

From “Gutenberg Galaxy” to “Digital Galaxy” in the Mediated World—An Essay on Writing as a Tool and a Good of Man

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■ Abstract

The topic discussed here is located in the interest sphere of human-centered media semiotics. With reference to the goals of the International Conference: *Humans, Media and Communication Paradigms: Respecification of Printing Media in the Age of Smart Media*, organized by Cheongju Early Printing (Jikji) Museum, Korea & Korea Communication Association (Cheongju City, South Korea, September 17-18), this essay has aimed at making acquainted its local and international participants with the possibility of a function-and value-related assessment of the significance of writing, invented and elaborated as a surrogate of speech at particular phases in the history of humanity, while devoting special attention to the impact of printing media on the formation and growth of task-oriented discursive communities at a local, national and global scale. At the same time, it has also acknowledged the testimony of UNESCO's Memory of the World Program¹⁾ that the earliest metal movable-type technology for printing was applied in Korea. The text of the essay has been prepared in an entry-like form summarizing the hitherto collected knowledge consistent with the author's outlook on language and culture as a coexistence of semiotic spheres. Therefore, in addition to some theoretical-ordering ideas and distinctions, the provenance of commonly available information is marked after particular phrases or utterances by references to authors and dates of their works, which have been added in the bibliographical part.

- Key words: culture and civilization, media technology, semiotics, speech and writing

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1) Available at: www.unesco.org/new/en/communication-and-information/flagship-project-activities/memory-of-the-world/homepage/

1. Writing in the Developmental Phases of Human Civilization and Mass Media Technology

The first phase in the evolution of human civilization was marked, assumably 50000 years ago in prehistory, by the emergence of modern behavior in humans (cf. Brown 1991, Mithen 1996) expressed through oral skills in performing arts, religious beliefs and exchange of information. It was the point at which the representatives of the species *Homo* started to develop their creativity and accumulation of knowledge on the basis of symbols and verbal means of expression connected with the origin and expansion of languages and the development of human intelligence achieved through cultural transmission and genetic inheritance.

The second phase was inaugurated by the appearance of writing (cf. Crystal 1987, Coulmas 1996, Schmandt-Besserat 1996) as a medium substituting oral message. The first writing systems were invented approximately at the beginning of the Bronze Age in the late Neolithic of the late 4th millennium BC. They expanded in pictographic, ideographic, logographic, syllabic and alphabetic systems (cf. Crystal 1987, Danesi 2002). A culminating point, however, for the second phase was the expansion of written media for wider communication, which started up with the invention of books (cf. Roberts & Skeat 1983) along with their organized collection in libraries for legal, literary and diplomatic purposes. The history of libraries (cf. Johnson & Harris 1976), collected in palaces and temples, began around 1200 BC in Syria. In the philological world, it was the Library of Alexandria from the 3rd century BC which was the most famous.

The third phase is a central signpost of human civilization beginning the history of printed media. The brand name of Printing Revolution (cf. McLuhan 1962 & 1964, Danesi 2002), is usually attributed to Johannes Gutenberg's invention of the mechanical printing press (around 1439) based on movable types made of metal and oil-based ink due to its impact on the mass production of books in Europe. However, the idea of applying a movable-type printing system to the publication of written texts has been known since the eleventh century in the Eastern world under the influence of Chinese culture (cf. Widmann 1974, Pan 1998), first on the basis of wooden, around 1040 in China, and then metal types, around 1230 in Korea. The latter led to the publishing of the *Jikji* (translated as "Anthology of Great Buddhist Priests' Zen Teachings") at Heungdeok temple in Cheongju in 1377, the world's oldest hitherto existent metalloid-type book (cf. Twyman 1998), which had been *nota bene* printed 78 years before Gutenberg's *Biblia Sacra* (1455).

The fourth phase in the advancement of mass media communication crossing the boundaries of oceans and continents had begun at the early years of the nineteenth century, with the surrogate of print in form of a Morse code. Telegraph was the first electrical appliance for the transmission of alphabetically based messages send and received by electrical signals (positive and negative Voltage pulses) over long

distance wires. Then, at the beginning of the twentieth century, it was succeeded by a wireless telegraph based on a prototype of a radio where electromagnetic waves became a means of transmission for sending text-based messages. Soon afterwards with the invention of a telephone, it was the typewriter which could be connected to wireless devices. Starting from the 1920s the whole globe was united by a teleprinter network, called “telex network”. A concurrent form of telegrams appeared at the end of 1970s, namely, faxes (*facsimiles*) used for transmitting the scanned printed material through the telephone system where both text and images converted into a bitmap appeared in analog technology (that is, coded and decoded as a wave in its original form).

Digital Network Technology (using numerical calculations of discrete values) marks the fifth phase in the development of mediated world. The spread of personal computers and worldwide webs close to the end of the twentieth century contributed to the digital transmission of written texts in form of e-mails (apart from voice, video and other data) within the framework of the so called Integrated Services Digital Network (ISDN) over the public telephone network. In the sound-related context, written and printed (including copied and faxed) text messages have been sent and received via Internet and cell phones to the communicators connected by Wireless Local Area Network (WLAN) in all places. Perhaps, a unique place in the “Digital Galaxy” (cf. Danesi 2002) is occupied by the surrogate of print in form of a two-dimensional barcode called the Quick Response Code (QR). Invented by the Japanese in 1994, it is now widespread globally (cf. BS ISO/IEC 18004 2006) for encoding trademarks, addresses, Uniform Resource Identifiers (URIs), tickets in public transportation, place reservations in the airplanes, and the like.

2. Writing as a Discursive Constituent of Social Life-World

1) Semiotic Properties of Writing and in Relation to Speech

From a semiotic perspective, *writing* in relation *speech* is to be regarded as a sign-and meaning related ability of human organisms to communicate, while processing, transmitting, receiving and interpreting verbal messages. From such a viewpoint, the invention of writing has been rightly placed on a higher evolutionary ladder of Hominid Species following the emergence of speech and semiotic consciousness.

Realized in verbal means of signification and communication, writing, similarly as speech, may be discussed with respect to the semiotic universals of language (cf. Wąsik 2003). As to the substance of codes and channels of communication, speech distinguishes itself through four kinds of properties (SP): (1SP) *vocal-auditory* stating that phylogenetically conditioned verbal means of signification and communication

have a phonic character; they are emitted through the vocal tract and received by ear; (2SP) *centrifugal transmission and directional reception*-sound waves expand in all directions (centrifugally) but they are received from that direction in which the receiver finds himself while listening; (3 SP) *evanescence in time*-phonic substances of speech sounds due to physical laws are transitory and volatile; (4 SP) *linear integration of phonic segments over time*-receivers apprehend sound waves as a sequence of segments arranged in a line.

Regarding the properties of writing (WP) in comparison to speech, the respective four groups have parallel sets, as follows: (1 WP) *a graphic-visual channel*, that is, the notational symbols used in writing are produced in a graphic scaffold and received by eyesight; (2WP) *a vertical, horizontal or circular, sequential or interrupted production and a focused perception of two-directionally delimited segments*, that is, the sequence of symbolic-notational lines, starting in one direction, from right-to-left, left-to-right or from top-to-bottom and then turning at the end of the line in a reversing direction, is usually written or printed from the beginning to the end but may produced and read depending upon their prominence in size, shape and color; (3 WP) *permanence in space and durability in manifestation forms*, that is, the written form of notational symbols consist of or are placed on solid materials reflecting light waves in a relatively similar way always and everywhere; (4WP) *two-dimensional linear arrangement over space*, that is, the symbolic-notational segments appear in sequences being delimited by the width and heights of the area on which they are placed.

2) Discourse, Text and Language

Due to the social nature of human communication, all communicating individuals who speak a given language produce texts, which are embedded into various kinds of role-and context-oriented discourses. To begin with, discourse (cf. Wąsik 2011) might be defined in terms of texts or, broadly taking, signs and text-or sign-processing activities that link communicating individuals taking part in group interactions, as observable outer selves and inferable inner selves, into interpersonal and intersubjective collectivities when they send and receive or process and interpret the material bearers of meanings realized through nonverbal or verbal means and modes of understanding. The particular texts and text-processing activities or signs and sign-processing activities take place as the realization of language and culture in various domains of social-life world, determined by functional circles, interest spheres or thematic preferences of people, etc.

Texts and signs, as investigative objects of linguistics and semiotics, have one essential aspect in common, namely, their referential functions. A text is thus a type of a sign that stands in a semantic and categorial relationship with its referents from the extra-linguistic and extra-semiotic reality. Bearing in mind the distinction

between the three levels of abstraction, as “discourse, text and language” along with “discourse, sign and culture”, one can assume that text types are to be derived from various types of discourses, and language in general or a language in particular from various types of texts. Thus, one can take for granted that the so called natural language is a system of types of texts and text-processing activities which execute communicative and performative functions and exhibit intentional and conventional values while fulfilling the instrumental purposes and satisfying the utilitarian needs of humans in various discursive domains of social life-world.

3) Speech and Writing Systems in the Formation of Discursive Communities

To characterize human activity in text-and sign-related terms, discourse might be specified here as the spoken and written realization of language and culture in interpersonal encounters, which contribute to the aggregation of means and purpose-oriented communities in the domains of social life-world. With reference to the terminological apparatus of language-centered communicational sciences, it is important to introduce the distinction between linguistic communities, on the one hand, and discursive communities, on the other (cf. Wąsik 2011). Against the background of linguistic communities and discursive communities, one has to consider the status of speech communities (cf. Bloomfield 1927) and writing communities as standing in inclusive, exclusive, and intersecting relationships. Hence, one can state that there are members of linguistic communities who belong to various discursive communities, and members of discursive communities who simultaneously belong to various linguistic communities. Some speech communities may use the same writing system, whereas some writing communities may consist of different speech communities. Accordingly, one may conclude that a linguistic system unites *par excellence* a speech and writing community altogether. In view of that, societies are to be understood as a dynamic aggregation of discursive individuals and discursive communities united by similar communicative and performative functions as well as intentional and conventional values of texts and text-processing activities.

3. Instrumental and Utilitarian Properties of Writing in the Semiotic Spheres of Culture

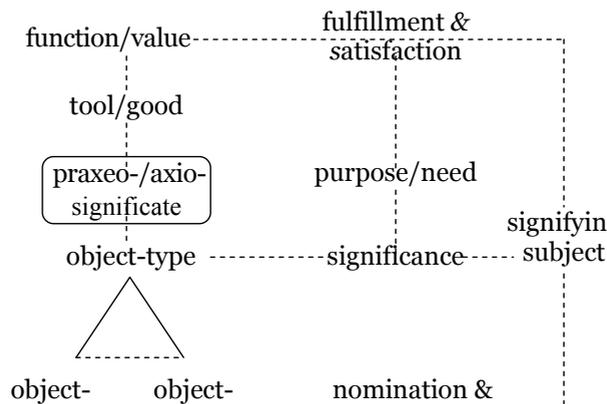
1) Praxeological and Axiological Concepts of Subjective Significance

For considering writing in instrumental and utilitarian terms, this essay departs from the view of culture as a set of regularities that occur between the signs of functions or values and become realized in nonverbal and verbal products of the activity and attitudes of human beings which co-determine and condition the modes

of their life and behavior (cf. Wąsik 2003).

In such a semiotic conception of culture, as visualized below in Figure 1, the emphasis is placed on the interpretative activity of a “signifying subject” who subsumes the cognized objects of nature and culture (“object-token 1” and “object-token 2”) as significant, firstly, when they “fulfill” a certain “function” with respect to his or her “purpose” and, secondly, because they possess a certain utilitarian “value” for satisfying his or her “need” (meant as a signaled systemic lack), desire or expectation. An object of cognition, found in the surroundings of social life-world, can possess, apart from its praxeological “significance” also an axiological “significance”.

Figure 1. Subsumption of objects under the signs of functions or values in the praxeosemiotic and axiosemitic spheres of culture



Respectively, specific terms in Figure 1 have been defined as follows: *Object* is a perceivable thing or event in a “praxeosemiotic” or an “axiosemitic” sphere of culture; *Subject* is a meaning-utilizer (meaning-creator, meaning-receiver), to be understood as a subject of culture (i.e., a living system with an ego-quality), who subsumes and utilizes objects of culture (object-token 1 and object-token 2) under the object-type of either a praxeosignificate or axiosignificate; *Praxeosignificate* is a functional object of culture, regarded as a significant tool, i.e., a sign of function; *Axiosignificate* is a valuable object of culture, regarded as a significant good, i.e., a sign of value; *Tool* is an object of culture which serves a certain function enabling the fulfillment of a subjective task of a meaning utilizer; *Good* is an object of culture which possesses a certain value enabling the satisfaction of a subjective need of a meaning utilizer; *Sign* is an object of culture having meaning for a subject of culture because of something. *Significance* is meaning the of an object of culture for a subject of culture with respect to its relevance for being subsumed under a sign of function, i.e., a praxeosignificate or a sign of value, i.e., an axiosignificate); *Function* is a role which is played by a tool while serving a task oriented purpose

intended by a subject of culture; *Value* is a relational property of an object of culture that satisfies a subjective need of a subject of culture; *Purpose* is an aim to be fulfilled, or a goal to be reached, an end to be gained or an objective to be attained, which means, for the activity of a subject of culture an impulse to utilize a tool for performing a serviceable function; *Need* is a systemic lack of an organism to be satisfied which means for the activity of a cultural subject an impulse to restore a disturbed equilibrium in his or her biological urges, psychological wants, desires or social expectations; *Fulfillment/Satisfaction* is the utilization of a tool or a good which is significant for a certain purpose or a need of the subject of culture with respect to its function or value; *Subsumption* is a semiotic nomination and recognition of the object-token 1 with object-token 2 as identical with the general properties of the object-type.

As follows, one can say that a semiotic act usually takes place in the communicational context when a cognizing subject enters into a new relation with a cognized object. The ascription of "significance" to objects known before as natural or cultural with regard to their functions or values contributes to the creation of new types of semiotic objects while transferring them from one kind to another kind of reality, called respectively, either as "praxeosignificates" or as "axiosignificates".

Having in view the analytical applicability of the model, practitioners of semiotic studies may investigate all semiotic systems of culture either from the viewpoint of instrumental function they execute in fulfilling communicational purposes of the subjects of culture or from the viewpoint of utilitarian value they exhibit for satisfying their respective needs.

2) Conclusions and Investigative Postulates

To sum up, writing, with special reference to its use in printed media and their electronic representations, might be discussed in the light of functionalist, on the one hand, and utilitarian, on the other, approaches to verbal texts as means of both communication and art. Therefore, taking the praxeological and axiological perspectives, it will be necessary to bear in mind the classificatory listing of functions, in one dimension, and the typological survey of values, in another dimension, with respect to writing assumed as a cultural object of study.

Without specifying, whether one has in mind the natural language as an exponent of mankind, ethnicity or group identity, language varieties, speech acts or speech genres of communication, linguistic faculties and cognitive abilities of humans, or constituents and structures of verbal means realized in various contexts of language use, etc., one might list a number of the so-called language functions, which reflect in fact the satisfaction of individual needs or social requirements of people through the realization of communicational tasks by written means of signification, such as, for example, cognitive, communicative, controlling, convivial, discriminating, enculturating,

evocative, excluding, experiential, expressive, ideational, identifying, imaginative (creating one's own world), impressive, including, informational, instrumental, interactional (mediating someone's togetherness with people), interpersonal, ludic (realizing entertainment purposes), regulatory, representative, ritual, separating, stimulative, symbolic, unifying, etc.

It is obvious that people not only communicate to inform each other or to express their commonalities in views or beliefs by the execution of speech acts; they also create new things in a pragmatic sense as (cf. Austin 1962), e.g., affiliation, bequest, bet, compliment, curse, declaration, invitation, memorial, oath, privilege, promise, separation, title, wedding, will, etc. These things are performed by uttering only (a sequence of) words that are volatile as sound waves, so that writing may serve to provide a durable evidence for the acts of speech in form of appropriate documents of commitment, contract, debt, divorce, duty, identity, inheritance, legacy, marriage, obligation, possession, and the like.

Writing systems take part as linkage-creating devices for the formation of discursive communities in such domains of social life, as, e.g., army, association, bank, cafeteria, cemetery, church, cinema, corporation, courtroom, factory, family, festival, carnival, hospital, information center, law, market, media, municipality, museum, neighborhood, office, opera, parliament, prison, restaurant, roads, streets, school, service, shop, theater, workshop, etc.

At a global scale, central for the development of human communication at all and an absolutely starting point for the rise of mass communication on the national and international level was the invention of mechanical text printing. Its result was a rapid exchange of information that contributed to an increase of literacy, instigation of social and religious liberation movements, anti-colonialism, feminism or green peace movements, and so forth, as well as organization of learned societies and advance in technological civilization.

For the users of verbal means of mutual understanding in a generational, national, and cultural transmission of knowledge, it is convenient when the writing systems are relatively stable. In an opposite case, editors of written texts have to make use of a philological method (cf. Crystal 1987) of emendation in correcting changed parts of messages and explication in unfolding their historical and modern meanings. One can say that they thus appear in the role of intertextual or interlingual translators.

In this context, special attention deserves the idea of cultural polyglotism (cf. Lotman, (2005 [1984]), Wąsik 2011), resulting from the metaphor of a cultural text, according to which the communicating individual as a "cultural polyglot" is seen as able to cope with texts coming from different cultures (similarly as from different discourses); that is., he knows how to communicate in and understand "multiplicity of cultural languages". Hence, he must be described as possessing the so-called intercultural in the same way as interdiscursive competence (cf. Wąsik 2011).

