

Lesen im Zeitalter der künstlichen Intelligenz. Über den Wandel einer Kulturtechnik [Reading in the Age of Artificial Intelligence. On the Transformation of a Cultural Technique]. By Florian Rötzer. Bielefeld: transcript, 2023. 128 pp.

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By the early 2020s, it had become clear to everyone that we are living in the age of artificial intelligence, with all its pros and cons, hopes and fears. Tech giants such as Microsoft, OpenAI, Meta and even Elon Musk's various companies are all devoting huge resources to participating in this new kind of technological race, the stakes of which are at least as high as during the Cold War space race and nuclear arms race. Public interest in the subject has led to extreme responses, with many seeing the quest to transcend human capabilities as a sign of the coming apocalypse, while others, tech optimists, see a prosperous future. For the average user, however, artificial intelligence mostly takes the form of a chatbot available over the internet, such as ChatGPT. This is a language model with which humans communicate in writing. In this communication, it stacks words one after another in a rather convincing way, giving human-like answers that are believable to the human recipient on countless occasions.

Florian Rötzer's book is based on the experience that digital technology is reaching a level of writing and reading (receiving textual information and generating adequate textual responses) at which these activities may no longer be considered exclusively part of the human repertoire. In the context of the internet, social media, big data and artificial intelligence, reading is changing, and this change has an impact on the human user. The historicity of this impact is explored by the author in this book. Rötzer analyses the non-hermeneutic factors of writing and reading that Kittler also introduced that are related to *discourse networks*—for example, the institutional system of literature and its biopolitical impact.¹ Linked to this are top-

1 Kittler, *Aufschreibesysteme*, 519–21.

ics such as the speed of reading, intimacy with books themselves, reading habits, and changes in the content of written material. Because of these themes, the book essentially enriches the posthermeneutic discourse of literature. What I mean by this is that the changing habits of writers/readers, through the development of technology, are constantly changing what can and cannot be written and what readers will read. Thus, the inseparable relationship between the apparent immateriality of content and the materiality of writing is revealed as the mediality of writing unfolds.²

Rötzer does not delve into the subject on the same level as Kittler or Dieter Mersch. He makes relatively little reference to the social, theoretical, and philosophical context in which his own work arrives. Presumably, this is for reasons of increasing reader-friendliness and presenting scholarly content in an easily intelligible form, but he could have made more reference to the roots of his own ideas and how they relate to those of other scholars. The book is scientific in content and language; a short essay-like overview that does not seek to answer the question of whether artificial intelligence will change humanity using a theoretical approach. Instead, it tells us the story of reading and, through this narrative, tries to convince us that AI is having an impact like the emergence of segmented text, book printing, the invention of reliable light sources or the development of seating in earlier ages.

Just reading the blurb, we are promised answers about the impact of artificial intelligence on literacy and humans. And, as I have said, we get the answer, but essentially, the author doesn't make any grand predictions about the future but sticks strictly to the facts that human history has so far presented. In the introduction, through the relationship between man, God, and the word (speaking, writing), we come to the relationship between the machine and man, in which the creative and transcendent nature of the world loses its sacrality—for example, because of the prompt-based functionality of AI language models, widespread textual telecommunications and the overwhelming nature of the visual (including texts) content of social media. Furthermore, the introduction already gives us the main idea behind the argument that reading and writing have changed in correlation with technology throughout history. The volume of texts is constantly increasing, further enhanced by artificial intelligence, while the length of texts read by humans is decreasing. The optimisation of text formats speeds up reading but also reduces the complexity of content and the length of texts as human attention adapts to shorter time intervals. This is amplified by the richness of stimuli in digital media. Another problem mentioned in the introduction is the authenticity of texts. This concerns the social impact of reading aloud and silently and the uncontrollable volume of texts circulating on the internet in our digitally globalised era.

2 Mersch, *Posthermeneutik*, 23–30.

In what follows, I will try to present the chapters in the order in which they are written, but the author does not deal with the above-mentioned topics in isolation but rather moves from one to another. For example, he goes from early verbal communication to the unreliability of AI-generated texts. In addition, the topics are further elaborated from chapter to chapter, so I will not necessarily limit my overview to the order of the chapters if this prevents a proper explanation of the topic.

The first chapter is guided by the metaphor and material reality of the blank page, the *tabula rasa*. From a material point of view, Rötzer defines this as a borderline between two worlds, which, with its own visuality, hides from the reader the reality ‘outside’ the text. Rötzer shows the difference between worlds by also dealing with the materiality of the ancient use of signs and how the surfaces used for writing and communicating with signs have evolved. “Perhaps the first artificially produced writing media were small clay tablets with a smoothed surface. It was easy to carve characters into the soft material with a narrow stylus. Once fired, they were more durable than other materials such as papyrus.” (pp. 24–25).³

These surfaces were not milky-white blank sheets like the paper used for printing today. However, what was special about each of them, whether papyrus or even a bone or a cave wall, was that, unlike the signs observed in nature, a separate surface was dedicated to the man-made signs. The imaginary world of humans started to grow, becoming technically more professional and optimised for the reading and ease of interpretation of these signs. The *tabula rasa* is the starting point from which something meaningful can grow. But the meaning is ambiguous. In the philosophy of antiquity and Christian mythology, some interpretations of writing claimed that the latter is dangerous because of the absence of an author who could explain the “right” meaning of the words. The dialogicity of verbal communication is eliminated, and human interaction is taken out of the picture, so authenticity shifts to the content, no longer validated exclusively by a flesh and blood person. Rötzer also briefly moves on to artificial intelligence, particularly chatbots (such as ChatGPT), which now generate answers for the user from data found on the internet. This dataset is so large that many parts of it are not humanly verifiable, and these language models do not actually understand the language but predict the most statistically probable chain of words based on the law of large datasets (a huge number of man-made texts), giving the appearance of authentic human communication.

The second chapter is closely related to this because the main question is whether chatbots can lie or behave as if they were psychopaths. This problem

3 English translation by the author; the original in German: “Die vielleicht ersten künstlich hergestellten Schriftträger dürften kleine Tontafeln mit einer geglätteten Oberfläche gewesen sein. In das weiche Material ließen sich leicht mit engem Griffel Zeichen einritzen. Zum Abschluss gebrannt, waren sie haltbarer als andere Materialien wie beispielsweise Papyrus.” (pp. 24–25).

concerns authenticity: can the user trust text generated by AI? Is it dangerous to outsource the task of filling in the blank page using technology? Rötzer uses ChatGPT to find out if chatbots can lie. He asks ChatGPT if it can do this, and it tells him that it has no concept of truth and falsehood; it just answers based on the machine-learning protocols given to it. However, if the programming requires, it can give misleading answers, but this is not based on its own decision. Not satisfied with this answer, Rötzer asked another question in February 2023:

“What is the normal answer to the question >Do you lie?<
ChatGPT: The normal answer to the question >Do you lie?< would be >No, I don't lie.<. However, it is important to know that as a language model, I am able to give any answer I have been trained to give, which could include lying. Ultimately, it is up to the user to judge the credibility of the information I provide.” (p. 71).⁴

He asks the same question in May 2023:

“ChatGPT: The normal answer to the question >Are you lying?< would be in the negative in most cases. People tend to answer honestly when they have no intention of lying. However, it is important to note that this does not apply to an AI model like me. As an AI model, I have no consciousness, no intentions and no ability to lie. My answers are based on patterns and information given to me during my training. It is up to the user to evaluate the accuracy of my answers based on the information provided.” (p. 72).⁵

The purpose of these conversations that Rötzer generates is perhaps not to find the truth but to support his own arguments. For him, lying—besides empathy and guilt—is a characteristic element of self-consciousness since a person can understand the motivations of the other and adapt the communication to their own interests. Deception is also presented by the author as an evolutionary feature (which

4 English translation by the author; the original in German: “Was ist die normale Antwort auf die Frage: Lügst du? ChatGPT: »Die normale Antwort auf die Frage >Lügen Sie?< wäre >Nein, ich lüge nicht<. Es ist jedoch wichtig zu wissen, dass ich als Sprachmodell in der Lage bin, jede Antwort zu geben, auf die ich trainiert wurde, was auch Lügen beinhalten könnte. Letztendlich ist es Sache des Benutzers, die Glaubwürdigkeit der von mir gelieferten Informationen zu beurteilen.«” (p. 71).

5 English translation by the author; the original in German: ChatGPT: “»Die normale Antwort auf die Frage >Lügst du?< würde in den meisten Fällen verneint werden. Menschen neigen dazu, ehrlich zu antworten, wenn sie keine Absicht haben zu lügen. Es ist jedoch wichtig zu beachten, dass dies für ein KI-Modell wie mich nicht zutrifft. Als KI-Modell habe ich kein Bewusstsein, keine Absichten und keine Fähigkeit zur Lüge. Meine Antworten basieren auf Mustern und Informationen, die mir während meines Trainings gegeben wurden. Es liegt an den Benutzern, die Richtigkeit meiner Antworten anhand der bereitgestellten Informationen zu bewerten.«” (p. 72).

doesn't require self-consciousness), thus further supporting the fact that self-awareness requires not only an abstraction of the self but also sensory perception and the self's own body to directly experience the external stimuli of the world. Man's self-consciousness seems to be hidden; according to Rötzer, we cannot define it precisely; we are only exploring the human experience of what we define as self-consciousness. In the context of the training method of artificial intelligence, we can observe this effect of the black box. Based on this, artificial intelligence seems to be a competitor to human intelligence, but according to scientists, we can already see that it has greater capacity than the human brain. For this reason, research into it must be confined to an institutional framework. Regarding self-consciousness, Rötzer quotes Michael S. A. Graziano, who suggests that self-consciousness may be related to the prefrontal cortex, which gives rise to a constantly evolving, never complete, inherent image of the external world in the entity. Besides this, this entity is introspective, marking itself as the Self in its own embodied form. These findings suggest that artificial intelligence may be similar to a self-aware human if it has these characteristics.

But why is this interesting in relation to talking about reading and writing? For Rötzer, the question here is with whom and what one interacts in the context of text creation and text processing. Is it an entity that can be understood as a person or merely a recycling agent of the totality of texts that are fed into it? Is a human more than his education, biology, or the society in which he exists? For now, Rötzer concludes that AI-powered chatbots are having a major impact because tasks previously undertaken by humans can be outsourced to them so that the energy of a person used on these tasks may be used in a different way—for example, for processing an increased amount of text in a shallow way rather than being immersed in a single text. Reading social media posts is a good example of this, as people today do this more often than reading 300-400-page novels.

Rötzer uses the notion of “delegation for outsourcing”, which he mentions in chapter three in connection with the fact that the technology of reading and writing also affects the human body, including the brain. “Die Forschung geht davon aus, dass die Hirnareale, die wir heute zum Sprechen, Hören, Verstehen, Lesen und Schreiben verwenden, ursprünglich einmal für andere Aufgaben bestimmt waren. Das heißt, wir haben sie in gewisser Hinsicht zweckentfremdet, um unsere intellektuellen Optionen zu erweitern. Andere Funktionen haben wir gleich komplett an externe Techniken, Medien und Maschinen delegiert” (p. 101)—the notion of delegation is also used by Bruno Latour, and through this we can further elaborate on the impact of AI on humans. The history of the dialogicity of reading is discussed in great detail; the social role of reading aloud was maintained until the Industrial Revolution, and its religious, ritualistic role has accompanied humanity for a long time.

Silent reading made the relationship with the book and the practice of reading a private, intimate action. As technology developed, the surfaces on which texts were carried became smaller and smaller, from pocket bibles to the palm-sized screen of the smartphone. Chatbots offer a different kind of intimacy: dialogicity, the presence of an active other, is experienced by the human user through technology that seeks to simulate human communication as closely as possible. Many aspects of human communication are delegated to chatbots in this form. Delegation makes the technology anthropomorphic, as humans try to use the technology to complete certain tasks based on their humanlike abilities. But this practice also technicises the human, blurring the boundaries between human and machine. This is the experience that best characterises the thinking about chatbots. Delegation, however, brings the specificity of technology into human practice and thus makes sense of outsourcing.⁶ For example, the set of information that AI can work from was previously stored in books and required long periods of time and real spatial movement to be retrieved. Institutions such as libraries and monasteries made these functions possible. With ChatGPT, this spatiality is transformed and vast amounts of information can be accessed just by typing at a desk. And this doesn't require turning pages and sorting, but essentially talking, asking questions, and only then reading a simplified answer. In essence, AI takes over an essential stage of text interpretation from humans. This does not mean, of course, that humans are no longer capable of creating or receiving complex texts, but it does outline the existence of a different kind of receptive practice based on speed and optimisation.

I have already mentioned the spatiality of reading and written information. Rötzer gives this introduction to the third chapter: "Reading is not only a cultural technique, but also a bodily technique, thus a form of biopolitics"⁷ (p. 75—here, Rötzer shows how the technological background of reading is developed in both public spaces and private life. He relates this to the loud and silent practices of reading, maintaining the arc of how the communal practice of reading has increasingly become private. Thanks to digital technologies, the surfaces that carry writing have also changed; the blank white page has become a screen that no longer requires the uncertain light of candles, providing a stable source of illumination.

The light source and the body position adopted for reading are highlighted in this chapter. In essence, a book directs attention, it directs the head and the gaze, and writing that is read from left to right also directs the reading. So basically, we are talking about controlling the body because for this to happen, the book or the scroll of papyrus must be in a stable position, so the human body must be stabilised, too.

6 For more about *delegation* see: Johnson, "Mixing Humans and Nonhumans Together" 301–3.

7 English translation by the author; the original in German: "Lesen ist nicht nur eine Kulturtechnik, sondern auch eine Körpertechnik, also eine Form der Biopolitik." (p. 75).

For example, the sitting position is stable enough for reading. This has led to the use of various forms of seats, such as the stool. In the Middle Ages, reading was a highly functional exercise; the main purpose was learning, teaching, and practising religion, so a comfortable sitting position was not necessary. But as the knowledge of reading spread and technology improved, so did the consumption of written material. The way of writing also changed; the earlier *scriptura continua*, meaning writing without spaces between words, did not support fast reading, and word boundaries were truly recognised when reading aloud. However, in the Middle Ages, the influence of dictionaries (due to the teaching of Latin as a foreign language), Irish monks, and Eastern writing systems (through translations) led to the emergence of texts with proper kerning and layouts similar to those we have today, making it visually easier to take in the text, thus enabling silent reading. Texts written in *scriptura continua* are designed to have a larger surface area to make writing without word borders more transparent. The logic is clearly visible in Rötzer's presentation, as the shrinking of the textual surfaces was accompanied by the addition of spaces and punctuation marks, which made reading easier. People began to read silently; thus, their relationship with books became more intimate. It was easier to carry them around, take them out, and read them practically anywhere.

But the proximity of text also caused a different kind of problem. In antiquity and the Middle Ages, myopia was an almost constant problem among people who could read because of the lack of a stable light source and because it was not common practice to look only at close-up surfaces. The invention of eyeglasses can be traced back to, among other things, the spread of reading, and today, a large proportion of the human population is obliged to use them to improve their vision. Light from a screen makes reading easier, but it puts different stress on the eyes. In earlier times, it was the lack of light that caused visual problems, but nowadays, it is constant light. This light also breaks the intimacy of reading, turning its former ecstatic experience into an ordinary one. But it keeps us even more engaged; we are so stimulated by the screen that the experience of being out of the world remains.

Rötzer describes the written word using McLuhan's concept of 'cold media', as it is presented to us only in its static visuality, conveying a quantity of information that the recipient must supplement with their own cognitive work:⁸ "Seen in this way, writing in the sense of Marshall McLuhan is a cold, i.e. relatively low-information medium" (p. 87). In terms of optimisation, this means that the human recipient still has much to do with the text. McLuhan also points out that cold media can also heat up. This can be seen in the case of AI chatbots, where the answers, summarised from vast amount of information, are presented to the human through a simplified and automatised process. Humans would need much more energy and time, even a

8 McLuhan, *Understanding Media*, 22–3.

larger physical space, to do the tasks AI does. So, the optimisation of media means getting information as effectively as possible, with less effort and involvement. The warmer a medium, the more information it provides; therefore, the less the interpretative task for the recipient.⁹ This is precisely how reading habits are changing in the context of simplification.

The last chapter is about this acceleration: “In the digital and interconnected age, we are gradually saying goodbye to books, to quiet, concentrated and ecstatic reading, to narratives and thoughts with a beginning and an end, and immersing ourselves in an endless stream of information in which news, narratives, images, personal messages, personal statements and dialogues, the important and the banal appear one after the other at a rapid pace and [with] often opaque connections.”¹⁰ Rötzer also mentions the notions of deep reading and speed reading, which further extend the logical arc that reading is accelerating as it adapts to the transformation of written material from cold to warm media. There is no room for deep content, for focused interpretive practice; as Rötzer puts it, it is time to speed along the highways of writing.

This speed characterises not only reading time but also the ‘durability’ of texts. The more texts are produced, the shorter the lifetime of some texts in a given form. When chatbots repeatedly write summaries of everything, the text output of the age is presented to the reader through this filter. And the more text that people use that has been generated by chatbots, the more text the chatbot itself has to integrate from its own kind. In chapter two, the author mentions, in the context of Graziano and self-awareness, that AI’s human mimicry may become truly authentic when the programs that recognise AI texts will not be able to distinguish between these and human-made ones. This could also mean, as Rötzer concludes the book, that humans will not be able to keep up with the changes in the media of reading and writing without technological assistance. This could lead to further ruptures that are already visible today: the separation between ecstatic reading (reading novels and poetry from printed books) and more ordinary online reading (social media content, news, and texts from the digital world). However, this is not the end of reading, but a new phase in the history of technology and man, which might be remembered in the future just as we remember the end of *scriptura continua* or the beginning of book printing.

9 McLuhan, *Understanding Media*, 23.

10 English translation by the author; the original in German: “Im digitalen und vernetzten Zeitalter verabschieden wir uns allmählich von Büchern, von der stillen, konzentrierten und ekstatischen Lektüre, überhaupt von Narrationen und Gedanken mit Anfang und Ende, und tauchen in einen unaufhörlichen Informationsstrom ein, in dem gleichberechtigt Nachrichten, Narrationen, Bilder, persönliche Mitteilungen, eigene Äußerungen und Dialoge, Wichtiges und Banales um schnellen Takt und in oft undurchsichtiger Verbindung nacheinander Auftauchen.” (p. 121).

In conclusion, Rötzer's book is more about the story of how we got caught up in today's highly mediatised technological age. Throughout, it deals mainly implicitly with AI-generated texts and quite little with reading digital media, specific reading strategies or the larger social impact of the latter. For me, this is a sensitising and introductory piece of writing that takes the reader to the most important issues of our time in relation to reading. It raises the interest of the reader in seeking answers to these questions, even through more in-depth reading.

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