Vietnam, Laos and Cambodia refused from Chinese hieroglyphs and chose the Latin alphabet and Japan created its own alphabet it used for publishing newspapers for housewives). Now that entry/display devices have appeared for typing signs on various gadgets, pictographic writing has lost its advantage in the speed of recording onto a medium, which also reduces the competitiveness of this type of writing, compared with alphabetical writing. So, in the countries with expansive writing systems the process of
knowledge distribution very much depends on state to finance this activity. The less budget for it the less intensity of this process.

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РОЗУМІННЯ ТА ВЖИВАННЯ ПРИСЛІВ ’ЇВ ЯК ВАЖЛИВИЙ ЕЛЕМЕНТ СОЦІОЛІНГВІСТИЧНОЇ КОМПЕТЕНЦІЇ СТУДЕНТІВ

Анотація. Стаття присвячена ролі прислів’їв в усній та письмовій комунікації, зокрема в діловому дискурсі засобів масової інформації. Висвітлюються думки дослідників прислів’їв стосовно їх ролі та функцій на різних рівнях спілкування. Зазначається важливість вивчення прислів’їв для набуття культурної обізнаності та досконалаго володіння іноземною мовою. Наводяться приклади вживання прислів’їв у текстах економічної тематики з аналізом їх змісту та призначення.

Abstract. The article is devoted to the role of proverbs in spoken and written communication, in particular, in mass media business discourse. The authors highlight some ideas expressed by researchers of proverbs concerning their role and functions in different styles of communication. The article points out the importance of learning proverbs for attaining cultural awareness and foreign language proficiency. The authors provide some examples of using proverbs in economic texts with the analysis of their meaning and functions.