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## CHAPTER FIVE

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# The Horizontal, Vertical, and Transversal Mechanics of Susanne K. Langer's Card-Index System

IRIS VAN DER TUIN

Susanne K. Langer (1895–1985) studied Philosophy with a specialization in Logic at Radcliffe College, the so-called women's annex of Harvard University in Cambridge, Massachusetts, for her BA (1916–20), MA (1922–4), and PhD degrees (1924–6). During all these years of studying and for the entire duration of her lifelong career as a professional philosopher, Langer, an American woman born in New York City from German immigrants, kept a card-index system for her personal use that ended up consisting of thirty-seven drawers and approximately 25,000 cards in total. With its drawers and cards, the system resembles a technology characteristic of Western European and Northern American library and office spaces in the period from the early 1920s to the late 1960s.<sup>1</sup> My archival research on Langer's card-index system conducted in January 2020 in the Houghton Library at Harvard, where the system is currently being preserved, revealed that Langer did her research in company of the work of at least 345 women and that these were female professionals from across academia and the arts.<sup>2</sup> In the system I encountered women of many different nationalities, generations, disciplines, and professions. The indexed women that I was enabled to list and count were accompanied by more, and more widely known, male figures. Langer has stored the work of both women and men with a single reference, with a meticulous summary, or in opinionated manner. Their work was either commented on in isolation or put in connection with the work of others. Langer herself denied any impact on her career of the fact that she was a woman.<sup>3</sup> Nor did she push a feminist agenda with her work on "feeling."<sup>4</sup> She did, however, work in what can be poetically called "a universe of women," whose scholarship she discovered, studied, evaluated, and integrated.

This chapter on Langer's card-index system has been written with the aim of doing theoretical justice to what is, in more than one way, a hybrid system with many layers of storage architecture and mechanics. Historically or perhaps I should say *biographically*, we find written and typed cards in the archived system, from both the hand of Langer herself and from those of the several assistants upon whom Langer had come to rely

already during her active career and, in particular, with whom she worked closely later in her solitary life as a philosopher on a research and writing grant from the Edgar J. Kaufmann Charitable Trust of Pittsburgh, Pennsylvania that she was lucky to acquire in 1956. Langer worked on and used her card-index system from 1916 until she had to give up philosophy entirely for reasons of increasing blindness and, eventually, old age. Some index cards are part of a series and numbered I, II, III [...] and some have been written on both sides. In terms of its structure and contents, the system has elements of a traditional card-index system in which identically sized and shaped index cards on similar topics are stored back-to-front and upright on their edges, divided by manila tabs, in several drawers and of a more modern vertical “filing cabinet” containing differently sized papers, in this case handwritten or typed index cards stored alongside hand-cut and/or folded paper clippings, often glued to standardly sized and shaped cards. Researching the card-index system back in 2020, I also found a dried flower attached to the back of one of the many cards I diligently and eagerly fingered through. Some of them were damaged by use, water, mold, red sealing wax, or even fire. During my research, I came to understand the idiosyncratic card-index system as embodying an Alfred Lord Tennyson (1809–92) quote inked down by Langer on one of the many cards that I reviewed: “I am part of all that I have known.”<sup>5</sup>

In his profile piece on Langer in *The New Yorker* of December 3, 1960, music critic Winthrop Sargeant uses “card-index file” and “card-indexing system” interchangeably.



FIGURE 5.1 “Photograph of Dr. Susanne K. Langer at her desk in Old Lyme Connecticut” by permission of the Estate of Susanne K. Langer. Photographer: James Lord (1968). From the article “A Lady Seeking Answers,” *The New York Times Book Review*, May 26, 1968. Reprinted with permission of Harold Ober Associates. Copyright © 1968 by James Lord.

Sargeant describes the system as “a sort of hand-made mechanical memory that she has kept ever since her undergraduate days.”<sup>6</sup> The long and ubiquitous presence of the system of index cards in Langer’s life is confirmed by the artist and botanist Wesley Wehr, who met Langer in Seattle, Washington, in the first half of the 1950s, stayed in touch with her for several decades, and wrote his posthumous profile piece on Langer from memory. He remembers:

“That’s very interesting! I may need to remember that!” Susanne exclaimed, taking a small brown manila folder out of her purse. It was filled with file cards. She recorded [the poet] Richard [Selig]’s remarks, and then read it back to him, wanting to assure herself that she had quoted him correctly. I often saw her write down a remark that particularly interested her. These duly recorded remarks, she explained, might eventually fit somewhere into her work.<sup>7</sup>

So, indeed, we can say that Langer’s set of thirty-seven drawers applies to the logic unearthed by the American media historian Craig Robertson in his monograph *The Filing Cabinet: A Vertical History of Information*, being that “the arrival of the typewriter mechanized the act of writing, and the introduction of the filing cabinet mechanized the act of remembering.”<sup>8</sup> Mechanization, here, refers to automatic ordering, that is, to a practice in which the system (not the user, whether office clerk or otherwise) wills *and remembers* the location of certain papers for easy and fast retrieval.<sup>9</sup> Yet, in *The New Yorker*, Sargeant claims on the basis of observation during house visits and personal interview data that Langer “uses her card index *not only* as a storehouse of reference but also as *a stimulation to thought*” (emphasis added).<sup>10</sup> And Sargeant goes on to explain: “Many of her ideas have arisen suddenly from the fortuitous congruence of notions she has come upon while leafing through it.”<sup>11</sup> Here, a transversal practice of leafing through the card-index system is added to what Robertson has convincingly elaborated (and what I will shortly explain) as a vertical paradigm of information management that came into being with the invention of the stacked-up filing cabinet. The addition points to the fact that whereas the concept of “verticality” is useful, more is needed in order to truly understand and theorize what it meant for a scholar like Langer to work not just with but also *within* her card-index system.<sup>12</sup> This is to say that the oppositional subject-object relation of the philosopher and the ideas, knowledge, and insights stored on cards shifts once efficiency, ease, and speed are exchanged for the more liberal practice of “leafing,” perhaps at leisure or with a bit of academic anxiety or even pure angst. Langer *speaks back* to the contents of the cards and to their systematization, just as well as the very contents of the cards *speak back* to the system and to Langer herself.<sup>13</sup> This is not a dialectical process as per one of Langer’s cards headed “Note—dialectic” that reads: “Could the problematical dialectic of subj. + objectification be handled on the model of metabolism rather than discourse?”<sup>14</sup> Indeed, the German media theorist Markus Krajewski, who speaks less about the filing cabinet and more about traditional card-index systems, argues that “[t]he architecture of the idiosyncratic scholar’s machine [i.e., the personal card-index system] requires no mediation for, or access by, others. In dialogue with the machine, an intimate communication is permitted.”<sup>15</sup> He expresses beautifully what this systematized machine does: “It *sorts addresses* [of published scholarship and, in the case of Langer, unpublished remarks] so as to *address thoughts*.”<sup>16</sup> Later we will see that whereas Langer criticizes the implied “mechanicism” of the machine (and computer) metaphor, she also strongly agrees with the intimacy and perhaps even the *serendipity* of Krajewski’s practice of dialoguing.

The dialectically oppositional subject-object relation of the vertical paradigm underlies the mechanical storehouse metaphor, alluded to also by Sargeant, that allowed for the contents on the cards to have become paradigmatically reduced to “information” after the 1890s invention of the filing cabinet. However, it does *not* underlay the practice of working with free-floating and active ideas, knowledge, and insights. Robertson writes:

When mechanized, the association of ideas was no longer a mental connection [as per a preceding horizontal paradigm], a recollection that linked a memory and an object. With the object being information, not ideas, it became necessary to make it coordinate, to place information in a proper position relative to the other information.<sup>17</sup>

Robertson, in his book on office spaces in the first half of the twentieth century in North America, does however acknowledge the *aspiration* of certain filing systems to also produce knowledge and insights and to stimulate the formation of ideas, thus invoking Sargeant’s “stimulation to thought” and Krajewski’s “intimate [and dialogical] communication,” when the media historian of the filing cabinet states that “cross-referencing systems created a secondary memory that could produce new knowledge.”<sup>18</sup> Here Robertson refers to the early-modern period and to cross-referencing via keywords, calling such horizontal and networked systems “open,”<sup>19</sup> as if a transversal connection between horizontality and verticality may not have been an option either in the early-modern period or afterwards. This transversality, both historically and conceptually a distortion of linear progression, is in fact what Krajewski dug up in his study across the 1800s and 1900s in which we can read, among other things and in slightly anachronistic parlance, that there were to be found in the early-modern period,

[C]lassification systems using both software, meaning the question of what principles can order scientific and library data, and hardware, meaning long-term storage devices: (1) the book ([Konrad] Gessner); (2) the nearly immobile, heavy piece of furniture, as yet unnamed, but ... clearly ... a kind of card index cabinet ([Vincentius] Placcius); and (3) the loosely sorted pile of papers on a table, at times filed in envelopes ([Joachim] Jungius).<sup>20</sup>

These systems, *and their next iterations* into the modern and postmodern periods and into contemporary times,<sup>21</sup> culminated in algorithmic techniques consisting of sets of fixed instructions for book placement and human movement through library stacks.<sup>22</sup>

Conceptually then, horizontal, vertical, and transversal paradigms and practices in knowledge, information, and data management can each be found in Langer’s intricate, yet under-studied card-index system.<sup>23</sup> These paradigms and practices reveal in their combination how we may want to theorize the systematicity of the card-index system as well as they reveal what happens within and between drawers, on and behind tabs, among sets of cards in manila folders or tied together with elastic bands, and on the very cards themselves in frozen-in-time sections that were clearly prepared by Langer and her assistants for use during the writing of the trilogy *Mind: An Essay on Human Feeling*.<sup>24</sup> It is significant that some of the cards that I found in the preserved system at the Houghton are used explicitly as “x-reference cards,” that is, for cross-referencing purposes. Some of these cards transgress a list—or web-like presentation yet they do refer explicitly to other cards and, significantly, to a writing process (“from this, make the transition to ...”) thus suggesting that the latter cards have in fact been on Langer’s desk while she was engrossed in the writing process itself and that they were not just used to “will and remember” locations and/or for their informational content. The word



FIGURE 5.2 “Photograph of Dr. Susanne K. Langer’s Desk/Study” by permission of the Estate of Susanne K. Langer. Contributed by Donald Dryden.

“cross-references” has been penciled or penned on certain tabs, and it can be deduced from the architecture of the card-index system that other tabs not explicitly mentioning the practice of cross-referencing were in fact used as such. This is important because, as Krajewski makes explicit, “[o]nly through this skill does the index card box grow from a mere filing instrument to an author’s assistant, or even ... into a regular communication partner during textual production.”<sup>25</sup> Here we find Krajewski moving beyond Robertson’s vertical paradigm, indeed, and toward some sort of hybridization.

Let me continue the conceptual journey of this chapter by citing verbatim one of Langer’s index cards:

Note—machine + mental operations [↵ Return] There is something wrong with the machine model of the brain as it influences conception just at present. The machine works entirely with units, “stored away” and “desired”\* and “put together” in the processes that simulate thinking. But in the brain ideas are formed, more the way frost flowers and prism effects are formed; perhaps even more the way forms are made by erosion or by the action of moving waters. They are carved out of chaotic activity, or minted suddenly by catalytic transforming agents. They are activities that many things can start, not “products” in which the elements keep their identity and can be stored away again after use, like the elements in a machine when it is to be set for another



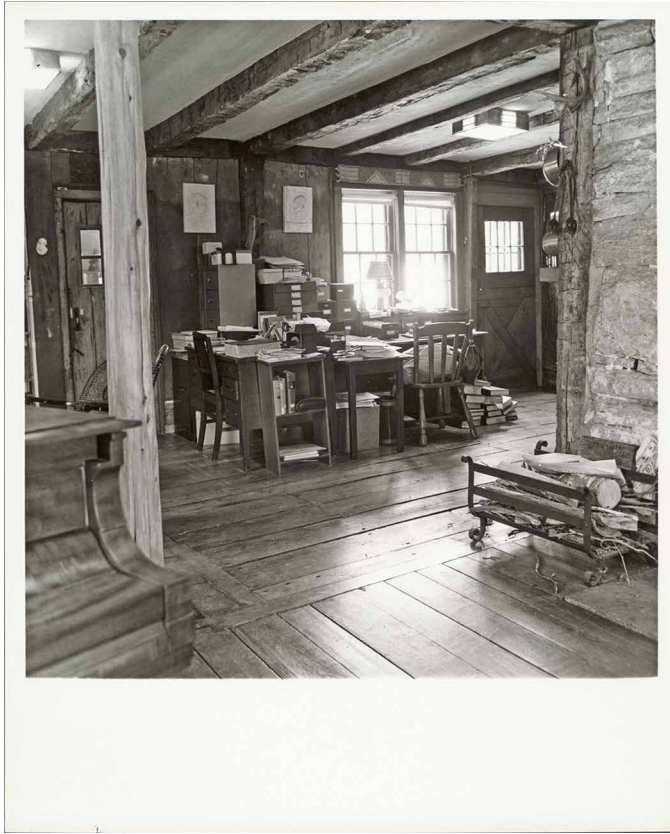


FIGURE 5.3 “Photograph of Dr. Susanne K. Langer’s Study with Card Index System” by permission of the Estate of Susanne K. Langer. From the Susanne K. Langer Papers, MS Am 3110, Box 28, Houghton Library, Harvard University.

run. [↵ Return] The nearest familiar analogy to idea-formation is artistic composition. Notice that the activity of thought or fantasy is rhythmic, not repetitious like the “circulating messages” in elaborate machines. All artistic composition involves living mechanisms, but the activity is probably very different from any machine. A reacting organism may exemplify the same forms as complex inorganic units, but the relation is intimate on the chemical level only, + quite distant on the mechanical.—Is rhythm peculiar to organism?\*[\*] It is not (I think) the same as periodicity.

\*Nielsen, *Agnosia, Apraxia + Aphasia*, p. 28: “When an idea is to be executed (by motor act) an impulse travels from somewhere in the brain to the precentral gyrus where the proper group of association cells is stimulated to effect utilization of the desired engrams.” Who desires, + plans to execute the idea?

\*[\*]no.<sup>26</sup>

What Langer does on this card is critiquing the storehouse metaphor for human thinking, whether supported by rudimentary or advanced technological devices or not. She acknowledges a certain “willing” (here: desiring) on the part of the machine, but only

to quickly affirm that mechanicism by necessity works from units outward (horizontal paradigm) or upward (vertical paradigm), whereas the process of thinking is a practice that is less linear, less predictable (it is a transversal practice). Langer's very statement about ideas as being (becoming) *formed* versus being (yes, *being*) mechanically combined can also be found in the first volume of *Mind* for which this card has presumably been used.<sup>27</sup> In *Mind*, Langer critiques what she calls "computerism"<sup>28</sup> in all possible directions: (1) conceptually, the brain is not like a computer;<sup>29</sup> (2) the computer should, in turn, not be seen as a "mechanical brain";<sup>30</sup> and (3) computers do not think.<sup>31</sup> For our purposes in this chapter, the first appearance of a critique of computers in *Mind I* is perhaps the most relevant. Here, Langer deconstructs the conceptualization of the brain as a computer, whilst also touching upon the other aspects of computerism, by arguing the following:

The principles of logic are exhibited both by the "mechanical brains" of systems engineering and by human thought. ... But there is much more to rational thinking than the highly general form which may be projected in written symbols or in the functional design of a machine. Thinking employs almost every intuitive process, semantic and formal (logical), and passes from insight to insight not only by the recognized processes, but as often as not by short cuts and personal, incommunicable means. The measure of its validity is the possibility of arriving at the same results by the orthodox methods of demonstrating formal connections. But a measure of validity is not a ground of validity. Logic is one thing, and thinking is another; thought may be logical, but logic itself is not a way of thinking—logic is an abstract conceptual form, exemplified less perfectly in our cerebral acts than in the working of computers which can outdo the best brains a thousandfold in speed, with unshakable accuracy.<sup>32</sup>

This compares, in fact, to one of Krajewski's cautious statements that "[e]ven if it is clear that a card catalog does not perfectly resemble the digital calculator or computer ... the card catalog is *one* precursor of computing."<sup>33</sup> And, importantly, Langer pushes this entire historical and conceptual argument to the extreme by claiming, as per her characteristic philosophy of art and life, that idea-formation is not analogous to mechanical combination but to artistic composition instead, and that a much better metaphor for human thinking may be *chemical*. The latter hypothesis has, in fact, also been worked out in *Mind I* when Langer states in a footnote:

To any one who has ever worked with living matter *in vitro* or under the microscope, the synthetic production of a chemical particle that metabolized for a brief period would be a much more impressive approach to the creation of a brain than the invention of Eniac and all its successors. A machine, however powerful and versatile, is an entirely different mechanism from a cell, a multicellular organ or a complex organism controlled by its own brain.<sup>34</sup>

In conclusion, what can be said about the paradigms and practices that we have encountered and evaluated in this chapter with the aim of delivering a theoretically justified account of Langer's hybridized card-index system and its use? Let me sum up my findings by discussing consecutively the horizontal, vertical, and transversal aspects of the system and their characteristics as if they were a series of distinct "types." First, there is what I call "horizontality 1" or the systematicity of a card-index system that functions in Euclidean space in 2D (length, width) or chronologically, as per Robertson's historical review of flat filing on the office floor and in the drawer. Chronological ordering is a fixed and linear ordering. In Krajewski, we find mainly alphabetical, alphanumeric, or, later, decimally



systematized and therefore *symbolical* orderings of books in a library as well as the early, not exclusively horizontal technique of writing book titles and sometimes ideas of reader-writers on small and rearrangeable “paper slips.” The decimal system was fundamentally a mobile system predicated on the logic of horizontally networked openness. Discrete informational cards, however, whilst allowing for internal mobility, albeit in a purely mechanically *mechanical* manner and driven from the outside by a human hand or a pair of human hands, is something entirely different that does not exhaust a theory of Langer’s card-index system and its use in the thinking process of this unique twentieth-century female philosopher.<sup>35</sup>

The second aspect that I want to highlight is the *verticality* that arrived on the office and library scenes, in both public institutions and in the homes of intellectuals, around the 1890s. Verticality functions in a Euclidean/Cartesian space in 3D, a space established by the length, width, and height of a container organized as a grid or as per thematic subject-headings such as the ones replacing chronology as an organizing principle. Put in some early twentieth-century quotes taken from Krajewski’s monograph: “The card index overcomes the book. Its proper characteristic is vertical order.” And: “Card indexes are books broken up into their components.”<sup>36</sup> The tricky issue here, in offices, is the impossible move from units (specific tasks) to wholes (one person, the larger assignment).<sup>37</sup> Behind the tabs cutting up the intellectual flowing of ideas or the rhythmic movement of work life or life itself, however, connections are being revealed immediately. The system of the index or the file provides the context for understanding its contents with the steel drawers or the steel case in its entirety keeping everything together. Here we see that in the very use of an index or a file, there is no escape from knowledge: whereas information may be seen as impersonal and transparent, not as knowledge seen as connected to a knower,<sup>38</sup> it *must* be argued that a user like Langer is a knower. So, it can *not* be argued that the hierarchical direction of the vertical paradigm of understanding something like indexing and filing is the only or the right direction. Perhaps we should, as per Robertson, make the differentiation between archive (knowledge, power, control) to library (retrieval and circulation according to a system of classification).<sup>39</sup> And, indeed, there is a lot that resembles or evokes the archive when we look at Langer’s home library and her personal card-index system from which, or *with which*, her knowing was being done in seeming solitude.

The third aspect (or “type”) that I want to highlight for the purpose of grasping theoretically Langer’s card-index system is “horizontality 2,” which arrived on the scene in the 1950s.<sup>40</sup> I prefer to call this aspect or perhaps this “mode” *transversality*. This mode functions in Riemannian/Einsteinian spacetime in 4D, which allows us to transcend mobility and move to “flow.”<sup>41</sup> In the words of Krajewski:

[The idiosyncratic card-index system for personal use] not only reliably reproduces everything the scholar gradually invested in it, recalling the extended present back to the time when each entry was made. Provided that the scholar knew how to tie new material together with the existing stock of excerpts, and marked connections and associations to similar texts and themes, the scholar’s machine *as a text generator* delivers these very connections by branching out into forgotten memories as virtually new, served up as well as unexpected connections. The apparently insignificant, but regularly marked cross-reference yields rich profits when its recombinatory linkages enrich the power of the excerpts with chains of references.<sup>42</sup>

The cross-referencing here described implies a “diffractive” technique,<sup>43</sup> i.e., a technique of “weaving” text and/or textual fragments through one another.<sup>44</sup> I wrote about this

technique in an earlier piece on Langer, claiming that Langer's 1953 monograph *Feeling and Form: A Theory of Art Developed from Philosophy in a New Key* showed diffractive patterning in its dealing with the work of other philosophers and a wide variety of thinkers, thus transgressing both historical (i.e., chronological) and systematic (i.e., thematically subject-driven) ways of doing philosophy.<sup>45</sup> All this is to say that transversality also has to do with the linearity of one book, the multidimensionality of the card-index system, and the ontological condition of the generative *multiplicity* of many books or excerpts.<sup>46</sup> Langer's practice speaks directly to Krajewski's conjecture that "the apparatus returns infinitely more than the user feeds into it. As soon as one regularly cross-references new input with older material, the index database blazes associative trails that may serve as clarifying creative prompts for different connections and unexpected arguments."<sup>47</sup> Where Langer says about her writing process that "[q]uotations could be multiplied almost indefinitely,"<sup>48</sup> Krajewski argues, with reference to the German social theorist Niklas Luhmann, who famously kept his own card-index system, that the connections and arguments are made "almost autonomously."<sup>49</sup> Sargeant writes: "The cards on which [Langer's] own and other thinkers' ideas are preserved are methodically cross-indexed in a separate file, so that she can instantly lay her hands on everything pertaining to a given subject."<sup>50</sup> What needs to be added to this discussion of endlessness, autonomy (not automation!), and instantaneousness is *modularity*. Riemannian/Einsteinian spacetime implies that the drawers are not vertically or horizontally fixated in space but flexible instead through the possibility of recombination, thus allowing for the cards themselves to afford "not only the organization of information, but also mobility, portability, flexibility, modularity, representativity, transitivity, manageability, updatability, legibility, and combinability."<sup>51</sup> The profile piece by Wehr provides the biographical details that accompany these concepts:

Wherever Susanne traveled, two things invariably accompanied her: her card catalog file and her cello. She always had to be within easy reach of her card files, which contained hundreds of her carefully notated file cards. These cards were filled with copious notes from her far-ranging reading in philosophy, biology, anthropology, art, and a long list of other such subjects, with her personal observations, and with remarks made to her by friends, remarks that stimulated her reflective imagination.<sup>52</sup>

There is movement in many directions and at many directions at once in the user-history of Langer and her card-index system. We may want to imagine Langer surrounded by the modular system, a modularity and its corollary movement that manifested itself within the drawers as well as between them. Her task was: how to arrange the drawers internally (where to "cut" the flows of art and life by using tabs) and in relation to one another (which drawers to put on one's desk and how to arrange them vis-à-vis one another). After all, she was a part of all that she had known.

## NOTES

1. Markus Krajewski, *Paper Machines: About Cards & Catalogs, 1548–1929* (Cambridge, MA: The MIT Press, 2011); Craig Robertson, *The Filing Cabinet: A Vertical History of Information* (Minneapolis: University of Minnesota Press, 2021).
2. Susanne K. Langer Papers, 1895–1985, MS Am 3110, Houghton Library, Harvard University.
3. Arabella Lyon, "Susanne K. Langer: Mother and Midwife at the Rebirth of Rhetoric," in *Reclaiming Rhetorica: Women in the Rhetorical Tradition*, ed. Andrea A. Lunsford (Pittsburgh, PA: University of Pittsburgh Press, 1995), 266.

4. Adrienne Dengerink Chaplin, *The Philosophy of Susanne Langer: Embodied Meaning in Logic, Art and Feeling* (London: Bloomsbury Academic, 2020), 56–7; cf. Jean Barr and Lynda Birke, *Common Science? Women, Science, and Knowledge* (Bloomington/Indianapolis: Indiana University Press, 1998), 91.
5. Box 25 of the Langer Papers.
6. Winthrop Sargeant, “Profiles: Philosopher in a New Key,” *The New Yorker*, December 3, 1960, 75.
7. Wesley Wehr, “Susanne K. Langer: Philosopher of Art & Science,” in *The Accidental Collector: Art, Fossils, Friendships* (Seattle: University of Washington Press, 2004), 110. Wehr goes on to state, however, that Langer once said in a conversation about memory: “‘My memory is like flypaper. Everything sticks to it. I don’t have to try to remember things. I just remember them,’ she answered” (Wehr, “Susanne K. Langer,” 113). This, in turn, stands at sharp contrast to Langer’s habit of index-card writing that Sargeant comes up with. He notes, “Behind the scattering of papers is a large card-index file, in which she has recorded, for many years, references to philosophical, anthropological, and psychological items she has discovered in books, and also ideas of her own, jotted down in moments of reflection. The moments are apt to occur at almost any time. She often thinks of a theory in the middle of the night, and has developed an efficient technique for writing in the dark. She has also been known to stop her station wagon on the road to record an idea before it escapes her mind, and she remembers once doing this while she was on her way to the dentist with a toothache” (Sargeant, “Profiles,” 75).
8. Robertson, *The Filing Cabinet*, 25.
9. *Ibid.*, 163–73.
10. Sargeant, “Profiles,” 75–6.
11. *Ibid.*, 76.
12. Cf. Krajewski, *Paper Machines*, 52 and 64 for exactly this dual point, the contents of which I will represent at the end of this chapter.
13. I borrow the language of “objects speaking back” from Dutch cultural analyst Mieke Bal; Bal, “Imaging Madness: Inter-Ships,” *InPrint* 2, no. 1 (2013). Bal, in turn, borrowed the language from French art theorist Hubert Damisch; Yve-Alain Bois, Rosalind Krauss, and Hubert Damisch, “A Conversation with Hubert Damisch,” *October* 85 (1998). See the chapter “Theoretical Object, Knowledge Object,” in Iris van der Tuin and Nanna Verhoeff, *Critical Concepts for the Creative Humanities* (Lanham, MD: Rowman & Littlefield, 2022), 193–5.
14. The underlining is original. This card can also be found in Box 25 of the Langer Papers. On another card, from the same box, Langer writes: “Note [↵ Return] The reason I shy at computer language is that the ‘on—off’ language is appropriate only at the high level of human thinking where the negative comes into play.”
15. Krajewski, *Paper Machines*, 50–1.
16. *Ibid.*, 52; emphasis in original.
17. Robertson, *The Filing Cabinet*, 169.
18. *Ibid.*, 174.
19. *Ibid.*
20. Krajewski, *Paper Machines*, 20.
21. See Jean-François Lyotard, *The Postmodern Condition: A Report on Knowledge* (Manchester: Manchester University Press, 1984); Felicity Colman, Vera Bühlmann, Aislinn O’Donnell, and Iris van der Tuin, *Ethics of Coding: A Report on the Algorithmic Condition* (Brussels: European Commission, 2018).

22. Krajewski, *Paper Machines*, 38–41.
23. An example of a well-studied card-index system is Niklas Luhmann's. See Markus Krajewski, "Paper as Passion: Niklas Luhmann and His Card Index," in "*Raw Data*" *Is an Oxymoron*, ed. Lisa Gitelman (Cambridge, MA: The MIT Press, 2013); Johannes F. K. Schmidt, "Niklas Luhmann's Card Index: The Fabrication of Serendipity," *Sociologica* 12, no. 1 (2018).
24. Susanne K. Langer, *Mind: An Essay on Human Feeling*, 3 vols. (Baltimore: Johns Hopkins University Press, 1970, 1974, 1984).
25. Krajewski, *Paper Machines*, 63.
26. The underlining and the use of asterisks are, again, original and this card can also be found in Box 25 of the Langer Papers. Langer's published critique of the "machine model of the brain" can be found throughout Langer, *Mind*, vol. 1 and will be commented on in this chapter.
27. In the preserved system at the Houghton Library, the card is stored for use during the writing of chapters 14 and 15 of *Mind*, vol. 2. The system as it has been handed down to us demonstrates a re-ordering done in the 1960s, 1970s, and 1980s by Langer and her assistants while writing *Mind*. We see that the tabs correspond to earlier and published versions of *Mind* and that the cards stored are both handwritten and typed up, so they offer a journey through time. The version history of the *Mind* trilogy is currently (from October 2021 onward) being studied in the archive of Connecticut College, where Langer landed a full professorship in Philosophy as late as in 1954, by Tereza Hadravová from the Department of Aesthetics of Charles University, Prague.
28. Langer, *Mind*, vol. 1, 276 n. 40.
29. *Ibid.*, 148.
30. *Ibid.*, 272 n. 32, 304–5.
31. *Ibid.*, 320–1 n. 26.
32. *Ibid.*, 148–9.
33. Krajewski, *Paper Machines*, 8; original emphasis.
34. Langer, *Mind*, vol. 1, 272 n. 32.
35. Krajewski, *Paper Machines*, 3, 7, 23, 30.
36. These are quotes from Wilhelm Dux resp. Elsa Herrmann in Krajewski, *Paper Machines*, 127.
37. Here, the intersection of Krajewski's and Robertson's work with theories and practices of "rationalization" comes to the front here. Cf. Jan Overwijk, "Rationalization: Paradoxes of Closure and Openness," PhD diss., University of Amsterdam, 2021.
38. Craig Robertson, "File." In *Uncertain Archives: Critical Keywords for Big Data*, ed. Nanna Bonde Thylstrup, Daniela Agostinho, Annie Ring, Catherine D'Ignazio, and Kristin Veel (Cambridge, MA: The MIT Press, 2021), 245.
39. *Ibid.*
40. Robertson, *The Filing Cabinet*, 35.
41. Cf. Krajewski, *Paper Machines*, 61.
42. *Ibid.*, 52; emphasis in original.
43. Iris van der Tuin, "Diffraction as a Methodology for Feminist Onto-Epistemology: On Encountering Chantal Chawaf and Posthuman Interpellation," *Parallax* 20, no. 3 (2014).
44. Krajewski, *Paper Machines*, 61. See also Krajewski, Markus. "Card." In *The Oxford Handbook of Media, Technology, and Organization Studies*, ed. Robin Holt, Timon Beyes, and Claus Pias (Oxford: Oxford University Press, 2020), 72. Krajewski argues that the weaving technique formed the very basis of mobile classification by card-index systems, tracing the invention of technique and system back to the Swiss bibliographer Konrad Gessner (1516–65).

45. Iris van der Tuin, "Bergson before Bergsonism: Traversing 'Bergson's Failing' in Susanne K. Langer's Philosophy of Art," *Journal of French and Francophone Philosophy* 24, no. 2 (2016).
46. Krajewski, *Paper Machines*, 137.
47. *Ibid.*, 63.
48. Susanne K. Langer, *Philosophy in a New Key: A Study in the Symbolism of Reason, Rite and Art* (Cambridge, MA: Harvard University Press, 1957), 27.
49. Krajewski, *Paper Machines*, 65.
50. Sargeant, "Profiles," 75.
51. Krajewski, "Card," 70.
52. Wehr, "Susanne K. Langer," 109. A significant number of cards in Langer's personal system refer, not only to author-year-title-publisher of books or journal articles but also to university-library and museum card-index systems (or rather, filing cabinets) for collective use, and these "call numbers," penciled on the cards by Langer, can be used to trace historically whereabouts Langer was based while reading and processing a certain text. Examples (that are also an indication of the interdisciplinary breadth of Langer's scholarship) are: "Harvard College Library," "Philos. Lib," "Wid.," "Brown Univ.," "Columbia, Deutsches Haus," "Barnard," "Mus. of Nat. Hist., N.Y.," "N.Y. Acad. of Medicine," "Yale," "Sterling," "Yale Med.," "(Y) Art Library," "(J. Hopkins)," "L. of Congr.," "Dartmouth," "Vassar L.," "Wesleyan Univ.," and, of course, "CC." Some cards mention that a text was *not* available at, especially, Connecticut College where the writing of the *Mind* trilogy was being done. Whereas the great majority of cards in Langer's personal system are standard-sized and shaped index cards bought commercially, some cards are in fact smaller than the bulk of them and from a library, e.g., from Harvard College Library's circulation desk.

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