"What the Heck is A Book"?
Code and Codex in Postdigital Literature

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1. Introduction

"I'm not hip to paper products. What the shit is A Blook, and what the heck is A Book?"[1] The question posed by the speaker of Gregor Weichbrodt's *I Don't Know* strikes at the heart of his textual project. It is an algorithmically generated and insofar potentially endless text, which is nevertheless formatted as a book and distributed both digitally and materially. In this constellation, the project investigates the relationship between code, digital writing and book form that Hannes Bajohr has described as fundamental to "postdigital literature"[2] – experimental literature, in other words, that is generated electronically and goes beyond the dimensions of the material book, while remaining related to it in its form of distribution as PDF-file or print-on-demand. Bajohr aptly describes this tension with Sianne Ngai as "stuplime", as a "stupendous dizziness" or "dumb sublime" ("Dumm-Erhabenes") insofar as the sublime transgression of the limits of human perception (according to Kant) is often achieved here through the mindless repetition of an algorithmic

1 Gregor Weichbrodt: *I Don't Know*. 2014, 252. https://gregorweichbrodt.de/project/i-dont-know.html (accessed August 15, 2023).

2 Hannes Bajohr: *Schreiben lassen. Texte zur Literatur im Digitalen*. Berlin: August 2022, 41–45.

formula.[3] In Weichbrodt's case, this formula can be summarized in two sentences: "An algorithm combs through the universe of online encyclopedia Wikipedia and collects its entries. A text is generated in which a narrator denies knowing anything about any of these entries."[4] Accordingly, the book serves up a 352-page litany of not-knowing that will overwhelm any human reader who does not want to limit themselves to "hyper reading".[5] Nonetheless, the text also allows for a more context-oriented reading that focuses on the connection between knowledge and book form. Read this way, the book presents itself as a thoroughly intelligent reflection on the transformation of knowledge in the age of digitization.

In its engagement with Wikipedia, Weichbrodt's book articulates the tension between code and codex that is characteristic of "postdigital literature." As an online encyclopedia, Wikipedia is a project that transfers book-shaped knowledge (codex) into the hypertextual "writing space" of digital code.[6] It thus continues a transformation begun by universal encyclopedias such as the *Encyclopédie*, which already formed hypertextual structures between two book covers. The openness and flexibility of digital encyclopedias, whose knowledge orders can adapt to the search query, is in turn reduced by Weichbrodt's code to comparatively rigid formulas, which are moreover pressed into the closed form of the book. In the present paper, this dynamic between code and codex will be further unfolded by looking at historic shifts in knowledge production and legal regulations, with the encyclopedia acting as an interface between the two poles. In a second step, a hermeneutic reading of Weichbrodt's script influenced by Critical Code Studies and Software Studies will examine to what extent the algorithmic transformation of

3 Bajohr: *Schreiben lassen*, 52.

4 Weichbrodt: *I Don't Know*, 353.

5 N. Katherine Hayles: *How We Think: Digital Media and Contemporary Technogenesis*. Chicago/London: Chicago UP 2012, 12. By hyper reading, Hayles refers to a reading mode that is contrary to close reading and can also be described as "skimming, scanning, fragmenting, and juxtaposing texts" (ibid.).

6 Cf. J. David Bolter: *Writing Space: Computers, Hypertext, and the Remediation of Print*. Mahwah, NJ: Lawrence Erlbaum Associates 2001.

the online encyclopedia into a book-shaped text also interacts with its underlying knowledge structure.[7]

2. Book, Encyclopedia and Hypertext

The before-mentioned tension between code and codex is remarkable, considering that the words were initially used largely synonymously. While 'codex' refers to the bound-together wax tablets on which the Roman emperor's orders were noted,[8] the collection of laws in book form – first done in the *Codex Justinianus* – is named 'codification', but the book of law itself is named 'code'.[9] When Friedrich Kittler has his discussion of the term 'code' begin with the Roman Empire, he closely parallels the imperative nature of modern programming languages with the command authority of the sovereign. The need to communicate imperial commands while protecting them from the eyes of unauthorized persons gives rise to techniques of encryption that are at the origin of digital writing: Cryptography in the strict sense begins where alphabetic characters are encrypted by mathematical operations – a technique that

7 Mark C. Marino: Critical Code Studies. In: *Electronic Book Review*. 2006. https://electronicbookreview.com/essay/critical-code-studies/ (accessed August 04, 2023); Matthew Fuller et al..: *Software Studies: A Lexicon*. Frankfurt a.M.: Campus 2008. While Critical Code Studies advocate culturally hermeneutic readings of code, representatives of software studies emphasize the constitutive interrelationship between (digital) media and media practices. My essay examines the code of Gregor Weichbrodt's book as an integral part of his "post-digital" text that mediates between concept and book. At the same time, I would like to show how the code intervenes in the history of media-formed knowledge orders by reworking the hypertext encyclopedia into the form of a book or even novel.

8 Cf. Otto Mazal: *Griechische und Römische Antike: Geschichte der Buchkultur*. Berlin: Akademische Druck- und Verlagsanstalt, 1999, 125–152.

9 Cf. Friedrich A. Kittler: Code. In: Matthew Fuller u.a. (Ed.): *Software Studies: A Lexicon*. Frankfurt a.M.: Campus 2008, 41.

can also be applied to the representation and manipulation of alphanumeric characters by binary code.[10]

However, the exchange relationships between code, code of law and program code also suggest that the book form contributes to the particular form in which codified law exerts its binding character.[11] Unlike the scroll, the codex manifests a closed form that also affects its content, e.g. by suggesting the identity of physical book and intellectual work.[12] In this sense, the Justinianic codification represents a first attempt to give the Roman legal tradition a systematic shape that goes beyond the sheer collection of legal texts. Thus, "Justinian's focus is on the transcription of a multitude of papyrus scrolls and controversies into a single parchment code, the creation and dissemination of a canonized mass of text in the technically new form of a quasi-closed book."[13] And likewise, the rediscovery of Roman law in the Middle Ages sets in with the aspiration to "map the whole of law in the meaningful order of a book."[14] Unlike a collection of papyrus scrolls, the book form thus permits both a "constructive synthetization of the legal material" and a representation of binding law in a closed "text" or "body of law" that can take the place of the legislator.[15]

The medial qualities of the book thus promote its own form of rationality, which can be described as 'book-shaped'. By splitting the con-

10 Cf. Kittler: Code, 42; Jay David Bolter: Digitale Schrift. In: Gernot Grube/Werner Kogge/Sybille Krämer (Ed.): *Schrift. Kulturtechnik zwischen Auge, Hand und Maschine*. München: Fink 2005, 453–467.

11 Cf. Thomas Vesting: *Buchdruck: Die Medien des Rechts*. Weilerswist: Velbrück 2012.

12 Cf. Bolter: *Writing Space*, 79.

13 So "steht bei Justinian die Umschrift einer Vielzahl von Papyrusrollen und Kontroversen zu einem einzigen Pergamentkodex im Zentrum, die Schaffung und Verbreitung einer kanonisierten Textmasse in der technisch neuen Form eines quasi geschlossenen Gesetzbuchs" (Vesting: *Buchdruck*, 18, my translation).

14 "das Ganze des Rechts in der sinnvollen Ordnung eines Buches abbilden zu wollen" (Vesting: *Buchdruck*, 22, my translation).

15 Ibid.

tinuous text block of the papyrus scroll into arbitrary units (pages), the book form makes it possible to address text passages precisely; and only the pagination makes it appear reasonable to provide a text with tables of contents and indexes.[16] The reader can thus access the text more confidently and address individual passages in a targeted manner. Against this background, it seems plausible to associate the book form with an internalization that also manifests itself in the practice of silent reading in late antiquity: While the reader of papyrus scrolls had to follow the text linearly, and to that extent – especially if one assumes reading aloud – appears as a mere 'instrument of writing',[17] the book seems to enable reading in the silent self-presence of the mind. It is therefore not surprising that Christianity instrumentalized the codex as a form of identification for its new religious community.[18]

The last aspect of 'book-shaped rationality' to be mentioned is the hierarchical, tree-shaped order of knowledge, which for Gilles Deleuze and Félix Guattari is so closely connected to the "classical book" that they speak of a "tree-book" (or "root-book"). In doing so, they focus on the book as an "spiritual reality" committed to a "binary logic":

> "The book as a natural reality is a taproot, with its pivotal spine and surrounding leaves. But the book as a spiritual reality, the Tree or Root as an image, endlessly develops the law of the One that becomes two, then of the two that become four… Binary logic is the spiritual reality of the root-tree."[19]

The either-or of binary logic is also reflected in the hierarchical and dichotomous ordering structure of the book, according to which each el-

16 Cf. Christoph Schulz: *Poetiken des Blätterns*. Hildesheim: Olms 2015, 32–44; Ivan Illich: *Im Weinberg des Textes: Als das Schriftbild der Moderne entstand. Ein Kommentar zu Hugos "Didascalicon"*. Frankfurt a.M.: Luchterhand 1991, 38–46.

17 Cf. Illich: *Im Weinberg*, 57. The idea here is that the readers have to sound the text *before* they can process its meaning intellectually.

18 Cf. Mazal: *Griechisch-römische Antike*, 136–142.

19 Gilles Deleuze/Félix Guattari: *A Thousand Plateaus. Capitalism and Schizophrenia 2*. Translated by Brian Massumi. Minneapolis, MN: Minnesota UP, 5.

ement is on one (and only one) level of order, while there are no cross-connections that skip levels of hierarchy.

Unlike the individual book, encyclopedias represent an overarching form. They claim to summarize in one work the knowledge of a whole subject area or – in the case of the universal encyclopedia – the entire body of knowledge distributed among various books. A significant change takes place at the moment when encyclopedias are no longer organized topically, but alphabetically: While the topical order assumes a systematic connection of the fields of knowledge, which is reflected in the structure of the book, the alphabetical order completely refrains from content-related connections and subjects its elements (the articles) to an arbitrary, purely external and non-hierarchical sequence. Consequently, linear reading is replaced by discontinuous reading, which no longer follows pages but cross-references – a hypertextual arrangement *avant la lettre,* which can also be used to establish subversive connections between entries (such as between the lemmas "Eucharist" and "cannibalism").[20] Hypertextual structures thus weaken the authority of the book as a source of knowledge by proving each article to be unfinished and assigning the reader – who must decide which references to follow and in what order – a more active role in the production of knowledge.[21]

Furthermore, the introduction of the alphabetical order suspends the connection between words and things formerly supported by the topical structure. This also has a legal aspect: if, for example, a printing privilege is granted for a scientific handbook, the publisher receives, as it were, linguistic sovereignty over a part of the world of things – for example, the field of physiology.[22] If, on the other hand, knowledge is organized alphabetically, it "loses all its auctorial identifiers with the abandonment of a mental systematization"; "if it accordingly no longer

20 Cf. Michael Zimmer: Renvois of the Past, Present and Future: Hyperlinks and the Structuring of Knowledge From the Encyclopédie to Web 2.0. In: *New Media & Society* 11(1–2) (2009), 95–113, 103.

21 Cf. Zimmer: Renvois, 104.

22 Heinrich Bosse: *Autorschaft ist Werkherrschaft: Über die Entstehung des Urheberrechts aus dem Geist der Goethezeit*. Paderborn: Fink 2014, 38.

has a systematic feedback to being, then it liquefies and becomes in its totality, from one moment to the next, the possession of all readers."[23] This transition can be seen, on the one hand, in the fact that works such as Denis Diderot's and Jean-Baptiste le Rond d'Alembert's *Encyclopédie* attempt to serve both a topical and an alphabetical order,[24] and, on the other hand, in the fact that their production relies heavily on the assembling and transferring of topical reference works into the universal alphabetical system. Infamous here is *Zedler's Universalenzyklopädie*, against which numerous accusations of plagiarism have been made: The encyclopedia was little more than a compilation of bits and pieces copied from unnamed sources.[25]

Encyclopedias are not only called universal because they cover all fields of knowledge. They also claim to make this knowledge accessible to everyone – and not only to members of a corresponding class or social group.[26] Again, "the discovery of truth belongs to the individual, the discovered truth to all."[27] This principle is carried forward by online encyclopedias such as Wikipedia, which produce a 'public domain' knowledge collaboratively developed by the crowd. The digital form of publication makes it possible to overcome the book form in favor of a hypertextual card file ('Zettelkasten') which is always incomplete and expandable.[28] This corresponds to the digitally supported

23 Das Wissen verliert "mit dem Verzicht auf eine gedankliche Systematisierung all seine auktorialen Kennungen"; "wenn es demnach keine systematische Rückkopplung mehr an das Sein hat, dann verflüssigt es sich und wird in seiner Gesamtheit vom einen zum anderen Moment der Besitz aller Leser" (Philipp Theisohn: *Plagiat: Eine unoriginelle Literaturgeschichte*. Stuttgart: Kröner 2009, 234, my translation).

24 Cf. Bolter: *Writing Space*, 85–87.

25 Cf. Theisohn: *Plagiat*, 235–49.

26 Cf. Zimmer: Renvois, 102f.

27 Theisohn: *Plagiat*, 241, my translation.

28 The article "Zettelkasten" of the English Wikipedia discusses the relation between paper and digital forms of 'filing cabinets'; the latter are also known as Wikis (https://en.wikipedia.org/wiki/Zettelkasten [accessed August 08, 2023]).

organizational form of article editing and self-administration of the Wikimedia Foundation, which enables non-hierarchical, consensus-based collaboration.[29] Here, knowledge is not only made accessible to all Internet users, at least according to the claim, but is also compiled, revised and discussed by the crowd. Accordingly, Wikipedia includes not only the article pages, but also the associated version histories and discussion pages, which in turn can be read as an archive of knowledge and knowledge practices. Eric S. Raymond has compared the production form of proprietary software with the vertically structured cathedral, that of open source software with the bazaar as a place of continuous negotiation.[30] Analogously, one could say with regard to Wikipedia that the online encyclopedia also overcomes the cathedral-like hierarchy of the book in favor of the hypertextual "bazaar" of its production.

The detachment of knowledge from the codex and its reformulation in hypertext obviously owes much to digital writing and its duplicity of manifest text and latent code.[31] It also makes it possible to implement various competing systems of order that users can call up and combine as needed: Next to an alphabetical overview of all Wikipedia articles is a topical category system, within which, in turn, alphabetical arrangements of search results are possible. And these classification systems are always expandable, just as individual articles can easily be assigned to several categories on different hierarchical levels. As a constantly expandable and flexible online encyclopedia, Wikipedia therefore embodies the image of knowledge from the "late days of printing" as described by Bolter in the founding year of Wikipedia: "What we have today is a view of knowledge as collections of (verbal and visual) ideas that can arrange themselves into a kaleidoscope of hierarchical

29 Cf. Joseph Reagle: *Good Faith Collaboration. The Culture of Wikipedia*. Cambridge, MA: MIT Press 2012; Christian Stegbauer: *Wikipedia: The Riddle of Cooperation*. Wiesbaden: VS Verlag 2009.

30 Cf. Eric Raymond: The Cathedral and the Bazaar. In: *Knowledge, Technology & Policy* 12(3) (1999), 23–49.

31 Cf. Bolter: Digital Writing, 461–465.

and associative patterns – each pattern meeting the needs of one class of readers on one occasion."[32]

Digital writing also comes into play in the further development of semantic structures of the online encyclopedia, which lead from hypertext to the Semantic Web. When Wikipedia articles are linked to overarching categories, users understand that their objects are to be conceived as, for example, a specimen of a genre or a component of a topic – the computer displaying the hypertext, on the other hand, cannot evaluate this relationship. The Semantic Web, in contrast, aims to make semantic relationships machine-readable by encoding them as URIs in the Resource Description Framework.[33] In this way, computers are to be enabled to process not only text, but also knowledge itself and, for example, to draw deductive conclusions.[34] With regard to Wikipedia, various projects exist to process the semantic relationships of its articles in this sense. For example, the DBpedia project extracts structured data (infoboxes, categorical relations, coordinates) from Wikipedia in order to process them into uniform data sets, which in turn can be analyzed with SPARQL. But also completely different usage scenarios are conceivable: Gregor Weichbrodt's script that produced the text of *I Don't Know* also makes use of DBpedia, as will be described in more detail in the following section. The focus will lie on how the script interacts with the semantic structures provided by the DBpedia. As an encyclopedic novel, I claim, *I Don't Know* explores the tense relationship between book and hypertext, as well as the knowledge orders associated with them.

32 Bolter: *Writing Space*, 91.

33 Cf. Tim Berners-Lee/James Hendler/Ora Lassila: The Semantic Web. In: *Scientific American* 284 (5) (2001), 34–43.

34 Cf. James Smith: Working With the Semantic Web. In: Constance Crompton/Richard J. Lane/Ray Siemens (Ed.): *Doing Digital Humanities: Practice, Training, Research*. London: Taylor & Francis Group 2016, 273–288.

3. Encyclopedic Novels

However, there also is a flip side to the hypertextual order of the online encyclopedia, where every article can be related to every other entry and knowledge itself has a relational character. Paradoxically, the enormous expansion and dissemination that Wikipedia has experienced since its founding (2001) and, more generally, the Internet as an information medium, even call into question the designation of today's society as an information or even knowledge society. Thus, the immediate and general availability of knowledge does not (only) lead to more people knowing more, but also has the opposite effect: "Comforted in the knowledge that we can always Google it later, we have gradually accepted that the arbitrage of information is more significant than the information itself."[35] Or put more simply: "What matters to us, […] is not necessarily having actually consumed this content firsthand but simply knowing that it exists – and having a position on it."[36] This position of cultural criticism is taken up by Gregor Weichbrodt when he writes in a short essay on *I Don't Know:*

> "Wir sind von den Erkenntnissen anderer abhängig, wir können sie nicht überprüfen. Wir müssen vertrauen und hoffen, dass ein Sachverhalt vernünftig dargestellt wurde. Wir glauben mehr, als dass wir wissen. […] Wir leben nicht in einer Wissensgesellschaft. Wir leben in einer Glaubensgesellschaft, nur dass Gott tot ist und die Feindbilder andere als noch vor zweihundert Jahren. Das sind nicht meine Worte, sondern die eines Medienwissenschaftlers, dessen Vortrag ich im Frühjahr 2015 beiwohnte. – Ich glaube dem Medienwissenschaftler."[37]

35 Ed Finn: *What Algorithms Want: Imagination in the Age of Computing*. Cambridge, MA: MIT Press 2018, 177.

36 K.T. Greenfield, cited ibid.

37 Gregor Weichbrodt: I Don't Know. In: Hannes Bajohr (Ed.): *Code und Konzept: Literatur und das Digitale.* Berlin: Frohmann 2016, 235–240, 235.

> "We depend on the findings of others, we cannot verify them. We have to trust and hope that a fact has been reasonably presented. We believe more than we know. […] We do not live in a knowledge society. We live in a belief society, only that God is dead and the enemy images are different than they were two hundred years ago. These are not my words, but those of a media scientist whose lecture I attended in the spring of 2015. – I believe the media scientist."[38]

Weichbrodt presents his book thus as an intervention in the debate about the transformation of knowledge in digitization. The serial and categorical negation of any concrete knowledge that his script produces is diametrically opposed to a widespread but only implicit omniscience. It seeks to spell out the Socratic maxim "I know that I know nothing": "I […] have recently realized that what I don't know encompasses the whole of Wikipedia. […] If this realization does not make me a wiser person, I thought, then my answers will at least be more precise than before."[39] The serial denial of knowledge on 352 pages thus represents only an excerpt from the (at the time of the essay's printing) approximately four million items of which "I" know nothing.

Is the book consequently nothing more than the somewhat laborious realization of a shrewd aperçu? Is it really just a list of random Wikipedia articles in the end? Naturally, the text also offers other reading possibilities, as can already be seen in the example of the first and last sentences of the book. Thus, the text begins with what might very well be a thoroughly commonplace modesty phrase: "I'm not well-versed in literature. Sensibility – what is that? What in God's name is An Afterword? I haven't the faintest idea."[40] However, the expectation that a first-person narrator would confess her literary ignorance at the beginning of her book, only to give the lie to this gesture of modesty through her subsequent

38 My translation.

39 Weichbrodt: I Don't Know, 236: "Ich […] bin vor Kurzem zu der Erkenntnis gelangt, dass das, was ich nicht weiß, die gesamte Wikipedia umfasst. […] Wenn ich aus dieser Erkenntnis heraus kein weise Mensch werde, dachte ich, dann fallen meine Antworten zumindest präziser aus als bisher."

40 Weichbrodt: *I Don't Know*, 4.

narrative, is disappointed by the following 350 pages of analogous formulas. And yet the text ends with a similarly self-referential assertion of not knowing: "I've never heard of Postmodernism. What the hell is A Dystopia? I don't know what people mean by 'The Information Age'. Digitality – dunno. The Age of Interruption? How should I know? What is Information Overload? I don't know."[41] The fact that the text breaks off at the very moment in which the speaker denies her knowledge of "information overload" is, of course, "almost too good to be true",[42] since it brings the anarchic pleasure in repetitive ignorance to a performative climax: The break-off at a significant point conjures up the infinity of statements that are still possible. "It is precisely the fact that the vastness of not knowing is not to be known that plunges the reader into the stupidly sublime."[43]

However, the "stuplimity" of the generative text is not limited to this reception-aesthetic moment. If one connects the "stuplime vertigo" with the concepts of "dérive" (drifting) and "bêtise" (stupidity), as developed by Roland Barthes – among others in his discussion of Gustave Flaubert's encyclopedic writing – further dimensions of the text can be uncovered that touch on the relationship between subject and knowledge. A first point of application can be offered by the fact that Weichbrodt's text materializes a rudimentary speaker figure, thus transforming the online encyclopedia into a narrative form. The question 'who speaks?' leads to a comparable performative dizziness as the interruption of the last sentence: At first, the torrent of speech can be read as the expression of a human subject that is overwhelmed by the encyclopedic 'information overload' of the internet; but it might also be a rare manifestation of algorithmic self-insight: Obviously, the script that 'combs' the online encyclopedia has not really read it, does not know anything about the information content of its articles – just as its 'I' is only a grammatical subject.

41 Weichbrodt: *I Don't Know*, 352.

42 Bajohr: *Schreiben lassen*, 57, my translation.

43 Bajohr: *Schreiben lassen*, 57, my translation.

In this respect, Weichbrodt's computer-generated "Wikipedia novel"[44] comes close to what Barthes conceived with Flaubert as authorless or subjectless writing. Here we must start from the constriction between encyclopedia and book form that is thematic in Flaubert and in Weichbrodt. Weichbrodt's script mediates between the hypertextual encyclopedia, whose 'Zettelkasten' appears subjectless, and the novel form, which is characterized by a narrative subject (or subjects). Perhaps *I Don't Know* can even be addressed as a rudimentary form of the *Bildungsroman* as its speaker gets stuck right at the first step on the educational path – establishing her ignorance. Flaubert's novels, on the other hand, take up motifs of the *Bildungsroman*, but stage a repetitive "narrative in paradigm" ("Erzählen im Paradigma") that knows no linear progress.[45] Thus *Éducation sentimentale* (1869) bends the linear-teleological path of the *Bildungsroman* into a circular movement according to which the bourgeois subject resists all education. And *Bouvard et Pécuchet* (posthumous, 1881) iterates the failure of the titular copyists to put into practice the fragments of knowledge and proverbs they have assembled. On each of the encyclopedic subjects traversed, the copyists' accumulated knowledge reveals itself as a collection of hollow phrases and inconsistent commonplaces, such as those Flaubert gathered in a related project, the *Dictionnaire des idées reçues* (posthumous, 1913). Clearly, Flaubert was not interested in developing a tableau of modern science, but rather in presenting "the ideas, preconceived notions, and misgivings of a public that is only indirectly informed, yet enthusiastic

44 Hannes Bajohr: Das Reskilling der Literatur. In: *Code und Konzept: Literatur und das Digitale*. Berlin: Frohmann 2016, 7–22, 19: "Wikipedia-Roman".

45 Cf. Rainer Warning: Erzählen im Paradigma. Kontingenzbewältigung und Kontingenzexposition. In: *Romanistisches Jahrbuch* 52, 1 (2001), 176–209. "Narrative in paradigm" means a storytelling that strings together different events, but never leaves the overarching paradigm: The events narrated are all of the same kind. This results in a non-linear, circular storytelling in which a progressive development (in the sense of "Bildung", "education") is not representable.

about science."[46] Accordingly, in chapter 5, Bouvard and Pécuchet deal with 'belles lettres', and from there they hit upon the notions of the beautiful and the sublime – which they discuss as follows:

> "D'abord, qu'est-ce que le Beau?
> Pour Schelling, c'est l'infini s'exprimant par le fini ; pour Reid, une qualité occulte ; pour Jouffroy, un trait indécomposable ; pour De Maistre, ce qui plaît à la vertu ; pour le P. André, ce qui convient à la raison. […]
> Les fleurs, les papillons, les oiseaux peuvent être beaux. Enfin la condition première du Beau, c'est l'unité dans la variété, voilà le principe.
> – Cependant, dit Bouvard, deux yeux louches sont plus variés que deux yeux droits et produisent moins bon effet, ordinairement.
> Ils abordèrent la question du sublime.
> Certains objets sont d'eux-mêmes sublimes, le fracas d'un torrent, des ténèbres profondes, un arbre battu par la tempête. Un caractère est beau quand il triomphe, et sublime quand il lutte.
> – Je comprends, dit Bouvard, le Beau est le Beau, et le Sublime le très Beau. Comment les distinguer ?"[47]

> "First of all, what is beauty?
> For Schelling, it is the infinite expressed by the finite; for Reid, an occult quality; for Jouffroy, an integral fact; for de Maistre, something that pleases virtue; for Father André, what suits reason. […]
> Flowers, butterflies, and birds can be beautiful. Finally, the primary condition of beauty is unity in variety: that's the principle.
> 'Still,' said Bouvard, 'two crossed eyes are more varied than two straight ones but don't produce as good an effect—generally speaking.'
> They broached the question of the sublime.

46 Gisèle Séginger: Forme eriveue et savoir. Bouvard et Pécuchet et les sciences naturelles. In: *Revue Flaubert* 4 (2004), https://flaubert-v1.univ-rouen.fr/revue/revue4/02seginger.pdf (accessed on August 14, 2023), my translation.

47 Gustave Flaubert: *Bouvard et Pécuchet*. In: *Œuvres eriveu* 2. Paris: Gallimard 1952, 840.

> Certain objects are sublime in and of themselves: the roar of a torrent, deep shadows, a tree felled by the tempest. A protagonist is beautiful when he triumphs, sublime when he struggles.
> I understand, said Bouvard. The beautiful is beautiful, and the sublime is very beautiful. How can we tell them apart?"[48]

Just as various determinations of the beautiful and the sublime are unsystematically strung together here, the novel as a whole juxtaposes various fields of knowledge according to a "horizontal classification" and "paradigmatic logic."[49] Its order is therefore directed just as much against the tree as a figure of a total and hierarchized knowledge, as against linear narrative. It is "a kind of monster" that "bursts the form of the book itself."[50]

Flaubert's "encyclopédie de la bêtise"[51] is not only a document of the bourgeois stupidity that repelled Flaubert as much as it fascinated him; it can also be read poetologically. According to Roland Barthes, the dictionary embodies Flaubert's literary ideal, which consisted precisely in bringing together the most diverse ways of speaking (sociolects) without allowing an ordering and meaning-giving "langage maître".[52] Derived from this, Barthes formulates the concept of the "writer" whose activity is to be imagined as largely subject-free, whereby the mixing of languages also evokes on the part of the recipient a pleasurable drifting *(dérive)*, a state of intransigence or perhaps also stupidity *(bêtise)*:

> "La dérive advient chaque fois que je ne respecte pas le tout, et qu'à force de paraître emporté ici et là au gré des illusions, séductions et

48 Gustave Flaubert: *Bouvard and Pécuchet: The Last Novel of Gustave Flaubert*. Translated into English by Mark Polizzotti. Illinois: Dalkey Archive 2005, 129.

49 Séginger: Forme eriveue et savoir, my translation.

50 Christine Genin: À propos de l'œuvre: Bouvard et Pécuchet. https://gallica.bnf.fr/essentiels/flaubert/bouvard-pecuchet/propos-oeuvre (accessed on August 03, 2023), my translation.

51 M. Blanchot, quoted ibid.

52 Roland Barthes: La crise de la verité (1976). In: Éric Marty (Ed.): *Œuvres completes* 3: 1974–1980. Paris: Seuil 1995, 998.

> intimidations de langage, tel un bouchon sur la vague, je reste immobile, pivotant sur la jouissance *intraitable* qui me lie au texte (au monde). Il y a dérive, chaque fois que le langage social, le sociolecte, me manque (comme on dit : le cœur me manque). Ce pour quoi un autre nom de la dérive, ce serait : l'intraitable – ou peut-être encore : la Bêtise."[53]
>
> "Drifting occurs whenever I do not respect the whole, and whenever, by dint of seeming driven about by language's illusions, seductions, and intimidations, like a cork on the waves, I remain motionless, pivoting on the intractable bliss that binds me to the text (to the world). Drifting occurs whenever social language, the sociolect, fails me (as we say: my courage fails me). Thus another name for drifting would be: the Intractable – or perhaps even: Stupidity."[54]

To return to Weichbrodt, his algorithmically produced text may be considered the pure form of a "narrative in paradigm:" Each of its sentences belongs to the same paradigm, so that a development or education of the subject is already structurally excluded. In the following discussion of Weichbrodt's script, I would like to show that the algorithm furthermore produces a mixing as conceived by Barthes – a mixing that, however, does not take place at the level of language but of knowledge.

4 Text Generation "in Paradigm"

The text of *I Don't Know* is produced by two Python scripts responsible for input (reading and processing data: `get_data.py`) and output (output of formulated text: `write_data.py`).[55] Databases in JSON format mediate between them. The first script reads data and stores it in a database,

53 Roland Barthes: *Le erive du texte*. Paris: Éditions du Seuil 1973, 33.

54 Roland Barthes: *The Pleasure of the Text*. Translated into English by Richard Miller. New York: Hill and Wang 1975, 18.

55 I would like to thank Gregor Weichbrodt for providing me with the scripts and discussing them with me.

the second script accesses it and further processes the data into statements.

Unlike the concept of the book ("an algorithm combs through the universe of online-encyclopedia Wikipedia"), the script does not comb through Wikipedia, but reads its entries from a mediating database – the already mentioned DBpedia. Consequently, the script does not read HTML web pages, but accesses the hypertextually structured knowledge network of DBpedia, in which, for example, the relations between categories and associated individual articles are prepared in a machine-readable form. For this reason, it can be said that the script processes not only text, but also semantic relations. Likewise, it does not simply collect all entries, but reads selected records according to a predefined pattern that combines arbitrariness and semantics.

Figure 1: Extract from the JSON database generated by `get_data.py`


```
[
  {
    "category": {
      "article": "The",
      "verb": "is",
      "label": "Information Age"
    },
    "next_category": "http://dbpedia.org/resource/Category:Postmodernism",
    "pages": [
      {
        "article": "None",
        "label": "Digitality",
        "verb": "is",
        "properties": [],
        "uri": "http://dbpedia.org/resource/Digitality"
      },
      {
        "article": "The",
        "label": "Age of Interruption",
        "verb": "is",
        "properties": [],
        "uri": "http://dbpedia.org/resource/Age_of_Interruption"
      }
    ]
  },
…
```

Fundamental for the procedure is the relation between superordinate categories and individual pages. Thus, the reading process takes its starting point from a category that the user specifies as argument of the execution command (in the published text of *I Don't Know* this would be the category "Literature"). All articles belonging to this category are read in and stored in an array (`function collectCategoryData(uri)`) to randomly select one or more articles and process their information (`function collectPageDate(uri)`). A page's data also includes the other categories to which the page is assigned. These are added to the list `next_possible_categories`, from which a category is then randomly selected – the process starts again (see fig. 1).[56] The reading process is thus neither a comprehensive collection of all articles, nor a purely random selection, but is guided by the knowledge structure that DBpedia extracts from Wikipedia. The articles read in succession therefore always have a semantic relation to each other, even if this relation is sometimes quite distant. For this reason, a linear reading of the text gives the impression of a spiral or looping movement: Often, after longer passages, the text returns to areas of knowledge that have already been addressed once.

The erratic lurching of the reading process is reminiscent of the term "dérive" mentioned above, which Barthes coined in *Le plaisir du texte*. "Dérive" originally means an unintentional strolling, a letting oneself drift, through which, for example, the architectural structure of a space can be experienced anew.[57] What is important here is the suspension and mixing of ingrained patterns of perception. Barthes transfers the concept to the reception aesthetics of literary texts, whose intermixing of different linguistic registers brings about a "drifting" of the subject – "emporté ici et là au gré des illusions, séductions et intimidations de langage, tel un bouchon sur la vague" – if no orienting

56 Cf. Weichbrodt: I Don't Know, 237.

57 Cf. Guy Debord: Théorie de la erive. In: *Les lèvres nues* 9 (1956). http://www.larevuedesressources.org/theorie-de-la-derive,038.html (accessed on August 04, 2023).

"master language" ("langage maître") is employed.[58] Analogously, the script follows a given semantic path, but repeatedly takes unpredictable forks and thus establishes unusual links. In doing so, it mixes and flattens the originally hierarchical relation between category and single object, which is no longer recognizable in its output, since both are placed paradigmatically next to each other. This can also lead to a fading of the order of knowledge in the reader. The insistent 'stupidity' of the speaker then finds its counterpart in the pleasurable "bêtise" of the recipient.

The categorial knowledge order of the DBpedia thus represents, as it were, the guide for the encyclopedic readings of the script. In addition, it provides important assistance in the production of the output. Thus, the formulation of grammatically correct sentences would not be possible if the speaker did not know whether the subject of his speech is a person, a historical event or a country. However, because Wiki- and DBpedia assign all articles about humans to the category 'person' and, in the case of deceased persons, also link the category 'year of death', the script can access this information and process it for later use. Further information about the (grammatical) properties can be read out from the first sentence of the article text, in which the object is usually named and from which it can therefore be seen whether the object is used with an article and which grammatical gender it has.[59] These properties are – appropriately – stored in a variable of the type `dictionary`. They form the dictionary, so to speak, whose entries are processed by the second script (`write_text.py`) into complete sentences.

While `get_data.py` was responsible for reading in item properties, `write_data.py` provides recipes for constructing records. The script works with a rather simple template-based system inspired by the Natural Language Generation experiments of previous generations. It is an embodiment of a paradigmatic understanding of language in that it recognizes only three different types of sentences (propositional, interrogative, and interjection), each of which is assigned a set of formulas.

58 Barthes: *Le plaisir du texte*, 33.

59 Cf. Weichbrodt: I Don't Know, 237f.

Each formula consists of a fixed text, which is supplemented by variables (article, object, verb; see fig. 2). Separate lists of formulas are provided for objects of special categories (people, places). To allow further variation, individual sentence formulas can be combined with each other, just as objectless interjections ("What the hell?") can be interspersed at random (appropriately named `function randomIdontKnow`). The contingent combination of these "schema sentences" succeeds in creating a text that reads like an associative speech: "A monologue by someone who shimmies from category to category."[60] The supporting framework of this text surface, however, is the list, the unconnected enumeration of paradigmatic sentences. This corresponds to the already mentioned paradigmatization of the hierarchical system of categories: In contrast to what is stated in the above quotation, the speaker interweaves categories and individual articles into a two-dimensional text carpet.

Figure 2: Excerpt from the sentence repertoire of 'write_text.py'

```
sentences = [
            u"I don't know anything about {v_article} {v_name}.",
            u"I don't know about {v_article} {v_name}.",
            u"I know nothing about {v_article} {v_name}.",
            u"Concerning {v_article} {v_name}, I am fully ignorant.",
            u"I'm completely ignorant of {v_article} {v_name}.",
            u"I'm not well-versed in {v_article} {v_name}.",
            u"I'm not conversant with {v_article} {v_name}.",
            u"I haven't kept up on {v_article} {v_name}.",
            … ]
```

Gregor Weichbrodt's post-digital text thus puts the relationship between code and codex, digital writing and book form under tension in several ways. While the concept of the book can be understood as an intervention on the topic of knowledge in the age of digitization, its algorithmic realization represents a specific transformation of a hypertext structure into the book or novel form. However, if one reconstructs the production of the text, the monologue-like (and insofar rudimentarily narrative) character of the text turns out to be a camouflage: working

60 Weichbrodt: I Don't Know, 238, my translation.

against this 'narrative' is a paradigmatic processing that levels hierarchized orders of knowledge and orients itself to the (per se infinite) list.[61] In this sense, the tree-like book is not only challenged by the algorithmic text generation, but at the same time put under pressure by one of the oldest forms of writing – the pre-digital list.

61 Cf. Umberto Eco: *Vertigine della lista*. Milano: Bompiani 2009.