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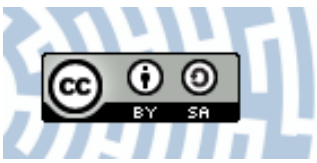

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The Concept of Image According to John Amos Comenius and New Media

Abstract: The visual culture and communication through images are important aspects of contemporary culture, especially when we talk about the use of new media. The images affect the viewer in different ways and are also used for educational purposes. John Amos Comenius, as a reformer of the educational system in the modern era, was also a precursor of the use of images in education. We are facing a similar challenge today—to create a model of education based on new media, in which the aspects of word, image and music in teaching are skillfully combined. In the analytical part of the article, the author compares the significance of images from the perspective of Comenius with contemporary theory of visual communication, especially in the concept of William J. T. Mitchell.

Keywords: John Amos Comenius, visual culture, image of world, new media

Introduction

The form and intellectual achievements of John Amos Comenius are extremely important, especially when we talk about the modern and contemporary model of teaching. The time in which Comenius lived (1592–1670) coincided with that of René Descartes—the precursor of modern philosophy (1596–1650). Comenius considered himself a theologian and a reformer of the education system. Descartes, in turn, was a mathematician and a physicist. Both of them were bound by their interest in philosophy. In 1642 both thinkers met in Amsterdam and discussed philosophy, admittedly disagreed with each other, but

showed interest in their respective views. Descartes summarized his views for Comenius, they were expounded later in the work of the *Principle of Philosophy* (*Principia Philosophiae*), and encouraged Comenius to elaborate on the idea of pansophy, an original philosophical idea, on which the Czech educational reformer worked throughout his entire life.[1] After Descartes's death, Comenius unfortunately joined the group of critics of Descartes's thought. The polemics concerned interpretation of natural phenomena—thickening air and thinning physical bodies. The Czech reformer did not have any specialist natural knowledge, therefore, it is possible to acknowledge that the polemics are only valid from the historian's point of view; however, it does not show Comenius in good light.

But if we look at Descartes's and Comenius's achievements from a broader perspective, it is possible to state that they put immense effort to describe the modern view of reality, Descartes made it in the area of philosophy and sciences (mathematics, geometry), while Comenius—in the proposal for the reform of the education system and the introduction of new ideas to the education system (pedagogy). Both thinkers lived in crucial times on account of the change in the way of understanding reality, specific for the Copernican Revolution in which the man as the thinking being is able to acquire and accumulate knowledge and has been put in the center of the world. This change of the man in the relation to the world referred to technology or, more precisely the technical possibilities of processing the world, the accumulation of knowledge and acquisition of new skills.[2]

Nowadays, modern, especially enlightened and positivistic enthusiasm, has been exhausted. The thesis that thanks to the increase of knowledge and the technology resulting from it, we will be able to change the material world in a way that is favorable for us; at the present, this thesis is naïve. We still, or perhaps even with greater sharpness, realize that human activity affects the fate, but especially in the 20th century, we have lost the conviction of the positive aspect of this impact. We clearly see the risks associated with the development of civilization, and the very idea of progress is getting more complicated. We talk more often about the change, rather than progress, we are considering these issues in the context of threats or cautiously in the context of new opportunities which arise. The turn of the Middle Ages and the beginning of the modern era are the moment of the interpretative paradigm shift. The development of technology, especially media techniques, means that we are at the threshold of the need to create a new paradigm—understanding the man from the perspective

[1] Tadeusz Bieńkowski, "Wokół XVII-wiecznych polemik przyrodniczych," *Kwartalnik Historii i Techniki* nr 46/1 (2001), 29–40.

[2] Jaroslava Peśková, "Philosophishe Argumentation und Aktuelle Aspekte der Consultatio," in *Commenius. Internationales Comenius Kolloquium*, edited by Norbert Kotowski and Jan B. Lášek (Bayreuth–Prag: Evangelisches Bildundszentru, Studio GTS, 1991), 116–121.

of his or her products, that is, objects that are no longer merely an extension of human action, but they will become what characterizes our way of existence and sensual cognition of reality.[3]

At present, the relations among people, between people and the world of things are closely related to the products of technology. It is especially visible in interactive media, which not only show reality, but also interpret and, in some aspects, process it. In this sense, the expression "image of reality" takes on a new meaning, and the expression ceases to be something metaphorical, but it indicates how we perceive and understand reality. With the help of media tools, man creates images and by using them he or she communicates with others, in a sense he or she also reflects on him/herself (he or she reflects on his or her own identity). New media are often used for individual practices, such as posting and recording podcasts, or interactive presence. The change regarding the role of images is related to the difference between old and new media. Traditional media (i.e., press, radio, television) had a clearly defined sender and recipient of information. Journalists and media institutions were broadcasters, and all users were recipients.[4] In case of new media, the division into the sender and the recipient loses its meaning, because these roles can change at any time, the recipient can become a sender, someone who processes the previously obtained information—the role of hypertext. New media is characterized by the previously unprecedented access to information sources, thanks to which the recipient adapts the message to the rhythm of his or her own life.

In this sense, new media (digital media) is becoming more than a way to gather and acquire information. This aspect of change is well illustrated by the transformation of the consumer into a producer of information, a prosumer of knowledge. So far this type of knowledge creation is a margin of media activity. According to sociological data, only 1% of users create information, 9% process it, and 90% are passive consumers of online resources and do not add new content to network resources.[5]

Prosumers are still a small percentage of active people in new media. In media communication, we do not give up words, but more and more often we communicate and express ourselves with the help of images. This change of at-

[3] The author of the article is using the term: "paradigm", in which a philosopher of the learning applied it Thomas S. Kuhn. Por. *Second Thoughts on Paradigms*, in *The Structure of Scientific Theories*, edited by F. Suppe (University of Illinois Press, 1974), 459–482. Kuhn described the paradigm as a set of metaphysical, methodological, semantic predictions, to which scientists refer in the situation when formulating scientific theorems.

[4] One of the media experts Paul Levinson uses the term "new new media" and presents their extensive characteristics. Paul Levinson, *New New Media* (New York: Pearson Education, Inc., 2013), 11–25.

[5] Peter Lunefeld, *The Secret War between Downloading and Uploading. Tales of the Computer as Culture Machine* (Cambridge, MA, London: The MIT Press, 2011), 35–43.

titude is referred to as an iconic or pictorial turn.[6] On the one hand, due to the universality and accessibility of communication, images facilitate the acquisition of complex content—it is undoubtedly something positive. On the other hand, "replacing" words with images can lead to the trivialization of the message content, the elimination of those aspects of information that either cannot be expressed with a picture from the process of communication or simplified to the pictorial abbreviation. It is worth returning to the journal by John Amos Comenius, who, with unusual insight for his time, analyzed the meaning of images in the context of communication in the educational space, to determine the phenomenon of contemporary meaning of images in teaching, but also more widely in public communication.

The World in Images

The most important and the most known work of Comenius is the book *The Great Didactic*, but *The Orbis Pictures* is of equal importance (the full Latin title of this work is: *Orbis Sensualium Pictus. Hoc est Omnium Fundamentalim in Mundo Rerum & in Vita Actionum Pictura et Nomenclatura*).[7] According to the Czech reformer, the images play an important educational role, they are an introduction to learning words at an early stage of gaining knowledge. The idea of presenting the world in images, or the idea of presenting the world of things available to the senses is the concept of an illustrated encyclopedia. This idea is in line with modern and contemporary attempts to create a compendium of knowledge available to man alongside with contemporary ideas, which are referred to as Vikiverse, a network form of cataloging existing content, which consists of their visual arrangement. The gathering of knowledge available to man seems to outgrow the possibilities of any encyclopedia. Nowadays, it is not so much about the compendium of knowledge but about ways of gathering knowledge.

According to Comenius, the program of education through images is a development of the principle of viewpoint (the golden rule for the tutors) formulated in *The Great Didactic*.[8] It shows that teachers in the didactic process try

[6] Phrases „iconic turn" or „pictorial turn" are represented in, for example, Gotfried Boehm and William J. T Mitchell. Cf. William J. T. Mitchell, *What Do Pictures Want? The Lives and Loves of Images* (Chicago: The University of Chicago Press, 2005), 28–56.

[7] Jan A. Komeński, Świat w obrazach rzeczy dostępnych zmysłom. Wstęp i przekład Adam Fijałkowski (Warszawa: Wydawnictwo UW, 2015).

[8] Jan A. Komenski, *The Great Didactic.* Translated into English and edited with Biographical, Historical and Critical Introductions by M. W. Keatinge. Reprinted from the second Revised Edition of 1910, Reissued 1967, by Russel & Russel a Division of Atheneum House, Inc.

to find the possibility of translating complex content into a sensual and pictorial form. Comenius pointed to the relationship between knowledge and sensory image. He wrote:

> Science, or the knowledge of nature, consists of an internal perception, and needs the same accessories as the external perception of the eye, namely, an object to observe, and light by which to observe it. If these be given, perception will follow. The eye of the inner perception is the mind or the understanding, the object is all that lies necessary attention. But, as in the case of external perception a definite procedure is necessary if things are to be presented to the mind in such a way that it can grasp them and assimilate them with ease.[9]

For effective teaching, it is necessary to focus on the object being studied, attention focus, and application of the appropriate method of transferring image to permanent memory. Comenius discovered the regularity here, which is also referred to by contemporary media information creators, that is, the thesis that an image, more than a word, is an effective way of influencing the viewer.

According to the Czech reformer of education, there are three important tools for our education: these are the senses that Comenius describes as "windows of the soul" thanks to which a person perceives the world; thinking, which is the "mirror of the soul," reflects what the senses inform us about and consists of creative inference, referred to as the "telescope of the soul." Thanks to this ability a person can learn what goes beyond direct sensory data. These three powers of the soul allow to determine three levels of individual acquisition of wisdom: theory, practice, and *chresis*.[10] The first step consists of theoretical knowledge of things, the second stage involves testing knowledge in practice, and the last stage involves the use of acquired knowledge in life, in specific activities related to work and daily life. Wisdom differs from the knowledge in the fact that it must be acquired individually by man. All these three aspects of wisdom are meant to lead to human development. Reasoning leads to cognition, thanks to the fact that things are reflected in the mind, in the process of cognition, in which the sound of things sounds, speech arises. Knowledge and speech generate action that in turn creates things. In this sense, the idea of individual human development is connected with the idea of human progress.

Belief in the possibility to improve the world and man, expressed through knowledge acquisition, speech development and proper practice, is a consequence of the Protestant, Calvinist image of the world, which claims that wisdom, self-study and action lead people to salvation. In this approach, religious

[9] Komenski, *The Great Didactic*, 183.

[10] It is a reference to Aristotle's division into theoretical, practical and productive knowledge. Aristotle used the term "poiesis" for production knowledge, hence the conceptual (production) knowledge.

ideas have entered the secular, modern canon of understanding the world. The idea of progress through action has a religious basis, in the context of the "disenchanted picture of the world" becoming an element of the idea of human progress.

Nowadays, we do not share the enthusiasm expressed by Comenius for the possibilities of perfecting man and the world, such ideas seem utopian.[11] In the discourse on the idea of progress one should also take into account the arguments of anti-intellectuals who perceive the dangers resulting from the introduction of utopian ideas into the sphere of practical applications. Noble ideas of human development through education are associated with educational coercion and requirements standards that children must meet.

The philosophical concept of Comenius was described by him as pansophy and was connected with the idea of popularizing useful and versatile omniscience, according to the principle—"teach everyone, with everything, about everything" (the principle *omnes, omnia, omnino*). The universality of knowledge postulated in the 17th century had obvious limitations, because its creators assumed the ability to read, and with some limitations, this postulate can be implemented only now—in the times of universal schooling of children. Education through images is easier than knowledge based on memorizing theories expressed in words, because the circle of recipients of picture information was and is definitely wider. Comenius's postulate of acquiring knowledge in a "pleasant, easy, fast-reaching way" does not fit into the model of compulsory school education. Obtaining knowledge in a non-forced way takes place outside rather than at school. At present, we do not have a problem with access to knowledge, but rather with the selection, separation of true and well-founded knowledge from superficial or even false knowledge.

The inspiration for Comenius could have been a late medieval program of creating rules of biblical and religious education—students and the lower clergy, the so-called *Pauperum Biblie* (*Bible for the Poor*). The manuscript works contained an extract from the Holy Scriptures, above all from the Old and New Testaments, which were to present key biblical events in an accessible way. The term "poor" referred to a shortened set of truths of faith—a doctrinal script. The word was combined with the picture, the perception of cards from the *Pauperum Bible* required mastering of text reading techniques in which abbreviations, and specific writing and punctuation were used.

[11] The idea of progress through science is currently represented in the environment of transhumanists, who advocate the idea of improving the quality of human life, thanks to the achievements of natural and technical sciences. However, it is difficult to consider these concepts for the purpose of this article. George Dvorsky, "Better Living Through Transhumanism," *Journal of Evolution and Technology* vol. 19 (1), (2008), 62–66; Julian Savulescu and Nick Bostrom, *Human Enhancement* (Oxford–New York: Oxford Univesity Press, 2011), 28–32.

Some of the forms of writing were very complex and complicated, reminiscent of modern mind maps (memory maps). The aim was to simplify the message at the moment because of educational goals. In the tradition of Christian art, there was a conviction that the image should support the doctrine of faith—*fides ex visu* (faith that results from looking). This is particularly evident in the example of the reform movement in the 16th century. The reformation fathers (Martin Luther, John Calvin) assumed the need for religious education for a wide range of recipients, they used the technical invention of that time—namely the print.[12] To a large extent, the social success of the Reformation was decided by printed images that could be distributed on a large scale. Comenius as a senior bishop of the Czech Brothers community, understood the power of images to influence the minds of the faithful. He consistently transferred the way of thinking about the dissemination of religious knowledge to general knowledge. He saw the unquestionable advantages of images and pictorial thinking for popularizing knowledge.

Nowadays, the idea of universal access to knowledge can be achieved thanks to new media. However, a doubt arises whether this knowledge is deep, well-established or only superficial, allowing for gaining elementary information about the world at the level of popular knowledge. In scientific knowledge about the world, as it is so far formulated in the form of words and sentences, the image is only a form of its facilitation, cataloging, and furthers access to proven and well-founded knowledge. Mastering scientific knowledge requires appropriate competences. Nowadays, such terms as "iconic turn," "pictoral turn," or image logic—"icon-logic" are often used, which indicates a special interest in images. Criticism of images appears in many disciplines, in psychology, semiotics, anthropology, cultural studies, philosophy of mind, theory of teaching, but first and foremost in media theory. This diversity of image research indicates the importance of this phenomenon in contemporary culture. The impact of images on the recipient was poly-sensorial. To enable effective memorization of specific content, various human cognitive powers are used. Regardless of whether it concerns school education or impact on adults who make consumer choices. According to the contemporary theoretician of visual culture, William J. T. Mitchell's paintings have some specific added value beyond communication, meaning, and persuasion—they create a specific image of the world. The value of additional images influences social changes and the shape of the future, political views of individuals, as well as the policy of states.[13]

For example, a photo showing a dead boy on a beach in Greece influenced the public opinion of the inhabitants of Western European countries towards

[12] Ryszard Knapiński, „Biblia Pauperum – rzecz o dialogu słowa i obrazu." PAN *Nauka* (2004), 133–164.

[13] Mitchell, *What Do Pictures Want?*, 113–120.

immigrants from Syria. The added value here—the image of reluctance and distrust was replaced by a picture of compassion and solidarity with the worse off (refugees). Then other images have again affected the social imagination, it is mainly about photos showing young men—immigrants leaving the carriers' boat, men holding mobile phones in their hands. Then the added value of the image, or the value of compassion was replaced with images of such anti-values as fear and hostility. Interestingly, the images also influence the social way of valorizing knowledge, that is, which aspects of knowledge about the world will deserve financing, and which aspects of knowledge will be marginalized. Nowadays, what cannot be visualized escapes public attention and criteria of institutional and scientific parameterization. Knowledge, which is the effect of scientists' work, needs a reliable visualization. Here a problem arises, namely, is credible knowledge both true and well justified? It is difficult to solve these issues in this article, however, it can be said that in case of images, it is primarily about visualization, adequate to the substantive content.

Image is not only what presents reality, we are now fully aware of the fact that the image also produces meanings. The image, having much more impact, directs the attention of audience to new areas, surprises us with an unconventional association. Sensitivity to sensory stimuli—image sense and specific iconic intelligence enable the study of many layers of meanings hidden in images.[14]

It is about developing old competences in relation to new skills. Images can deceive us, create illusions or manipulate recipients. The use of images is not free from some axiology or related ethical evaluation which is included in the question of what it means to use images well or badly. Images affect the audience to a greater extent than words. Image is not only a persuasive but also an educational tool, now it constitutes the main source of human knowledge about events. Comenius pointed to the positive role of images serving education, now a commercial-manipulative interaction of images. One should also take into consideration the negative impact of images on social imagination, this is particularly true for advertising and marketing activities of all kinds. The images are used to create the needs of potential customers. According to an informal rule: see as much as possible and let it be seen by the biggest number of recipients. The media culture of consumption is one of the key threats for contemporary people.

[14] Mitchell, *What Do Pictures Want?*, 198–201.

The Image of the World

What image of the world did Comenius appeal to? His and our world differs in a significant way. The expression "image of the world" takes us to the context in which we are staying, and it is obvious enough for us hence we do not notice its restrictions. People living in a given period accept the established image of the world. They answer the question who the man is in a different way, the same applies to the accomplished existence or what is worthwhile to become involved in. Changes in the meaning of the image of the world are made as the consequences of scientific, moral, and political discoveries, creation of new models of understanding phenomena of the surrounding reality. Undoubtedly, the 17th century was a breakthrough in the history of European culture, among others due to the geocentric theory of Copernicus and Descartes's philosophy. It seems that now we are approaching the next breakthrough—we are looking for a new paradigm to explain phenomena related to the impact of technology on human life.

Paradigm is never complete, elements of earlier thinking always remain in the new image of the world. In our understanding of reality, we are not based on one image of the world, even a very complex one, we refer to many models of reality. These models may agree or be conflicting, for example, this is true for the interpretation of the conflict between the scientific and religious image of the world. This conflict was not present in the medieval image of the world, it emerged with all its sharpness only in the modern period.[15] Comenius, living at the beginning of the modern period, relied on the medieval image of the world in which there was no clear conflict between scientific and religious thinking. However, Comenius's thinking, like the philosophy of Descartes, was already part of the modern image of the world.

The image of reality is in a sense its representation, it consists of knowledge, culture of a given time, conscious or unconscious beliefs to which the philosopher refers, scientific activities that often rely on the duplication of what predecessors did, strategies of everyday activities related to the implementation of certain tasks, for example, religious practices, pursuing a healthy lifestyle, etc. The image of the world to which Comenius's supporters refer is so obvious that he is identified with an objective view of reality.[16]

Comenius described his way of practicing philosophy as pansophy. It was a certain consequence of the concept of the late medieval philosopher Nicholas

[15] Ian G. Barbour, "Ways of Relating Science and Theology," in *Physics, Philosophy and Theology: A Common Quest for Understanding*, edited by R. J. Russell, W. R. Stoeger, and G. V. Coyne (Vatican Observatory – Vatican City State, 1988), 21–48.

[16] Kolesnyk, *Menschen und Gesellschaftsbild bei Johann Amos Comenius*, 98–106.

of Kuza, it is mainly about the issue of merging microcosm and macrocosm. The general theory of the world and man was to result from pansophy. The analysis of the image of the world reveals to us the image of man and vice versa, knowledge about a man affects how we understand God and the world at a given moment. Pansophy referred to three areas of research (Comenius used the metaphor of "three books"): God, Nature, and Art. The content from the first of these areas appears in the other two. The book of nature is a passive reproduction of the Creator, but art results from an active, creative attitude resulting from human freedom.

The issue of creating a human image of the world is at the center of Comenius's interests. The image of the world consisted of the following layers: (1) materiality and potentiality—*mundus materialis et possibilis*, (2) perfect patterns in things and patterns of things in the world—*mundus archetypus et inteligibilis*, (3) creative and moral attitude—*mundus artificialis et moralis*. All three layers were related to the divine and material world. The Czech reformer devoted the greatest interest to this last area. The first two areas concerned the description of the world and the existing dependencies between God and nature. The third area was associated with the work of man and assumed active involvement in its change, although in its essence it was a reflection of the wisdom of God. All three areas shape the image of reality recorded in the human mind. Comenius wrote:

> Here we have mirrored before us the marvelous wisdom God who was to arrange that the small mass of our brains should be sufficient to receive so many thousands of images. For, if the particulars can be remembered of anything that any of us (and this applies particularly to men of learning) have, many years before, seen, heard, tasted, read, or collected by experience or by reasoning, it is evident that these details must be carried in the brain. Yet is a fact the images of object formerly seen, heard, or read of, of which thousands of thousands and many more exist, and which are daily multiplied as we daily see, hear, read, or experience something now, are all carefully stored up.[17]

Pansophy was the theory of the "third world" organization, a program of its repair and modification towards its refinement. Therefore, the programs of changing the education system and education reform are a natural consequence of such an attitude. Pansophy was an ethical postulate addressed to the rulers and scholars calling for building a better world based on the idea of universal education, development of knowledge, religious tolerance, and respect for others.[18] The ambitious plan of creating an educational culture for the entire humanity, proclaimed by Comenius, resembles a socio-educational utopia. The basic formula of pansophy was the teaching principle *omnes*, *omnia*, *omnino*. However,

[17] Komeński, *The Great Didactic*, 45.

[18] Bogdan Suchodolski, *Komeński* (Warszawa: Wiedza Powszechna, 1979), 26–31.

it is difficult to demand everything from everybody, it is rather impossible. This principle meant abolishing artificial limitations in the access to knowledge, and pointed to the postulate of knowledge facilitation, which was to serve social and practical purposes, and above all, to moralize the world.

Pansophy was supposed to be not only synthetic knowledge about the world, including knowledge about words and things and knowledge about their use, but a general reflection on the use of theory and practice by man, which is something that affects shaping of the image of the world. Pansophy was, at the same time, meant to be knowledge about man and the world. Man was the image of the cosmic order of the world, and he was someone who used things for his own purposes. In this sense, Comenius's philosophy, on one hand, was knowledge of the basic principles governing reality and, on the other hand, the theory of education for the proper use of things of this world. Comenius showed great care for the development of science, corresponded with well-known figures of that period from the world of science and politics, and influenced the reform of the educational system. He represented the view that knowledge can contribute to the repair of social relations and progress. The ideal for Comenius was the education of the "wise" man, whose image of the world consists of elements of humanistic, natural and exact sciences, composed into a coherent wholeness of knowledge unity.

Implementation of the "wisdom" postulate is the most up-to-date, although we are not currently combining it with the use of information resources available online. Undoubtedly, however, nowadays we are dealing with a clear shift of emphasis from the knowledge written in books to knowledge stored in a digital form and available on the Internet. Here one should mark the difference between information and knowledge. For us, the Internet is primarily a source of information, extensive and chaotic knowledge. It is difficult for us to organize this information collection without the help of artificial intelligence. By creating algorithms artificial intelligence selects information, or actually personalizes a set of information for a specific user; it determines the algorithm based on our previous choices. Here one can formulate a restriction that as users we voluntarily bind ourselves to a situation in which a technical device, dependent on the constructor, selects information for us, information allowed by those who control the system (gatekeeping).

We can appreciate the benefits of artificial intelligence, but one should recognize the problems of its operation, especially when it comes to: the selection of access to information, more and more expanded control over the flow of information on the network, and the ever-growing knowledge of system administrators on user preferences. Paradoxically, "learning" goes both ways, users of new media gain knowledge using the web, and artificial intelligence responsible for creating search algorithms "is learning us"—is gaining knowledge about users' preferences. It seems that the possibility of using this information for marketing

purposes, including political ones, is a huge source of danger for younger and older users of the network.[19]

In this situation, it is very important to shape media competences by preparing the program for conscious and reasonable use of what opportunities the network resources offer. This applies equally to children and older Internet users. Here, special attention should be paid to the issue of protecting privacy on the web. We need to convince ourselves that every contact using new media is public, although it seems to us that it is a private contact that does not leave any trace. However, this type of belief is highly misleading.

One can point to several important aspects related to the use of new media:

1. Children and teenagers use the Internet resources eagerly, this is especially important for children from small urban centers and villages, they have the opportunity to supplement the lack of access to knowledge (cultural goods, libraries). This access is independent of school and is beyond control of the educational system. This independence often causes concern among those responsible for overseeing institutional education or those attached to the traditional teaching model.
2. The modern student does not have to train the memory because he has the technical capabilities of memorizing, gathering, and storing knowledge. For the adept of knowledge, it is the skillful use of catalogs of accumulated knowledge that is more important than remembering as well as technical and intellectual ability to isolate and separate what in network resources is useful and meaningful from what is superficial and accidental.[20] In this situation, we use the help of artificial intelligence, which selects information for us.
3. Having comprehensive and consistent knowledge is not possible. Online knowledge is meant to be practical, but on a selected topic that satisfies a certain type of individual user's curiosity. This is different from what we find in Comenius, whose practicality of knowledge was associated with the need to have a holistic view of the world.
4. New media, by forcing the digital character of the record, not only absorbed the old media—the press, radio, television, but also managed the social imagination about knowledge sharing. The cultural habit of being accustomed to websites makes the transfer of knowledge about the world literally its imaging—a description of the world with the help of images. This process concerns the dissemination of knowledge in the field of natural and exact sciences as well as the humanities.[21] It is connected with the possibility of show-

[19] Parick H. Winston, *Artificioal Intelligence* (New York: Addison-Wesley Publishing Company, 1993), 8–13.

[20] Heliodor Muszyński, „Nauczyciel w świecie medialnym." *Neodidagmata*, 33/34 (2012), 39–47. Poznań: Wydawnictwo Naukowe UAM.

[21] Purchase Henry C., Nina Andrinienko, Thomas J. Jankun-Kelly, Marc Ward, *Theoretical Foundations of Information Visualisation*, in *Information Visualisation. Human-centred Iusses*

ing artifacts, visual models, photos, tables, etc. In accordance with Comenius's postulate, nowadays, the transfer of knowledge through images teaches us to find rules, points to the dependencies between images. We make use of the visual imagination and associations then.

5. Digital virtual reality is so attractive that it is the sphere that the emotional life of children and teenagers revolves around more and more often. Adults— parents, teachers, educators— often do not have access to this world, or do not understand it. Hence the suspicion that it is a dangerous space for a child. This is especially the case when the parent observes that the child is getting emotionally distant from him or her. It seems that real communities are not as attractive to a young person as the Internet ones, although in the opinions of young people there is no clear borderline between what is real and virtual, the transition between these worlds is without conflict ("digital natives").[22]
6. A user of new media can communicate with other users without spatial limitations, which means that he or she can exchange information about the world and get to know the opinions of people from distant cultural backgrounds. In the situation of "having" many friends it is difficult to maintain a more profound kind of contact, nevertheless, contact is impossible to make without the help of the Internet.
7. In the digital culture of new media users we are dealing with a clear shift of accents from words to images. Proponents of using images in communication will be modern iconophiles, and those who say that images simplify communication will be modern iconoclasts. It is difficult to make a clear decision here. Undoubtedly, the role of the image in the cultural message and communication, especially intercultural communication, is much bigger than we have imagined so far.
8. These days, a fundamental reflection on the role of images in contemporary culture is important. It should be done on many different levels and in different research approaches. In this sense, image researchers will be the continuators of John Amos Comenius's thought.

In conclusion, in accordance with the general message of Comenius's thought, the modern educational model should be adapted to the changing world image. If teachers are to influence the process of educating young people effectively, it is necessary to learn the rules of new media functioning. Just like any other tool, it can be used in either a good or a bad way. Mastering media competences is essential for young people to be able to prepare themselves for adult life, to master social and professional skills. These competencies should be associated with the harmonious development of knowledge, the ability to create and read

and Perspectives. Lecture Notes in Computer Science, vol. 4950, edited by Andreas Kerren, John T. Stasko, Jean D. Fekete, and Chris North (Berlin–Heidelberg: Springer-Verlag, 2008), 46–64.

[22] Marc Prensky, "Digital Natives, Digital Immigrants." Part 1. *On the Horizon* 9(5), (2001), 1–6.

messages, appropriate valuation and the practical use of new media in the technical and intellectual dimension.

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Mariusz Wojewoda

La conception de l'image de Jan Amos Komeński face aux nouveaux médias

Résumé

La culture visuelle et la communication s'opérant à l'aide des images constituent un aspect important de la culture contemporaine, surtout quand on parle de l'application de nouveaux médias. Les images influencent le récepteur de différentes manières, elles sont également employées dans les buts éducatifs. Jan Amos Komeński, en tant que réformateur du système éducatif, était aussi à l'époque contemporaine le précurseur de l'utilisation des images dans l'éducation. Actuellement, on se trouve devant un défi similaire, c'est-à-dire la création du modèle de la formation basé sur les nouveaux médias, où seront habilement connectés les aspects de la parole, de l'image et de la musique dans le processus didactique. Dans la partie analytique, l'auteur de l'article compare l'importance des images dans la conception de Komeński avec la théorie contemporaine de la communication visuelle, particulièrement celle de William J. T. Mitchell.

Mots-clés: Jan Amos Komeński, culture visuelle, image du monde, nouveaux médias

Mariusz Wojewoda

La concezione dell'immagine di Jan Amos Komenský (Comenio) ed i nuovi media

Sommario

La cultura visuale e la comunicazione con l'ausilio di immagini costituisce un aspetto importante della cultura contemporanea, in particolare quando parliamo dell'utilizzo dei nuovi media. Le immagini influiscono sul destinatario in diversi modi, vengono usate anche a scopi educativi. Jan Amos Komenský, in qualità di riformatore del sistema scolastico, nel periodo moderno fu anche il precursore dell'utilizzo delle immagini nell'istruzione. Attualmente ci troviamo dinanzi ad una sfida simile: creare un modello di formazione basato sui nuovi media nel quale vengano combinati abilmente gli aspetti della parola, dell'immagine e della musica nell'insegnamento. Nella parte analitica l'autore dell'articolo raffronta l'importanza delle immagini secondo l'impostazione di Komenský con la teoria contemporanea della comunicazione visuale in particolare nella concezione di William J.T Michell.

Parole chiave: Jan Amos Komenský (Comenio), cultura visuale, immagine del mondo, nuovi media