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Ewa Szczęsna

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## The Humanities in the World of New Technologies (and Vice Versa). Toward Digital Philology

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DOI:10.18318/td.2023.en.2.6 | ORCID: 0000-0003-3708-8854

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### The Humanities and Technology: The Question of Their Essence and Mutual Relationships

The humanities are singular, albeit diverse and evolving with the development of civilization itself. They are a dynamic singularity, the unchangeable nature of which is located in their being a space for autonomous thought, while their changeability – in the sphere of methods of thought and objects of interpretation. The humanities deal with understanding/creating text (even as they declare different goals). This is their main objective – the task pertaining to the shaping of the faculty of thought, of interpreting/creating text, regardless of whether we are dealing with a literary text typical of philology (or better still, philologically oriented humanities – philological humanities) or a text stemming from other arts (visual, performative, audiovisual, musical) or discourses (philosophy, journalism, sociology, politics, economy, physics, mathematics and so many others), makes them, in their essential dimension, a necessary tool for any discipline – their basic existential. By drawing upon this category, we have marked our human mode of being, separated ourselves from other non-human entities, all the while

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**Ewa Szczęsna** – Professor (University of Warsaw, Faculty of Polish Studies); specializes in poetics, semiotics and multiple-sign persuasion, multimedia and interactive texts in contemporary culture; authored books *Cyfrowa semiopoetyka* [Digital semiopoetics], *Poetyka mediów* [The poetics of media], *Poetyka reklamy* [The poetics of advertising], edited and co-authored *Słownik pojęć i tekstów kultury* [Dictionary of cultural concepts and texts], *Komparatystyka dzisiaj. T.1; T.2* [Comparative studies today. Vol. 1; Vol. 2]; *Przekaz digitalny* [Digital communication] and articles on advertising, comparative studies of media, and also the poetics and semiotics of digital communication. E-mail: e.szczesna@uw.edu.pl.

declaring an attitude of respect therefor (and in the case of posthumanism – dialogue therewith). The humanities are a necessary tool and a condition for inventiveness and discoverability in all areas of human activity. Those who speak of the humanities as useless for the economy and technology, devoid of technological-innovative potential, fail to understand their essence. Those who work toward their marginalization hinder the development of fields, in the name of which this marginalization is undertaken to begin with – and simply harm them.

At the same time, the humanities are necessarily changeable, as change also pertains to: the objects of their study – texts, which are in a state of constant evolution; the aesthetics, ideas, and ideologies which inspire them; the technologies of their production and distribution; and last but not least, the state of knowledge and the sociohistorical reality. Changes to the contextual factors co-creating a text and, in effect, their mutual interactions, result in changes in the sphere of the understanding of the text. This necessitates the creation of new tools of its description and the modification of existing tools, the extraction from objects of interpretations of theories and methodologies, the creation of successive cognitive perspectives, and the reinterpretation of existing ones. These changes form the sphere of instability, or the incessant evolution of the humanities, which are described as new when successive remodellings (changes) in their sphere emerge. However, one characteristic feature of the humanities is that their changeability continually strengthens the space of unchangeability. The dynamics of change, diversity in the sphere of studying textual phenomena, the development of polemic discourse, the creation of new perspectives from which we perceive things, different methods of focalization, of knowing stabilize and confirm the unchangeability of interpretation as the essence of the humanities.

Concern over the understanding of text is in particular the main preoccupation of philological humanities, mostly interested in verbal art, either when it deals with specific works, their collections, or textual genres, or when it discusses theories, methodologies – methods of reading texts, or when it ponders upon the essence of interpretation and attempts to define it. One illustration of this unchangeable connection between the essence of the humanities and interpretation (though understood in various ways) are two passages by Maria Janion and Michał Paweł Markowski, written forty years apart:

The school of humanistic thought is interpretation, or the understanding of human objects of creation and behaviors. Interpretation is an art of artists and scholars alike, but also the fundamental skill of the thinking person as such. Without this skill, the worlds of culture and science are closed therefrom. In effect, there is the constant necessity of learning understanding and choice, or the humanistic

interpretation of human works and the selection of those values which are deemed to be the highest.<sup>1</sup>

When I say that [the humanities – E. S.] should be a space of the formation of sensitivity, I also say that it is a discipline associated with interpretation. [...] The humanities are an exercise for the mind, which teaches us or strengthens our belief in the fact that people compose the world in different ways from the available meanings, albeit they do so in a shared space, the same one in which we are now laboring.<sup>2</sup>

In effect, as they invariably deal with interpretation, philological humanities have the tendency to model their mode of being – shape new theories, tools, and methods of interpretation, as well as broaden the area of actions, in effect of which definitions of text are loosened.<sup>3</sup> The latter leads us outside of the text of a specific discursive (literature) and media (print) form toward other discourses (e.g. artistic, social, journalistic, academic texts) and media (audiovisual, interactive).

In effect, philological humanities renew themselves each time when they change the interpretative filter, when they begin to be interested in new forms of texts and turn them into a lens, through which they look at a traditional object of their study. At present they for example gladly draw upon the cognitive perspectives of STEM sciences, ecological discourse, and climate discourse, which they adopt to study literary and, broadly speaking, textual phenomena. They also study digital texts.

Digital technology considerably modifies the matter and the structure of the sign. A digital sign is a diffused sign – it has its representation on the level of programming code and the end-user level, albeit different modes of its existence enter into metonymic relationships with one another. The sign combines the function of meaning, of defining the mode of its own existence, and the operating function – of directing to other signs and manipulating them. Its matter (electromagnetic waves) and notation (01) are shared among different ways in which the sign manifests itself on the end-user level – by

1 Maria Janion, *Humanistyka: poznanie i terapia* [The humanities: cognition and therapy] (Warszawa: PIW, 1982), 109–110.

2 Michał Paweł Markowski, "Wrażliwość, interpretacja, literatura" [Sensitivity, interpretation, literature], *Teksty Drugie* 1/2 (2010): 112, 113, 122.

3 For instance, speaking of a text as a strategy, which establishes a universe of its own interpretations (Umberto Eco), as something that can be read (Michał Paweł Markowski), a node in a network of relationships, which permeate the social, historical, and cultural environments and transform them (Ryszard Nycz).

analogy to moving or unmoving images or sound, which enable the sign to be easily combined and modified. The new organization of the textual sign determines a new onticity, superimposed over the sign of the text. In turn, the new mode of the existence of the text necessitates changes in the sphere of its description. The need arises to modify existing research tools, to create new ones, and finally to derive from the studied texts theories which would name new textual and discursive phenomena with a view to facilitating their understanding. In effect, digital technology changes the humanities – it leads to the development of digital humanities, dealing in particular with the creation of digital tools for the study of texts, but also interfering in philological humanities by broadening their scope to encompass digital philology.

The thesis on the relationship between technology and the humanities in fact pertains not only to digital technology, but the broadly understood *techne*, which, as Martin Heidegger underlined, as a means of discovery is something poietic, not just a means in and of itself.<sup>4</sup> A good example thereof is that of the technologies of print, which freed the textual form from performing a mnemonic function – searching for and using textual structures facilitating memorization. Instead, the textual form could to a considerably larger degree perform the aesthetic function – the development of the literary form was guaranteed not by the topics broached, but by formal measures, original solutions in the sphere of irregular, experimental forms, the literary use of punctuation, graphical representations (e.g. illustrated book). The development of storage technologies, of communication inspired the development of textual forms, which in turn, by becoming objects of study, stimulated the development of humanistic philology.

The quite common view which juxtaposes technology with the humanities, proclaiming the devaluation of the latter, or its displacement by the achievements of the former, is therefore absurd on its face. Technologies take part in the creation of artistic texts, in the shaping of the humanities to the same degree as social, political, and economic changes themselves – in short, as all cultural changes.<sup>5</sup> They are one of the ever-present variables in a network of relationships between the factors comprising a text. They result in all texts being sociocultural constructs, embedded in specific discursive, medial, and

4 Martin Heidegger, *Die Technik und die Kehre* (Stuttgart: Verlag Günther Neske, 1962).

5 The thesis on the influence of the medium on the text and its meaning, as well as on literature as a mediated experience and modelled by the media is formulated and justified by Peter Gendolla and Jürgen Schäfer, "Playing With Signs. Towards an Aesthetic Theory of Net Literature," in *The Aesthetics of Net Literature. Writing, Reading and Playing in Programmable Media*, ed. Gendolla and Schäfer (Piscataway, NJ: Bielefeld, Transcript, 2007), 17–36.

semiotic orders, and are responsible for their coherence.<sup>6</sup> All forms of technological revolution and evolution lead to changes in the way of the existence of text – in its meaning-making, communicative aspects.

For example, digital technologies provide access to tools for the semiotic unification of texts, the legitimization of their relationships, as well as the facilitation of their use. The effect of semiotic synchronization, which influences the meaning of the text established by the recipient, the hierarchy of the content, is achieved by the mediation of the specific color palette on the computer screen, by tying together textual elements, but also by thematically and discursively diverse text with the same rhythm (repetition of movement, sound, color). Other unifying factors include linking and the designed possibility of manipulating text, which allow the user to construct text in accordance with their own idea of a coherent text<sup>7</sup> and control its reception through the semiotic elements of the message. In the case of fiction, for instance, the forms allow for the selection of those textual elements, which, as the user expects, will allow them to build sequences of events and arrive at a coherent whole, which can be made sense of. As such, hypertext does tell stories itself as such, as it stimulates the user into telling them.

### **Text-creation Strategies in Digital Literature**

Digital storage is a technology which modifies the onticity of the literary word to a much larger degree than previous storage technologies. Literature remains a written art, but not only that of the semantics of the word as a conventional sign. Other aspects of the word are now repurposed for the benefit of literariness itself – primarily its layer of representations, but also its intertextual agency (the possibility to be a tool of textual actions), which co-create the meaning of the text. The word is undergoing secondary, mediated, and aesthetically modelled ionization, kinetization, and sonorification. A good example thereof is Robert Kendall's digital poem *Faith*,<sup>8</sup> in which semantic value rests in the changing colors of the words, of singular letters, as well as in their movement – shape deformations, repositioning, and appearance and

6 Theo Van Leeuwen, *Introducing Social Semiotics* (New York: Routledge, 2005), 181–267.

7 The issue of changes in the functioning of the coherence of the hypertext in comparison with the coherence of analogue narrative text is taken up by Marie-Laure Ryan. See Marie-Laure Ryan, "Can Coherence Be Saved?," in Ryan, *Narrative as Virtual Reality. Immersion and Interactivity in Literature and Electronic Media* (Baltimore: The Johns Hopkins University Press, 2001), 242–270.

8 Robert Kendall, *Faith*, accessed September 4, 2023, [http://collection.eliterature.org/1/works/kendall\\_\\_faith.html](http://collection.eliterature.org/1/works/kendall__faith.html).

disappearance, connoting events and situations from the human world. Letters, words, and parts of the alphabetical text, by moving, changing shapes, and being sounded out before the eyes of the recipient, gain corporeality. They connote vitality. The moving, changing texture displaces unmoving, unchanging texture characteristic of traditional print literature. The literary word is no longer glued to the page, entrapped in the form of print. Instead, it is revitalized – biological, often even anthropomorphized. It can be projected as a word with the attributes of human personality, it can speak about interpersonal behaviors and relationships, triggering interactions between the interpretative meanings denoted – arbitrarily – and connoted by the movement and change in the shape of the text (as in the case of Dan Waber's *Strings*<sup>9</sup>). It can also become spatialized – gain the third dimension on the computer screen or be projected into the space of the recipient – enter into interactions with them – as is the case with interactive installations (e.g. Noah Wardrip-Fruin's *Screen*<sup>10</sup>). Such an existing literary word gains the features of spatial art (architecture, sculpture) or audio-visual art (movies), tying together century-old meanings arrived at in the course of the development of these arts.

Furthermore, the introduction of digital programming into literary discourse results in the literary word and the literary work of art being able to be individualized.

Digital literature contains discursively and medially transformed non-literary discourses (including those of animation, games, movies), but it also textualizes data on the user of a given work. Elements of the plot include the corporeal actions of the users and the dimension of textual expression (its kinetization, sonorification, and musicalization). In Semyon Polyakovskii's novel *Maginary*,<sup>11</sup> blowing on the screen – the page with text – results in wind blowing in the literary world (interactive metonymy); the movement of letters, their color, light, and sound create the audio-visual representation of the world of literary fiction. Present world literature engages literariness in augmented and virtual reality, the use in the literary work of information on the specific user, their surroundings (e.g. views), extracted by way of their phone (e.g. photographs uploaded by the user). One example here would be

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9 Dan Waber, *Strings*, accessed September 4, 2023, [http://collection.eliterature.org/1/works/waber\\_\\_\\_strings.html](http://collection.eliterature.org/1/works/waber___strings.html) (currently not available); *Strings* by Dan Waber – YouTube.

10 Noah Wardrip-Fruin, *Screen*, accessed September 4, 2023, <https://www.youtube.com/watch?v=WOWf5KD5BV4>.

11 Semyon Polyakovskii, *Maginary* (2019), accessed September 4, 2023, <https://medium.com/@semyonpolyakovskiy/maginary-animated-immersive-book-for-ios-3ae-c8f5136bc>; <https://www.maginary.app/>.

the ambient novel *Breathe*<sup>12</sup> by Kate Pullinger, in which data on the reader and their immediate surroundings become part of the plot and in which digital representations of the world of the reader and the reader himself undergo textualization. The story becomes tied to the place and time of the individual user, who is located at the center of events. The context becomes an integral component of the work. Not only does it differentiate its meaning, but also its semiotic tissue – which means it has agency. Different data on each of the users of the work result in different versions of the plot. The ambient novel creates a new form of narration – dynamic narration, which reacts to the direct, changing data on the social environment of the user and which incorporates these elements into the plot and the game played with the user.

The alternativeness, variability of the plot of ambient narrations is determined through the specificity of data tied to the reader. The flow of events becomes dependent on the actions of the user in the real world, as well as the virtual world of the smartphone, which engages the reader both viscerally and emotionally, as well as intellectually and aesthetically.<sup>13</sup> The recipient may experience words as if they were avatars, gaining the value of three-dimensional entities – human and non-human alike (animated, anthropomorphized, personified, reified). The hybridization of the world of the literary text as happening in the interaction between the real and the virtual worlds becomes strengthened thanks to the use of the body of works of traditional literature. Digital literature does not abstract from print literature. On the contrary, it creatively modifies its narrative strategies, artistic procedures (compositional, stylistic). It constitutes its own literariness on the path of the digital adaptation of existing literariness, which it sets into aesthetic interactions with new ways of the existence of literariness, discovered by digital technologies. This is discovery, which embodies in literature the aforementioned Heideggerian understanding of technology as a means of extracting, freeing, reshaping, acting out *poiesis*.

In effect, digital technologies give us grounds for developing philological and literary studies – in particular from the areas of poetological and

12 Kate Pullinger, *Breathe* (2019), accessed September 4, 2023, [www.breathe-story.com](http://www.breathe-story.com). See also Tom Abba, Jonathan Dovey and Kate Pullinger, eds., *Ambient Literature. Towards a New Poetics of Situated Writing and Reading Practices* (London: Palgrave, Macmillan, 2021).

13 Jim Bizzocchi, "Ambient Art and Electronic Literature," in *Electronic Literature as Digital Humanities. Contexts, Forms, and Practices*, ed. Dene Grigar and James O'Sullivan (New York: Bloomsbury Academic, 2021), 113, accessed September 4, 2023, <https://www.bloomsburycollections.com/book/electronic-literature-as-digital-humanities-contexts-forms-practices/ch8-ambient-art-and-electronic-literature>.

comparative studies,<sup>14</sup> going toward agential semiopoetics – researching ambient works, which engage with the actions of the user, their data and data on the immediate physical world, and cultural practices in such a way, that they become a necessary and active meaning-making component of the text – that is, they undergo textualization themselves. Furthermore, of interest from the perspective of poetological studies is the fact that applications which take note of the location of the user enable, on the one hand, the narrativization of the surroundings – the creation and development of mobile forms of narration,<sup>15</sup> forms of locative narration,<sup>16</sup> and on the other, importing the surroundings to the narrative of the novel – or the creation of an ambient novel.<sup>17</sup> Such crucial changes in the mode of existence of the literary work lead to the necessity of investing in the development of digital philology.

Digital literature makes use of the culturally developed ways of the existence of the word. However – what is characteristic thereof – it also modifies, clashes, remediates.<sup>18</sup> Literary meaning is created in the interaction of the digitally modelled: written and printed word (which, when having undergone kinetization, metamorphoses with regard to their shape and color, also become words-images), but also the spoken word. In the creation of meanings, the digital alphabetical text draws upon the body of oral culture and the connection between literature and music (digitally modified: speech, visual effects, music), written culture (fonts imitating handwriting, letters “drawn up” on screen, decorating, stylizing letters) and print (the multiplication of the forms of print fonts developed in the course of the development of culture itself and the forms of the graphization of the word – painting with the word). Making the object of remediation the century-old body of works of the culture

14 John David Zuern, “Reading Screens: Comparative Perspectives on Computational Poetics,” in *Comparative Textual Media. Transforming the Humanities in the Postprint Era*, ed. N. Katherine Hayles and Jessica Pressman (Minneapolis: University of Minnesota Press, 2013).

15 Adraina de Souza e Silva, “Mobile Narratives: Reading and Writing Urban Space with Location-Based Technologies,” in *Comparative Textual Media*, 33–52, accessed September 4, 2023, [https://www.researchgate.net/publication/289947594\\_Mobile\\_Narratives\\_Reading\\_and\\_Writing\\_Urban\\_Space\\_with\\_Location-Based\\_Technologies](https://www.researchgate.net/publication/289947594_Mobile_Narratives_Reading_and_Writing_Urban_Space_with_Location-Based_Technologies).

16 See Jeremy Hight, “Locative Narrative,” in *Electronic Literature as Digital Humanities*, 297–304, accessed September 4, 2023, <https://www.bloomsburycollections.com/book/electronic-literature-as-digital-humanities-contexts-forms-practices/ch26-locative-narrative>.

17 Abba, Dovey and Pullinger, eds., *Ambient Literature*.

18 Jay D. Bolter and Richard Grusin, *Remediation. Understanding New Media* (Cambridge: MIT, 2000).



of print, and in particular, the developed forms of the printed book, is something that Jay David Bolter considers to be an important feature of hypertext.<sup>19</sup>

Furthermore, the creation of textual meanings sees the participation of mediated graphical, photographic, auditory, and audio-visual representations accompanying the textual layer, which appear as background, illustration, or integral elements of the text and represent different discourses (in the aforementioned *Strings*, these are: rhetoric, the textual dimension of the movement of the body, a sports discipline, a word puzzle, elements of a game; in Konrad Polak's *Schemat* [Diagram]<sup>20</sup> – an instruction manual, in Stuart Moulthrop's *Victory Garden*<sup>21</sup> – a graph depicting the possible sequences of reading).

The study of digital literary forms leads to the development of philological humanities – its enrichment with the achievements of digital philology (here in particular, digital literature studies), which develops tools for the study of digital literature, as well as schools of thought thereabout. The textual procedures working in favor of the creation of an expanded philology aiding development are: presence in the description of the text of interactive and semiotic figures,<sup>22</sup> including kinetic figures (adietion, detraction, permutation, transformation), which form the basis of e.g. Zenon Fajfer's *Ars Poetica*<sup>23</sup> and *Powieki* [Eyelids],<sup>24</sup> figures of manipulation and animation,<sup>25</sup> hyperleptis,<sup>26</sup>

19 Jay D. Bolter, *Writing Space. Computers, Hypertext, and the Remediation of Print* (New York: Routledge, 2001), 45.

20 Konrad Polak, *Schemat* [Diagram], accessed September 4, 2023, <http://haart.e-kei.pl/hiperteksty/schemat/>.

21 Stuart Moulthrop, *Victory Garden*, accessed September 4, 2023, [https://www.youtube.com/watch?v=TN02\\_RqyXgo](https://www.youtube.com/watch?v=TN02_RqyXgo).

22 Ewa Szczęśna, *Cyfrowa semiopoetyka* [Digital semiopoetics] (Warszawa: Wydawnictwo IBL PAN, 2018), 188–245.

23 Zenon Fajfer, *Ars Poetica*, accessed September 4, 2023, [http://www.techsty.art.pl/magazyn3/fajfer/Ars\\_poetica\\_polish.html](http://www.techsty.art.pl/magazyn3/fajfer/Ars_poetica_polish.html).

24 Zenon Fajfer, *Powieki* [Eyelids] (Szczecin: Wydawnictwo Forma, 2013).

25 Alexandra Saemmer, "Digital Literature – A Question of Style," in *Reading Moving Letters. Digital Literature in Research and Teaching*, ed. Roberto Simanowski, Jürgen Schäfer and Peter Gendolla (Bielefeld: Transcript, 2007), 163–182.

26 The figure named and described by Mariusz Pisarski in the habilitation thesis *Figury obecności w cyfrowych mediach. Od hipertekstu do sztucznej inteligencji* [Figures of presence in digital media. From hypertext to artificial intelligence] ([Kraków: Universitas, 2024], 83–89), the scholar defines hyperleptis as a motive, a given meaning expressed at different levels of the work – code, semantic, semiotic, operative – with the help of the means specific to a given level.

syllipsis,<sup>27</sup> and metalepsis,<sup>28</sup> kinepoeia,<sup>29</sup> interpretative and alternative (multivariate) narration, remodelling in the mode of existence of the literary world, and in particular, its “extraction” to the surface of the texture – the presence of elements of the plot at the level of representation, the creation of textual meanings in the interaction between the semantics of the word as a graphic sign and the semantics of the word as a conventional sign (e.g. in Susan Gibb’s *Blueberries*,<sup>30</sup> Radosław Nowakowski’s *Koniec świata według Emeryka* [The end of the world according to Emeric],<sup>31</sup> and James Barret’s and Selley Jackson’s *Patchwork Girl*<sup>32</sup>).

Being programmable also allows digital literature for the discursive – that is, in this case, the artistic use of metatextual elements or program tools. One example here is the interface, which in literary works does not only have the function of a mediator between the user and the texture, but itself becomes textualized (e.g. the request “please click ESC or click here in order to reach old age” in Leszek Onak’s *Młodość 1861 liter później* [Youth 1861 letters later]<sup>33</sup> is both a tool which operates on the text, as well as an integral part of its semantics). In a similar fashion, the literary use of technical communication is

27 To read further on the means of the existence of this figure in digital works, see Mariusz Pisarski, *Figury obecności w cyfrowych mediach*.

28 Astrid Ensslin and Alice Bell, *Digital Fiction and the Unnatural. Transmedial Narrative Theory, Method, and Analysis* (Columbus: The Ohio State University Press, 2021); Marie-Laurie Ryan, “Impossible Worlds,” in *The Routledge Companion to Experimental Literature*, ed. Joe Bray et al. (London: Routledge, 2012).

29 “Kinepoeia – or movement suggested by the textual or pictorial representation of the word – is drawn from the term onomatopoeia, the rhetorical strategy that associates sound with textual representation (e.g., bam/bam) but unlike onomatopoeia, kinepoeia is indigenous to the digital medium.” Dene Grigar, “Kinepoeia in Animated Poetry,” in *Electronic Literature as Digital Humanities*, 206, Bloomsbury Collections – Electronic Literature as Digital Humanities, accessed September 4, 2023.

30 Susan Gibb, *Blueberries*, accessed September 4, 2023, <http://www.cddc.vt.edu/journals/newriver/09Fall/gibb/blueberries/titlec.html>; transl. Mariusz Pisarski, *Czarne jagody*. See [http://haart.e-kei.pl/hiperteksty/czarne\\_jagody/czarne\\_jagody.html](http://haart.e-kei.pl/hiperteksty/czarne_jagody/czarne_jagody.html), accessed September 4, 2023.

31 Radosław Nowakowski, *Koniec świata według Emeryka* [The end of the world according to Emeric], accessed September 4, 2023, <http://www.liberatorium.com/emeryk/brzask.html>.

32 James Barret and Selley Jackson, *Patchwork Girl*, accessed September 4, 2023, <https://www.youtube.com/watch?v=KXFEqYrbqU>.

33 Leszek Onak, *Młodość 1861 liter później* [Youth 1861 letters later], accessed September 4, 2023, [http://techsty.art.pl/m10/mlodosc\\_1861\\_liter\\_pozniej/](http://techsty.art.pl/m10/mlodosc_1861_liter_pozniej/).

present in Marta Dzido's hypertext *Matrioszka* [Russian nested doll],<sup>34</sup> where the user's each choice of the link urging the character to listen to their suicidal thoughts leads to the depiction of a box with the words *unexpected error*. Just as if the system itself blocks the suicide of the main heroine, secures the work from the main plot being cut short and the action running to a halt.

Crucial shifts in the sphere of the modes of existence of literature also include changes in the sphere of communicative relationships. In the digital world, traditional readerly interpretation becomes strengthened by the user experiencing the text in the act of their operational agency, that is, their corporeal, sensory, and mental participation in the creation of the work. User participation in operations on the texture, supporting the multiplication of the forms and meanings of the work, transauthorship, or the creation of works through the cooperation of multiple people – both users and co-creators – are factors which participate in the creation of digital literariness.

One challenge for modern literature studies is undoubtedly the large scope of the creation of transsemiotic, transmedial, transdiscursive works, which declare a literary character. Furthermore, the interaction between different semiospheres, media, discourses within a single work (intertextual transmediality and transdiscursivity) also finds its counterpart at the level of the singular text. An interesting phenomenon is the creation of macrotexts – messages which are not limited to digital forms of art themselves, but engage different medial forms. Macrotexts are multitext (encompassing at least two texts) and multiauthor constructs, which enter into semantic relations and give rise to additional, emergent meanings. Macrotexts are governed by the principle of the transtextual creation of meanings. Therefore, while intertextuality maintains the dominance of the written text, in which the present intertextual signals are meant to model textual meanings,<sup>35</sup> and the references themselves (appealing to the reader's memory) create the interpretative context, in the case of transtextuality, meaning is created through the semantic interaction of all texts comprising the maxrotext. Particular texts from the maxtotext may exist independently and usually do so, but by creating the macrotext, they enter into a dialogue, which results in the emergence of additional meanings. This dialogue is the result of the fact that transtextual signals go both ways – they are not one-directional, but bidirectional, as in the case of traditional intertextuality. A good example of such a macrotext is the relationship which Camille Utterback's and Romy Achituv's installation

34 Marta Dzido, *Matrioszka* [Russian nested doll], accessed September 4, 2023, <http://haart.e-kei.pl/matrioszka/start.html>.

35 An example of an intertext action in the space of a hypertext is the work *Victory Garden* by Stuart Moulthrop, which references Jorge Luis Borge's *The Garden of Forking Paths*.

*Text Rain* enters into with Apollinaire's calligram "Il pleut" and Evan Zimroch's poem "Talk, You," which was used in the installation. Apollinaire's poem – rain painted with letters of words about raining; the interactive installation, in which the falling letters of the poem present on screen may only be held back by the body of the recipient; Zimroth's poem, in which glances, gestures, corporeality, connect two people more so and more truthfully than the distancing words, by entering into an interaction, become a story about different aspects of the body and the word, about the capability and futility of communication, of expressing meanings. Roberto Simanowski underlines that just as in Zimroth's poem, conversation turns out to be vapid and futile, in *Text Rain*, the corporeal contact of the user with the words seems equally aimless and semantically empty.<sup>36</sup>

Clear traces and different forms of presence in multiple semiotic systems, media, and discourses in digital works lead us to pose the question of whether we are still dealing with literature at all. It would seem that literature in the digital environment can be spoken of in all instances when the dominant, initializing function in the creation of the work is held by meaning derived from the word as an arbitrary sign, but also from the word as an iconic, acoustic, moving, interactive, artistically modelled sign. Here, the art of the word is realized to the fullest degree. However, digital literature would differ from print literature in the multiplicity of forms on the level of representations and its kinetic onticity, as well as in the strengthening of the kinetic and acoustic role of the texture in the shaping of literary meanings. The source of the meaning-making impulse rests in the interactions between the semantics of the layer of representations, the semantics of the word as an arbitrary sign, and the semantics of the actions engaging the body of the user, their data, and their surroundings. It is in this interaction between the aforementioned aspects that literary figures, as well as narration itself are shaped.

Another essential feature is the design of the form or representation, which presupposes that the work manifests itself in many different ways – or the creation of plots determined by potential narrative orders by way of linking. As a result, multivariate plots are shaped in which we are dealing with alternative narration, but also (as Marie-Laurie Ryan calls it) participatory narration, or one in which already at the perceptive level has multiple equally valid sequences and in which it is the recipient who decides on a specific order of events.

36 Roberto Simanowski, *Digital Art and Meaning. Reading Kinetic Poetry, Text Machines, Mapping Art, and Interactive Installations* (Minneapolis: University of Minnesota Press, 2011), 38. See also Francisco J. Ricardo, "Reading the Discursive Spaces of Text Rain," in *Literary Art in Digital Performance. Case Studies in New Media Art and Criticism*, ed. Ricardo (New York: Continuum, 2009), 61–63.

As a result, the multiplicity of possible interpretations of the literary work becomes multiplied by the multiplicity of the possible forms of its depiction. By substituting a set, unchangeable texture with one which unveils itself in front of the recipient, one whose textual elements are being transformed, reveal themselves, or disappear on screen or in space and are dependent on the actions of the user, their data, and their surroundings, we are dealing with a digital literary text which already at the level of representation is a process and an action. It gains an agential, performative dimension. This last aspect is revealed particularly in the case of electronic holograms, installations,<sup>37</sup> where the textual-iconic work as a spectacle mediates and textualizes actual space.

### **The Tasks of Digital Humanities (Including Digital Philology)**

Studies on digital literature, understood as an artistic form which could not be achieved beyond the digital medium, require broadly understood humanistic skills, requiring us to go outside traditional literature studies. This requires what Simanowski calls digital hermeneutics,<sup>38</sup> and which leads to the creation of categories, descriptive tools in the free interaction between the theories of the literary text, visual, acoustic, audio-visual art and programmable forms of messaging. It also requires flexibility of thought, the freedom to make associations, but also boldness in creating descriptive tools, recovering signals of theories from analyses of digital texts<sup>39</sup> and turning them into theories in confrontation with newest theories from different artistic fields, other discourses, and other media.

The present state of culture requires us to shape the skill of thinking about a text from multiple states of consciousness (different cognitive/academic perspectives). It requires us to develop a digital philology in strict connection with philological and digital humanities. Combining, entering into mutual relationships in the space of a literary work of hypertext, playability, augmented

37 Examples thereof are the installations created in 1999: *Screen* (Noah Wardrip-Fruin), *Frames* (Grahame Weinbren), *Text Rain* (Camille Utterback, Romy Achituv), or in 2008 *Typographic Synesthesia* (Rachel Stomel). See also Bruce Wands, "Digital Installation and Virtual Reality," in Bruce Wands, *Art of the Digital Age* (London: Thames & Hudson, 2006), 98–121.

38 Roberto Simanowski, "What Is and Toward What End Do We Read Digital Literature?," in *Literary Art in Digital Performance*, 13–15.

39 The necessity to strive to "generate local theoretical proposals stemming from analysis of one's own research material" and not limited thereto is underlined by Ewa Domańska, "Jakiej teorii potrzebuje współczesna humanistyka?" [What sort of methodology do the humanities of today actually need?], *Teksty Drugie* 1/2 (2010): 54.

and virtual reality, generators, hapticity, localization, individualization, binary sound, and new quality, undiscovered thus far, albeit thanks to the dynamic development of digital technologies, coming in a short while in literature, leads and will lead to the emergence of increasingly complex literary forms, requiring philological insight drawing upon knowledge on the digital world. Changing literature requires the development of adequate descriptive tools and cognitive perspectives, allowing for the discovery of aspects which thus far remain undiscovered – both in their digital and print interpretations. The evolution of culture, the tying together of all of its elements lead us to the presumption that just as electronic literature makes use of the achievements of print literature, so will print literature created in the digital age be inspired by the textual achievements of digital art.

Critical consideration is also required with respect to the digital methods of researching literature (including in digitalized form). On the one hand, quantitative methods, algorithmically proposed by digital humanities, allow us to quickly search through textual resources, compare, and hierarchize them – allow us to save time and objectivize our research actions; on the other, they run the risk of automation and simplification; of subtracting cognitive individualism with mere statistics. Roberto Simanowski notices that without theoretical reflection, delight in statistics, algorithmic analytical methods, quantitative methods also present in digital humanities, may lead to the illusion of truth, populism, and the aesthetics of a spectacle. Hence the necessity for philological-philosophical reflection on the epistemological consequences of changing tools and cognitive methods,<sup>40</sup> the influence of digital methods on the object of study and research conclusions and, more broadly, on our thinking,<sup>41</sup> worldview, identity, and the human condition. This reflection falls firmly in the mutuality of ethical implication, as discussed by N. Katherine Hayles:

In my view, an essential component of coming to terms with the ethical implications of intelligent machines is recognizing the mutuality of our interactions with them, the complex dynamics through which they create us even as we create them,<sup>42</sup>

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40 Roberto Simanowski, *Data Love. The Seduction and Betrayal of Digital Technologies* (New York: Columbia University Press, 2016), 80–82.

41 N. Katherine Hayles, *How We Think. Digital Media and Contemporary Technologies* (Chicago: The University of Chicago Press, 2012).

42 N. Katherine Hayles, *My Mother Was a Computer. Digital Subjects and Literary Texts* (Chicago: The University of Chicago Press, 2005), 243.

but also the question of humanity, posed from different research perspectives (e.g. posthuman<sup>43</sup>).

Meanwhile, an important task for digital humanities is concern for the archiving of works, the publication and distribution of digital literature,<sup>44</sup> the recovery of digital works tied to outdated, discontinued software, rewriting them in active programs (so that the largest risk to digital art does not come from the very technologies which birthed them). Of importance is also concern for digital, critical editions of manuscripts, printed works, the creation of editions drawing upon digital tools for cognitive reasons (e.g. the reconstruction of the creative process, as in the case of the digital edition of the philosophical thought of Jacques Derrida<sup>45</sup>). Last but not least, a crucial task of modern humanities is reflection on the onticity of the virtual universe (the metaverse).

The development of modern humanities is in fact inspired by the need for the description of the textual and discursive nature of not only the products of digital technologies, but also of STEM sciences, biological sciences, and manifestations of social behaviors. In fact, this new nature is both a need and a norm in the context of traditional humanities. The changing textual, discursive, medial situation requires both description and reflection. That which is new in the textual sphere requires adequate, agential humanities and forces their modernization. In effect, the consequence of broadening the research field, of changes in the sphere of texts and discourses, which undergo academic reflection, is the immanent reorganization of the humanities.

For the humanities and digital philology, neither technology nor the structure of the medium are transparent – these are factors which co-create the text, are engaged in literariness, and as such are objects of their study. Digital humanities, including digital philology and within it – digital literature

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43 Rosi Braidotti, *Posthuman Knowledge* (Cambridge-Medford: Polity Press, 2019), 1–4.

44 Dene Grigar, "Challenges to Archiving and Documenting Born-Digital Literature: What Scholars, Archivists, and Librarians Need to Know," in *Electronic Literature as Digital Humanities*, 237–244, accessed September 4, 2023, <https://www.bloomsburycollections.com/book/electronic-literature-as-digital-humanities-contexts-forms-practices/ch20-challenges-to-archiving-and-documenting-born-digital-literature-what-scholars-archivists-and-librarians-need-to-know>; James O'Sullivan, "Publishing Electronic Literature," in *Electronic Literature as Digital Humanities*, 255–266, accessed September 4, 2023, <https://www.bloomsburycollections.com/book/electronic-literature-as-digital-humanities-contexts-forms-practices/ch22-publishing-electronic-literature>.

45 Projekt Item: *Derrida Hexadecimal*, accessed September 4, <http://www.item.ens.fr/derrida-hexadecimal/>.

studies (created in the works of such scholars<sup>46</sup> as: Jay David Bolter, Roberto Simanowski, Jörgen Schäfer, Peter Gendolla, Marie-Laure Ryan, Kairn Wenz, N. Katherine Hayles, Markku Eskelinen, Francisco J. Ricardo, Stuart Moulthrop, Dene Grigar, Scott Rettberg, Astrid Ensslin, Alice Bell, Jonathan Dovey, Tom Abba, Kate Pullinger, Alexandra Saemmer, Roberto Simanowski, Michał Marcinowski; and in Poland: Mariusz Pisarski, Urszula Pawlicka, Piotr Marecki, Monika Górńska-Olesińska, Emilia Branny, Elżbieta Winiecka, Agnieszka Przybyszewska, Ewa Wójtowicz, Bogusława Bodzioch-Bryła, Maciej Maryl), extending and modifying the field of humanistic reflection is a natural consequence of social, economic, and civilizational phenomena.

In conclusion, digitality changes the humanities, participates in their shaping to the same degree as social, political, and economic changes – in short, all cultural changes.<sup>47</sup> It is one of the ever-present variables in a network

46 See for example Jörgen Schäfer and Peter Gendolla, eds., *Reading Moving Letters; Beyond the Screen. Transformations of Literary Structures, Interfaces and Genres* (Bielefeld: Transcript, 2010); Roberto Simanowski, ed., *Digital Humanities and Digital Media. Conversations on Politics, Culture, Aesthetics, and Literacy* (London: Open Humanities Press, 2016); Markku Eskelinen, *Cybertext Poetics. The Critical Landscape of New Media Literary Theory* (London: Continuum, 2012); Chris T. Funkhouser, *New Directions in Digital Poetry* (New York: Continuum, 2012); Peter Gendolla and Jörgen Schäfer, eds., *The Aesthetics of Net Literature. Writing, Reading and Playing in Programmable Media* (Bielefeld: Transcript, 2007); Roberto Simanowski, *Data Love. The Seduction and Betrayal of Digital Technologies* (New York: Columbia University Press, 2016), 80–86; Scott Rettberg, *Electronic Literature* (Cambridge: Polity Press, 2019); Tom Abba, Jonathan Dovey and Kate Pullinger, eds., *Ambient Literature. Towards a New Poetics of Situated Writing and Reading Practices* (London: Palgrave Macmillan, 2021); Mariusz Pisarski, *Xanadu. Hipertekstowe przemiany prozy* [Xanadu. Hypertext transformations of prose] (Kraków: Korporacja Ha!art, 2013); Urszula Pawlicka, *(Polska) poezja cybernetyczna. Konteksty i charakterystyka* [(Polish) cybernetic poetry. Contexts and characteristics] (Kraków: Korporacja Ha!art, 2012); Urszula Pawlicka, *Literatura cyfrowa. W stronę podejścia procesualnego* [Digital literature. Towards a processual approach] (Gdańsk: Katedra, 2017); Ewa Szczęsna, ed., *Przekaz digitalny. Zagadnień semiotyki, semantyki i komunikacji cyfrowej* [Digital text. On issues of semiotics, semantics and digital communication] (Kraków: Universitas, 2015); Elżbieta Winiecka, *Poszerzanie pola literackiego. Studia o literackości w internecie* [Broadening the literary field. Studies on literariness on the Internet] (Kraków: Universitas, 2020); Ewa Szczęsna, *Cyfrowa semiopoetyka* [Digital semiopoetics] (Warszawa: IBL, 2018); Bogusława Bodzioch-Bryła, *Sploty: przepływy, architek(s)туры, hybrydy. Polska e-poezja w dobie procesualności i konwergencji* [Weavings: flows, archite(x)tures, hybrids. Polish e-poetry in an age of processing and convergence] (Kraków: Wydawnictwo Naukowe Akademii Ignatianum w Krakowie, 2019); Maciej Maryl, *Życie literackie w sieci. Pisarze, instytucje i odbiorcy wobec przemian technologicznych* [Literary life on the web. Writers, institutions and recipients facing technological changes] (Warszawa: IBL, 2016).

47 The thesis on the influence of the digital medium on the text and its meaning, as well as on literature as a mediated experience and modelled by the media is formulated and justified by Gendolla and Schäfer, "Playing With Signs," 17–36.



of relationships between the factors comprising a text as a social construct embedded in specific discursive, medial, and semiotic orders.<sup>48</sup>

## Abstract

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**Ewa Szczęsna**

FACULTY OF POLISH STUDIES, UNIVERSITY OF WARSAW

*The Humanities in the World of New Technologies (and Vice Versa). Toward Digital Philology*

The article presents the mutual relations between the humanities and technology, especially today, in the era of dynamic development of digital technologies. It describes strategies for shaping artistic meanings in electronic literature, which enrich the literariness (poetics of literary texts) with new forms of representation. These include in particular: the semantics of the moving and sounding semiotic tissue of the work and the user's actions; creating semiotic (especially kinetic) and interactive (causative) figures, alternative narrative; fictionalization of the semiotic layer of the work and data about the reader; creating text meanings in the interaction of the semantics of a word as a graphic-sound sign and as a conventional sign; engaging data about the reader's space and himself in shaping literary meanings (ambient, personalization); creating macrotxts. These strategies (also affecting the latest printed literature) initiate the development of digital philology, in particular semiopoetics, which recognizes the role of the semiotic layer of the text and the user's actions in shaping the meanings of a literary work. The article formulates the tasks of the digital humanities and digital philology.

*Translated by Krzysztof Kietzman*

## Keywords

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electronic literature, digital humanities, digital philology, rhetorical figures, semiotics, poetics, semiopoetics

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<sup>48</sup> See Theo van Leeuwen, *Introducing Social Semiotics* (London: Routledge, 2005), 181–267.