A Reflection on *Re-Enacting Tableaus*

Reflective documentation

Part of the thesis project "Re-Enacting Tableaus"

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I hereby declare,

that I have independently written/produced the reflective documentation of my thesis in accordance with the principles of good scientific practice and have not used any sources and aids other than those indicated, and that this reflective documentation has not yet been submitted in any form for evaluation, neither in Austria nor abroad.

20.07.2023 Micha Payer

Date Signature

Re-Enacting Tableaus

Micha Payer

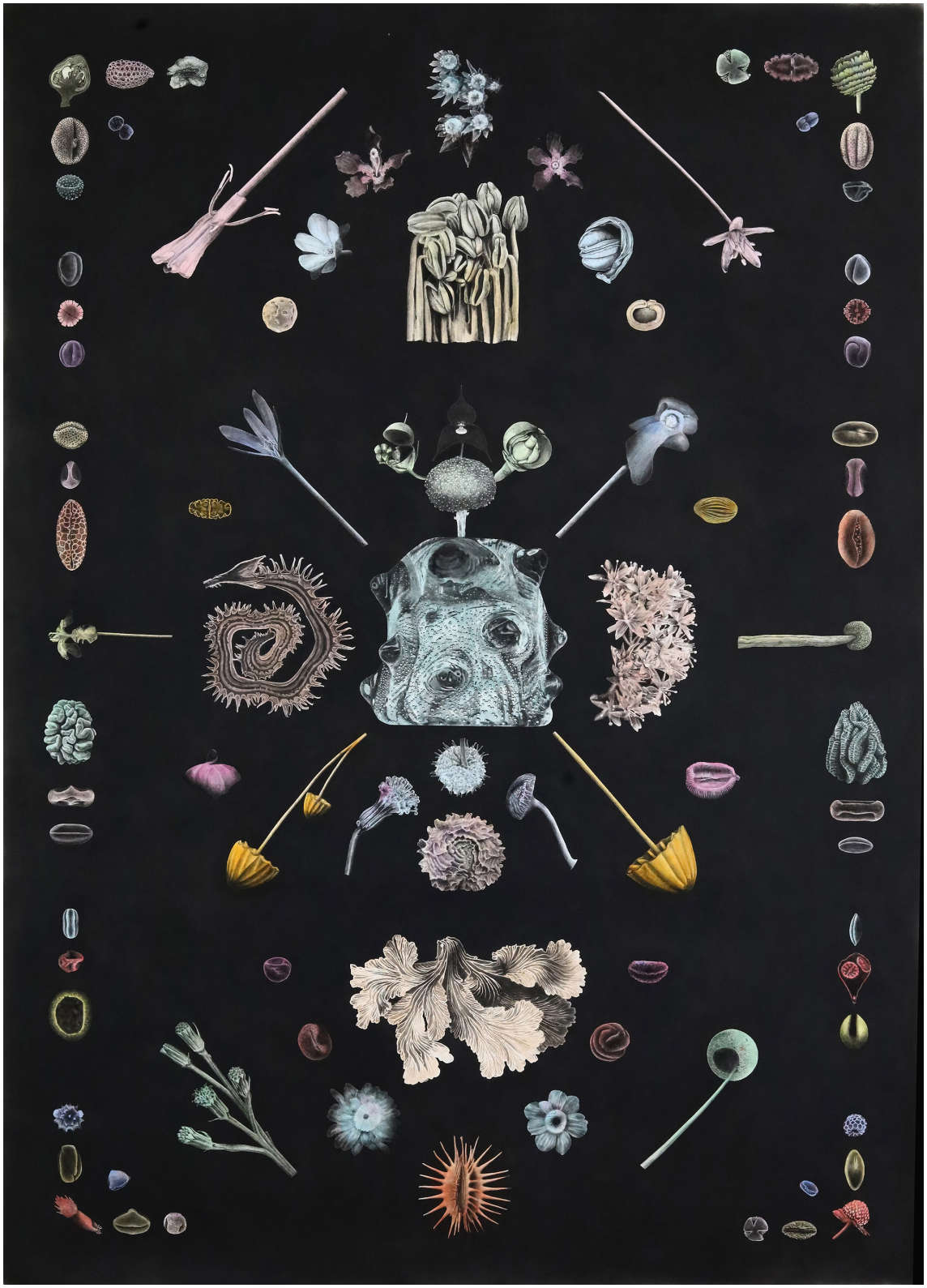
to Killian Eleftherios

Re-Enacting Tableaus

Artistic Research PhD, University of Applied Arts Vienna
Reflective Documentation by Micha Payer

Abstract

The research project *Re-Enacting Tableaus* focuses on the *tableau* as a visual and epistemological concept in the context of knowledge production. The tableau is considered as a visual strategy for transmitting knowledge but is also expanded into a philosophical concept. It is used as an operative term in order to understand the process of knowledge production from an artistic perspective. *Re-Enacting Tableaus* unites the visual practice of drawing with theoretical approaches from philosophy, visual epistemology, and critical posthuman thinking. The centerpiece of this endeavor is the artist book *A±Z*, which is a defamiliarized version of the common understanding of an established Western European ordering system—the encyclopedia. Turned into an art form, this encyclopedia works as a circular reference system concerning visual and text-based epistemics. The encyclopedia entry is the basic structure and individual component that is treated in various ways in *A±Z*. Encyclopedia entries that shed light on visual epistemology, epistemes, knowledge, difference, and the idiot from a theoretical perspective accompany artworks by Payer Gabriel from the last decade as well as drawings made specifically for *A±Z*. Further work series that were developed within the scope of this PhD project include the drawing series *On Inscriptions*, *Trees of Knowledge*, and *In Defense of the Accidental*. Disciplined visual forms of knowledge that vary by discursive allocation require different visual modes of perception. Interrupting these visual modes and attitudes by disconnecting certain visual tools and symbols from their functional meaning and their initial context is a strategy applied in these work series.



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PART I

1. Introduction

This reflective documentation of the PhD project *Re-Enacting Tableaus* describes the research process and the work series that were developed within this process. This process can be best described as a circular referential system consisting of different methodical approaches, materialized results, and underlying theoretical concepts that were permanently in a state of mutual interdependence and guided by a principle of relational openness. I view this documentation as an additional outside perspective that reorders the different perspectives taken within the research activity once again. It is oriented toward academic protocol and narrows down the aesthetic dimension that played such a crucial role within the research process.[1] Nevertheless, it is an essential component of the research and part of the thesis as it recapitulates the individual steps taken in the *Re-Enacting Tableaus* project.

The first important step in this documentation is to provide a definition of and theoretically situate the term *tableau* (chapter 2.1). This means reflecting on its historical embeddedness, how it is actually used, and the epistemic function of the tableau when it is extended into a discursive configuration. The tableau plays a pivotal role in knowledge acquisition and builds a bridge to visual epistemology.[2] My research question was an amalgamation of a multitude of questions concerning the visuality of knowledge production and its relation to the visual arts, especially in the medium of drawing. The suggested overall strategy, which was borrowed from the humanities in the context of *turns*, was to use the tableau as a category of analysis (2.2). This would allow for a shift from a descriptive to an operative position—a favorable situation for a visual artist working in the medium of drawing. The relationship between the technique of drawing and the scholarly understanding of visual knowledge production is discussed in chapter 2.3. The concept of epistemic

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1 This paradox is described by Lucy Cotter as a "power struggle within artistic research discourse to date, in which academic protocol often drowns out art's sensibilities, while claiming interest in art's epistemological possibilities." The central piece of my research, the artist book *A±Z*, is specifically dedicated to this paradoxical, conflicting situation. Lucy Cotter, "Reclaiming Artistic Research—First Thoughts..." *MaHKUscript: Journal of Fine Art Research* 2, no. 1 (December 2017), https://doi.org/10.5334/mjfar.30.

2 Visual epistemology is described in the appendix, chapter 5.6.

virtues that Lorraine Daston and Peter Galison discuss in *Objectivity* thereby serves as a starting point for understanding the scholar's position in visual knowledge production and for comparing it to a visual artist's perspective.

My artistic work, which focuses on drawing, takes place within the collective Payer Gabriel (Micha Payer and Martin Gabriel). We have been collaborating for about two decades, since our undergraduate days. At the very beginning of our artistic practice, we focused on photography and video. Due to our interest in making animated films, we started engaging with the technique of drawing and have advanced our technical skills over the last eighteen years. We started with colored pencil drawings, which became more and more elaborate and time-consuming. We then continually expanded our technique with the use of ink, watercolors, graphite powder, and pastels. Ever since, our work has been based on found material consisting of antiquarian books and image material from the internet and our own personal resources, which we use as templates for our collage-like drawings. Our work is informed by intense visual research processes combined with spontaneous choices of *sujets* that attract us and form the starting point for complex assemblages. Our drawings are conceptualized formations that quote the rich pictorial language of our culture, aiming to transgress the discursive fields that define the boundaries of visual forms. From the very beginning of our collective drawing practice, we have viewed our work as a joint encyclopedic project—only that our encyclopedic endeavor aims not to categorize but to de-categorize, a process that we call *Bedeutungsvertauschung* (the transposition of meaning), which occurs by means of visual defamiliarization. *Verfremdung*, defamiliarization, was a term used by Bertolt Brecht, who described the *Verfremdungseffekt* as a technique employed to provoke a critical attitude from the audience. Philosopher Rosi Braidotti underlines the creative potential of defamiliarization for the humanities and for critical posthuman thinking. In the course of this research project, defamiliarization turned out to be a potential research topic, as it pervades both the artwork and the groups of works developed within this research project, and seems to be of a multifaceted nature.

Chapter 3 is dedicated to the work series that emerged within the scope of this PhD project. From the very beginning, the central aim of *Re-Enacting Tableaus* was to make an encyclopedically structured artist book that opens up space for re-enacting tableaus. Both tableau and encyclopedia are part of a Western European knowledge system and are ingrained in our cultural memory. Taking a posthuman approach (further explained in chapter 2.4) would mean turning

the encyclopedia into an anti-disciplinary form, a circle of learning—which is the etymological meaning of encyclopedia—in which variable forms of knowledge circulate that mutually inform and reference each other, often in playful ways. This is precisely my understanding of the artist book *A±Z: Abwesenheit – Zufall/Absence – Accidental,* published in 2023 by Edition Angewandte / De Gruyter. To establish a circular system of various forms of knowledge means treating pictorial and textual material equally, using drawings and artworks like texts as encyclopedia entries. *A±Z* contextualized existing artworks, but we also conceptualized a number of drawings explicitly for the book. This calls the status of the original into question. Within this idiosyncratic, encyclopedic system, the drawings transcend their status as documents and take on a life of their own. Making a book is thus not only a way to systematize the compiled knowledge but is also an artistic research strategy. It means turning the tableau into a category of analysis and using the encyclopedia as a means of negotiating different forms of knowledge. The encyclopedia becomes a lived experience and a space in which to negotiate one's own subject status within a culturally informed pattern of knowledge production.

The work series introduced in chapters 3.2–3.5 are part of the thesis and are weighted differently. The series *On Inscriptions* (described in 3.2) was specifically developed for *A±Z* and is based on an examination of Bruno Latour's text *Visualization and Cognition: Drawing Things Together,* which—fully intended—was taken very literally in an artistic way. Latour's text is reprinted in *A±Z* alongside the series of drawings. The *Trees of Knowledge* described in 3.3 are hybrids oscillating between sculpture, frame, and display. They were developed within Payer Gabriel's artistic exhibition practice to be an applied form of the tableau as a conceptual term. The *Trees of Knowledge* are inextricably linked to the drawing series *In Defense of the Accidental*, which is introduced in 3.4. This series, named after an essay by philosopher Odo Marquard, in which he defends the accidental against the philosophical absolute-making of man, now consists of around 300 A4 drawings and was started in 2016. The drawings in this series are mounted on the *Trees of Knowledge* in different arrangements. They are a key piece, forming the starting point for this research project, and are understood as an ongoing series, a whole work corpus. Finally, the installation *Fibonacci Cabinet* is described in chapter 3.5, which starts with a digression on "Knowledge," as this passage was initially an encyclopedia entry in *A±Z.* Although the reader has to adapt to this interruptive passage in the reading flow of this text, it seems important to stick to this order as the description of the *Fibonacci Cabinet* is a decisive part of said encyclopedia entry.

The conclusion to this reflective documentation in chapter 4 not only summarizes the work done within the scope of the PhD project but also provides a perspective on how to build on this research in future projects. One essential question is how the concepts of the encyclopedia and the tableau, loaded up with humanistic, mono-perspectival baggage in their approach toward knowledge production, can be resolved and rebuilt as art forms. Critical posthuman thinking is an affirmative theoretical perspective that encouraged me to find new approaches by, for example, using my own oeuvre in an encyclopedic parallel world and establishing a circular system that separates the artwork from its status as original. One outlook of this research project is to reinvent the *Konversationslexikon* as a lexicon of conversations. In German-speaking countries, the *Konversationslexikon* is a representative reference work, often consisting of multiple alphabetically ordered volumes, that was very common in the nineteenth century and very popular with the bourgeoisie. Whereas the *Konversationslexikon* is part of a social system that considers education and knowledge to be important factors in climbing the socioeconomic ladder, a lexicon of conversations could help us to step out of an educational discourse that is based on competition, hierarchies, and the representative value of knowledge.[3] This could happen by emphasizing communicative value—the conversation—in the production of knowledge.

In chapter 5, the final chapter and appendix, the reader will find reprinted encyclopedia entries from *A±Z* on the topics of "Difference," the "Encyclopedia," the "Episteme," "Epistemic Violence," the "Idiot," and "Visual Epistemology." A short paragraph will introduce my motives for choosing these words as topics for the encyclopedia entries in *A±Z*. At some points, they might overlap with former chapters; nevertheless, it seemed crucial to include these texts in the reflective documentation. A lot of reflection in written form has already been done in *A±Z*, which took place in proximity to the drawing process and the contextualizing of my own artwork. I will explain how this proximity was achieved in the pages that follow.

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3 For a deeper understanding of the function of knowledge as an economic resource, see chapter 5.2, "Encyclopedia," in the appendix.

2. The tableau as an artistic synthesis of drawing, ordering, multiplying, and transmitting

2.1 What is a tableau?

The research project *Re-Enacting Tableaus* started with the concept of the tableau. The tableau turned out to be rich and diffuse in its multiple meanings and difficult to locate on a temporal axis. It has a patina but is simultaneously used in the context of contemporary knowledge production. The deeper one dives into researching this concept, the more it unfolds in its extended usage. It is an intriguing concept that enriches artistic practice in the medium of drawing.

To begin with, it is important to note that the tableau is a word that belongs to the realm of untranslatable words. The *Dictionary of Untranslatables* is a project that intends to create space for the differences in the meanings of untranslatable words—to be precise: philosophical, literary and political concepts that have varying nuances of meaning in different languages. This dictionary also dedicates an entry to the tableau. *Tableau* is *picture* or *painting* in English, *Malerei*, *Gemälde*, or *Bild* in German, *zôgraphêma* [ζωγράφημα] or *pinax* [πίναξ] in Greek, *quadro* in Italian, and *tabula* in Latin.[4] The tableau is etymologically rooted in the Latin *tabula*, which translates as "board, panel, painting, map, list, index, and register."[5] Tableaus are described as picture objects that enable comprehension in one view.[6] This is one central aspect of the tableau, the meaning of which is condensed in the kinds of pictures that we know from the encyclopedias of the Enlightenment: schematic and ordered plates [*Bildtafel*] that explain the most varied empirical phenomena. With illustrations like the tableaus in *l'Encyclopédie ou Dictionnaire raisonné des sciences, des arts, et des métiers*, first edited in 1751 by Denis Diderot and Jean Le Rond d'Alembert, we find a prototype of the tableau as a systematic overview and organizational form of knowledge (see figures 1 and 2). As literary scholar Annette Graczyk puts it in her meticulous study *Das literarische Tableau zwischen Kunst und Wissenschaft*, one key function of the tableau is knowledge transfer, especially in the context of the encyclopedic writing

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4 Dominique Chateau, "Tableau," in *Dictionary of Untranslatables: A Philosophical Lexicon*, ed. Barbara Cassin, trans. Steven Rendall, Christian Hubert, Jeffrey Mehlman, Nathanael Stein, and Michael Syrotinski (Princeton, Oxford: Princeton University Press, 2014), 1109.

5 "Das semantische Spektrum der lateinischen Vokabel *tabula* erstreckt sich von Brett und Tafel über Gemälde und Landkarte bis hin zu Urkunde, Liste, Verzeichnis und Register." Steffen Siegel, *Tabula: Figuren der Ordnung um 1600* (Berlin: Akademie Verlag, 2009), 65.

6 See Chateau, "Tableau," 1109.

Fig. 1. Jean d'Alembert, Denis Diderot, "Planche II," in *Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers,*" ed. Denis Diderot, Jean Le Rond d'Alembert, 1763. Public domain.

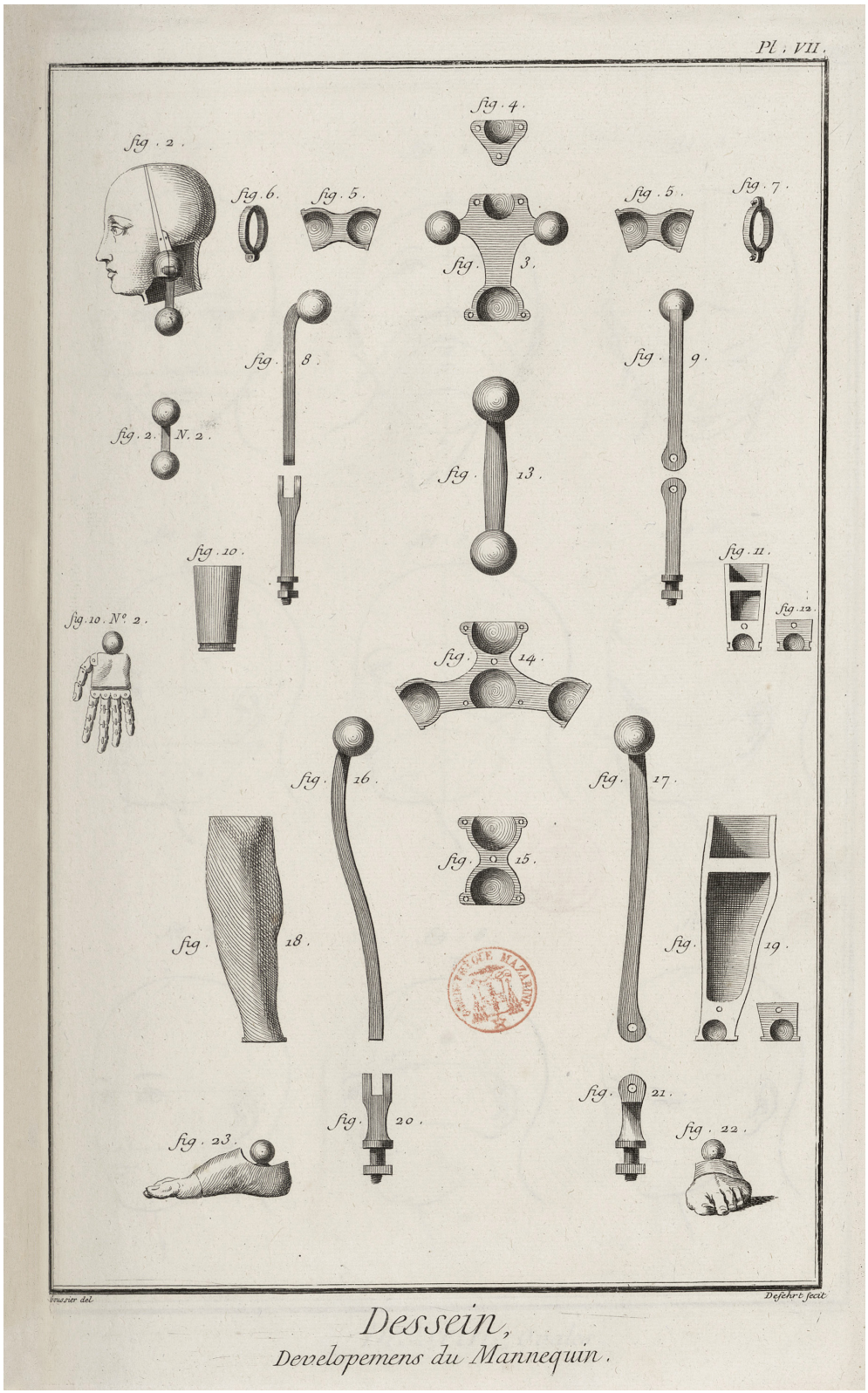

Fig. 2. Jean d'Alembert, Denis Diderot, "Planche VII," in *Encyclopédie ou dictionnaire raisonné des sciences, des arts et des mètiers*, ed. Denis Diderot, Jean Le Rond d'Alembert, 1763. Public domain.

of the eighteenth century.[7] The growth in the number of volumes being published containing specialized knowledge made it necessary to find an appropriate ordering system to pass this knowledge on to an interested, self-confident, and curious bourgeois readership.[8] The arbitrariness produced by the alphabetical order of the encyclopedia entries in Diderot's and d'Alembert's monumental piece *l'Encyclopédie* is compensated for by the graphic overview that they provide at the beginning that unfurls the relationships and hierarchies between all the fields of knowledge that existed at the time.[9] (See figure 3) This *Système figuré des connaissances humaines* represents human understanding, divided into three parts: memory, reason, and imagination. It stands emblematically for the different facets of the concept of the tableau. At first glance, it is an ordering system, a synopsis of the forms of human knowledge, a surface consisting of ordering multiplicities.

Upon closer inspection, however, it reveals a figure common in encyclopedic thinking—the tree of knowledge, which is rooted in the Middle Ages.[10] One of the oldest and best-known historical examples of the tree of knowledge is the *Arbor scientiae*, dating back to 1296, by Renaissance scholar Ramón Llull (see figure 4).[11] Another famous tree of knowledge is French humanist Petrus Ramus' classification structure from *Dialectique*, which dates to 1555 and had great influence on the structure of Diderot and d'Alembert's system of knowledge.[12] But the Porphyrian tree structure is probably its most common diagrammatic manifestation. It is structured by a main trunk and a series of dichotomies branching off from it, presenting Aristotle's logical categories.[13] This tree, as the name already implies,

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7 See Annette Graczyk, *Das literarische Tableau zwischen Wissenschaft und Kunst* (Munich: Fink, 2004), 18. Annette Graczyk discusses *l'Encyclopédie ou Dictionnaire raisonné des sciences, des artes et des métiers* as the basic structure for the ordering and spatializing of knowledge in order to discuss the concept of the literary tableau, which she considers an amalgamation of science and art in literary texts written between 1750 and 1850. Exemplary literary tableaus, according to Graczyk, include *Tableau de Paris* by Louis-Sébastian Mercier, *Tableau physique* by Alexander von Humboldt, and the tableau as a systematization of physical experience in Johann Wolfgang von Goethe.

8 See ibid., 24.

9 See ibid.

10 See ibid., 42.

11 See ibid.

12 See Johanna Drucker, *Graphesis: Visual Forms of Knowledge Production* (Cambridge, MA, London, UK: Harvard University Press, 2014), 99.

13 See ibid., 98. The Aristotelian *Categories* (alongside a main trunk) are substance (material versus immaterial), the sublunary body (destructible instead of eternal), the body (mobile instead of immobile), living things (ensouled instead of unensouled), animals (capable of perception instead of uncapable of perception), and humans (rational instead of irrational). See Paul Studtmann, "Aristotle's Categories," in *The Stanford Encyclopedia of Philosophy* (Spring 2021 Edition), ed. Edward N. Zalta (Stanford: Stanford University Press, 2021), https://plato.stanford.edu/archives/spr2021/entries/aristotle-categories/.

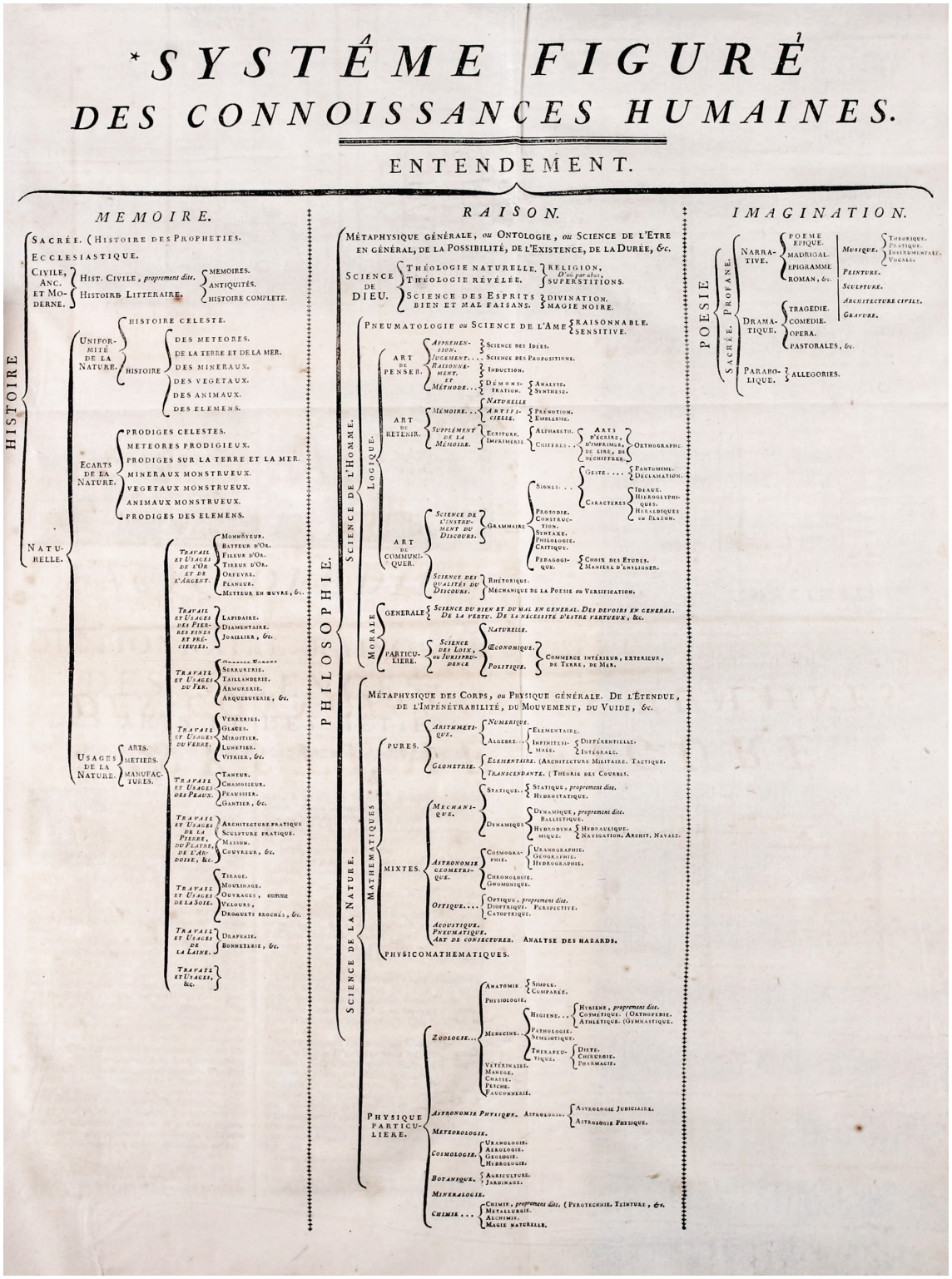

Fig. 3. Jean d'Alembert, Denis Diderot, "Système figuré des connaissances humaines," in *Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers*, ed. Denis Diderot, Jean Le Rond d'Alembert, 1752. Public domain.

Fig. 4. Ramon Lull, *Arbor scie[n]tie*, Barcelona: Pere Posa, 1505. Public domain.

was suggested by the philosopher Porphyry, who lived around 234–205 CE.[14] This is the temporal rooting of an ordering system that is based on a "binaristic process of division"—which is still how we order and structure the way we think today.[15] Trees of knowledge are figures of thought that convey meaning by establishing spatial relationships and hierarchically ordering individual elements.[16] The tree of knowledge is a piece of cultural heritage that is still valid and functional. "Many databases have a tree structure, as do many forms of structured data and files," writes scholar Johanna Drucker, whose research focuses on visual forms of knowledge production.[17] Trees of knowledge are a specific manifestation of the tableau, with a history reaching back to antiquity. In chapter 2.2, I will question the meaning of this hierarchical ordering system from the angle of critical posthuman thinking, which focuses on more affirmative ways of thinking—not in hierarchies and oppositions, but in multiplicities.

The most relevant approach to examining the concept of the tableau for my research is how it is defined and used by French philosopher Michel Foucault, who describes the tableau in the context of one of three epistemic configurations in his much-acclaimed work *The Order of Things*. For him, epistemes are "preconditions for the pursuance of science and the production of knowledge"[18]:

> This a priori is what, in a given period, delimits in the totality of experience a field of knowledge, defines the mode of being of the objects that appear in that field, provides man's everyday perception with theoretical powers, and defines the conditions in which he can sustain a discourse about things that is recognized to be true.[19]

This *a priori* in the production of human knowledge shapes the limitations and possibilities of thought. Foucault builds his study on his analysis of three scientific fields; grammar, natural history, and economics, from the Middle Ages to the end of the twentieth century, are the fields of knowledge from which he extrapolates the three epistemes: the ages of similarity, representation, and history.[20]

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14 See Eyjólfur Emilsson, "Porphyry," in *The Stanford Encyclopedia of Philosophy* (Spring 2022 Edition), ed. Edward N. Zalta (Stanford: Stanford University Press, 2021) https://plato.stanford.edu/archives/spr2022/entries/porphyry/.

15 Drucker, *Graphesis*, 99.

16 See ibid., 95.

17 Ibid., 95.

18 Micha Payer, "Episteme," in Payer Gabriel, *A±Z: Abwesenheit – Zufall / Absence – Accidental*, trans. Michael Turnbull (Berlin, Boston: De Gruyter, 2023), 59.

19 Michel Foucault, *The Order of Things: An Archaeology of the Human Sciences* (New York: Random House, 1994), 158.

20 For a more detailed insight into these three epistemes, see the appendix, chapter 5.3.

At this point, the age of representation as an epistemic configuration is of interest for understanding the broadened concept of the tableau. In the seventeenth and eighteenth centuries, the tableau—taxonomies, systematics and classifications—becomes an essential characteristic of the way that knowledge is gained and structured. One typical example of a descriptive ordering of the visible as a tableau is Carl Linnaeus' *Systema Naturae*, a taxonomic ordering of living creatures, plants and minerals introduced in 1735.[21] Foucault describes, that "[a]n animal or a plant [...] exists in itself only in so far as it is bounded by what is distinguishable from it."[22] Systems, that are structured by class, order, family, genus, and type are established; every living creature is marked by a difference and occupies a fixed place in this system.[23] In *A±Z*, I give a definition of the tableau based on Foucault's approach:

> The tableau is formed as an ordered synthesis of individual appearances based on differentiating observation. It is an arrangement of the visible; it is presentation, selection, enumeration, distinction, recollection, and idealization. In this pattern of thought, in which everything—both essence and expression—is defined through difference, the desire for an either-or outweighs the wish for a both-and. The tableau links here to the logic of binary opposition, which in various manifestations is also operative today: as the basis of computer technology (0, 1); in visualized infographics and decision trees; in decision-taking processes in the use of interfaces; in binary-opposite ways of thinking about gender, origin, sexual orientation, cultural influence, economic power, or membership of a species, which posthumanism aims to critically rethink and overcome.[24]

A great leap in human knowledge production occurred that placed the human itself at the center of research and made the humanities possible, focusing on the inner functional relationships between things instead of serially ordering and classifying them by their surfaces. The classical era was gradually replaced by a new epistemic formation in the late eighteenth century.[25] My conviction that the tableau did not completely disappear from human thinking was a precondition for my research. One aim of this research is to trace the fringes of the concept of the tableau, i.e., where it is still part and parcel of our knowledge production—and this is especially the case when the focus is on visual forms of knowledge production, approached from the angle of visual epistemology.

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21 Foucault, *The Order of Things*, 130.
22 Ibid., 144f.
23 Ibid.
24 Payer, "Episteme," 60f.
25 For a more detailed insight, see appendix, chapter 5.3.

The tableau is rooted in humanistic encyclopedism. It is a special image type, characterized by its synoptic and organizing function. It visually reveals the processes of comparing, separating, and distinguishing between the depicted elements. Tableaus show us how things are ordered and thought about. A famous, well-known example that must be mentioned in this context are the tableaus that form the *Bilderatlas Mnemosyne* by art historian and cultural scholar Aby Warburg. The *Bilderatlas Mnemosyne* was a work-in-progress that arose in three stages, from March 1928 to October 1929, but was still not finished when Warburg passed away while working on the final version.[26] Warburg´s monumental final opus consisted of myriad "clusters of images (photographic reproductions, photos, diagrams and sketches, postcards and various kinds of printed material including adverts and newspaper clippings)" showing motifs from antiquity composed into tableaus.[27] These ordered multiplicities that trace the effects of cultural codes of antiquity are tableaus in a double sense, i.e., they are "series of series," not only in their arrangement and composition but also in their material sense, as they are pinned on wooden panels that are covered with black hessian.[28] In George Didi-Huberman´s analysis of Warburg´s tableaus, we learn about two further essential qualities that complete the definition of the tableau given here: Warburg's tableaus are "synoptic exhibitions" that are intended to be irreducible and that present the visual structure of a thinking process.[29] For Warburg, the *Bilderatlas Mnemosyne* provided an opportunity for completeness—unlike in a lecture, where the image material has to be reduced—allowing the *Bilderatlas* to work as "a tool" that is able to "make the overdeterminations visible that are effective in the history of images."[30] Warburg himself said that his work on the *Bilderatlas* had the potential to dissolve the oppositions of concrete and absolute thinking.[31]

Abi Warburg was concerned with the *Nachleben* of images from antiquity, which translates as the *survival* or *afterlife* of images.[32] Warburg's understanding of *Nachleben* [survival] has a specific meaning, which intends to capture the phantom-

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26 For a digitized version of the three stages of the *Bilderatlas Mnemosyne*, see https://warburg.sas.ac.uk/archive/bilderatlas-mnemosyne.

27 See ibid.

28 Didi-Huberman here refers to Foucault's understanding of the tableau; see George Didi-Huberman: "Die Mnemosyne-Montage: Tafeln, Raketen, Details, Intervalle (2002)" in *Grundlagentexte der Medienkultur*, ed. Andreas Ziemann (Wiesbaden: Springer, 2019), 137.

29 See ibid., 138f.

30 Translated by the author, ibid., 138.

31 Ibid., 145.

32 George Didi-Huberman analyzed Warburg's understanding of this term.

like traces left in subsequent historical periods, where signs of antiquity reappear in various ways—this is the actual topic of Warburg's investigation. How does antiquity appear and disappear over time? Warburg engaged with the traces of antiquity not only in a materialized culture but also in the "forms, styles, behaviors and *psyche*" of succeeding cultures.[33] Warburg's concept of *Nachleben* points to an anachronistic, discontinuous, disruptive understanding of history that overlaps, as Didi-Huberman argues, with Michel Foucault's criticism of historical periodization.[34]

This idea that the complexity and multitude of life contradicts clearly delimited orders and categories resonated with me and made me think about what kind of "image life" I am interested in. It is not an afterlife, but a parallel life that I want to understand: what things mean here and there, how the use of images switches depending on their disciplinary assignations, how images mean and evade meaning, when they are ignored or observed, where they are mere vessels for transmitting the content or aesthetic entities being investigated or researched. *Re-enacting tableaus* is a strategy for understanding this parallel life of images; including the tableau in an artistic process means searching for insights through the image medium in the process of image-making. This happens in close connection with a theoretical definition and limitation of this concept.

2.2 Does the tableau work as an artistic category of analysis for visual forms of knowledge production?

Now that I have specified and refined the theoretical definition and usage of the term *tableau* in my research, I would like to formulate my research question. The first, central question is: How can the concept of the tableau be applied in an artwork and in artistic practice, especially in the technique of drawing? As the title of this chapter already gives away, the answer is by using the tableau as a category of analysis. This does not mean forcing one´s own artwork into a terminological corset but contextualizing it from the perspective of visual epistemology and choosing a conceptual approach. A category of analysis thereby works as a lens that lets us recognize things in a specific light. Here, I am guided by an understanding of categories of analysis borrowed from cultural studies. In particular, suggestions

33 George Didi-Huberman, *The Surviving Image: Phantoms of Time and Time of Phantoms*, trans. Harvey M. Mendelsohn (University Park, PA: Pennsylvania State University Press, 2017), 32.

34 See ibid., 47, 52. Michel Foucault's understanding of history results in epistemes, which are described in the appendix, chapter 5.3.

to consider turns in cultural studies not as static fields of investigation that remain on a descriptive level but rather as approaches and categories of analysis, offer new possibilities. Turns become means of knowing and media of perception.[35] When it comes to turns, and similarly in the case of the tableau, this means transforming a "descriptive term" into an "operative term."[36] In the drawing as well as in the book *A±Z*, the tableau and the encyclopedia actualize themselves as lived experience. Re-enacting tableaus means leaving the descriptive level in order to experience an inscriptive level. But as we leave the path of the descriptive level, we also have to deal with perspectival uncertainties and with a certain openness in the research process. From the viewpoint of the artist in particular, this is a very familiar experience.

To give a further example of how categories of analysis may work, Aby Warburg's tableaus help us to recognize certain cultural codes from antiquity that operate on an unconscious level.[37] This "Atlas of erratic memory" deconstructs a well-defined, historicist system of ancient influences and envisions a culture's "collective gaps," "missing links," and repressions.[38]

The research project *Re-Enacting Tableaus* places a particular emphasis in deconstructing visual strategies that are applied in science and knowledge production. The tableau works as a category of analysis in the comparison of artistic and scientific strategies of visual expression. The artistic drawing thereby functions as a means to explore visual scientific languages that impact our intellectual existence and how we know and learn something. Drawing is meant to be a process of reordering and creating montages of visual codes and symbolisms that are part of different discourses. As the reader will later see, drawing on Bruno Latour's text about inscriptions (*Visualization and Cognition: Drawing Things Together*; see the work series *On Inscriptions*, chapter 3.2) was very fruitful in this process.

Bedeutungsvertauschung—transposing meaning and separating scientific images and symbolisms from their didactic purposes—is a strategy that I applied frequently in the drawing practice that underlies this research.[39] The rich repertoire

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35 Doris Bachmann-Medick analyses turns in cultural studies under precisely this aspect: "Von einem *turn* kann man erst sprechen, wenn der neue Forschungsfokus von der Gegenstandebene neuartiger Untersuchungsfelder auf die Ebene von Analysekategorien und Konzepten 'umschlägt,' wenn er also nicht mehr nur neue Erkenntnis*objekte* ausweist, sondern selbst zum Erkenntnis*mittel* und -*medium* wird." in Doris Bachmann-Medick, *Cultural Turns: Neuorientierungen in den Kulturwissenschaften* (Hamburg: Rohwolt, 2018), 26.

36 Ibid.

37 George Didi-Huberman: "Die Mnemosyne-Montage," 141.

38 Ibid., 142.

39 This is, what I mean with the parallel life of images described above (mentioned in the last paragraph of 2.1).

on which the artworks draw is the result of popular scientific books and atlases as well as, to a large extent, the internet, an inexhaustible source of image production. "Surrealism is the DNA of the Internet," claims American poet and critic Kenneth Goldsmith.[40] I would add that the internet is an infinite surrealistic encyclopedia without categorical limitations and that it is in constant motion. The internet would have undoubtedly been an attractive source of images for Aby Warburg's *Bilderatlas Mnemosyne* if it had existed during his time.

So, to recapitulate the research question, "Does the tableau work as an artistic category of analysis for scientific image production?" I would note that the tableau is used as a lens in the conceptualization of artistic drawings that deal with scientific symbols and images that are connected to knowledge production. One question that has so far remained vague is the meaning of scientific image production. This question will be answered in the next chapter by taking a closer look at the epistemic virtue of truth-to-nature. I will provide further clarification of this question by describing the work series developed within my research in the third chapter.

2.3 The medium of drawing: From *truth-to-nature* to *truth-to-something-else*

The academic understanding of knowledge production is characterized by the high demands placed on guaranteeing scientific quality, integrity, and professionalism, which is achieved by implementing various scientific standards and methods. These are in a constant process of development and change, resulting from discussions, disputes, power struggles, and arguments between scientists, underlaid by political decisions that provide their financial funding. Objectivity is the epistemic virtue that has emerged from this concern for scientific integrity, and it seems to provide the key to this integrity by oppressing subjectivity. But the fact that the self inevitably partakes in the research process has been demonstrated in Lorraine Daston and Peter Galison´s comprehensive study on objectivity. Their research resulted in the eponymously titled book *Objectivity*, which investigates certain "practices of seeing" by analyzing "the making of images in scientific atlases from roughly the early eighteenth to the mid-twentieth century, in Europe and North

40 A conversation between Kenneth Goldsmith and Virginia Heffernan on the digital experience. See https://vimeo.com/186483821.

America."[41] Truth-to-nature, mechanical objectivity, and trained judgement are the three epistemic virtues described by Daston and Galison, all of which are still options being deployed and applied in the production of scientific images.[42]

At this point, I will focus on the epistemic virtue of *truth to nature*, as the most common technique of image production connected to it is drawing. The second reason for taking a closer look at this epistemic virtue relates to the concept of the tableau. In the early eighteenth century, the epistemic virtue of truth-to-nature developed with the aim of capturing ideal examples of a species that would represent all of the unique, individual examples actually occurring in nature. "[...A]lmost all the atlas makers were united in the view that what the image represented, or ought to represent, was not the actual individual specimen before them but an idealized, perfected, or at least characteristic exemplar of a species or other natural kind."[43] To synthesize images as "the distillation of not one but many individuals carefully observed," the techniques used in this period were nature drawing, etching, the copperplate, and the lithograph.[44] Drawing was based on collaborations between scientists and artists, not infrequently draftswomen. This kind of collaboration can be described as "four-eyed-sight," which aimed to create a "reasoned image."[45] Naturalists dominated artists by using them as instruments. Recognizing nature meant ordering it, and the scientific self therefore had to actively control the process of image production by observing and deciding where to place emphasis and what to ignore in the depiction. "For naturalists who sought truth-to-nature, a faithful image was emphatically not one that depicted exactly what was seen. Rather, it was a reasoned image, achieved by the imposition of the naturalist's will upon the eyes and hands of the artist."[46]

The epistemic virtue of truth-to-nature did not exclude the scientist's judgement. Rather, the epistemic quality of the images produced depended on the scientist's skills of observation, abstraction, and technique. The epistemic strength was being able to categorize empirical phenomena and create a well-ordered synoptic table that exceeded the diversity and differences of unique appearances. This absolutely fits with Foucault's definition of the episteme of representation,

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41 Lorraine Daston and Peter Galison, *Objectivity* (New York: Zone Books, 2007), 19, 368. "Subjectivity is the precondition for knowledge: the self who knows." Ibid., 374.

42 See ibid., 363. For a more detailed description of these epistemic virtues see appendix, chapter 5.3.

43 Ibid., 42.

44 Ibid., 79.

45 Ibid., 98.

46 Ibid.

where knowledge is organized as a tableau. Regardless of the object being discussed and depicted—be it a plant, an animal, or a human, its composition, structure, anatomy, or tissue formation—the main objective was to represent all cases concentrated and abstracted in one ideal case that would allow the viewer to draw conclusions about every single case. Difference, defined here as the gradual transition between the single "specimens," was a central challenge in this context. It had to be eliminated in order to create one ideal that was true.

This built a bridge to the question of what kind of truth could play a role in the drawings and work series that are part of my research and how to draw comparisons to truth-to-nature.[47] Difference, repetition, and variety played a major role in the handling of the image material that was used to conceptualize the drawings.[48] Ordering categories were used as interchangeable patterns that were varied in manifold ways.

Truth-to-nature is the epistemic virtue that aims to dissolve the entanglement of perspectives in order to create one sharp picture. It therefore has to neglect the gradual transitions between things. This mode of thinking is certainly necessary in order to find orientation in the chaos of individual cases, but it entails the risk of comparison and unification. For no individual specimen will ever fit like a matching puzzle piece into the template that aims to represent all the single pieces.[49] This not only concerns the categorization of empirical phenomena and the order of nature but can also be applied to human thinking, which will be an issue in the next chapter on critical posthuman thinking. As multiplicity and openness in the engagement with and the arrangement of image material is a virtue in my artistic practice, I refuse to limit the kind of truth I am addressing to one designation and will instead stick to "truth-to-something-else" as an artistic category that contains the idea of decategorizing categories. I could perhaps be persuaded to at least name the virtue I aspire to as *truth-to-difference*, similar to the "philosophy of difference"

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47 The artist Christoph Weber, who reviewed my work in the Public Colloquium in May 2021, put the question this way: "I remember that your practice [of drawing] was described as a sort of useful filter [...], a good way to deal with the fear of knowledge overload. However, I think there is more to it than that 'filter.' Is it also a way to appropriate the information, a way to understand the information [...] on an artistic-motoristic level? [...] Maybe rather than appropriation, a process of depropriation, entering it into an encyclopedic realm as a way of publishing without ownership? Finally, is it a way to apply more truth, or a different truth? If not truth-to-nature, than maybe the truth-to-something-else?"

48 A closer examination of "Difference" can be found in the appendix, chapter 5.1.

49 One could ask how vivid this obsession with the ideal case is in the context of image production and self-representation on social media platforms, when we think, for example, of phenomena like body dysmorphic disorder or the ideal cup of coffee posted online.

that, as Gilles Deleuze puts it, must be rescued from "its maledictory state"[50]: "Representation fails to capture the affirmed world of difference. Representation has only a single centre, a unique and receding perspective, and in consequence a false depth. It mediates everything, but mobilises and moves nothing."[51] It is a welcome contradiction to use an instrument—the tableau, developed to represent—to work against the mono-perspective of representation.

A last point to address here is the technique of drawing itself. In the episteme of truth-to-nature, the practice of drawing meant a codependence between the natural scientist and the illustrator.[52] This cooperation consisted of the analytical skills of the natural scientist and the detailed accuracy skills of the illustrator, who was provided with precise instructions and played the subordinate role.[53] Drawing played a rather mechanical role in this process of scientific image production. The same applies to my practice of drawing: I consider it a mechanical process, a process of absolute focus, as well as a process of deceleration. In my work in the collective Payer Gabriel, drawing means sharing this process with my partner. Neither of us has a specific hand recognizable to the viewer, but we have, of course, undeniable idiosyncratic characteristics and preferences in certain techniques and forms of expression. We both share an attention to details. Working as a duo, similar to the collaboration between scientist and illustrator (except that we both draw), means a lot of discussion, verbal interaction, preparatory work, research, and not least agreement. Unlike the scientist and the illustrator seeking truth-to-nature, we start on equal footing and with shared authorship. This makes the medium of drawing so attractive to us, as it is a historically charged means of demonstrating how traditional the obsession with the uniqueness of the singular genius in contemporary art is.[54] Collectiveness, a matter of fact in science, (although there are plenty of narratives of the solitary, for the most part male, genius in science) is a matter of fact in art as well (where similar narratives exist).

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50 Gilles Deleuze, *Difference and Repetition*, trans. Paul Patton (London, New York: Continuum, 2001), 29.

51 Ibid., 55f.

52 See Daston and Galison, *Objectivity*, 87.

53 Daston and Galison explain that the name of the scientist was placed prominently on the title page, while the names of the illustrator as well as that of the copper engraver were placed small and discretely beneath the plates. See ibid., 86, 88.

54 The practice of working in a collective (with equal partners and without hierarchies) has become more common in recent times, but the ideal of the artist as a genius is still very popular in the art world. I speculate that this correlates with the idea of the *homo universalis* as an ideal figure, as discussed by Rosi Braidotti in: *Posthumanism* (Cambridge: Polity Press, 2013), 13.

Drawing functions as a reflexive process at the end of a process of thoughtful conceptualization. It is material unification on paper—a synoptic tableau, arranging single elements from different visual languages that build a subtle, decategorized reference system. Drawing is the medium that I use to defamiliarize. The accidental and the intuitive are essential components of these conceptualizations. So far, I have provided a general consideration of my artistic practice. But I am sure that I will be able to give a better and more tangible understanding by providing more detailed descriptions of the individual groups of works *A±Z, On Inscriptions*, the *Fibonacci Cabinet*, the *Trees of Knowledge*, and *In Defense of the Accidental* in chapter 3.

2.4 The concept of the tableau in relation to postcolonial knowledge production and critical posthuman thinking

There is no doubt that the tableau is part of a Western European, humanistic system of knowledge production. This knowledge system is rooted in a "previously religious-theological Christian system of knowledge" and became "secularized and naturalized in the course of Europe's colonial expansion."[55] This forms the basis of an "enlightened modern scientific paradigm."[56] It is imbued by the dominance of androcentric, Eurocentric, and Occidental knowledge.[57] The result is a hierarchy and monoculture of knowledge that leaves no space for any kinds of knowledges that stand outside this paradigm. In *Epistemische Gewalt: Wissen und Herrschaft in der Kolonialen Moderne*, Claudia Brunner analyzes how the term *epistemic violence*, which was introduced by literary scholar and theorist Gayatri Chakravorty Spivak, affected academic knowledge production specifically.[58] Thanks to numerous brilliant scholars like Edward Said and Gayatri Chakravorty Spivak (among many others, of course, but these two were the focus of my reading list and are therefore mentioned here), a postcolonial turn transpired that enabled a critical re-evaluation of the notions of humanism and enlightenment, which had previously been stylized as the highest ideals of human thinking and rationality. In the course of this research, I developed a deep appreciation for exceptional thinker Rosi Braidotti's works on critical posthuman thinking, which turned out to be very enriching and

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55 Claudia Brunner, *Epistemische Gewalt: Wissen und Herrschaft in der kolonialen Moderne* (Bielefeld: Transcript Verlag, 2020), 284. For more details, see "Epistemic Violence" in the appendix, chapter 5.4.

56 Ibid.

57 See ibid., 285.

58 For a more detailed discussion, see the appendix, chapter 5.4.

encouraging for my artistic practice. In *The Posthuman*, Braidotti describes the *Vitruvian Man* (well known from Leonardo da Vinci's geometricized depiction) as the "ideal image and normative model of European humanism," which became a "civilizational model" that considered Europe as the center for all reason.[59] Critical posthuman theory questions this traditional, ongoing self-perception of superiority that is ingrained in the European humanist identity—an identity that all too often excludes the non-normative: the "sexualized, racialized and naturalized others."[60] Without a doubt, this rational creature, the human, has taken plenty of actions that have led to a critical review of the human. "The Human has become a geological force capable of affecting all life on this planet," as Braidotti writes.[61] There is a need for a rethinking of the concept of the human and of human knowledge production. We, the subjects of posthumanism and the post-Anthropocene, find ourselves in a globalized, digitalized, and highly technological world, Braidotti argues. She points out that there is plenty of knowledge that is produced outside the "traditional container" of the human mind.[62] These include, the philosopher says, "algorithmically executed risk assessment, synthetically induced cell formation and division, artificially produced meat, [and] the adaption and copying of the neural and sensory system of other species."[63] Naturally this creates a "feeling of dispossession," an affective state that we have to get used to.[64] It seems necessary to rethink the knowing subject, *homo universalis* or *anthropos*, as an assemblage of human and non-human components that is guided by the principles of multiplicity and complexity.[65] Braidotti's *Posthuman Thinking* offers plenty of examples from different scientific fields to describe how a cognitive turn is already taking place in the academic world. Artistic research is certainly part of this process. Braidotti emphasizes the necessity of creating neologisms in order to include artistic strategies and weirdness in thinking, as well as to focus on the idea of multiplicity.

For my research, the idea of multiplicity took different forms in the individual groups of works. Generally speaking, it means exponentiating and superimposing different perspectives on top of the issues being investigated. It means affirming the intuitive and unexpected in the same way as the regulated and ordered, giving

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59 See Rosi Braidotti, *The Posthuman* (Cambridge: Polity Press, 2013), 13f.
60 Ibid., 15.
61 See ibid., 5.
62 Rosi Braidotti, *Posthuman Knowledge* (Cambridge: Polity Press, 2020), 14.
63 Ibid.
64 Ibid., 14.
65 Ibid., 18f.

the same space to the sensual and visual as to logic. Multiplicity is not based on the principle of either-or. Including contradictions in the knowledge process is essential. The book *A±Z*, which is the central piece of this research, is emblematic of the mindset that shapes the whole research process: a blurring, overlapping, and mixing of academic and artistic methodologies. Hence, *A±Z* is a hybrid: reflection and artwork, theory and practice, documentation and original at the same time. It reorganizes and defamiliarizes the familiar: the encyclopedia, the tableau, the tree of knowledge—all these forms of ordering and knowing are the cultural patterns that impact how we think and know.

3. Work series

3.1 A±Z: Abwesenheit – Zufall / Absence – Accidental

The volume *A±Z* forms the core of my research, the endeavor to re-enact tableaus. The book was published by Edition Angewandte / De Gruyter (June 2023). In order to reach a larger readership, the book was written in German and English. *A±Z* is a book that follows an encyclopedic ordering system. The forty-one alphabetically ordered entries address their topics in very different ways.[66] The book compiles and documents drawings by Payer Gabriel from roughly the last decade with different types of texts and groups of works that resulted from the research project *Re-Enacting Tableaus*. The book reprints the theoretical texts "Visualization and Cognition: Drawing Things Together" by Bruno Latour; "Idiotism," a chapter from the book *Psychopolitics: Neoliberalism and New Technologies of Power* by Byung-Chul Han; collected "Paradoxa" from the early editions of *Systema Naturae* by Carl Linnaeus; and the essay "In Defense of the Accidental: Philosophical Reflections

66 The word list of *A±Z* in German and English reads as follows: Abwesenheit von Nichts / Absence of Nothingness; Alphabet, Betagamm, Gammadelt / Alphabet, Betagamm, Gammadelt; Alphazerfall / Alpha Decay; Angst, epistemische / Epistemic Fear; Aufzählung / Enumeration; Baum des Wissens / Tree of Knowledge; Bedeutungsvertauschung / Transposition of Meaning; Begriff / Term; Blättern / Browsing; Bruch, epistemischer / Epistemic Rupture; Denken / Thinking; Differenz / Difference; Doppelgänger / Doppelgänger; Enzyklopädie / Encyclopedia; Episteme / Episteme; Epistemologie, visuelle / Visual Epistemology; Fleck, blinder / Blind Spot; Gewalt, epistemische / Epistemic Violence; Idee / Idea; Idiot / Idiot; Ikonografie des Beweises / Iconography of Proof; Inskription / Inscription; Linearperspektive / Linear Perspective; Materie / Matter; Moderne, flüchtige / Liquid Modernity; Natur-Kultur-Kontinuum / Nature–Culture Continuum; Neologismus / Neologism; Paradoxa / Paradoxes; Subjektposition / Subject Position; Tableau / Tableau; Taxonomie / Taxonomy; Unwissbares / The Unknowable; Unwissen / Nescience; Verfremdung / Defamiliarization; Vergilbung / Yellowing; Wahrheit / Truth; Wende / Turn; Wiederholung / Repetition; Wissen / Knowledge; Wort / Word; Zufall / The Accidental.

on Man" by Odo Marquard. Moreover, the book includes quotes from Rosi Braidotti's *Posthuman Knowledge* and *The Posthuman*, Lorraine Daston and Peter Galison's *Objectivity*, and Zygmunt Bauman's *Liquid Modernity*. A guest commentary by Khadija Zinnenburg Carroll was written to give an outside perspective on the encyclopedia and encyclopedic practices. I wrote contributions that follow academic writing protocol on the topics of "Difference," "Encyclopedia," "Visual Epistemology," "Episteme," "Idiot," "Knowledge," and "Epistemic Violence" (which can all be found in the appendix, chapter 5, except for "Knowledge," which can be found in chapter 3.5). Other text contributions take a more experimental approach and discuss the terms "Absence of Nothingness," "Truth," "Turn," "Word," and "Yellowing." Some entries combine or merge texts and images, whereas others consist solely of images or texts. I do not consider the book to be merely documenting the research process; rather, it is an independent work of art about visual thinking that reveals my thinking process and my approach to visual forms of representation (the tableau, the encyclopedia), and that contextualizes the collective work of Payer Gabriel within this system of thinking.

The book itself is a traditional medium for transmitting information. Despite the rise of the internet and its powerful ability to affect how we approach knowledge and exchange information, book publishing activity is still very lively.[67] In the myriad of contemporary publications, every title appears like a little grain of sand. One speculation about what it is that makes the printed book so appealing is the paradoxical role it plays in an era when knowledge overload has taken on an entirely new dimension. As Kenneth Goldsmith puts it, "A book actually stops the flow of information."[68] It has a beginning and an end—a comforting feeling, considering the endless sprawl of the world wide web, where the search for information leads us from one thing to the next, accompanied by the unease of the algorithmically driven, affective targeting of our very natures. From a material perspective, the book could be understood as a self-contained entity—a book-object. Certainly, finding a book in a bookstore, with no help from any algorithms ("You might be interested in this too..." or "Other customers, who bought this, also bought...") but through the process of discovery—frequently determined by the accidental—ultimately preserves a feeling of autonomy.

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67 From 2015 to 2020, the number of printed book titles in Europe increased from 9.9 million to 13.1 million; see https://de.statista.com/statistik/daten/studie/1198250/umfrage/zahl-gedruckter-buchtitel-in-europa/.

68 A talk between Kenneth Goldsmith and Virginia Heffernan on the digital experience; see https://vimeo.com/186483821.

If the scholars from antiquity through the Middle Ages to the Enlightenment were confronted with contemporary techniques of knowledge exchange, how would they react? What was once referred to as the fear of a flood of knowledge would probably become a psychotic, irreversible, and complete loss of reality. Renaissance scholar Franceso Petrarca, for example, was concerned that the excessive consumption of books could confuse readers and drive them to madness.[69] His statement dates back to 1366. Around 400 years later, Denis Diderot was convinced that the endless growth of publication titles would cause the same difficulties "to educate oneself in a library, as in the universe," making it "almost as fast to seek a truth subsisting in nature, as lost among an immense number of books."[70] Historian Peter Burke dedicated a meticulous study to the persistence of the concern with losing orientation within the full wealth of knowledge as well as the measures taken to handle this situation.[71] Burke describes the development of academic fields and university systems, the establishment of academic disciplines and technical terms, the process of specialization, and the techniques used and measures taken to store and order the knowledge obtained and collected in Europe from the early modern period to the present. Encyclopedias are a universal, emblematic manifestation of the desire to retain completeness in the gathering of human knowledge.[72] The persistent ideal of a complete archive of human knowledge production seems to be an objective that is moving further and further away, transforming into a utopia. In mathematical terms, the encyclopedia has taken an asymptotic course, which makes it very appealing as an artistic medium.

A±Z takes our logo- and numerocentric system as a matter of fact and as the basic condition for rethinking it. It is not an attempt to overcome, but to reorganize that system. Here I argue with Odo Marquard, when he asserts that "usual practices should not be demonized: The fact that they are not heaven on earth, the absolutely good, is not enough to make them hell on earth, the absolutely bad [...]."[73] The encyclopedia is without a doubt a "usual practice," as

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69 See Steffen Siegel, *Tabula: Figuren der Ordnung um 1600* (Berlin: Akademie Verlag, 2009), 29.

70 Denis Diderot, *Encyclopédie* (1755), quoted in Caspar Henderson, *The Book of Barely Imagined Beings* (Cambridge: Granta, 2012), i.

71 This study consists of Burke's two volumes, titled *A Social History of Knowledge: From Gutenberg to Diderot* and *A Social History of Knowledge: From the Encyclopédie to Wikipedia.*

72 For a detailed etymological clarification of the term *encyclopedia* and the disciplining of knowledge, see Payer, "Knowledge," in Payer Gabriel, *A±Z,* 192–197, reprinted in chapter 3.5, and Payer Gabriel, "Encyclopedia," in ibid., 38–45, reprinted in the appendix, chapter 5.2.

73 Odo Marquard, *In Defense of the Accidental: Philosophical Studies*, trans. Robert M. Wallace (New York, Oxford: Oxford University Press, 1991), 118. Marquard, who is referring here to Descartes' *Meditationes*,

is the tableau. Encyclopedias are endless successions of quotations, references, and refutations, of writing, overwriting, and updating. *A±Z* is based on the idea of transforming the methodological approach of establishing an ordering system into an artistic strategy. An encyclopedic ordering system—the *encyclopedia* initially meant a "circle of learning"—can be defined as a reference system.[74] *A±Z* is thus what I call a circular reference system concerning visual- and text-based epistemics. This reference system consists of little pieces—like the glass splitters of a kaleidoscope—i.e., the encyclopedia entries that form a complete, ever-changing pattern. The emotional atmosphere that *A±Z* pursues as an artwork is a feeling of being reminded, of the reminiscent: things—words, signs, symbols, meanings—appear, disappear, and reappear differently in multiple ways. Defamiliarization is the artistic strategy applied in *A±Z*. Defamiliarizing something makes the usual and familiar necessary as the foundation against which what has been alienated can be distinguished. Defamiliarization [*Verfremdung*] is suggested as a strategy in critical posthuman thinking that was borrowed by the surrealists. The following is an encyclopedia entry from *A±Z* on "Defamiliarization," which is also a quote from Rosi Braidotti:

> The production of posthuman knowledge benefits from the methodological practice of defamiliarization, which has been revived by feminist, subaltern and post-colonial theory over the last decades. It functions as a pedagogical tool to encourage the knowing subjects to disengage themselves from the dominant normative vision of the self they had become accustomed to. Defamiliarization is a way of decoding one's implication in power relations, which Gayatri Spivak calls "unlearning one's privileges." Nowadays, these privileges include one's Eurocentric humanist and anthropocentric habits of thought and the forms of representation they sustain, so as to make room for the new.[75]

The encyclopedia entry is the basic structure and single component that is treated in various ways in *A±Z*. Humanistic encyclopedic writing practice, in its

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says that "all judgments are not [...] permitted until they are forbidden as a result of their falsification; instead, they are prohibited until they are permitted as a result of their absolute verification." This idea of absolute knowledge is also expanded to norms of action, which means that in case of doubt, traditions have to be rejected. This is what Marquard calls the philosophical "programme of making man absolute," which includes making absolute choices and living an absolutely correct life, and which is not possible due to our finite nature as the main accidental and existential situation to which we are subjected. Ibid., 114.

74 Peter Burke, *A Social History of Knowledge: From Gutenberg to Diderot* (Cambridge: Polity, 2008), 93.

75 Rosi Braidotti, *Posthuman Knowledge*, 139; see also Gayatri Spivak: *The Post-Colonial Critic: Interviews, Strategies, Dialogues* (New York: Routledge, 1999).

ideal form, meant providing a clear and comprehensive overview of a topic, shaped in a neutral language.[76] Authorship did play a role in encyclopedic writing, albeit a marginal one.[77] Neutrality and the veneer of objectivity are certainly not the usual case in *A±Z.* One could say that the encyclopedia entries in *A±Z* are a collection of exceptional cases.[78] Some of them follow academic rules; others leave that path. How did I come up with these forty-one words that have been processed as encyclopedia entries? All of the words, all of the entries revolve around the questions: What is knowledge? What kinds of knowledge exist? How are they produced and by whom? Where are we as knowing subjects? In what ways is knowledge limited by epistemic configurations? In what ways is it affected by visual forms of representation? How do we approach it from a posthuman perspective? How is it represented visually? How is it created visually? The encyclopedia entries address these questions in various ways, sometimes by leaving the page blank, as in the case of the entries "Alphabet, Betagamm, Gammadelt," "Browsing," and "Nescience." In the case of the keywords "Difference," "Episteme," "Visual Epistemology," "Idiot," "Epistemic Violence," and "Knowledge," the entries consist of theoretical texts that resemble the traditional idea of encyclopedic writing.[79] These entries end with reflections that open up new questions (instead of being constricted to a series of findings) about artistic practices and research processes in relation to the theoretical ideas that are introduced and discussed in the text. The faithfulness to the authors being referenced, to their very own language, played an important role. I tried to make the complex philosophical and epistemic topics discussed by the authors (Rosi Braidotti, Peter Burke, Lorraine Daston, Gilles Deleuze, Johanna Drucker, Michel Foucault, Peter Galison, and Bruno Latour) comprehensible by using the encyclopedia entry as a genre of writing. This format was very helpful in acquiring a profound theoretical understanding, which, in turn, was fruitful for rewriting the encyclopedia as an artistic concept.

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76 See Ulrich Johannes Schneider, *Die Erfindung des allgemeinen Wissens: Enzyklopädisches Schreiben im Zeitalter der Aufklärung* (Berlin: Akademie Verlag, 2013), 2, 21. Schneider notes that encyclopedias were works of science and erudition until the eighteenth century. After that, encyclopedias were also used as reference works by a general public interested in understanding actual complex scientific insights. These encyclopedias were written in a simpler language as paraphrases of primary literature. Ibid., 19.

77 Ibid., 2.

78 This is also the challenging situation that the graphic designers of *A±Z,* Nik Thoenen and Hannah Sikai, had to deal with!

79 All these texts can be found in the appendix, chapter 5, except for "Knowledge," which is reprinted in chapter 3.5.

Texts with a more experimental character can be found in the following entries: in "Absence of Nothingness," I placed an incomplete layer of definitions over a still life by Payer Gabriel, oscillating between concrete poetry and caption. For "Truth," I wrote and drew a poem between lines composed of ink drops that had previously been flung at the paper (see figure 5). The entries "Turn" and "Word" I would define as incomplete, exemplary, enumerative poems, similar to many of Payer Gabriel's drawings, which follow the logic of enumeration. An act of literary normativity is provided by the entry "Yellowing," where readers will find DIN 6167, a description of the yellowness of near-white or near-colorless materials.

The texts by the authors Bruno Latour, Byung-Chul Han, and Odo Marquard, as well as the quotes from Rosi Braidotti, Zygmunt Bauman, and Lorraine Daston and Peter Galison, play an important role in the artwork, in visual thinking, and in the artistic approach taken toward making an encyclopedia. Based on Bruno Latour's text "Visualization and Cognition," I initiated a series of works titled *On Inscriptions* that will be discussed in chapter 3.2. It can be said that *A±Z*, too, is an inscription as defined by Latour. Byung-Chul Han's chapter on "Idiotism," which is part of the book *Psychopolitics*, sheds light on the concept of "doing the idiot" [*faire l'idiot*], which, according to Gilles Deleuze, is a necessary attitude for a philosopher who intends to think about thinking *ab initio*. Han's text is about the power of misjudgment, miscommunication, and idiosyncrasy as creative acts against the neoliberal forces of permanent communication and conformism. "As a heretic, the idiot represents a figure of resistance opposing the violence of consensus," writes Han.[80] I would argue that making an encyclopedic book is also an idiotic endeavor.[81] Odo Marquard's text *In Defense of the Accidental* is a text about the unavoidability of the accidental in life. The accidental is our existential condition, and the motleyness and variety of accidents that overlap with each other guarantee existential freedom. Payer Gabriel's drawing series *In Defense of the Accidental* makes reference to this text (see chapter 3.4). Philosopher Rosi Braidotti's perspective on critical posthuman knowledge production is spread throughout the book, in quotations on "Defamiliarization," "Neologism," and

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80 Byung-Chul Han, *Psychopolitics: Neoliberalism and New Technologies of Power*, trans. Erik Butler (London, New York: Verso, 2017), 83.

81 This was also the reaction of some of my colleagues specializing in media and the digital arts in my first internal colloquium in 2019. They found my encyclopedic endeavor very idiotic and, as I assume, felt provoked by its "uncontemporariness." The reader can find out what I understand by this idiotic practice in the appendix, chapter 5.5.

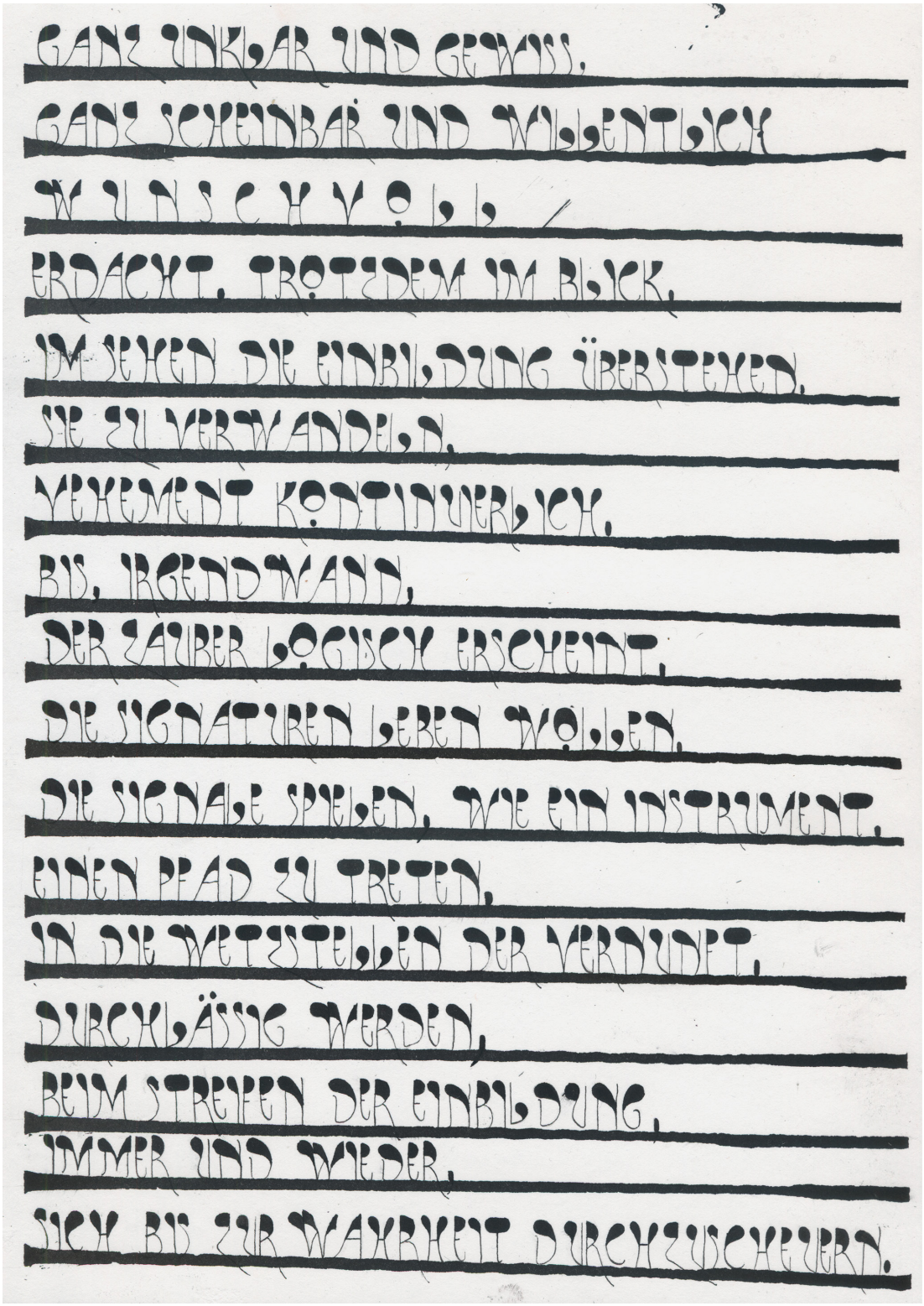

Fig. 5. In Defense of the Accidental / Wahrheit / Truth
2022
Ink on paper
29,7 x 21 cm

"Thinking," but also in the various texts in which she is quoted. Lorraine Daston and Peter Galison´s perspective on visual knowledge production in science, as well as Johanna Drucker's approach to it, are woven into various texts on visual epistemology, epistemes, and epistemic fears. Zygmunt Bauman´s bitter analysis of the present as liquid modernity is combined with drawings that try to capture this atmosphere. Artistic researcher, artist, and scholar Khadija Zinnenburg Carroll writes a text about the concept of the encyclopedia from a postcolonial perspective and through the lens of epistemic violence. She describes her own artistic research practice and performative approach, and how they are related to her understanding of the encyclopedia. Her research focuses on the repatriation of cultural property, and she raises the central question of how to reconnect with the epistemics that were wiped out in part or as a whole, and that were considered minor forms of knowledge in the process of Western Christianization and colonialization.

The image material in *A±Z* is no less diverse than the text material. Again, the material is treated in various ways. In some cases, the documented artworks are combined with texts; in others, picture and text merge (as in the drawn poem on "Truth," and a drawing on the "Iconography of Proof," quoting Bruno Latour). In other cases, the juxtaposition of a certain picture with a certain text creates new meaning. At first glance mutually strange, they reveal something in their combination with each other. This is, for instance, the case with "Paradoxa," for which I combined an etching of a sky crowded with drones transporting different goods with a passage from an early edition of *Systema naturae* by Carl Linnaeus. Linnaeus lists various mythic creatures that later disappear from his tableau-like ordering of nature.[82]

Some encyclopedia entries consist solely of pictures. The documented drawings take on a life of their own in *A±Z*, which means that I do not consider them to be documentation as in the case of artworks in an art catalogue, where the work is represented. The idea of an artistic, encyclopedic system separates the artwork from its material existence as the original. As part of a book-object and in its allocation to a word or, vice versa, in the allocation of a word to an artwork, they unfold a different meaning and become an altered form of the original. Similar to Warburg´s

82 Here, one might find a validation of Michel Foucault's description of one episteme replacing another. Paradoxa are the fringes of a thinking system involving the signs inscribed into things transforming into a thinking system based on differentiation and identities as an ordered surface; see chapter 5.3 in the appendix.

approach and ordering of his chosen image material, I also neglected the artworks' orders of magnitude, which had to be adapted to the print size of 28.5 x 21.5 centimeters. There is information about technique, dimensions, and dates at the end of the book in the picture index. Some of the drawings were specifically made for the book, as in the case of the entries "Term," "Visual Epistemology," "Tableau," and some of "Episteme." (See figures 6a and 6b) From my point of view, the book concept for *A±Z* offered a means of democratizing my own artwork outside the hierarchical system of the art market. The artworks were not dematerialized but rematerialized, and their materialization was embedded in a thought process and contextualized through an overall concept that links visual thinking to posthuman theory and visual epistemology. *A±Z* is a space where the relationship between picture and text remains under critical observation. Judgments about whether figurative artworks (in particular) are (or rather *look*) illustrative only takes place on a superficial level and is testament to a culturally inscribed and trained perceptional attitude toward the picture as a mirror representing something in the "real world."[83] Illustrativeness can thus also function as a provocative act that shows how we categorize different visual products and how we deny them any epistemic value. My colleague Erik Bünger made an interesting remark on the complicated status of images in the Western, language-dominated, and logocentric knowledge system: the image is worshiped and dominated at the same time.[84] As Bünger puts it, it is proverbially "worth more than thousand words" but at the same time subjected to the language that dominates Western epistemology. The concern I had when I started the book project *A±Z* about a rivalry potentially emerging between visual and text-based material did not, from my point of view, materialize. I do

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83 W.J.T. Mitchell states that the relationship between visual pictures and real objects that assign the picture a representational function is based on the idea of the dichotomy in Occidental metaphysics (mind-matter dualism, subject-object dualism). See W.J.T. Mitchell, *Bildtheorie* (Frankfurt am Main: Suhrkamp, 2008), 30.

84 "You write about the impossibility of the tableau. Perhaps this impossibility resides precisely in the way this linguistic domination functions? For, if language dominates the image in our culture, then it simultaneously seems to lift the image up on a pedestal and worship it as a superior form of expression (see for example the expression 'a picture is worth more than a thousand words'). Giorgio Agamben describes this kind of simultaneous domination and worship as an 'inclusive exclusion.' Agamben does not write about images per se. But I think his model can be really useful here nevertheless. The image is excluded from language (it is judged to be not-language) and at the same time included in language (as a superior form of language). The tableau manifests this inclusive exclusion perfectly. It lifts up the image as an object with an epistemological value of its own only to subject this object entirely to the epistemology of language. So, one can perhaps see the impossibility that you speak of as one with this paradox, wanting to worship and dominate at the same time? This is of course not an easy question to answer but interesting to think about nevertheless." Review by Erik Bünger, Internal Colloquium, summer semester 2020.

not see a problematic tension but rather an intended and positive tension. *A±Z* takes the strategy of repeating a scientific systematic (of assembling, ordering, contextualizing, and encyclopedizing) as an artistic practice and therefore produces moments of uncertainty. For example, the moment when the footnotes from Bruno Latour's text "Visualization and Cognition" are set in opposition to the drawing of a chandelier with small, engraved windows (from the drawing series On Inscriptions) creates such a fruitful tension that the picture is worth more through words, and vice versa, the footnotes become pictorial. A functional family resemblance arises: between the small windows that interrupt the motif of the chandelier and the footnotes as necessary disruptions in a text that disturbs the flow of reading but provides detailed contextual additions. Nik Thoenen and Hannah Sakai made many empathic, savvy decisions in their graphic design for *A±Z*, which creates an additional layer by compiling pictorial and textual material in an unexpected manner. Their design is part of what one might refer to as *graphesis*.

Graphesis is a neologism coined by artist, literary scholar, and digital humanities expert Johanna Drucker. It is also the title of her book, subtitled *Visual Forms of Knowledge Production*, which investigates a space in between the linguistic and pictorial realm. *Graphesis* is a collection of visual forms that structure knowledge and reveals the historical embeddedness of how we visually express what we know.

> We are still Babylonians, in our use of the calendar, our measure of days, hours, and minutes, just as we remain classical in our logic, medieval in our classification systems, and modern in our use of measurements expressed in rational form. Each of the many schematic conventions in daily use and the frequently unquestioned appearance in our documents and websites replicate ideologies in graphics.[85]

I hope that *A±Z* can help to create an awareness of this fact by approaching these visual forms of knowledge production from an artistic perspective and opening up a space for reflection by defamiliarizing certain schematic conventions (such as tableaus or trees of knowledge). Drucker is especially interested in "nonrepresentational visual expression [that] creates information or knowledge in a primary mode."[86] Here I can see a relation to art and the intentions of visual artists. Although knowledge

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85 Drucker, *Graphesis*, 65.

86 Drucker, *Visualization and Interpretation: Humanistic Approaches to Display* (Cambridge, MA, London, UK: MIT Press, 2020), 12.

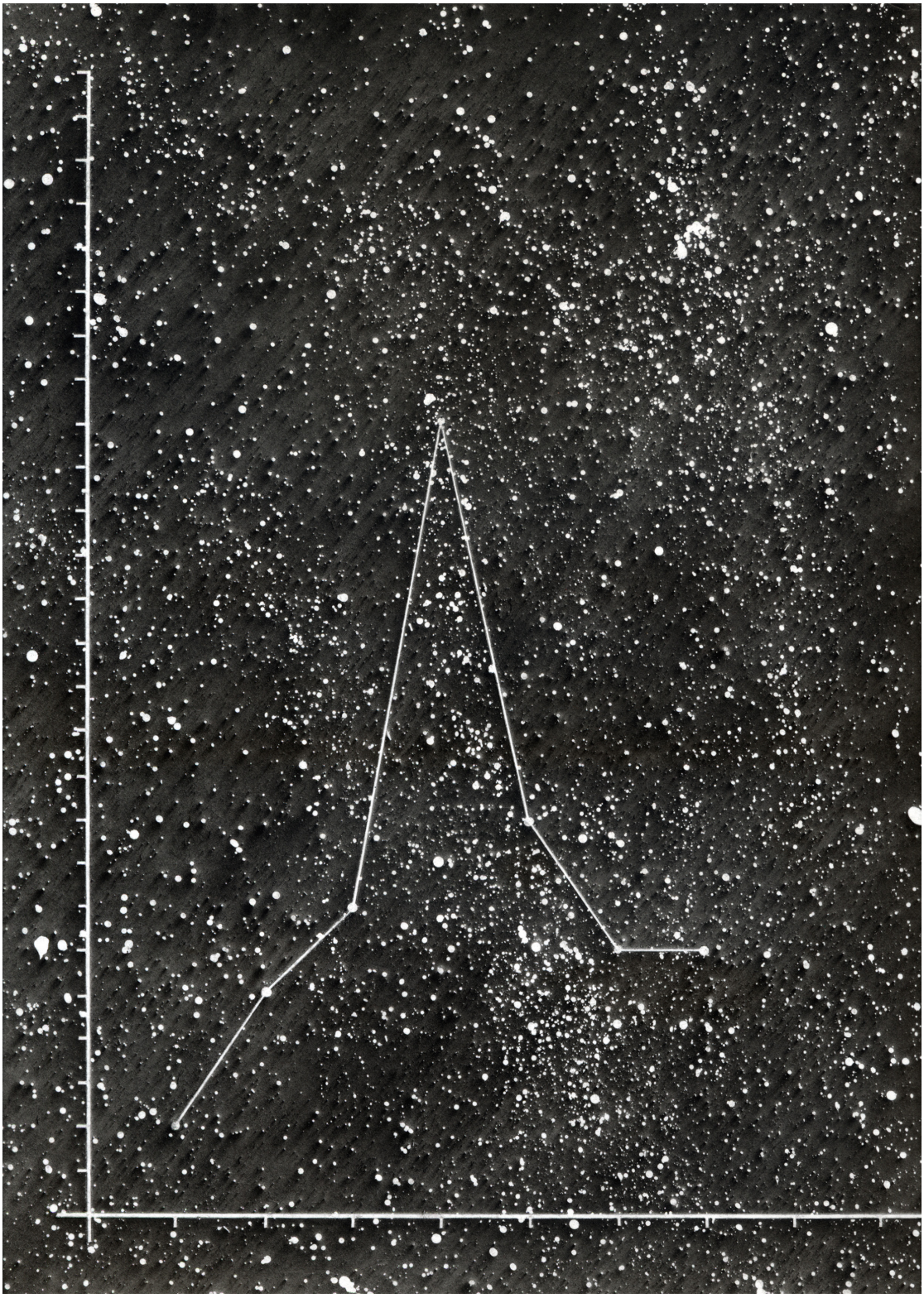

Fig. 6a. **In Defense of the Accidental / Begriff / Term**
2022
Pastel on paper
29,7 x 21 cm

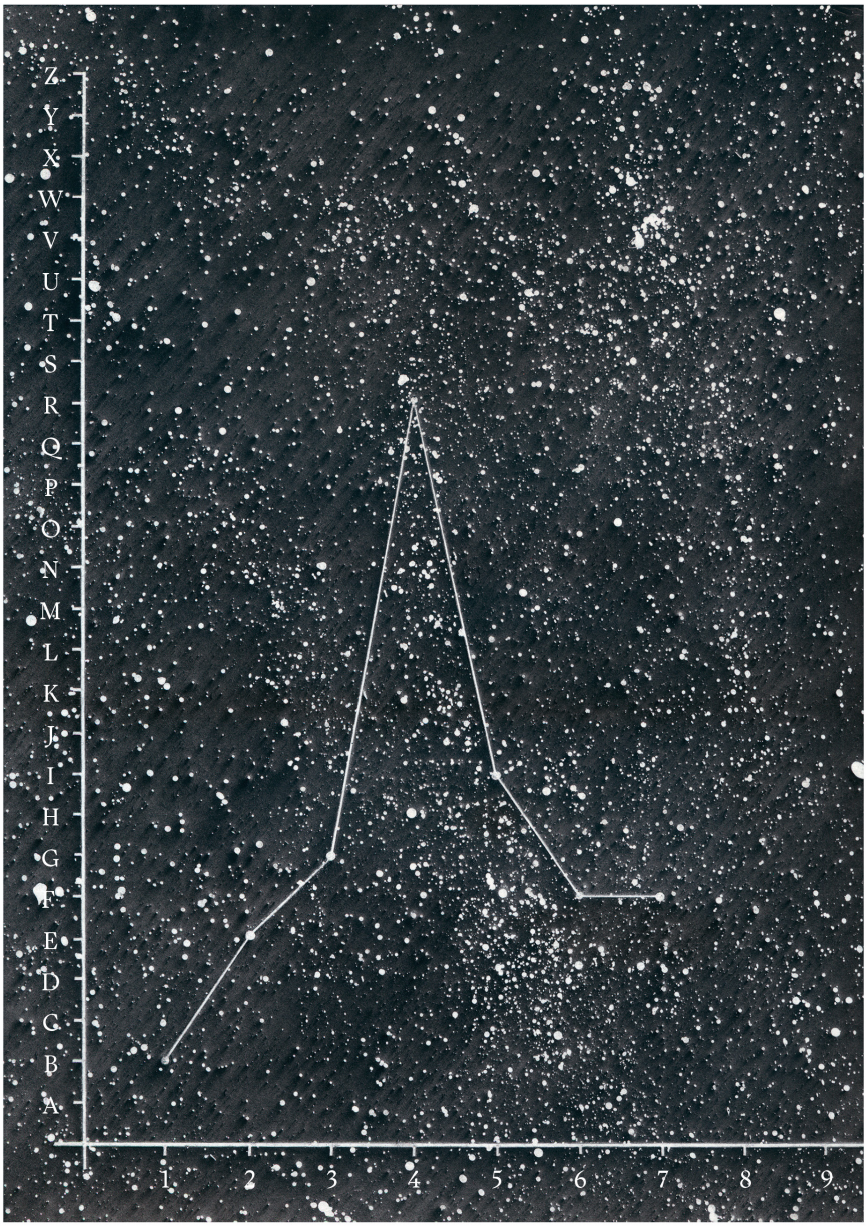

Fig. 6b. **In Defense of the Accidental / Begriff / Term** in Payer Gabriel, *A±Z*, 22.

has a different meaning in the arts than in science, they share common ground in their intention to create meaning and understanding. In *A±Z*, defamiliarization plays a role not only as an overall concept and in the treatment of the encyclopedia and the tableau but also as an essential artistic strategy in drawing practice. I would refine this definition by naming it a "transposition of meanings," which includes the use of scientific visual language, and withdrawing it from its function as inscription. I am aware that it is precisely in this diffuse interrelation of different, separate visual modes that potential lies for further research and further clarification.

As a concluding remark, and to repeat my intention of decategorizing categories, I would like to mention an interesting observation I made comparing the experience of writing and drawing. In my artistic practice, writing and drawing follow the same (encyclopedic) logic. The quotations from different authors can be equated with the pictorial found motifs: both form the creative impulse and material for thinking about processes and for assembling and contrasting different perspectives, be they linguistic and linear, or visual and synoptic. Writing a text and conceptualizing a drawing follow similar mechanisms in *A±Z.*

3.2 The work series *On Inscriptions*

I am an onlooker who follows the use of pictorial material in science and the academic world with curiosity and openness. Bruno Latour's text *Visualization and Cognition: Drawing Things Together* is exceptional and insightful, and addresses the development and understanding of the role of images in scientific and academic life. Latour was especially interested in the mechanisms that turn laboratory life into paper. There must be something—and it is certainly not the scientist´s larger or more potent brain[87]—that makes it possible to, scientifically speaking, move mountains (such as space in exploration, nuclear fission, the internet, DNA sequencing, algorithms, pacemakers, financial markets, cathedrals, vaccination, artificial meat, quantum computer, and so on—to provide a random and exemplary selection, in both good and bad ways). According to Latour, there is no single grand dichotomy between a prescientific and a scientific world that separates contemporary scientific research from premodern knowledge production.[88] It is

87 Bruno Latour, "Visualization and Cognition: Drawing Things Together," in *Knowledge and Society: Studies in the Sociology of Culture Past and Present* 6 (1986): 1–40, 1, http://www.bruno-latour.fr/sites/default/files/21-DRAWING-THINGS-TOGETHER-GB.pdf, accessed March 22, 2023.

88 See ibid., 2.

much more a myriad of little puzzle pieces and the complex interplay between many things that explain the advancements made in science. Latour is interested "in the way in which groups of people argue with one another using paper, signs, prints, and diagrams," as this seems to unite different scientific fields regardless of the different methods and strategies that they apply.[89] Laboratories are places that were made to turn everything into inscriptions.[90] At this point (and before discussing Latour's definition of inscriptions), I cannot help but draw a comparison: artists' studios were made to turn everything into art. How are artistic outcomes—which are exhibited in galleries, museums, art spaces, off spaces, public spaces, offices, living rooms, and kitchens, that are collected or neglected, celebrated or ignored—related to inscriptions? Comparing artistic and scientific outcomes on paper is an act of defamiliarization. The drawing series *On Inscriptions* is an endeavor to take *Visualization and Cognition* literally and to neglect the categories of science and art: it is an attempt to draw from inscriptions, to reflect on "writing and imaging craftmanship" in science, by putting them on paper in an alienated form.[91]

Latour states that he is not interested in the whole history and development of scientific visualization or modes of writing in science but rather in specific inventions in writing and visualizations that enable "the mobilization and mustering of new resources."[92] What kinds of inscriptions manage to persuade the research community? It is not the visual inscription per se that is so powerful but the "*cascade* of ever simplified" inscriptions and the whole process of bringing empirical phenomena and observations into rational forms that facilitate exchange among scientists.[93] "You cannot measure the sun, but you can measure a photograph of the sun with a ruler."[94] Successful inscriptions make things possible that seem to be impossible. Latour summarizes their advantages in nine points: they are mobile, immutable, and flat; their scale can be modified without changing their internal proportions; and they can be reproduced at low costs. These qualities allow them to be recombined and superimposed. Moreover, they can be made part of a written

89 Ibid., 3.
90 See ibid., 4. "Instruments, for instance, were of various types, ages, and degrees of sophistication. Some were pieces of furniture, others filled large rooms, employed many technicians and took many weeks to run. But their end result, no matter the field, was always a small window through which one could read a very few signs from a rather poor repertoire (diagrams, blots, bands, columns)."
91 Ibid., 3.
92 Ibid., 6.
93 Ibid., 16.
94 Ibid., 20.

text or merged with geometry due to their two-dimensional character.[95] Inscriptions are pragmatic processes of transformation and simplification for the purpose of understanding the most complex phenomena.

One aspect in Latour's text that specifically resonated with me was that the output of scientific instruments results in "a small window through which one could read a very few signs from a rather poor repertoire (diagrams, blots, bands, columns)."[96] The technique of etching came to my mind as a historic means of producing immutable mobiles that keep their form when they are reproduced and that can be easily disseminated. These considerations led to etchings being made in small formats that are embossed on paper of a larger size (100 x 70 centimeters). The little "windows" are arranged and printed on paper in different combinations, never repeated in the exact way. The edges of the copperplates are embossed on the paper. I think of these little etched windows as interruptions, comparable with the quotes that interrupt the reading flow of a text but at the same time build the foundation for the argumentation. (See figures 7 and 8)

Etching is a historic technique of reproduction in art and natural science that was very common in the eighteenth and nineteenth centuries. Copperplate etching dates from a period when art and science were not completely separated from each other.[97] Besides its aesthetic potential, this made it very appealing for taking an artistic approach to inscriptions. But the series *On Inscriptions* is a work made in opposition to reproducing one and the same (by using a technique of reproduction), as all the etchings are arranged in various ways, and—in their diversity—form the starting point for different drawings that try to open up a space for multiplicity. The series investigates binarity, aggregate states, flows, functional correlations, and cycles formally and aesthetically. Conservation is not only approached through artistic technique but also on the level of content. As solidified forms, objects such as thin sections, fossilized pollen, the plaster cast of a victim of the volcanic eruption of Pompeii confront the volatile, the clouds and fog, and the fluid. They confront the rudimentary and the poetic in inscriptions. A chandelier could be a

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95 See ibid., 19f.

96 Ibid., 4.

97 In *Objectivity* by Daston and Galison, there are many examples of engravings given in the context of the epistemic virtue of *truth-to-nature*: Bernhard Siegfried Albinus worked with copper engraver Jan Wandelaar, William Hunter worked with illustrator Jan van Rymsdyk and the engraver Gérard Scotin, John James Audubon worked with several copper engravers, as did René Antoine Ferchault de Réaumur and Georges Louis Leclerc de Buffon—all of them natural scientists of the eighteenth and early nineteenth centuries. See ibid., 72, 66, 80, 85, 107.

Fig. 7. Detail, **On Inscriptions**
Etching

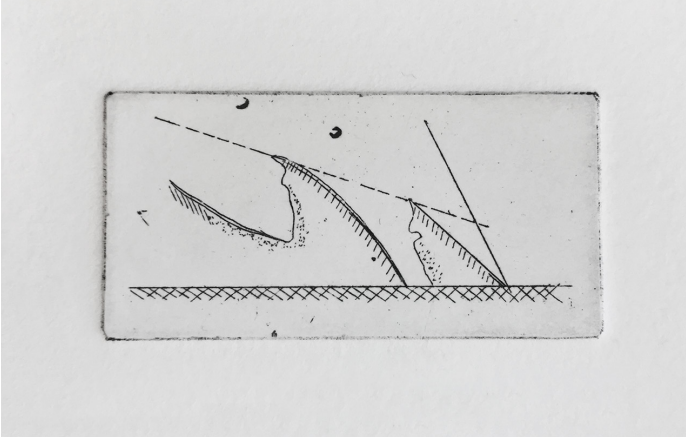
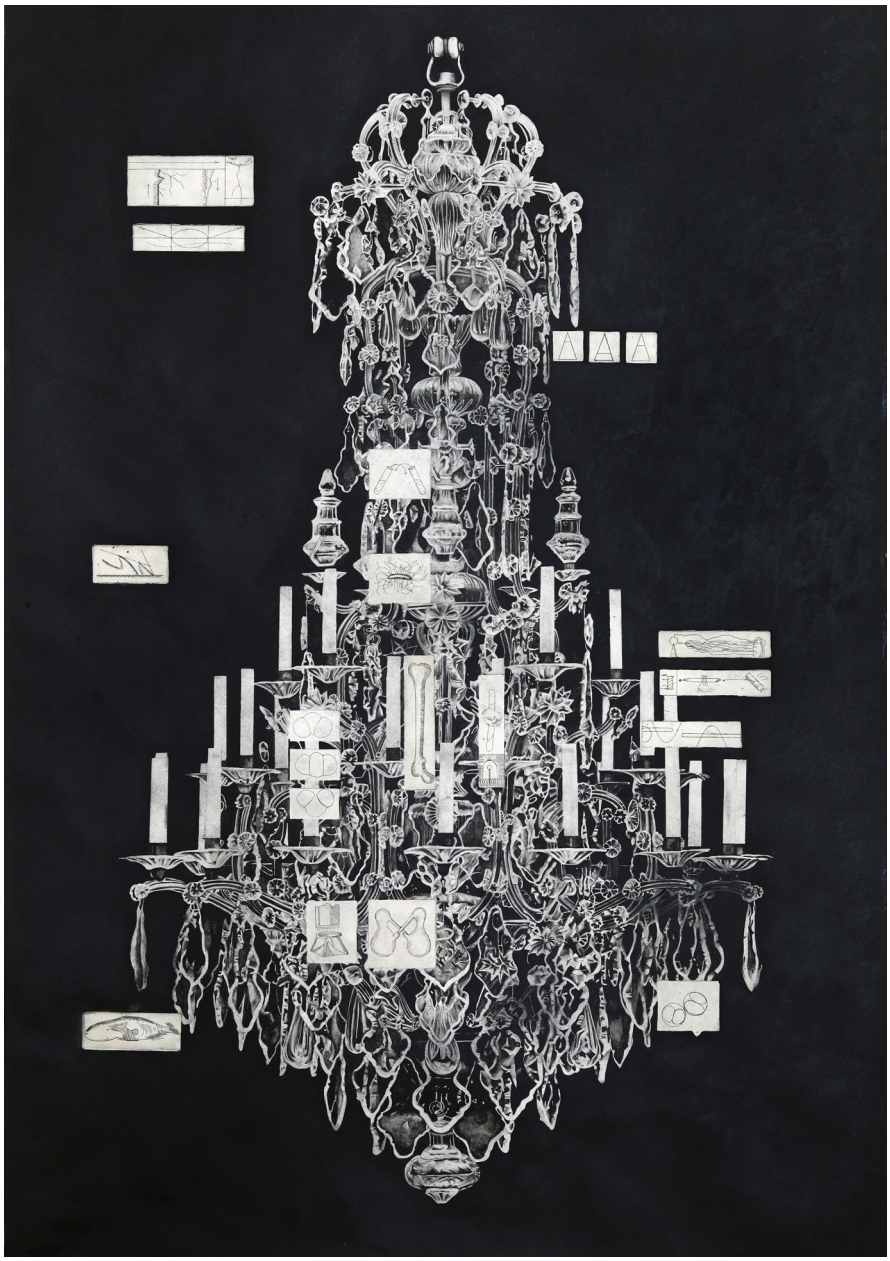


Fig. 8. **On Inscriptions / Tableau No. 5**
2022
Etching with graphite paste and pencil on paper
100 x 70 cm



fossil. A strand of DNA could be an ornament. A circle could be a view through the microscope. (See figures 9, 10, 11, 12 and 13)

Moreover, the idea of layered windows plays a role in some of the works. Layered windows are the everyday visual experience of recent times. Screens are the spaces where everything is ordered in windows and their superimpositions. Anything that is not needed in that very moment can be shifted and hidden, but we are aware that it is still there. Mobile devices are interfaces between our own pictorial choices and decisions on the one hand and given graphic designs and patterns on the other. Never before has the threshold to participating in the creation of a visual world been as low as it is today. It has to be taken into account that we live in a pictorial hypertrophy, a world of layered pictures. When we use the internet, we are constantly being surprised by what pops up. The analysis of image types and their repetitive character could comprise its own research field, which could lead to categorizations like Linnaeus' *Systema naturae*—a *Systema picturarum obretiendarum* [*System der im Netz gefangenen Bilder / System of Images Caught on the Net*]. Regarded historically, image production was reserved for only a few people—mostly scientists and artists—but within the scope of digitalization and with the use of highly sophisticated photographic technology, which minimizes the necessity of technical skill, the visual creation of the world has become everybody's matter. "Cosmograms of the present," an expression coined by art historian John Tresch, can therefore not only be found in scientific image production but also extend to everyday image production. I wonder if it is therefore possible to cross the borders of scientific discourse and use the concept of inscription to engage with pictures in general. For example, Tresch's analysis of the ways and reasons that people post their food and cups of coffee online in his brilliant text "All diese Bilder vom Essen: Ansichten des Kosmos im Zeitalter des Raubtierkapitalismus" [All These Pictures of Food: Views of the Cosmos in the Age of Dog-Eat-Dog Capitalism] describes plenty of similarities between posting food and the function of inscriptions: it is about how aesthetics, technology, and consumption are bound to economics, politics, and ecological cycles.[98] At the same time, what seems to

98 "Bilder von Essen aufzunehmen, ist eine Art Kosmogramm, das die genannten Punkte miteinander verbindet: Es zeigt, wie unsere Ästhetik, Technik und unser Konsum mit Wirtschaft, Politik und ökologischen Kreisläufen verwoben sind – und dass sich diese Bahnen addieren, sodass ein Universum entsteht." In John Tresch, "All diese Bilder vom Essen. Ansichten des Kosmos im Zeitalter des Raubtierkapitalismus," in *Wörterbuch der Gegenwart*, ed. Bernd Scherer and Olga von Schubert (Berlin: Matthes & Seitz, 2019), 98.

Fig. 9. **On Inscriptions / Tableau No. 3**
2021
Ink, colored pencil, pastel, and pencil on paper
100 x 70 cm

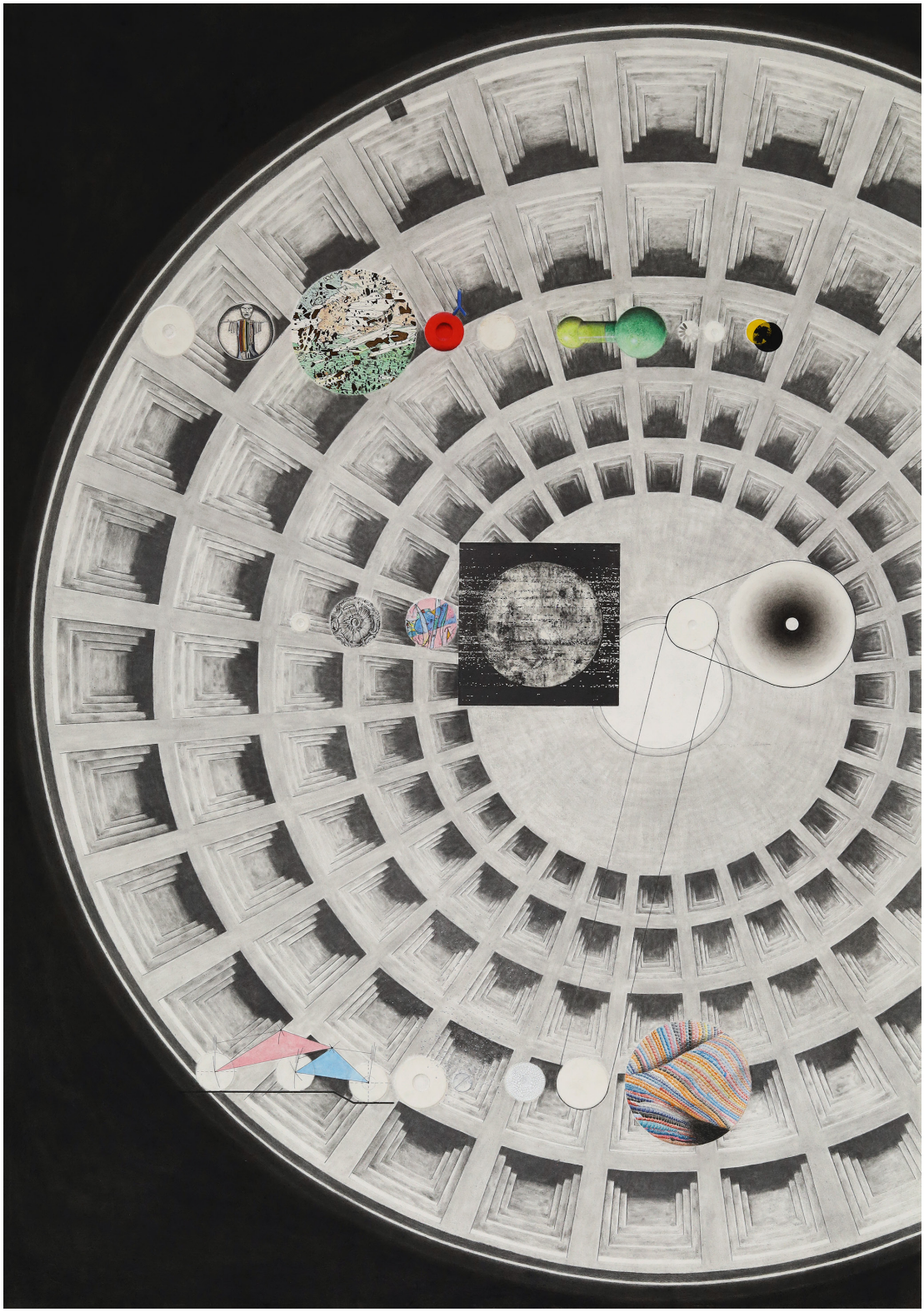


Fig. 10. **On Inscriptions / Tableau No. 2**
2021
Embossings with pencil, colored pencil, graphite powder, and pastel on paper
100 x 70 cm

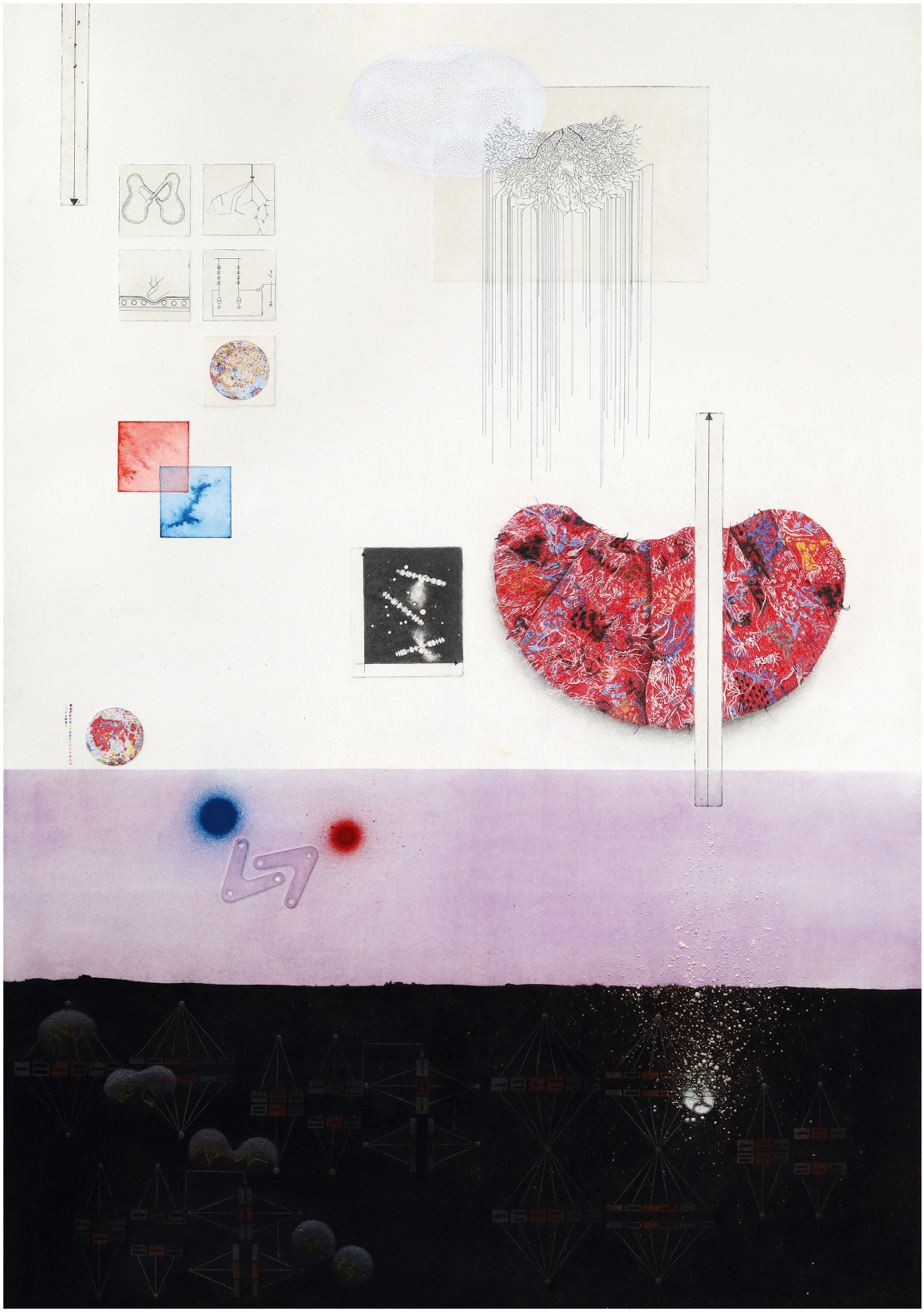


Fig. 11. **On Inscriptions / Tableau No. 1**
2021
Etching with ink, colored pencil, graphite powder, pastel, pencil, and fineliner on paper
100 x 70 cm

Fig. 12. On Inscriptions / Tableau No. 4
2022
Pastel on paper
100 x 70 cm

Fig. 13. **On Inscriptions / Tableau No. 6**
2021 / 22
Etching with ink, pencil, graphite powder, graphite putty, pastel, and fineliner on paper
100 x 70 cm

happen in the virtual world is fundamentally material: it slowly consumes vast resources and impacts the world, becoming a force.[99] One avenue for further artistic research could be these kind of pictures that function in an inscriptive and mobilizing way, regardless of their origin or discursive function. I believe that there is great potential in understanding Latour's inscriptions in an extended way and including the popular world of image production. How we depict and visually represent the world simultaneously determines how we make and affect it as a force.

3.3 The *Trees of Knowledge*

As I mentioned in chapter 2.1, trees of knowledge are ordering systems that are closely connected to the concept of the tableau. They order knowledge but at the same time give insight into the structure of thinking. We would thus be missing the point if we reduced their visual structure to a useful, neat, graphic means of demonstrating something in a pleasant way. Trees of knowledge are taxonomic ordering techniques based on concepts from formal logic—extension and intension, *differentia specifica*, and *genus proximum*.[100] While the extension of a concept defines the set of all entities applicable to it and can be understood as spectrum, intension comprises the set of characteristics or attitudes that form a concept.[101] They function on different levels: extension is vertical, and intension is horizontal. The idea of the decision tree is based on *genus proximum* and *differentia specifica*. The principle of *genus proximum* means building classes (genera) in a hierarchical order, while *differentia specifica* is the differentiating mark that creates order within a class.[102] The interesting thing about *differentia specifica* is that there has to be difference within identity: something is part of a class if it is similar but different. The way this decision is made follows strict rules, and there is a longstanding discussion in philosophy about whether classes and categories are manmade and

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99 John Tresch points to a study that says that 69 percent of millennials take photographs of their food. If only 0.1% of the photos posted online show food, the energy required to store these pictures for one day is one gigawatt—that is the energy a nuclear power station produces in ten days. See ibid., 98.

100 Paul Michel, "Verzweigungen, geschweifte Klammern, Dezimalstellen: Potenz und Grenzen des taxonomischen Ordnungssystems von Platon über Theodor Zwinger bis Melvil Dewey," in *Allgemeinwissen und Gesellschaft: Akten des internationalen Kongresses über Wissenstransfer vom 18. bis 21. September 2003 in Prangins*, ed. Paul Michel, Madeleine Herren, and Martin Rüesch (Aachen: Shaker Verlag, 2007), 105–144, 106f.

101 See ibid. For example, as Michel explains, the extension of "furniture" means all entities that belong to this category, such as chairs, tables, etc., while intension means that all chairs have certain qualities: you can sit on them, they have chair legs, and are meant for one person.

102 See ibid., 107.

constructed or inscribed by nature.[103] Whereas the idea that an order is constructed offers a space to negotiate that order, the idea that it is given by nature (or God) is a limitation and denies the possibility of discussing, shifting, or reinventing it.

The genealogical tree is a deeply engrained, collective picture that can be found in several guises throughout history. The vocabulary of tree and stem can be found in Plinius and Seneca, and the legal practice of the Roman Empire relied on tree diagrams.[104] In the Old Testament imagery of Judeo-Christian culture, the tree of life and the tree of knowledge played a major symbolic role.[105] The iconography of the root of Jesse (Isaiah 11:1–2, "egredietur virga de radice Jesse et flos de radice eius ascendet," which means, "A shoot will come up from the stump of Jesse; from his roots a Branch will bear fruit") reached its heyday in the interlaced ornaments of the Middle Ages, which presented the biblical succession of generations.[106] Petrus Ramus (philosopher and humanist, 1515–1572) is the most prominent representational figure of stylized tree graphs.[107] His system of curly brackets conquered the world and soon became very common in encyclopedic writing.[108] This led to an obsession with the "ramification" of everything, even when this method was sometimes applied inappropriately.[109] (See figure 14 for an application of the Ramus-method on *A±Z*)

The "ramification" method, taxonomies in general, and the universality of language and knowledge have been subject to much critique from different corners. Gilles Deleuze and Felix Guattari suggest the rhizome to underline the polyphony in the ordering of the world; Ludwig Wittgenstein brings up family resemblances; and Michel Foucault was inspired to write *The Order of Things* by his reading of Jorge Luis Borges quoting a strange classification of animals in a "certain Chinese encyclopedia."[110]

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103 See ibid., 110.

104 Steffen Siegel, *Tabula*, 63.

105 Johanna Drucker, *Graphesis,* 96.

106 Steffen Siegel, *Tabula*, 62f. Siegel gives the examples of Hartmann Schedel's *Weltchronik* from 1493 and Gregor Reisch's *Margarita Philosophica* from 1508.

107 Paul Michel, *Verzweigungen, geschweifte Klammern, Dezimalstellen*, 117.

108 See ibid. Curly brackets in encyclopedic depiction were used, for example, in Theodor Zwinger's *Theatrum Vitae Humanae* (1565), Christophe de Savigny's *Tableaux accomplis de tous les Artes libéraux* (1587), and Gregor Reisch's *Margarita Philosophica* (1503). See Michel, *Verzweigungen, geschweifte Klammern, Dezimalstellen*, 129–136; reproduction of Savigny's *Tableaux* in Siegel, *Tabula*, 61, 90.

109 Paul Michel, *Verzweigungen, geschweifte Klammern, Dezimalstellen*, 118.

110 Ibid., 126–128; and Foucault, *The Order of Things: An Archaeology of the Human Sciences* (New York: Random House, 1994), XV. Foucault quotes a passage from Jorge Luis Borges' *The Analytical Language of John Wilkins,* first published in 1942: "This passage quotes a 'certain Chinese encyclopedia' in which

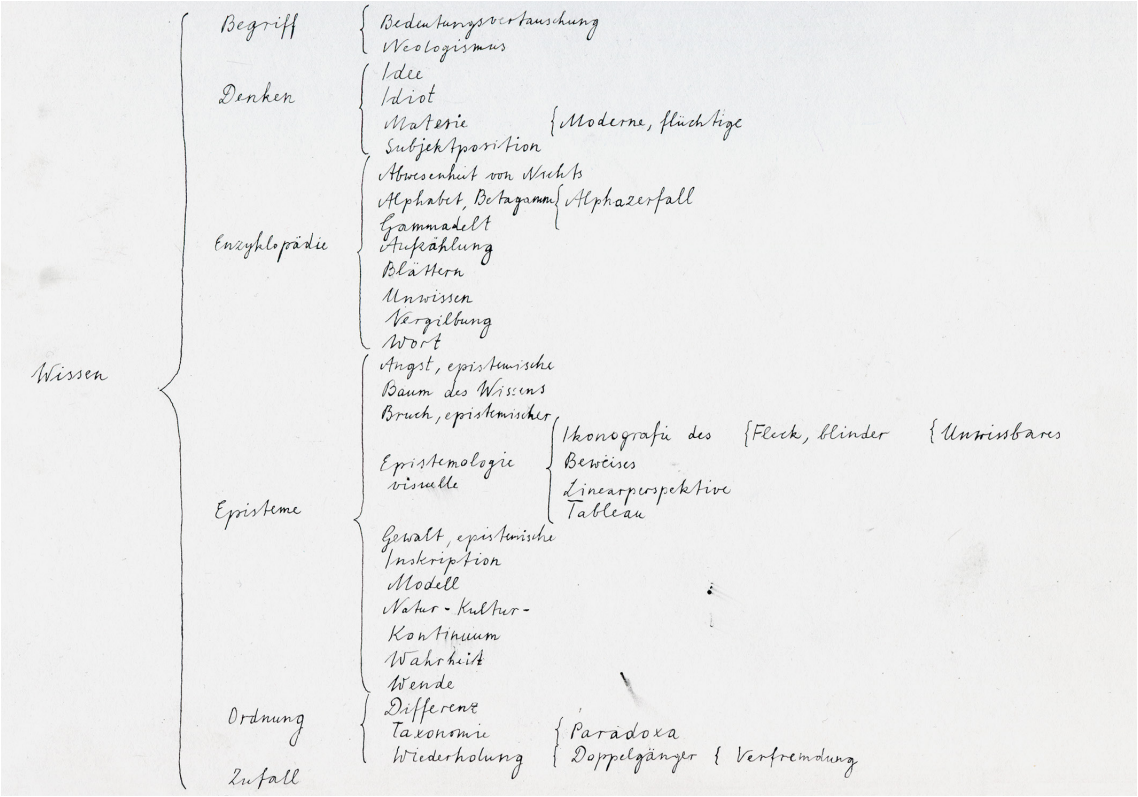

Fig. 14. The Ramus-method applied on *A±Z:* **Untitled**
2022
Ink on paper
21 x 29,7 cm

The work series *Trees of Knowledge* joins this multivocal critique from a visual perspective. These works are themselves difficult to categorize within art discourse as they are hybrids of sculpture, frame, and display. The *Trees of Knowledge* consist of welded steel tubes to which A4 drawings can be attached with the help of magnets. They have wheels, so they are mobile, but they are also quite bulky. They carry a contradiction within themselves: their wheels and the fact that the drawings can be swapped out using magnets make them mobile, flexible, and allow for different arrangements. But their steel material makes them heavy and inflexible, and even if the attached drawings can be exchanged, they have a fixed position and fixed spatial relationships due to their steel frames. These *Trees of Knowledge* are therefore unstable on the content level—they both demonstrate and neglect the

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it is written that 'animals are divided into: (a) belonging to the Emperor, (b) embalmed, (c) tame, (d) sucking pigs, (e) sirens, (f) fabulous, (g) stray dogs, (h) included in the present classification, (i) frenzied, (j) innumerable, (k) drawn with a very fine camelhair brush, (l) *et cetera*, (m) having just broken the water pitcher, (n) that from a long way off look like flies.'"

function of trees of knowledge: their static structure, their meaning-conveying function, their irrational universal approach, and their potential to show processes of thinking and ordering. (See figures 15, 16, and 17)

Payer Gabriel have developed *Trees of Knowledge* in different versions and sizes. They have been conceptualized for different exhibition settings and exhibited in various spaces and contexts.[111] The drawings mounted in diverse arrangements on the *Trees of Knowledge* all come from the drawing series *In Defense of the Accidental* that will be discussed in chapter 3.4. Both *The Trees of Knowledge* and *In Defense of the Accidental* are based on the idea of a fragmented, interrupted image. A motif such as a meteorite fragment is divided into three parts and mounted in different positions on the *Trees of Knowledge*. The drawings are combined with mirrors—to be precise: reflective glass coated with different foils of different gradients. The foils change their color depending on the viewer´s perspective in the room and simultaneously produce an ever-changing image due to their mirroring quality. The idea is to construct a fluid image that is in a state of permanent change when one walks through the room. As the *Trees of Knowledge* have a front and back, they cannot be viewed at once; they are therefore questionable as tableaus and carry the idea of layered images (an everyday visual experience, discussed above) with them. The *Trees of Knowledge* intend to offer the beholder the chance to build their own categories of order and come up with their own associations about how the single pieces are related to each other. I will discuss the images displayed on them in the next chapter.

3.4 *In Defense of the Accidental*

The series *In Defense of the Accidental* is a work series that was started before I commenced this PhD project, in 2016. Nevertheless, it was a founding moment for *Re-Enacting Tableaus* as this project partly developed through it. Again, and like in the drawing series *On Inscriptions*, a text provided the initial spark for the conceptualization of a work series. *In Defense of the Accidental* is an essay by philosopher Odo Marquard, which is reprinted in *A±Z*. This text was first published in 1986. With an ironic undertone but plenty of humility, Marquard argues against "the program of making man absolute" that takes place in attempts to extinguish

111 We exhibited them in *antispecies* at Galerie3, Klagenfurt, 2020; in *2000 m über dem Meer* at the Vorarlberg Museum, Bregenz, 2021; in *Silvrettatelier Montafon 2020* at the Kunstforum Montafon, 2021; and at the Public Colloquium, Zentrum Fokus Forschung, 2022.

Fig. 15. Drawings from the series *In Defense of the Accidental,* installed on *Trees of Knowledge* Installation view

Fig. 16. Installation view, Public Colloquium 2022, Zentrum Fokus Forschung, University of Applied Arts Vienna

Fig. 17. A *Tree of Knowledge* with drawings from the series *In Defense of the Accidental*

the accidental from philosophy and life.[112] Unfortunately, Marquard writes, it is impossible to get rid of the accidental and become one´s absolute choice, as we are all of a finite nature and subject to natural laws.[113] He differentiates between the arbitrary accidental, which we can change, and the fateful accidental, which we cannot alter. Although our life is more determined by fateful accidents than by the much-vaunted "free choice," Marquard is convinced that the accidental is what guarantees human freedom. Every attempt to force human existence into the corset of an (absolute) savior ideology, thereby excluding the accidental, inevitably ends in totalitarianism. "A story is a choice that is interrupted by something accidental, something fatefully accidental," Marquard argues.[114] It is the entanglement between different stories and different accidents, the fact that there is not the one and only but many determinants that cut across one another, that creates "motleyness" and freedom in our lives.[115] To defend the accidental means to accept the uncertain and to trust in the power of pluralities as an opportunity for human freedom. In Marquard's conclusion, I was able to find points of connection with Braidotti's concept of critical posthuman thinking, as Braidotti considers "multiplicity and complexity" to be the "guiding principles" in posthuman knowledge.[116]

But how are these philosophical ideas applicable to a group of drawings? This was not so clear at the outset of the drawing series *In Defense of the Accidental*, which began with a special motif: a fragment of the Hraschina meteorite, which had been exhibited at the Museum of Natural History in Vienna. This special piece of the Hraschina meteorite originated from a meteorite impact in Croatia in 1751 and was the founding object of one of the biggest meteorite collections of the world. This motif of the Hraschina meteorite was fragmented into one hundred pieces in A4 drawings that were first primed in different-colored inks. In a second step, the motif was drawn in pencil, extending over the entire surface of these one hundred single pieces. (See figures 18 and 19) Like the collection of meteorites in the Museum of Natural History, this work became the founding object and beginning of the series *In Defense of the Accidental*, which I view as an entire corpus that gains and loses parts, many of them individual parts and many of them modules consisting of

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112 Marquard, *In Defense of the Accidental*, 110. Marquard specifically refers to Georg Wilhelm Friedrich Hegel, who sees the main object of philosophical reflections as getting rid of the accidental, and to Jean Paul Sartre, who states that man should become his own absolute choice. See ibid., 109, 113.

113 See ibid., 113, 119f.

114 Ibid., 119.

115 Ibid., 125.

116 Rosi Braidotti, *Posthuman Knowledge,* 19.

several parts. The single structure or building block of the whole drawing corpus is its portrait A4 format (29.7 x 21 centimeters). One might think that this format is exactly what Marquard would call a usual practice and what Latour would probably call an inscription. A4 is ingrained in our European visual identity from the very beginning of our education but also in official correspondence; it is the format of our birth and death certificates, the format that we use to gain our first artistic experiences, the slips of paper that besiege our desks. We are so used to this format that we do not really recognize it anymore; it pervades our everyday, civil, and artistic lives. It almost seems to be a natural law in our culture. But if one uses it in different arrangements, it can affirm the accidental. It can produce a grid of individual modules that can be rearranged arbitrarily. *In Defense of the Accidental* is approached like an organic structure that permanently changes and rearranges, that loses parts, and gains new ones. It is an understanding of the image as a fluid, never-ending process. Every static moment of presenting drawings from the series *In Defense of the Accidental* (in an exhibition setting, through their arrangement in a publication) is an intermediate stage. Every drawing is part of an entity that develops in multiple directions and allows for different arrangements (see figure 20). We used different motifs in this series, focusing on coincidental, elementary events, such as meteorite fragments, tablets dissolving and changing into fluid, branches and flotsam, stranded whales, volcanoes, clouds, etc. Further motifs developed as a "subseries" (or "subspecies") of *In Defense of the Accidental,* as was the case with "Doppelgänger," which repeats the motif of the Holsinger meteorite fragment several times (see figures 21, 22 and 23); "Unconnected Determinations," a series based on giving specific forms to motley ink blots; and "Cosmic Inevitabilities ["kosmische Zwangsläufigkeiten"], which presents flotsam and an eggplant in space. Innumerable single A4 drawings are part of this series as well. It now consists of around 300 drawings and will be continued. In its entirety, *In Defense of the Accidental* functions as a modular and permanently changing tableau.

3.5 The Installation *Fibonacci Cabinet* [117]

[The following passage is part of the book *A±Z*, which gives a definition of knowledge and describes different approaches to knowledge production. The chapter ends with a description of the *Fibonacci Cabinet*, a temporary installation presented in the 2020 exhibition *antispecies*, held at Galerie3.

117 Payer Gabriel, *A±Z,* 182–197.

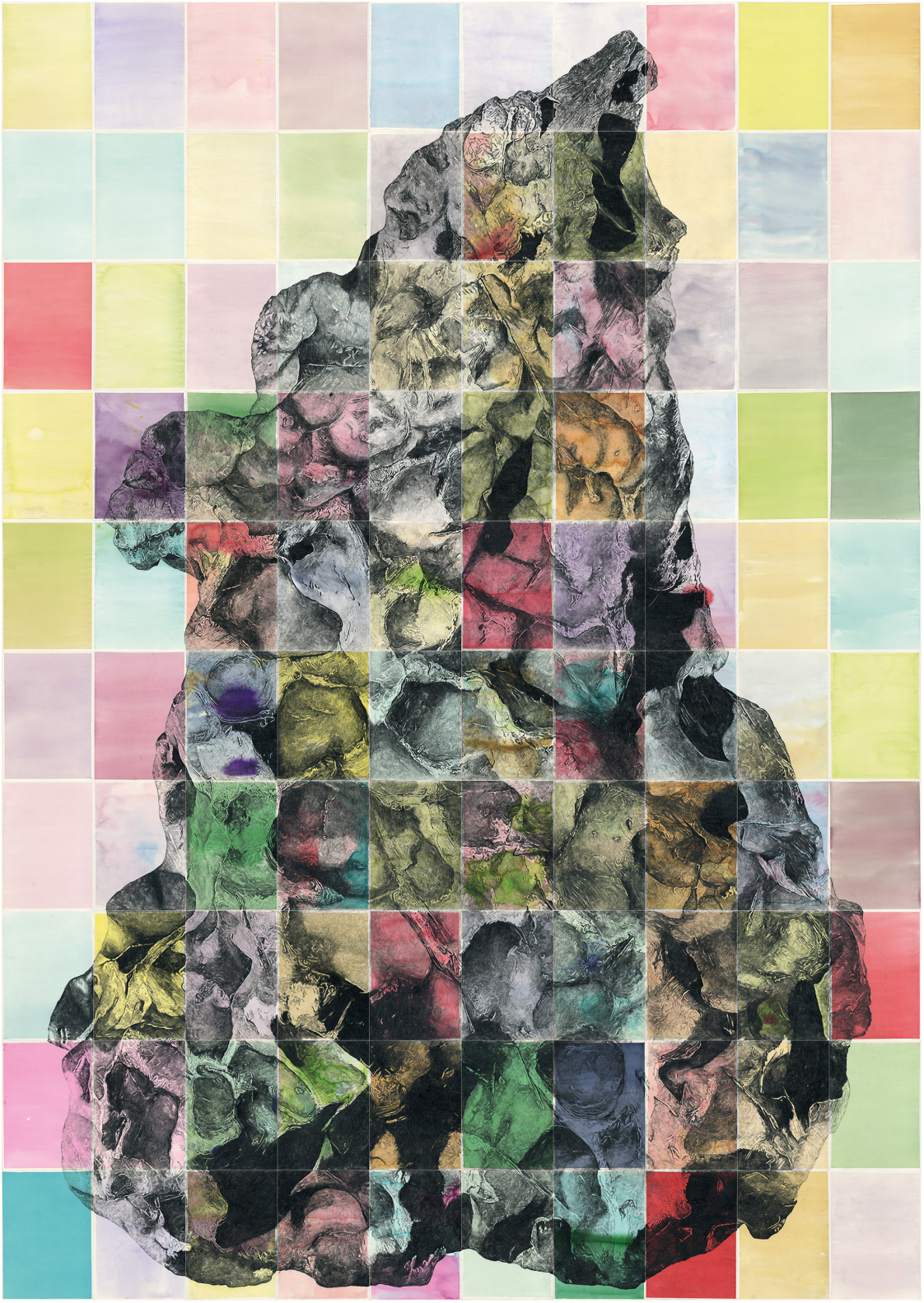

Fig. 18. In Defense of the Accidental / Hraschina
2016
Ink and pencil on paper
279 x 210 cm

Fig. 19. **In Defense of the Accidental / Hraschina**
Installation view, *Monolithen und Idioten*, Neue Galerie Innsbruck, 2018

Fig. 20. In Defense of the Accidental
Installation view, *Was ist wahr,* Kunstmuseum Singen, 2019

Fig. 21. In Defense of the Accidental / Doppelgänger 3
2017
Ink and pencil on paper
29,7 x 63 cm

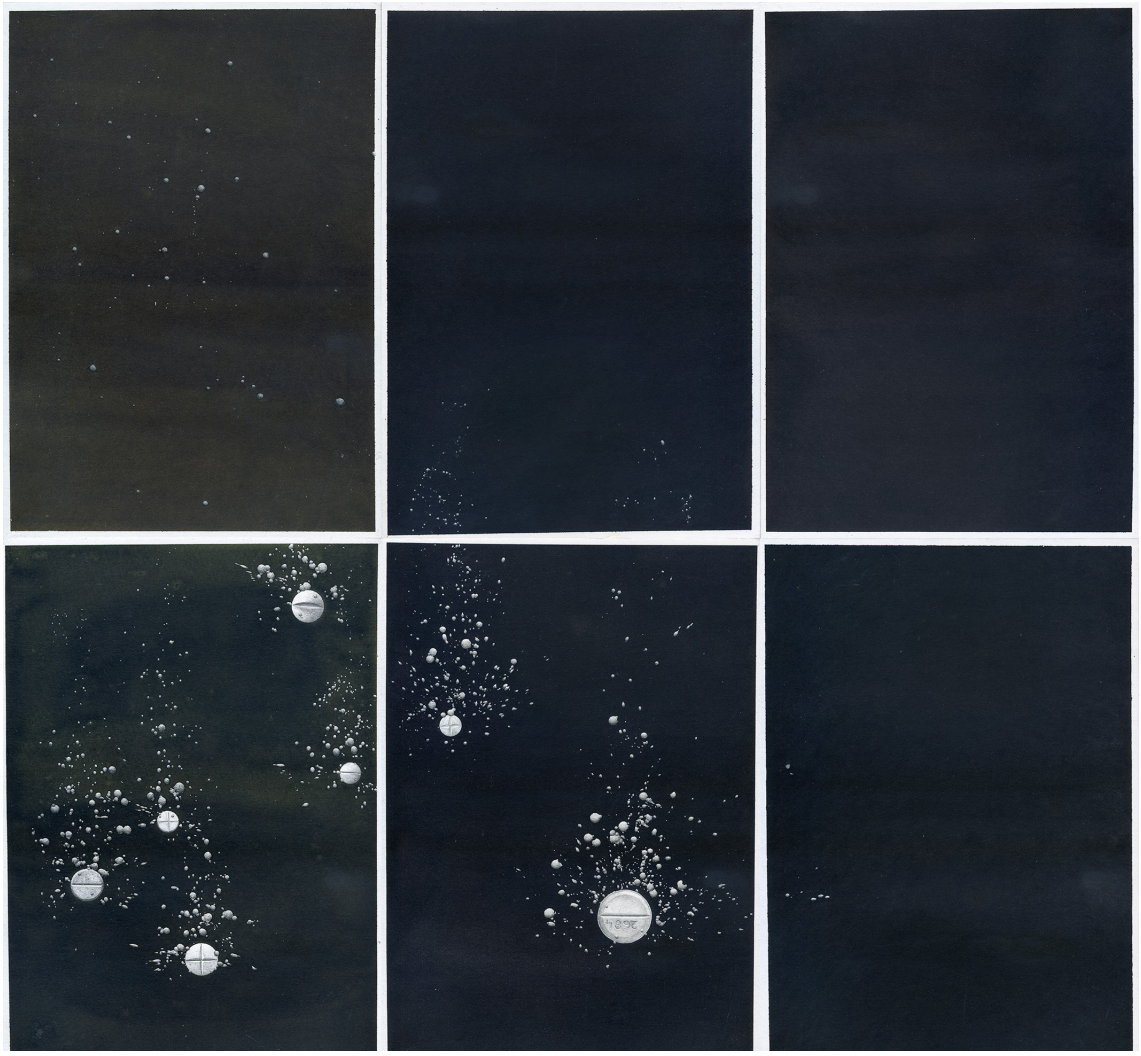

Fig. 22. In Defense of the Accidental / ± 1
2017
Ink and pencil on paper
59,4 x 63 cm

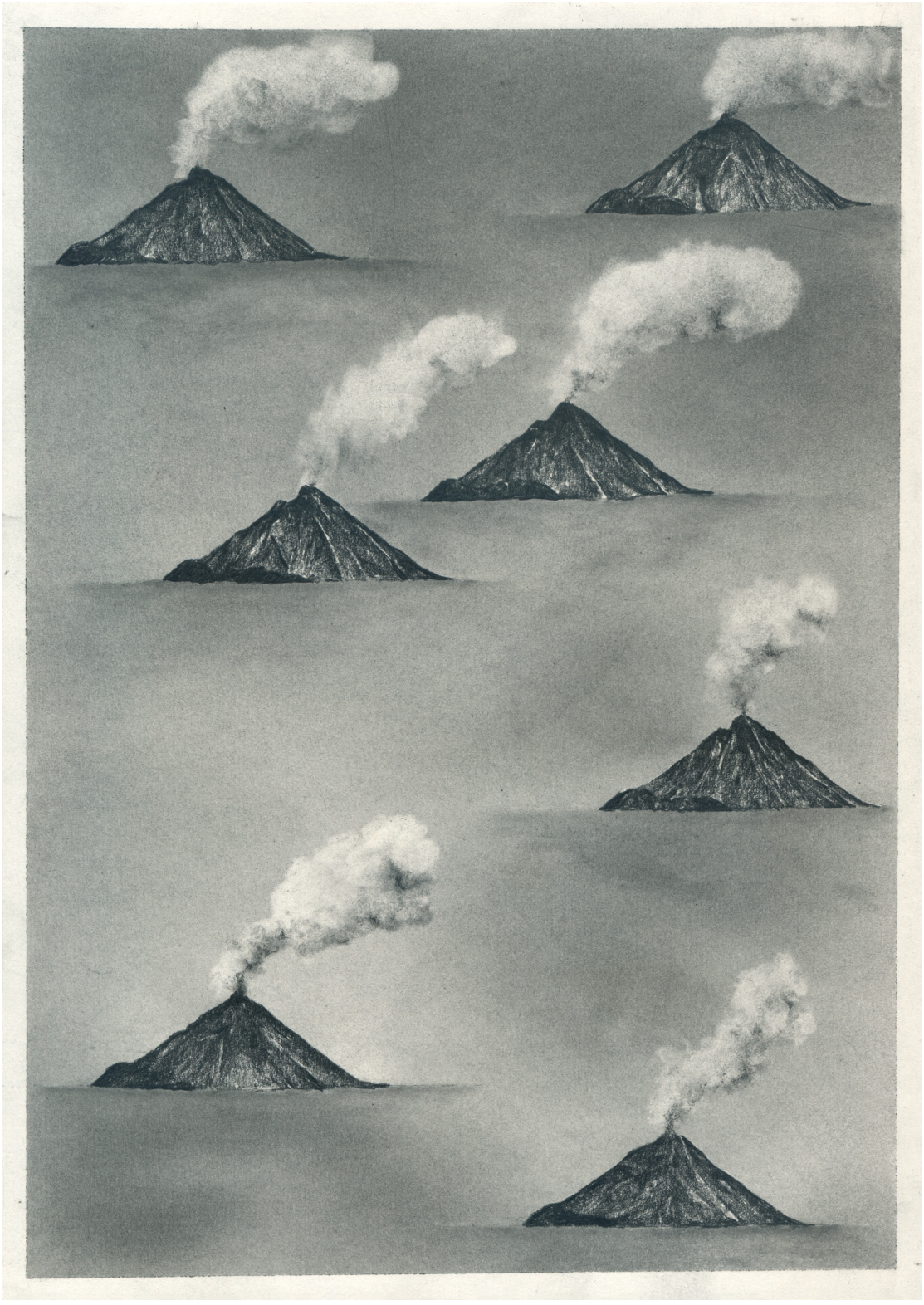

Fig. 23. In Defense of the Accidental / vulcanoes 1
2018
Graphite powder and pencil on paper
29,7 x 21 cm

Although the passage on "Knowledge" reads more like a digression in the flow of the descriptions of the different work series in this research project (and should be part of the appendix, chapter 5), I decided to stick to the chronological order of *A±Z* to allow the reader to understand how the approach to this installation was developed and the theoretical considerations on which it was based.]

What does knowledge mean for artistic practice and artistic research? How do works of art—such as the images in this book—relate to the concept of knowledge? If knowledge is defined as a philosophical-epistemological term from knowledge analysis, if it is conceived as an early-modern sociological term from a European academic history of knowledge, if it is manifested as shared working processes within social systems, then the question arises as to how the production of knowledge can be discussed in the arts. A comparative analysis of the concept of knowledge from an artistic and socio-economic perspective requires a clarification of what knowledge means "conventionally." Only through this theoretical effort is it possible to extrapolate a differentiated concept of knowledge as represented by the drawings that predominate in this book.

Our society is defined by knowledge: we call it the knowledge society. Knowledge is a curious object of exchange, for we don't lose it if we pass it on. Knowledge is economically relevant. The term knowledge society is a ready political formulation to describe the present.[118] What power does knowledge have in a financialized, capitalized, functionally differentiated and globalized society? How Eurocentric is it? And what is the powerlessness that results from the knowledge overload caused by its constant accumulation and multiplication in an ever-increasing mass of publications, specialist articles, books, news, but also on the net, that monstrous autopoietic apparatus of knowledge and ignorance? In the biotechnological, digital, and globalized era, knowledge is undoubtedly taking on a new meaning. And the concept is certainly shifting through a technologically enabled outsourcing of knowledge production—an immense computational performance that takes place outside our brains. The unease associated with the flood of information and knowledge is an affective state of anxiety for which historical evidence can be found that goes far back in our history of knowledge. The Renaissance humanist Francesco Petrarca warned against the excessive consumption of books in 1366, saying that it could drive the reader to

118 A detailed clarification of the term "knowledge society" can be found in Laura Kajetzke and Anina Engelhardt, "Leben wir in einer Wissensgesellschaft?" in *Aus Politik und Zeitgeschichte*, April 2013, https://www.bpb.de/shop/zeitschriften/apuz/158659/leben-wir-in-einer-wissensgesellschaft (February 14, 2022).

madness.[119] And around 400 years later one of the most prominent and significant encyclopedists, Denis Diderot, described this state with visionary aptness:

> As centuries pass by, the mass of works grows endlessly, and one can foresee a time when it will be almost as difficult to educate oneself in a library, as in the universe, and almost as fast to seek a truth subsisting in nature, as lost among an immense number of books.[120]

Encyclopedias can be understood as the expression of the desire to find orientation amidst the vast quantity of knowledge. They make it possible to access special areas of knowledge in brief, or to gain an overall picture, so as to obtain a general knowledge of a variety of subjects. There are special encyclopedias on a wide range of academic areas, but also on popular scientific or cultural subject matter. Encyclopedias might be understood as a coping mechanism. A coping mechanism for the accumulation of knowledge in the plural, situated between the poles of universal unmanageable corpus and myriad specialist learning. Donna Haraway's concept of "situated knowledge" results in a change of perspective: universality gives way to the multi-perspective, the interdisciplinary; seekers of knowledge have a playful concept of the encyclopedic, are able to encounter the fragmentary with equanimity, apply order irrationally, celebrate the gap, and build cabinets whose compartments helically entwine one's own activity with the discursively defined world (see Fibonacci cabinet in the text below).

If and only if: propositional knowledge

How often do we say "I know that ..." without actually being aware of the conditions required to make such a claim. One of these conditions is truth. Knowledge assumes truth, for something untrue can't be known and remains mere belief. Knowledge is classically defined as justified true belief.[121] This definition goes back to Plato, who in *Theaetetus* equates knowledge with "true opinion, with definition or explanation."[122] When do we know something? We know something when it is true

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119 See Steffen Siegel, *Tabula. Figuren der Ordnung um 1600* (Berlin: Akademie Verlag, 2009), 29.

120 Denis Diderot, *Encyclopédie* (1755), quoted from Caspar Henderson, *The Book of Barely Imagined Beings* (Cambridge: Granta, 2012), i.

121 See Jonathan Jenkins Ichikawa and Matthias Steup, "The Analysis of Knowledge," in *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta, summer 2018, accessed July, 2021, https://plato.stanford.edu/archives/sum2018/entries/knowledge-analysis/

122 Plato, "Theaetetus," in *The Dialogues of Plato*, vol. 4, trans. Benjamin Jowett (Oxford: Oxford University Press, 1892), accessed July, 2022. https://en.wikisource.org/wiki/The_Dialogues_of_Plato

and our belief in this is justified. So the standard formula applies:
Subject *S* knows that proposition *p* if and only if (iff)

(i) *p* is true;

(ii) *S* believes that *p*;

(iii) *S* is justified in believing that *p*.[123]

This threefold definition of knowledge was called into doubt with the aid of a thought experiment—which can't be elucidated here—so that since an article published by Edmund Gettier in 1963 knowledge has been limited to the definition of "true belief."[124] For Gettier instances several cases in which all conditions are fulfilled but the justification for true belief is nevertheless based on falsely drawn conclusions due to chance. One could also speak of a mutation in the logical chain. In the history of philosophy and the "program of making man absolute" the accidental is a disruptive and unwelcome element, according to the philosopher Odo Marquard.[125] Although incompatible with knowledge, the accidental determines our existence, in which our mortality represents a historical necessity in the form of the "fatefully accidental."[126] In gaining knowledge we are disinclined to tolerate chance, for guessing right can hardly be equated with science. But what constitutes the nature of knowledge? How exactly does belief transform into it? We want to found our knowledge in our intellectual competence, says the philosopher Ernest Sosa, not from happening to be right.[127] Knowledge, to count as such, is more than true belief; it is the result of a cognitive achievement, a learning process. Sosa defines the nature of knowledge aimed at belief, at being right, as an epistemic achievement that manifests the believer's competence to attain the truth.[128]

Disciplined knowledge

Knowledge is a plural concept, and knowledge-based social systems are not a new phenomenon but have existed since the early modern period.[129] Nevertheless,

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123 Ichikawa and Steup "The Analysis of Knowledge."

124 See Edmund Gettier, "Is Justified True Belief Knowledge?" in *Epistemology: An Anthology,* ed. Ernest Sosa, Jaegwon Kim, Jeremy Fantl, and Matthew McGrath (Oxford: Blackwell Publishing, 2009). 192.

125 Odo Marquard, *In Defense of the Accidental. Philosophical Studies*, trans. Robert M. Wallace (Oxford: Soford University Press, 1991), 113.

126 Marquard, *In Defense of the Accidental*, 119.

127 See Ernest Sosa, "The Place of Truth in Epistemology," in *Epistemology: An Anthology*, 478.

128 See Ernest Sosa, "Knowing Full Well: The Normativity of Beliefs as Performances," in *Disputatio. Philosophical Research Bulletin*, 4:5, 2015, 87.

129 In his two-volume *A Social History of Knowledge*, the British historian Peter Burke undertakes an extensive

the concept of the knowledge society only became fixed in the twentieth century. Knowledge became a resource along with capital and labor—and decisive to society's economic growth. Knowledge workers, researchers, technical innovators are an essential, expert, innovative—though not managerial—element of organizations.[130] But the production of knowledge can also be understood as a social activity. "Knowledge is a social process that determines and reproduces social power relationships, but that is itself an aspect of the cultural reproduction of social structures."[131]

Thinking about the relationship between knowledge and power brings to mind the concept of discipline, which takes on a double role in the provision of structure for both social systems and systems of knowledge. The term "discipline," derived from the Latin *discere*, to learn, is not a neutral concept; it was militarily connoted in antiquity, monastically in medieval times, and in ancient Rome it was applied to the law and to the arts.[132]

There was a movement of "disciplining" in universities, schools, and the church in the sixteenth century, but the establishment of academic "departments" occurs during the late eighteenth century.[133] The formulation of academic disciplines also leads to a territorialization of knowledge landscapes, together with ascriptions and claims of competence. Technical terms are the parameters that delimit areas of knowledge and encourage divisions between them.[134] In the second half of the nineteenth century, academic institutions are differentiated, autonomous disciplines develop, and universities undergo a functional change from teaching to research.[135] "The exercise, production, and accumulation of this knowledge cannot be dissociated from the mechanisms of power; complex relations exist which must be analyzed,"[136] says the philosopher Michel Foucault, who coined the term

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examination of the social history of knowledge from the early modern period to the present day. He illuminates its various processes of knowledge differentiation, some of which remain operative today. Peter Burke, *A Social History of Knowledge: From Gutenberg to Diderot* (Cambridge: Polity, 2008); Peter Burke, *A Social History of Knowledge: From the Encyclopédie to Wikipedia* (Cambridge: Polity, 2018).

130 See Jochen Steinbicker, "Peter Drucker: Wissensgesellschaft, wissensbasierte Organisation und Wissensarbeiter," in *Handbuch Wissensgesellschaft: Theorien, Themen und Probleme*, ed. Anina Engelhardt and Laura Kajetzke (Bielefeld: Transcript, 2010), 22f.

131 Translated from Marian Adolf, "Nico Stehr: Konzeption der Wissensgesellschaft," in ibid., 54.

132 See Burke, *A Social History of Knowledge: From Gutenberg to Diderot*, 90f.

133 Ibid., 90f.

134 See Peter Burke, *The Polymath: A Cultural History from Leonardo da Vinci to Susan Sontag* (London: Yale University Press, 2020), 134.

135 See Burke, *A Social History of Knowledge: From the Encyclopédie to Wikipedia*, 167.

136 Michel Foucault, *Remarks on Marx. Conversations with Ducio Trombardi*, trans. R. James Goldstein and

"disciplinary society." Ordering knowledge as a tableau of identities and differences, classes and taxonomies, as Foucault describes the age for which this was typical (age of representation, around 1650 to 1800), repeats a discipline-based social system of "*tableaux vivants*, which transform the confused, useless or dangerous multitudes into ordered multiplicities."[137]

The relationship between knowledge and power is also expressed in the early modern hierarchical differentiation between *scientia inferior* and *scientia superior*. This is the distinction between public, political knowledge—ascribed to the male—and domestic knowledge—ascribed to the female.[138] The philosopher Rosi Braidotti describes a stratification of knowledge in terms of different lines of thought: while a profit-lead "major science" is hierarchically structured, driven by a cognitive capitalism, and favors knowledge with an economic benefit, curiosity-driven "minor science" seeks a heterogeneous knowledge that is not profit-oriented and whose components are inclusively reconceived as minorities, species, and things.[139] In this sense Braidotti sees the production of knowledge as a process governed by different subject positions that vary geopolitically, ecologically, culturally, historically, and genealogically.[140]

When the aim is to plough individual fields in both the generation of knowledge and in its social and economic order, then this metaphor leads to its literal original meaning, if we consider the history of knowledge from Klaus Theweleit's perspective. Theweleit sees occidental culture as the continual result of numerous processes of sequencing and segmentation, for him "the basic procedures of all the technical achievements of our civilization," which begins with the domestication of animals, the sorting of seeds, and the division of land into fields.[141] He defines segmenting and sequencing as a "partitioning of the world into individual elements and their recombination into artificial wholes."[142] This includes the use of a wide range of Eurasian technologies and cultural techniques, such as sowing, cultivation and sorting, tradition and religion, domestication, metalwork, writing,

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James Cascaito (New York: Semiotext(e), 1991), 165.

137 Michel Foucault, *Discipline and Punish. The Birth of the Prison*, trans. Alan Sheridan (1977) (New York: Random House, 1995), 148. See also Michel Foucault, *The Order of Things. An Archaeology of the Human Sciences* (New York: Pantheon Books, 1971), 178.

138 Burke, *A Social History of Knowledge: From Gutenberg to Diderot*, 84.

139 See Rosi Braidotti, *Posthuman Knowledge* (Cambridge: Polity Press, 2020), 153.

140 Ibid,, 49f.

141 Translated from Klaus Theweleit, *Warum Cortés wirklich siegte: Technologiegeschichte der eurasisch-amerikanischen Kolonialismen* (Berlin: Matthes & Seitz, 2020), 15.

142 Ibid., 122.

ship-building, cartography and statistics, linear perspective, the geometrization of space, coordinate systems, bureaucracy and Taylorism, chronometry, money, periodic tables, anatomy, elementary particles and quantum theory, border security, digitalization, genome editing, biotechnology, and much else.[143] What these very different fields, which include "techno-social processes," have in common is segment and sequence on the one hand, and on the other the capacity to structure the world and to restructure our thinking.[144] Drawing on research by the neuroscientist António Damásio, Theweleit argues that sociocultural and technological changes affect the human genome, resulting in genetically inheritable changes to the brain.[145] Knowledge would thus not only be determined by its possible discursive preconditions but also by neurological structural alterations.

Who knows? Knowledge operators in critical posthumanism

> Universities, science academies and specialized institutes are by far not the sole owners of knowledge production capacity today. If capitalism has indeed taken a cognitive turn, then cognitive material is being produced in a myriad of ways and in multiple locations that include the corporate sector, the art world, the military, the activist sector, the blogosphere and the Internet.[146]

The sense of mental overload due to a continual explosive increase in knowledge, and therefore also in non-knowledge, is not the only problem that confronts us. Our history of knowledge is complemented by another, no less affective dimension. We subjects of posthumanism and the post-Anthropocene feel powerless in face of the amount of information and knowledge produced outside the hitherto "traditional container" of the human mind.[147] Algorithmically executed risk assessment, synthetically induced cell formation and division, artificially produced meat, the adaption and copying of the neural and sensory systems of other species belong to what Rosi Braidotti includes among the types of knowledge produced outside the human being.[148] She speaks of the body as "a rather old-fashioned anthropomorphic engine not quite suited to contain the fast-moving intelligence of our technologies."[149] In *The Posthuman* she describes how Vitruvian Man, familiar

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143 Ibid., passim.
144 Ibid., 492.
145 Ibid., 247.
146 Braidotti, *Posthuman Knowledge,* 91.
147 Ibid., 14.
148 Ibid.
149 Ibid.

from Leonardo da Vinci's memorable geometricized depiction, became the ideal image and normative model of European humanism.[150] Characterized by "faith in the unique, self-regulating and intrinsically moral powers of human reason," this humanism developed into a "civilizational model" that represented Europe as the center of all reason.[151]

The image of a normative, exclusively male, hierarchically better placed ideal figure has given occidental society a chronic superiority complex that is ingrained in our European humanist identity. Klaus Theweleit's concept of a "hyperliterate, European post-Renaissance person thoroughly trained in central perspective" is analogous to this traditional figure of knowledge.[152] European history, from this perspective, is more a history of violence than of reason:

> The Europeans become murders *because* they are civilized. Their *civilized* view of the third and fourth worlds says: We are human beings; *you* are not. In the course of the sixteenth century at the latest, the technologies of perspectivism, geometricization, mathematization, projection, and cartography became so much a part of the bodies of the ocean-crossing segment of Europeans that beings without these high-tech bodies had (have) little or no chance of being perceived as "equals", or even, in extreme cases, as "human" at all.[153]

In a highly technical and ecologically fragile time, in which "the Human has become a geological force capable of affecting all life on this planet," the concept of the human and thus of a human production of knowledge must of necessity be rethought.[154] Braidotti understands posthuman theory as a "generative tool" to deal with the challenges and paradoxes of our time.[155] Posthumanism and the post-Anthropocene mark the departure from a purely Eurocentric world view and a repositioning of the human being in the sense of its de-hierarchization and equalization with other protagonists, other species on this planet. So in regard to knowledge we should not only examine its types, qualities, and forms but to a greater degree who produces it. If we understand algorithms, artificial intelligences, and also living organisms that don't belong to the human species as producers of knowledge, and if we consider as obsolete the human sphere as a "normative convention" with much potential for the exclusion of the non-normal and non-

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150 Rosi Braidotti, *The Posthuman* (Cambridge: Polity Press, 2013), 13f.
151 Ibid.
152 Translated from Theweleit, *Warum Cortés wirklich siegte*, 271.
153 Ibid., 269.
154 Braidotti, *The Posthuman*, 5.
155 Ibid.

standard and the differentiation of "sexualized, racialized, and naturalized others," this should result in a fundamentally differently structured concept of knowledge.[156] Based on conceptual creativity, posthuman knowledge production aims to rethink the concept of knowledge as an assemblage of human and non-human components that is guided by the principles of multiplicity and complexity.[157] The knowing subject is neither "homo universalis" nor "Anthropos" but a complex ensemble that includes the human being among others.[158]

The Fibonacci cabinet: a referential spiral as an encyclopedic coping mechanism

The Fibonacci cabinet is a situated, temporary collection of knowledge. It's an artistic-scientific and anti-disciplinary tableau that combines various objects, including loans from a museum earth-sciences collection, with private found objects, artistic objects, and drawings into a whole (see figure 24).[159] The dimensions of its compartments result from the Fibonacci sequence: each number in this sequence results from the sum of two preceding it (**0**, **1**, 0 + 1 = **1**, 1 + 1 = **2**, 1 + 2 = **3**, 2 + 3 = **5**, 3 + 5 = **8**, 5 + 8 = **13**, 8 + 13 = **21**, etc.). Translated into surfaces, the Fibonacci sequence generates a configuration that can be thought of as a spiral. The Fibonacci spiral is related to the Golden Mean. Nature contains many examples of the Fibonacci sequence, for example in biological systems, in spiral-shaped ammonites, in the arrangement of the leaves and seed heads of numerous plants, in flowers, and even in weather phenomena such as tornados. The Fibonacci search technique applies the sequence to algorithms. The Fibonacci sequence is used to produce the cabinet's individual compartments, the two smallest measuring 1 x 1 x 1 cm and the largest 144 x 144 x 144 cm. As an artistic display the Fibonacci cabinet should be understood as a spiral-shaped reference system of various forms of knowledge. The two smallest compartments consist of dice, one cut from a graphite chalk, the other glued together from stone paper. So the innermost units of the cabinet are a reference to the artistic practice of drawing, and graphite reappears in drawings, as a fictive museum object (arrowhead), and as a geological item beneath a glass cover in one of the larger compartments.

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156 Ibid., 15.

157 See Braidotti, *Posthuman Knowledge,* 18f.

158 Ibid., 101.

159 The Fibonacci cabinet was assembled in 2021 in the exhibition *antispecies* at the Galerie3, Klagenfurt. Its inventory included objects from the earth-sciences collection of the Landesmuseums Kärnten.

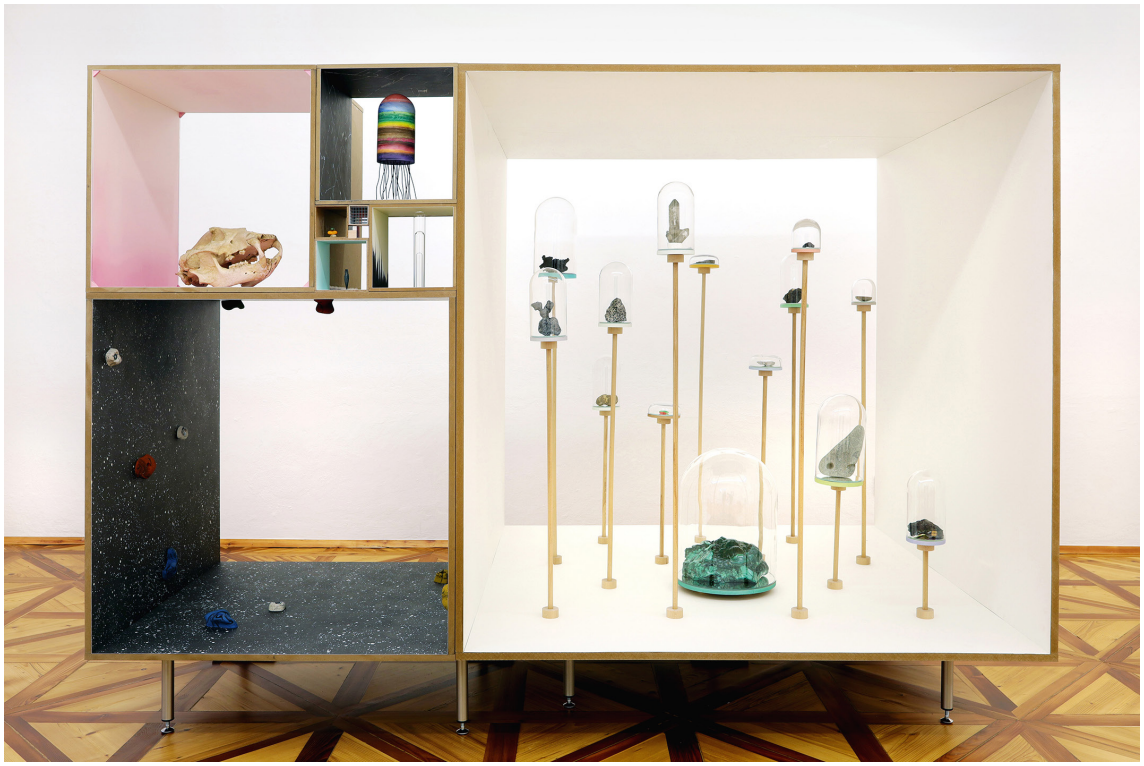

Fig. 24. Fibonacci Cabinet
2020
Temporary installation with objects and drawings by Payer Gabriel and loans from the geological collection of the State Museum of Carinthia
144 x 288 x 144 cm

Fig. 25. Detail, **Fibonacci Cabinet**

The two smallest compartments are followed by a wooden cube and a mirrored cube, which are also material references to presentation and distancing, framing and glazing. In the next compartment a grid of pencil leads repeats the structure of a crystal. Then comes a column of three specially kept vitamin pills that resemble small pebbles in their surface structure. (See figure 25)

The next compartment contains a graphite arrowhead, an artistic "by-product." A thick pencil was inserted into a drill and sharpened. The resulting graphite shavings were used for the work *Doppelgänger* (see Doppelgänger). The pointed graphite awakens associations of prehistoric arrowheads in museum display cases. How did the arrow go from the hunt to the drawing, where it fulfills the symbolic function of describing a one-way, directional dynamic? (See figure 26)

The following compartments take up the motif of the glass cover, once in its threefold presence, once in its absence. One compartment contains a column of three test tubes, an allusion to the vacuum-guaranteeing glass cover over the international prototype of the kilogram (IPK). This is the cylinder of a platinum-iridium alloy that served as the international norm for the measuring unit of the kilo until it was replaced in 2019 by a sphere of silicon because its mass had measurably decreased.

The next-largest compartment presents a many-layered object in cast stone and ink. A glass cover like the ones protecting the stone and crystal objects in the largest compartment served as a mold. Its reference model was the core sample. Core samples can be understood as historical documents, as they shed light on geological events in the earth's history. The layered object on wire feet could be a fossil. (See figure 27)

The following compartment is also an animist conception, as it contains the skull of a cave bear. This was found in the 1920s by Joseph C. Groß during excavations in the Uschowa cave (between Austria and Slovenia). Groß produced several diary-like protocols of his excavations, including precise, sometimes surprisingly toned watercolors. In one of these the bones of the cave bear appear in an area of pink—so this compartment was colored accordingly. (See figure 28)

The penultimate compartment is empty. It is lined with cosmic graphite drawings, on which climbing holds were mounted.

The final and largest compartment contains a collection of crystals, fossils, stones, and slag. The stones from our personal collection were selected for their specific forms (nose, hare, sprayed construction-site remnant, phony flea-market meteorite, weathered stone). The museum objects include a large malachite, a graphite, a quartz, and an ammonite. (See figure 29) Removing the objects from

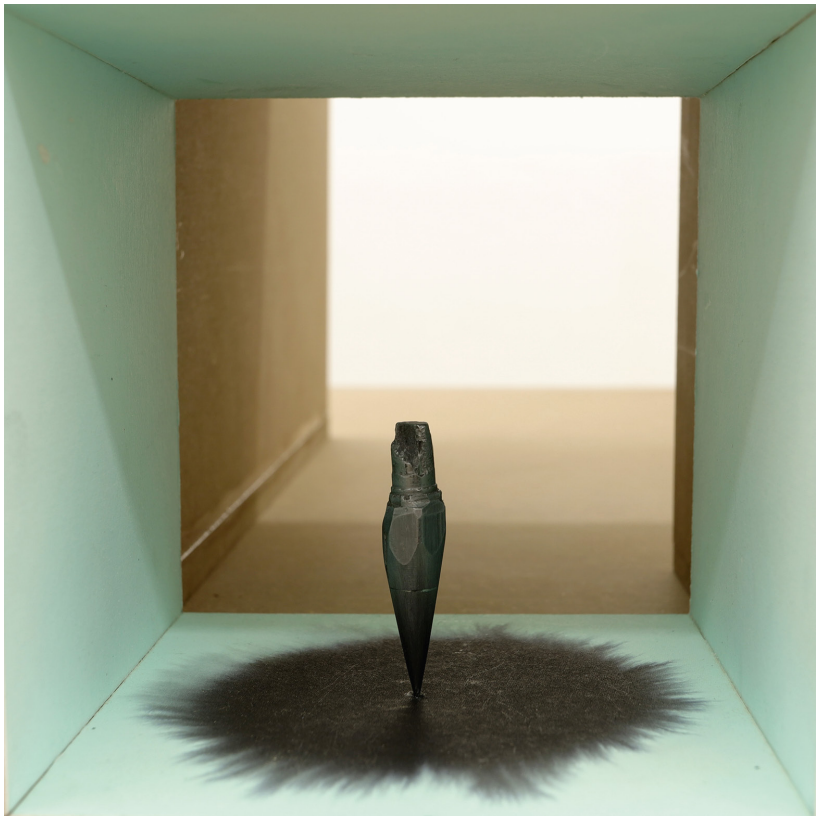

Fig. 26. Detail, **Fibonacci Cabinet**

Fig. 27. Detail, **Fibonacci Cabinet**

Fig. 28. Josef C. Groß, Excavation protocol, Uschowa Cave, Slovenia, drawings, 1926–28, © Geological collection of the State Museum of Carinthia

Fig. 29. Detail, **Fibonacci Cabinet**

their assigned or implicit contexts becomes a method of creating a system of equivalence: a rearrangement and de-hierarchization of objects originally ascribed different economic and non-material value—at least within this symbolic space.

4. Conclusion and outlook

This PhD project was motivated by the question of how theory and practice could culminate in such a way that they transcend their conceptually determined borders by becoming art forms. Theoretical clarification and research into the terms *tableau* and *encyclopedia* allowed me to conceptualize several groups of works, including the series *On Inscriptions*, The *Trees of Knowledge* combined with *In Defense of the Accidental*, and the *Fibonacci Cabinet*. A transformation of common and historically charged knowledge systematizations—the tableau, the encyclopedia—by artistic means was the artistic strategy that I applied in the process. Research into philosophy and critical posthuman theory offered plenty of strategies: to play the idiot, to defamiliarize, to work through the complicated relationship between difference and repetition, to analyze the power of inscriptions, to allow the accidental, to affirm multiplicities in thinking, to decategorize categories, to question the human as a knowing subject, and to relocate it by means of a "shift towards posthuman subject positions."[160] Questioning human knowledge production is intrinsically connected to these instructions. Working on the artist book *A±Z* meant taking a fragile position by applying these instructions to a conservative, long-established concept: the encyclopedia. How does a society systematize the knowledge it produces? Where are the blind spots in the use of common techniques that are so common that they become transparent? *A±Z*, the core of my research, negotiates these questions. It is intended as a state of fearless and curious vagrancy in the different worlds of knowledge systematization techniques and both artistic and scientific visual forms of expression using the whole spectrum, from academic writing to artistic drawing and poetic expressions, and crossing them with each other. *A±Z* provides a space to observe and scrutinize these encounters. Disciplined visual forms of knowledge that vary by discursive allocation require different visual modes of perception. To interrupt these visual modes and attitudes by disconnecting certain visual tools and symbols from their

160 Rosi Braidotti, *Posthuman Knowledge*, 15.

functional meaning and their initial context is a strategy applied in the various work series (chapter 3) introduced in this reflective documentation. As a matter of course, visual artists are used to encountering visual forms of expression with openness, regardless of whether they are part of art, high culture, popular culture, science, religion, cults, none of the above, or something else. There could be potential for artistic research in the attempt to create an awareness of these different modes of perceptive attitudes in society. The ability to reflect on the production of images and understand their function in different discourses is a virtue that matters for society as a whole and should actually be a crucial part of the education system.

To turn one´s own artwork into an encyclopedic system (*A±Z)* is an endeavor that seeks to make the critical moments in our engagement with knowledge visible in a playful and explorative way. I was not concerned about using Payer Gabriel's drawings decoratively, which is, for example, the case in the front and back matter, which begin with full-size drawing reproductions. On the contrary, I consider the decorative instrumentalization of the artwork to be a provocative, conceptual act of addressing the position of visual forms of knowledge in encyclopedic knowledge production—by extension: in the theory and language that dominate the visual realm.[161] I can see potential in the use of the decorative and illustrative as a feminist act, in the use of the ornament and the pattern against an androcentric idea of intellectual superiority. I also see a productive interruption in the chorus of "dos and don'ts" in "high" art, where knowledge about art participates in establishing elitist, encapsulated bubbles, and where contemporary art is instrumentalized as a means of demarcating social classes.

In making *A±Z*, I had the advantage and benefit of drawing from a rich repertoire of Payer Gabriel´s diverse and extensive oeuvre. Plenty of discussions with my partner Martin Gabriel about our artwork, and a lot of support from him in the development of drawings for *A±Z*, helped me to come up with, rethink, and analyze the ordering concept in *A±Z.* Moreover, my collaboration with graphic designers Nik Thoenen and Hannah Sakai was immensely fruitful in translating a conceptual idea into an overall visual system that captures the idea of rewriting an encyclopedia.

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161 I find it astounding how accidentally the ornamental design on the inside of Carl Linnaeus' book *Systema naturae* aesthetically anticipates the microscopic view that would fill the scientific atlases of the following centuries. The edition mentioned here is by Carl Linnaeus and Johann Friedrich Gmelin, *Systema naturae per regna tria naturae, secundum classes, ordines, genera, species (etc.)* (Beer: Leipzig: 1793), and can be found online: https://onb.digital/result/10A54D74.

The book is the main medium for locating and centering my artistic research process. The concepts of the tableau and the encyclopedia work as categories of analysis; they are explored through their historical and contemporary function in the process of knowledge production and are used as artistic means. The drawing, in turn, is the artistic means of catalyzing the aesthetic dimension of my questions and of finding a formal, aesthetic approach. In the course of this PhD project, the concept of what I call *Bedeutungsvertauschung* (the transposition of meaning) turned out to be of special interest as I kept this word constantly at the back of my mind for a long time and found a link between it and the concept of *Verfremdung* (defamiliarization). The concept of defamiliarization goes back to Bertolt Brecht, who describes applying the *Verfremdungseffekt* [defamiliarization effect] in the Epic Theater in order to provoke a critical attitude from the audience.[162] The essential condition for creating a *Verfremdungseffekt* is combining the actors' acting with the gesture of showing ["Gestus des Zeigens"].[163] The surrealists also made broad use of the technique of defamiliarization by putting things together in unexpected combinations. The *détournements* of the situationists—practices of misappropriation and the unexpected use of text, media, pictorial material, objects, etc.—is another example of a technique of defamiliarization. Rosi Braidotti describes the reappearance of defamiliarization as a "methodological practice" that enriches posthuman knowledge production.[164] She is thereby referring to the act of rethinking and unlearning "one's Eurocentric humanist and anthropocentric habits of thought and the forms of representation they sustain."[165] The idea of turning the encyclopedia into an art form, into *A±Z*, is an attempt to cope with these habits that we are so used to but also to offer the audience (that I would actually prefer to call the *vidience*—from *videre*, to see—or the *legience*—from *legere*, to read) a reactualized, defamiliarized version of an encyclopedia. One potential outlook of this research project is to place a more intense focus on the various forms of defamiliarization in art and theory, as they have played a key role since modernity (to the extent that it even existed!). A future artistic research project that

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162 Brecht is thereby referring to various techniques, including stage directions and commentary in the play, actors talking in the third person, turning the contemporary into the historical on stage, creating a hyperreal stage atmosphere by using very bright lighting, the actor quoting the figure being played, etc. See Bertolt Brecht, *Gesammelte Werke 14: Schriften zum Theater 1* (Suhrkamp: Frankfurt am Main, 1967), 344, 347, 349, 351.

163 Ibid., 341.

164 Braidotti, *Posthuman Knowledge*, 139.

165 Ibid.

will build on my experiences in working on *A±Z* and researching the concept of the tableau will therefore be transforming the *Konversationslexikon* into a *Lexikon der Konversationen*. A lexicon of conversations could turn the "conversation" into a form of knowledge, assembling encounters of various types from a posthuman perspective.[166] This would mean considering the conversation as a neuralgic point or, even better, as a neuralgic surface, where different agents, actants, and things converge and thereby create meaning.

166 This idea is in an early stage but has developed through my reading of a text by Kathryn Yusoff, a geologist who suggests conducting "a conversation between two sets of fossils—the future fossil of the Anthropocene and fossils from the prehistory of human origins." See Kathryn Yusoff, "Geologic Life: Prehistory, Climate, Futures in the Anthropocene," *Environment and Planning D: Society and Space* 31, no. 5 (2013): 779–795, 782, https://doi.org/10.1068/d11512.

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PART II

5. Appendix

This appendix is composed of encyclopedia entries from *A±Z* on the topics of "Difference," the "Encyclopedia," the "Episteme," "Epistemic Violence," the "Idiot," and "Visual Epistemology."[167] They all developed from literature research on knowledge, with a focus on the question of how knowledge is shown and ordered. Diverse fields such as philosophy, the digital humanities, critical posthuman theory, cultural studies, and art history provided different perspectives on this question. Writing these entries allowed me to get a deeper understanding of these diverse approaches, as writing is a favorable means of internalizing complex matters, especially for people who come from different fields. It is intended to make these complex matters understandable and to provide an "anatomy of thinking" for the conceptualization of the work series described above.

5.1 Difference

[This passage is a text by Micha Payer, from Payer Gabriel, *A±Z: Abwesenheit – Zufall / Absence – Accidental*, translated by Michael Turnbull (Berlin, Boston: De Gruyter, 2023), 27–33.]

How might differences that exist be conceived without creating antagonisms, without establishing hierarchies? For philosophical laypeople the text *Difference and Repetition*, by the philosopher Gilles Deleuze, appears enigmatic and difficult to understand, and it makes extensive references to the history of philosophy. Though for this reason it yields only in fragments, it offers some highly interesting and accessible starting points for artistic questions in those passages where its language is rich in imagery. One such moment is when Deleuze discusses the concept of difference by means of two scenarios of its absence or impossibility.

> Indifference has two aspects: the undifferentiated abyss, the black nothingness, the indeterminate animal in which everything is dissolved—but also the white nothingness, the once more calm surface upon which float unconnected determinations like scattered members: a head without a neck, an arm without a shoulder, eyes without brows.[168]

The fearsome thing about these images of indeterminacy, which evoke associations of Hieronymus-Bosch-like paintings, is that they are inconducive to language, knowledge, thought, or

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167 Please note that the encyclopedia entry on "Knowledge" in *A±Z* can be found in chapter 3.5 (The *Fibonacci Cabinet*).

168 Gilles Deleuze, *Difference and Repetition*, trans. Paul Patton (London: Continuum, 2001), 28.

order. If things can't be distinguished from one another, "if everything," as Michel Foucault expresses it, "were absolute diversity, thought would be doomed to singularity, [...] it would be doomed also to absolute dispersion and absolute monotony."[169] It is impossible to imagine a non-conceptual and non-relational infinite enumeration because that would be paradoxical and unthinkable. Thinking itself would be impossible without differentiation. If a subject lacks attributes, or if on the other hand there is no subject to carry the attributes, then there can be no thinking, because there is no judgment without a subject and its associated predicate, and therefore there can also be no representation.[170] Along with an empirical differentiation made when distinguishing between things, Deleuze describes another form of difference, once again using an image, namely the one that creates itself:

> Lightning, for example, distinguishes itself from the black sky but must also trail it behind, as though it were distinguishing itself from that which does not distinguish itself from it. It is as if the ground rose to the surface, without ceasing to be ground. There is cruelty, even monstrosity, on both sides of this struggle against an elusive adversary, in which the distinguished opposes something which cannot distinguish itself from it but continues to espouse that which divorces it. Difference is this state in which determination takes the form of unilateral distinction.[171]

Deleuze calls this difference "determination *as such*"—something distinguishes itself from something else, from which, conversely, it cannot be distinguished.[172] The image he uses outlines the problem: a form separates out from a formless ground, which itself becomes a surface but is primarily nebulous and indefinable.[173] This brings the concept of representation into play. Representation, for philosophy, means depicting reality through thinking or speaking, a problematic endeavor, both epistemologically and in terms of language philosophy.[174] The place from which form rises to the surface and enters the moment of determination, that undifferentiated abyss described and named by Deleuze, is not representable, that is, neither thinkable nor communicable in language. Difference must fall into the pattern of representation, "subject to the identity of the concept, the opposition of predicates, the analogy of judgement and the resemblance of perception."[175] The legacy of Aristotle that Deleuze describes is the way in which we enclose things in representation, suspecting that neither they are really identical with themselves nor we with ourselves. We create categories, systems, and hierarchies because the chaos of isolated cases—of pure differences—would be difficult to endure. Surrounding ourselves with similarity, seeking similarity, helps us to preserve a reassuring state of homeostasis. But the question of difference is actually one of positing. Isn't there something identical with itself at the root of difference, a kind of basic condition of its positing? Isn't similarity the prerequisite of difference? If we think in terms of the opposites that feed on a

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169 Michel Foucault, *The Order of Things. An Archaeology of the Human Sciences* (New York: Pantheon Books, 1971), 346.

170 See Henry Somers-Hall, *Deleuze's Difference and Repetition* (Edinburgh: Edinburgh University Press, 2013), p. 22.

171 Gilles Deleuze, *Difference and Repetition*, 28.

172 Ibid.

173 See ibid., 29.

174 See the *Internet Encyclopedia of Philosophy*: https://iep.utm.edu/epistemo/ for epistemology; https://iep.utm.edu/lang-phi/ for the philosophy of language.

175 Gilles Deleuze, *Difference and Repetition*, 34.

negative, then difference—and "it is the same with every space: geometrical, physical, biophysical, social and linguistic"—should be understood as none other than a "flattened and inverted image" of the negative.[176] "The one not to be the other" is the basic process of differentiation that the mind carries out in regard to our ideas, as declared under the heading of "Knowledge" even in an early encyclopedic work of the eighteenth century, Ephraim Chambers' *Cyclopædia*.[177] But difference only becomes negative through identity; only through representation does it become rigid and mono-perspectival.[178]

How, therefore, might a reconciliatory form of difference be found? Difference may be conceived in another way if it is thought of as movement, and the ground from which it forms may likewise be reconceived as a "here-now of a differential reality always made up of singularities."[179] Difference would accordingly be located in an interstice, a kind of mobile transition from which change becomes effective and which maintains the flow of the many transpiring individual cases. This would counter "the dialectics of negative difference" that make the *anthropos*, which imagines itself at the apex of all species, and those humanists who think of themselves as rational beings and therefore superior, so dangerous.[180] It is the differences conceived as a matter of course—of skin color, gender, species, social class, (in)organic condition, economic clout—that generate a myriad of irrational hierarchies and power relations. Nevertheless, the philosopher Rosi Braidotti points to a crucial "scientific redefinition of 'matter'" in the postanthropocentric landscape.[181] There is a "dislocation of difference from binaries to rhizomatics; from sex/gender or nature/culture to processes of sexualization/racialization/naturalization that take Life itself, or the vitality of matter as the main target," but within which power differences are not resolved.[182] Braidotti's point here is that differentiation is no less powerful for being anatomical, morphologically visible, or binary-oppositional, and made on the cellular-molecular level or in the genetic code, for example.[183] She is concerned here with an impact on the so-called *zoe*, a dynamic, self-organizing, and vital life force subject to a political economy.[184] Braidotti looks for a way of conceiving difference without becoming entangled in a value-driven ideology of domination and hierarchy, and she points to "the principle of not-One":

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176 Ibid., 51.

177 "As to the identity, or diversity of our ideas, we may observe, that it is the first act of the mind to perceive its own ideas; and so far as it perceives them, to *know* each what it is, and thereby to perceive their difference; that is, the one not to be the other: by this the mind clearly perceives each idea to agree with itself, and to be what it is; and all distinct ideas to disagree." Ephraim Chambers, *Cyclopædia: or, An Universal Dictionary of Arts and Sciences* (London, 1741), 420; https://artflsrv03.uchicago.edu/philologic4/chambers_new/navigate/1/11858/, accessed March 30, 2022.

178 Deleuze, *Difference and Repetition*, 5f, 54–56.

179 Ibid., 52.

180 Rosi Braidotti, *The Posthuman* (Cambridge: Polity, 2013), 68. For the Anthropocene and humanism as problematic basic assumptions, and for posthumanism, see ibid. and Rosi Braidotti, *Posthuman Knowledge* (Cambridge: Polity, 2019).

181 Ibid., 96.

182 Ibid.

183 See ibid., 97. Rosi Braidotti refers here to the "opportunistic trans-species commodification of Life that is the logic of advanced capitalism," ibid. 60.

184 See ibid. 60f, 96.

> This ethical principle breaks up the fantasy of unity, totality and one-ness, but also the master narratives of primordial loss, incommensurable lack and irreparable separation. What I want to emphasize instead, in a more affirmative vein, is the priority of the relation and the awareness that one is the effect of irrepressible flows of encounters, interactions, affectivity and desire, which one is not in charge of. This humbling experience of not-Oneness, which is constitutive of the non-unitary subject, anchors the subject in an ethical bond to alterity, to the multiple and external others that are constitutive of that entity which, out of laziness and habit, we call the "self."[185]

So difference has to be conceptually liberated from an overinflated, schematic idea of identity that is driven by individualism but ultimately comes back down to similarity. Difference is necessary because it counters the indifference of the inconceivable. The infinite variety and agility in the occurrence of life, and the complexity and interlacement of its continual interaction, are the space in which difference can unfold.

5.2 Encyclopedia

[This passage is a text by Micha Payer, from Payer Gabriel, *A±Z: Abwesenheit – Zufall / Absence – Accidental*, translated by Michael Turnbull (Berlin, Boston: De Gruyter, 2023), 38–45.]

The encyclopedia is a circling around knowing and not knowing, present and past, abundance and void, curiosity and compulsion, order and coincidence.

The term "general knowledge" might be the most precise correspondence to the original meaning of "encyclopedia" (εγκυκλοπαίδεια, *enkýklios paideía*, all-round education). In Greek antiquity and the early Middle Ages the word was restricted to the curriculum of the schools and universities—the *artes liberales*.[186] "Encyclopedia" didn't come into currency until the early eighteenth century; it was preceded by a variety of terms under which the practice of encyclopedic writing in all manner of disciplines could be classified: library, anthology (*florilegium*), treasure trove (*gemma gemmarum*), museum, cabinet of curiosities, *historia*, *theatrum*, lexicon, glossary, and dictionary.[187] All these terms unite the spirit of encyclopedic thinking: to collect knowledge as comprehensively as possible and to order it systematically.
Alphabetical ordering in particular contains an immense, all-embracing, unintentionally poetic potential:

world, worm, worship, would, wound, woven

This melodious sequence taken from a dictionary demonstrates something common to both the linguistic and the visual worlds of the encyclopedia. An ordering system is established to overcome arbitrariness, and as a side effect it generates coincidence. As in a hall of mirrors, chance permits entry into a parallel world in which meanings are shifted and the truth fragmented, and yet there is a form of knowledge—though different. The coincidence of alphabetical order produces curious

185 Ibid., 100.

186 They included the *trivium* (grammar, logic and rhetoric) and the *quadrivium* (arithmetic, geometry, astronomy and music theory). See Peter Burke, *Papier und Marktgeschrei. Die Geburt der Wissensgesellschaft* (Berlin: Wagenbach, 2001), 92.

187 See Ulrich Johannes Schneider, *Die Erfindung des allgemeinen Wissens. Enzyklopädisches Schreiben im Zeitalter der Aufklärung* (Berlin: Akademieverlag, 2013), 16f.

combinations of different areas of knowledge. But the thematic areas—on which encyclopedias can be found via Internet searches—are themselves astonishingly varied, and exemplarily juxtaposed they result in an idiosyncratic, multi-perspectival view of the world. There is an encyclopedia of esoteric doctrine, for example, of strategic management, of fairies, suicide, finances, water, stars, statistical sciences, globality, natural medicine, psychoactive plants, mammals, pedigree dogs, serial killers, the Holocaust, technical indicators, cannabis cultivation, toxicology, science fiction, cancer, inventions, World War II weapons, flare guns, laziness, theory of comedy, modern bodybuilding, nineteenth-century military uniforms, furniture from the Baroque to the present, mythology, anatomy, garden shrubs, lapidary medicine, mushrooms, modernity, and so on.[188]

What was once the aspiration of Renaissance polymaths and Enlightenment encyclopedists, and is expressed in the contemporary idea of an all-round education, is the desire for universal, gapless knowledge. But in casting our eyes over the above example list, something like "universal knowledge" seems futile, utopian, and impossible. What there is to know is too specific and to extensive. The compilation of an encyclopedia, along with the associated concept of universal knowledge, now raises two questions: what does one *have to* know, and what does one *want* to know?

The first question alludes to the social function of knowledge.[189] In this light, general knowledge should be understood as an assurance of social belonging guaranteed by a comparison of respective levels of knowledge. A search for an object to best symbolize this social fact might yield the popular encyclopedia or "conversations lexicon," as such books were originally known. These decorative prestige objects with elaborate gold-decorated covers were very popular with the bourgeoisie of the eighteenth and nineteenth centuries, and they recall the desire, even compulsion, of that class to have all the knowledge conducive to conversation at one's disposal, if not in one's head then at least in book form for reference. The Brockhaus online encyclopedia describes itself as a "conversations lexicon in the digital age [...] for educated discourse."[190] The term appears to be more contemporary than we might expect.

What are the fields we need to know about? The self-confidently titled *Bildung. Alles, was man wissen muß* [Education. Everything You Have to Know], by Dietrich Schwanitz, appeared in 1999.[191] The book deals with the history of Europe from a cultural point of view, and brings together defining events and protagonists from history, literature, art, and music, as well as philosophical and scientific epistemes associated with European identity. In 2003 Ernst Peter Fischer responded with *Die andere Bildung. Was man von den Naturwissenschaften wissen sollte* [The Other Education. What You Should Know about the Natural Sciences]—"have to" already relativized here by "should." As the title conveys, the author's intention is to complement the humanities with scientific knowledge, with the basics of our biological and physical nature. The weighting of the cultural and natural sciences within the system of all-round education is interesting here. The sciences have a long tradition of conveying knowledge to an amateur interested public. The five volumes of Alexander

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188 This selection of encyclopedias is German or English, and was found through a Google search for "Enzyklopädie" and "Encyclopedia of."

189 Speaking here of an occidental, European knowledge society.

190 Translated from https://brockhaus.at/info/konversationslexikon, retrieved November 15, 2022.

191 Dietrich Schwanitz, *Bildung. Alles, was man wissen muß* (Frankfurt am Main: Eichborn Verlag, 1999), has been republished 30 times to date. Whether the title was given by the author or his publisher can't be ascertained here.

von Humboldt's *Cosmos: A Sketch of a Physical Description of the Universe* was one of the most widely read books of the nineteenth century.[192] The enthusiasm for popular scientific literature in book and later in magazine form has continued until today.[193] The quality of these formats isn't always up to standard, so that a desire for a "science criticism" (in the sense of serious scientific journalism) similar to "art criticism," "theater criticism," or "music criticism" has been expressed.[194]

The question of what should be known soon turns general knowledge into a distinguishing mark of social class, as is the case with cultural preferences or the choice of clothing, place of residence, leisure activities, diet, and interior design—the habitus, all told, as determined by the sociologist Pierre Bourdieu. In an extensive empirical study and theoretical analysis of taste, Bourdieu has identified the "distinctions" by which a society is classified.[195] Education of course has a crucial significance. "Cultural goodwill" [*la bonne volunté culturelle*], as Bourdieu calls a principle that manifests differently according to social class, is here described with reference to the (1970s French) petit-bourgeoisie: "Cultural goodwill is expressed, inter alia, in a particularly frequent choice of the most unconditional testimonies of cultural docility (the choice of 'well-bred' friends, a taste for 'educational' or 'instructive' entertainments), often combined with a sense of unworthiness ('paintings are nice but difficult') commensurate with the respect that is accorded."[196] From this perspective the acquisition of knowledge can be understood as an increase in cultural capital, linked with the aspiration to continual enhancement of one's position within a socio-economic spectrum.[197] The acquisition of knowledge represents the fulfillment of a duty, but also—it must be said—a strengthening of self-confidence. The consolidation of a knowledgeable and confident civil society, flexible in thinking and therefore capable of political judgement, was the intention of the Enlightenment encyclopedias—emblematic in this is the *Encyclopédie ou Dictionnaire raisonné des sciences, des arts et des métiers*, first published in 1751 by Jean Le Rond d'Alembert and Denis Diderot. The idea of freedom and self-determination inherent in these anthologies of knowledge is unequivocally an aspect of contemporary European identity. (See "Epistemic Violence" for the fact that many knowledge groups and forms are disregarded, and that knowledge is associated with exclusivity and exclusion.)

What does one *want* to know? This is a different, subjective question. Everyone is his or her own knowledge cosmos. What one wants to know depends on curiosity, and on an aspiration to knowledge, an enjoyment of learning. Research belongs in the category of wanting to know, and the dinosaurs in the pursuit of knowledge are the polymaths.[198] We may suppose that they were driven

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192 The author refers to the German-speaking world. See Klaus Taschwer, "Vom Kosmos zur Wunderwelt – Über Populärwissenschaftliche Magazine einst und jetzt," in *Öffentliche Wissenschaft. Neue Perspektiven der Vermittlung in der wissenschaftlichen Weiterbildung,* ed. Peter Faulstich (Bielefeld: Transcript Verlag, 2006), 74.

193 Ibid., 73f.

194 Ibid., 82–84.

195 This key work in the social sciences was first published in 1979 under the title of *La Distinction. Critique sociale du jugement*.

196 Pierre Bourdieu, *Distinction: A Social Critique of Judgement and Taste*, trans. Richard Nice (Cambridge: Harvard University Press, 1984), 321.

197 See ibid., 128f, diagrams of "The space of social position" and "The space of life-styles."

198 "From Greek *polymathēs* 'having learned much,' from *polyu-* 'much' + *manthanein* 'learn,'" in *The New Oxford Dictionary of English* (Oxford: Oxford University Press, 1998), 1437.

more by a thirst for knowledge than by cultural goodwill. The frequently announced extinction of this species is founded in the vast and insurmountable volume of thoroughly specialized knowledge that has accumulated over the generations.[199] Doubt as to the demise of this figure is expressed by the historian Peter Burke, author of *The Polymath: A Cultural History from Leonardo da Vinci to Susan Sontag*. His study is motivated by an interest in examining and documenting the continued existence of the polymath in a culture of increasing specialization.[200] He concentrates on scholars with "encyclopedic" interests and academic careers.[201] The book contains a list of 500 mostly Western polymaths from the fourteenth century to the present (the first on the list is Filippo Brunelleschi, born 1377, died 1446; the last is Stephen J. Gould, born 1941, died 2002), naturally with the proviso of omissions.[202]

The majority of those considered polymaths are male, white, and European. Their areas of knowledge dominate the hierarchy of scientific disciplines. From the perspective of epistemic violence, which results from a global hegemony of andro- and Eurocentric knowledge through colonization and Christianization as scientific preconditions, the polymath appears in a different light. And here the referential word given to the concept by the German language—*Universalgelehrter*, or "universal scholar"—prompts an associative cut to the meanings of "universal":

> **universal** } adjective of, affecting, or done by all people or things in the world or in a particular group; applicable to all cases [...]
> ORIGIN Late Middle English: from Old French, or from Latin *universalis*, from *universus* (see **universe**). [...]
> **universe** } noun (**the universe**) all existing matter and space considered as a whole; the cosmos. [...]
> ORIGIN Late Middle English: from Old French *univers* or Latin *universum*, neuter of *universus* "combined into one, whole," from *uni-* "one" + *versus* "turned" (past participle of *vertere*)."[203]

The *uni*verse is the place that encompasses everything and can be nothing more. This denotation of completeness is also implicit in the word "universal." Purely on the level of meaning, theoretical physics can assist with a conceptual transfer here, as it postulates a "multiverse," the existence of parallel worlds. "What's at the heart of the subject," says the physicist Brian Greene, "is whether there exist realms that challenge convention by suggesting that what we've long thought to be the universe is only one component of a far grander, perhaps far stranger, and mostly hidden, reality."[204] This question, which theoretical physics takes various approaches to answer—doppelgänger, inflationary expansion, *braneworld* scenarios, string landscapes[205]—can also make sense in mundane, semantic, posthuman, postcolonial ways: particularly in relation to what we call "knowledge," here and now, it would be interesting to rethink the ideal of "universal knowledge" multiversally.

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199 An Internet search shows that Gottfried Wilhelm Leibniz is frequently referred to as the "last polymath" in various German and English media, with Hermann von Helmholtz as a close second.

200 Peter Burke, *Polymath: A Cultural History from Leonardo da Vinci to Susan Sontag*, (New Haven und London: Yale University Press, 2020), 5.

201 Ibid., 2.

202 Ibid., 247.

203 *The New Oxford Dictionary of English* (Oxford: Oxford University Press, 1998), 2024.

204 Brian Greene, *The Hidden Reality* (New York: Alfred A. Knop, 2011, epub), 17.

205 See ibid, 22ff.

Multiverse: not in the sense of "even more" or "much larger," but in the sense of "parallel," "co-existing," and "equal." When, here and now, the ray of light focused on the universal disperses into a diffuse illumination of the multiversal, in which not everything seems resolvable and definitively comprehensible, and all gaps are magic holes.

A ± Z

"A–Z" is the subtitle often given to encyclopedias. The book's ordering system is thus explained in its title, but that isn't all. "A–Z" presumably also suggests a guarantee of completeness and a record of everything that can possibly be recorded. A and Z are the beginning and the end within which everything on the respective subject is dealt with, be it psychotropic drugs, periodontology, English manners, vegan cookery, industrial design, worker protection, meat, shop-council practice, dinosaur parades, medical terms, healing stones, snacks and starters, intervention in relationship and family therapy, trees, positive thinking, horseback-riding, self-sufficiency, fish diseases, or modern architecture.[206]

A ± Z here means adding the numerical to the alphabetical. *A ± Z* rethinks A–Z as a subtraction—the "to" sign is read as a minus. The ± (plus-minus sign) indicates the possibility of adding in or taking away; it points to an area of deviation, an existing uncertainty, or to a spectrum between negative and positive. It is a simultaneous double sign that includes an idea of "or" and has been used for almost 400 years.[207] *A ± Z* denotes the space we are in here: a numerocentric, logocentric, native-language, anglicized, inherited, visualized, visualizing, metaphorical, metonymic, fragmentary, ordered, chance-generated, chance-affirmative, enumerative, and-so-on world view from A to Z.

5.3 Episteme

[This passage is a text by Micha Payer, from Payer Gabriel, *A±Z: Abwesenheit – Zufall / Absence – Accidental*, translated by Michael Turnbull (Berlin, Boston: De Gruyter, 2023), 58–69.]

In Greek philosophy *episteme*, knowledge, science, is distinguished from "thought (doxa), belief (pistis) and skill (techne)."[208] Plato classes *episteme* along with *doxa* (opinion) and *agnoia*, (not knowing) among the "dynameis, [which are] abilities [...] ascribed to various entities, objects."[209] The *episteme* is the ability to recognize "true existence [...] as distinct from not knowing, which is classed with non-existence, and from doxa, which is in the middle and recognizes what comes between existence and non-existence."[210] Plato and Aristotle closely link *episteme* with theory (*theoria*).[211]

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206 List of books in English or German with A–Z in the title, found through an Internet search.

207 It first appears in 1626 in a volume of plates by Albert Girard, and in 1631 in William Oughtred's *Clavis mathematicae*. See Florian Cajori, *A History of Mathematical Notations,* (New York: Dover Publications, 1993), 245.

208 Translated from Wulff D. Rehfus, ed., *Handwörterbuch Philosophie* (Göttingen: Vandenhoeck und Ruprecht, 2003), 684.

209 Translated from Peter Prechtl and Franz-Peter Burkard, eds., *Metzler Philosophie Lexikon: Begriffe und Definitionen* (Stuttgart, Weimar: Verlag J. B. Metzler, 1999), 139.

210 Ibid., 139.

211 See Rehfus, ed., *Handwörterbuch Philosophie,* 684.

Michel Foucault: epistemes as configurations and disruptions of thought in the creation of knowledge

For the philosopher Michel Foucault epistemes are categorical arrangements, that is, preconditions for the pursuance of science and the production of knowledge. They have changed in the course of history, and will continue to do so. They are the basic conditions that make certain forms of knowledge possible in the first place; a-priori historical situations, to a certain extent, on which the production of human knowledge rests.[212]

> This a priori is what, in a given period, delimits in the totality of experience a field of knowledge, defines the mode of being of the objects that appear in that field, provides man's everyday perception with theoretical powers, and defines the conditions in which he can sustain a discourse about things that is recognized to be true.[213]

The scientific view of the world, the way in which knowledge is generated, is always embedded within a discursive system that determines and delimits the possibilities of thought. *The Order of Things* is the much-acclaimed work in which Foucault extrapolates three epistemes from an analysis of the three scientific fields of grammar, natural history, and economics from the Middle Ages to the end of the twentieth century. This results in central questions about how thought continually comes into the world anew, and how the forms of knowledge and discursive practices have changed, both qualitatively and methodically.[214] A further question arises, from today's point of view, as to whether posthuman thought indicates a new epistemic configuration, which is connected to the often cited image of the disappearance of human beings—"like a face drawn in sand at the edge of the sea"—from the "arrangements of knowledge."[215]

These three epistemes—the eras of similarity, representation, and history—are summarized in the following: From the Middle Ages to around the early seventeenth century, similarity, in the form of aemulatio, convenientia, analogy, and sympathy, is the primary cognitive characteristic that structures thought.[216] Similarity is found in proportion, in magic, in reflection, in proximity, or in sympathy, and inspires a macrocosm-in-the-microcosm way of thinking at the center of which man "reproduces [...] the immense order of the heavens, the stars, the mountains, rivers, and storms."[217] The process of recognition is an interpretative one, and is based on looking for signs and identifying and interpreting the similitudes within things.[218] Things had to be read in order to be recognized.[219] "To know an animal or a plant, or any terrestrial thing whatever, is to gather together the whole dense layer of signs with which it or they may have been covered."[220] The era of similarity is that of

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212 See Gérard Simon, "Knowledge, savoir, and epistêmê," in *Dictionary of Untranslatables: A Philosophical Lexicon,* ed. Barbara Cassin, trans. Steven Rendall, Christian Hubert, Jeffrey Mehlman, Nathanael Stein and Michael Syrotinski (Princeton, Oxford: Princeton University Press, 2004), 275.

213 Michel Foucault, *The Order of Things. An Archaeology of the Human Sciences* (New York: Pantheon Books, 1971 [ePub]), 446.

214 See ibid., 170f.

215 Ibid., 1020f.

216 Ibid., 88.

217 Ibid., 118.

218 See ibid., 119f.

219 See ibid., 140.

220 Ibid., 140f.

the interpretation of the signs that God set into the world (*divinatio*) and the words inherited from antiquity (*eruditio*).[221]

In the early seventeenth century something changes in the relationship between the sign and the signified—"things and words were to be separated from one another"—and meaning and sign were conveyed through representation.[222] Foucault calls this cultural reordering the classical episteme, the era of representation, which "defines a certain mode of being for language, natural individuals, and the objects of need and desire."[223] But similarity doesn't disappear from the process of recognition; rather, as Foucault explains, it is analyzed "in terms of identity, difference, measurement, and order."[224] Recognition no longer means interpreting but distinguishing things and ordering them on this basis. It results in a *tableau*[225] of signs, an "image of the things" valid for a "general grammar, natural history, and the analysis of wealth."[226] The space of the tableau, which is characteristic of the seventeenth and eighteenth centuries, is one of taxonomies, systematics, and classifications.[227] *Systema Naturae*, Carl von Linné's taxonomic ordering of living creatures, plants, and minerals, first published in 1735, is exemplary of the ordering of the visible described by Foucault, in which every living thing is marked by a difference and at the same time has a fixed and unalterable place in a system structured by class, order, family, genus, and type.[228] The tableau is formed as an ordered synthesis of individual appearances based on differentiating observation. It is an arrangement of the visible; it is presentation, selection, enumeration, distinction, recollection, and idealization. In this pattern of thought, in which everything—both essence and expression—is defined through difference, the desire for an either-or outweighs the wish for a both-and. The tableau links here to the logic of binary opposition, which in various manifestations is also operative today: as the basis of computer technology (0, 1); in visualized infographics and decision trees; in decision-taking processes in the use of interfaces; in binary-opposite ways of thinking about gender, origin, sexual orientation, cultural influence, economic power, or membership of a species, which posthumanism aims to critically rethink and overcome.

To continue in epistemic sequence. In the late eighteenth century there is another break in the disposition of knowledge, in that "things are no longer perceived, described, expressed, characterized, classified, and known in the same way."[229] In place of order, history now becomes "the depths from which all beings emerge into their [...] existence."[230] The newly forming fields of knowledge—biology, philology, and political economy—are concerned with inner functional connections that don't take place on the surface but in obscurity.[231] Where once was *ego* there is now an invisible *id*, a project to be undertaken with the aim of finding the self. We could say that

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221 See ibid., 124.
222 Ibid., 148.
223 Ibid., 148, 572.
224 Ibid., 174.
225 The French term is retained here for this special pictorial type, or epistemic configuration, rather than the "table" used by Foucault's English translator.
226 Ibid., 211, 188.
227 See ibid., 229f.
228 See ibid., 403f, 618.
229 Ibid., 592.
230 Ibid., 597.
231 See ibid., 594.

the system has transformed into the image of a display, which may look like an ordered surface but whose inner order, as a sum of endlessly superimposed windows, is subject to a complex programming, a series of traps. "Knowledge is no longer constituted in the form of a [tableau] but in that of a series, of sequential connection, and of development."[232] The human being itself is now examined, is simultaneously subject and object of research—a problematic relationship in which it appears as an "empirico-transcendental doublet."[233] Modern thinking enables the humanities, in which the human being is central as a living, speaking, and working entity.[234]

> It is as a living being that he grows, that he has functions and needs, that he sees opening up a space whose movable coordinates meet in him; in a general fashion, his corporeal existence interlaces him through and through with the rest of the living world; since he produces objects and tools, exchanges the things he needs, organizes a whole network of circulation along which what he is able to consume flows, and in which he himself is defined as an intermediary stage, he appears in his existence immediately interwoven with others; lastly, because he has a language, he can constitute a whole symbolic universe for himself, within which he has a relation to his past, to things, to other men, and on the basis of which he is able equally to build something like a body of knowledge.[235]

Therefore, Michel Foucault concludes, the human being—who only became the center of knowledge and the core of research in this epistemic formation, only after the thought forms of similarity and representation—will probably disappear once more from the disposition of knowledge.[236] How should this conclusion be understood? The philosopher Rosi Braidotti sees Foucault's *Order of Things* as a critique of humanism, which is in an epistemological and moral crisis that arises from the depths of our European history—colonialism, fascism, National Socialism, racism, sexism—and calls the human being as rational into question.[237] Braidotti asks what it means to be a subject in an era that is both more and less than human.[238] As a technologically conveyed society we are more human; as a society of social polarization and as a force causing irreversible harm to the environment we are less.[239] The human position is thus inevitably more peripheral and difficult to localize. Critical posthumanism is rooted in Foucault's questioning of a humanism that is thrown into doubt not only because of the "sheer heterogeneity of [its] historical varieties," but to a greater degree because of "its own dogma, replete with its own prejudices and assumptions [...] from which the Enlightenment sought to break free."[240] Cary Wolfe argues along with Foucault—who points out the conflict between humanism and the Enlightenment—that in order to overcome the political and scientific dogma of the human, the nature of thinking itself needs to be changed.[241] What epistemological disposition might this make apparent?

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232 Ibid., 709.
233 Ibid., 853, 863.
234 See ibid., 422.
235 Ibid., 929.
236 See ibid., 1020f.
237 See Rosi Braidotti, *The Posthuman* (Cambridge: Polity Press, 2013), 15–25.
238 See Rosi Braidotti, *Posthuman Knowledge* (Cambridge: Polity Press, 2020), 42.
239 See ibid., 43.
240 Cary Wolfe, *What Is Posthumanism?* (Minneapolis, London: University of Minnesota Press, 2010), xiv.
241 Ibid., xvi.

Images that create knowledge: Lorraine Daston and Peter Galison's epistemic virtues

A particular class of images—scientific images that follow certain epistemological rules—are found in atlases, also called "dictionaries of the sciences of the eye."[242] On the basis of an extensive and meticulous analysis of these atlas images from various scientific disciplines, Lorraine Daston and Peter Galison have analyzed certain "practices of seeing"[243] from which conclusions can be drawn about three epistemic virtues. They call these virtues, which developed in "specific historical contexts" and "infused the making of images in scientific atlases from roughly the early eighteenth to the mid-twentieth century, in Europe and North America,"[244] truth-to-nature, mechanical objectivity, and trained judgement. In sequence they represent the necessary preconditions for each subsequent virtue.

The epistemic virtue of truth-to-nature is increasingly cultivated from the early eighteenth century, with the aim of depicting an ideal example that while not itself occurring in nature stands for all naturally occurring individual examples. In search of a generality, of rules not exceptions, "what the image represented, or ought to represent, was not the actual individual specimen [...] but an idealized, perfected, or at least characteristic exemplar of a species or other natural kind."[245] The drawing from nature, the etching, the copperplate, and the lithograph are the techniques of choice for synthesizing images that "would be the distillation of not one but many individuals carefully observed."[246] Truth-to-nature aims to create a "reasoned image," which results from a collaboration between scientists and artists, not infrequently women artists, and is thus a "four-eyed sight."[247] "In four-eyed sight, epistemology and ethos merged along with the vision of naturalist and artist."[248] For in aiming to create types and classes that would order nature so it could be recognized, the "scientific self" has to observe and select, and therefore to actively and decisively participate in the generation of the image. But this is inconsistent with the ethos of scientific objectivity, which then develops into the epistemic virtue of mechanical objectivity.[249] Daston and Galison date the atlas images created in the spirit of mechanical objectivity to the nineteenth and early twentieth centuries, between around 1830 and 1930.[250] The production of scientific images occurs with the aid of apparatuses and instruments, and requires a certain self-discipline and abstinence from the image producer, whose authorship the image may in no way contain.[251] Photography is the preferred medium, and a "blind sight" the visual practice aimed at the creation of "automatic images."[252] The machine as image producer is both a "literal and guiding ideal" because it delivers reproducible and authentic images while working more efficiently and precisely.[253] "Objectivity enforced the irregularity

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242 Lorraine Daston and Peter Galison, *Objectivity* (New York: Zone Books, 2007), 22.
243 Ibid., 368.
244 Ibid., 113, 19.
245 Ibid., 42.
246 Ibid., 79.
247 Ibid., 84f, 86.
248 Ibid., 98.
249 Ibid., 35f, 105.
250 Ibid., 122.
251 See ibid.
252 Ibid., 125, 138.
253 Ibid., 138f.

of the world on minds set to believe in the ideal regularity of nature."[254] The flaws, distortions, and errors delivered by the mechanical image were willingly accepted. Initial doubts about mechanical objectivity arise in the early twentieth century. What if objective mechanical images differed from one another because of varying exposure times, changing the appearance of structures or causing details to be lost?[255] "How could an individual stand for a class without idealization or even selection?[256] It seems questionable to draw general conclusions from the characteristics of an individual object. The "self-denial" practiced in the generation and use of scientific images is increasingly questioned and confronted by "a new form of epistemic ethic."[257] Interpretation becomes an important aspect in the engagement with images. And so in the early twentieth century a new, self-aware generation of scientists emerges who take a critical approach to purely mechanical image production and give credence to expertise based on experience and teaching in the generation of scientific images. The epistemic virtue of this time is trained judgement, a "supplementing of automatic procedures" that "extended deep into domains as diverse as geology, particle physics, and astronomy," as well as medicine, for example in the reading of encephalograms.[258] "Physiognomic sight" requires a "practiced eye" in order to recognize patterns and "family resemblances."[259]

Daston and Galison point out that these three different approaches to the image, which manifest in epistemic virtues, exist side by side and that "there is no 'programmatic,' 'paradigmatic,' or 'epistemic rupture' here."[260] The decisive thing is that different collective practices of seeing (four-eyed sight, blind sight, physiognomic sight) become "ways of knowing" and not only describe empirical phenomena but also "undeniably produce knowledge and therefore qualify as the stuff of epistemology."[261]

Vision, presentation, recognition: images, thought charts, and epistemic objects

Michel Foucault's epistemes and Lorraine Daston and Peter Galison's epistemic virtues deal with images differently. What they share is the relevance of the function of the image to the process of recognition. The central significance of the image for Foucault becomes apparent in the first sentence of the first chapter of *The Order of Things*: "The painter is standing a little back from his canvas."[262] The painter is Diego Velázquez, who in *Las Meninas*, as well as depicting members of the royal family and court, portrays himself painting a picture that can only be seen from the reverse. Foucault doesn't analyze the picture within an art-historical discourse, but in relation to a way of seeing that emerged as an epistemic configuration during the Baroque as a space in which representation begins to take effect as a system of knowledge. For the image theorist W. J. T. Mitchell "an encyclopedic labyrinth of pictorial self-reference, representing the interplay between the

254 Ibid., 160.
255 See ibid., 169.
256 Ibid., 250.
257 Ibid., 172, 319.
258 Ibid., 329f.
259 Ibid., 314, 324, 336.
260 Ibid., 319.
261 Ibid., 368f.
262 Michel Foucault, *The Order of Things*, 45.

beholder, the producer, and the object or model of representation as a complex cycle of exchanges and substitutions"[263] is a "metapicture." The painting not only presents a kaleidoscope-like image of various forms of representation, but itself represents a configuration of knowledge—that of the above-described classical epistemes, characterized by tableau-like simultaneity. In Foucault's analysis of *Las Meninas* the notion of the tableau oscillates between its original meaning, painting, and an extended meaning as configuration of knowledge, episteme.

The tableau is an ordered image resulting from processes of comparison, separation, and distinction. It is an overview in which individual elements display their differences through the act of synopsis. It is a taxonomic image, and undoubtedly emerged from applied systematics. It shows us how things are ordered and thought about, and should not be abandoned as a historical visual concept out of necessity. The nineteenth-century literary tableau, to which the literary scholar Annette Graczyk has devoted an extensive analysis, is a new and particularly important form characterized by a blending of the artistic and the scientific that no longer portrays "fixed structural frameworks but processual and interdependent correlations."[264] The tableau is more than a sum of well-ordered and systematized individual cases presented as a synoptic surface. There are possibilities here for a renewed consideration and further development of the concept.

The attitude to the image adopted in this book, and its artistic-scientific approach, should be seen as a circular process without beginning or end; the encyclopedia is understood here as the circulation of variable forms of knowledge, and the tableau as the ceremonial snapshot of a complex interaction. The book is based on a curiosity about the way in which these forms of knowledge—be they different kinds of text, quotations, photographs, or documented drawings—can be ordered, how they fit together, whether they fall into line or produce contradictions. It was created with the awareness that any result, for example a printed book, a drawing, or a text, basically represents a captured, materialized moment—in fact a kind of tableau of juxtaposed thoughts, ideas, images, references, texts, and quotes, potentially alterable and developable, always re-thinkable.

Through the analysis of images, through experiencing and observing images, and also through theoretical discourse about images, knowledge can be gained that is reflected via the medium of the image in the process of image-making. How do we look at images? Under what premises and with what ideas and intentions are images produced? What are our expectations of an image? Paul Watzlawick's much quoted axiom that human beings can't not communicate also applies to the image, both in the way it is produced and how it is viewed. The "sage" guided by the epistemic virtue of truth-to-nature wishes to produce a "reasoned image"; the diligent "worker," believing in an objectivity obtained with the aid of automatism and apparatuses, delivers the "mechanical image"; a trained judgement, on the other hand, helps the "expert" to come up with an "interpreted image."[265]

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263 W. J. T. Mitchell, "Metapictures," in ibid., *Picture Theory: Essays on Verbal and Visual Representation* (Chicago: University of Chicago Press, 1994), 58.

264 Graczyk thus disagrees with the proposition that the tableau was superseded as a system of knowledge in the nineteenth century. Her analysis focuses on the literary tableau between 1750 and 1850, particularly on the *Tableau de Paris*, by Louis-Sébastien Mercier, the nature painting by Alexander von Humboldt and the tableau between science, art, literature, and painting by Johann Wolfgang von Goethe. See Annette Graczyk, *Das literarische Tableau zwischen Kunst und Wissenschaft* (Munich: Fink, 2004), 18, 20.

265 Daston, Galison, *Objectivity,* 357.

But how does the scientific image behave in comparison with the artistic image? While science and art were in close proximity during the Renaissance, the two worlds have become increasingly separate since the Enlightenment, and where artists have been required to celebrate their subjectivity since the nineteenth century, scientists must subdue theirs as best they can.[266] Stereotypes of analytical scientists and intuitive creative artists have become ingrained.[267] But it isn't merely polarizing and simplistic to keep the worlds of science and art apart, it's plainly impossible, as both "well up, in all their various forms, from the same inner necessities to gratify our systems of perception, cognition, and creation."[268] Our visual perception is oriented to the production of pattern and order; we follow an "aesthetic impulse."[269] For the art historian Martin Kemp, however, an examination of similarities in the production of artistic and scientific images is far more decisive than following the configurative logic and intuition resulting from the complex development of our sense of sight: "Observation, structured speculation, visualization, exploitation of analogy and metaphor, experimental testing, and the presentation of a remade experience in particular styles" are procedures shared by art and science.[270] We shouldn't forget that both artistic and scientific images are abstractions that result from interpretation. Many scientific images are time-tested, historically rooted, and sometimes highly successful normative systems, such as maps, plans, or simulations. They construct something that doesn't exist in the world in this way, and in doing so they create reality.
Bruno Latour describes how scientific processes are ultimately rendered by visual inscriptions: "What is visible is only the freeze-frame of a process of transformation that remains extremely difficult to grasp, a proper form of invisibility."[271] There are parallels here to the artistic process of drawing, which is also based on invisibly resonating consideration, thought, research, decision, and rejection. The use of scientific "subject matter" in anti-disciplinary form is a reference to the many invisibilities that scientific images contain. A conflation, even a confusion, of the scientific with the artistic image could create a particular kind of epistemic object, one that relieves images of their discursive and functional context and reconsiders them in a non-disciplinary way. An ambiguous image of this kind would point to a different reality, or to the fact that images create more than one reality.

5.4 Epistemic Violence

[This passage is a text by Micha Payer, from Payer Gabriel, *A±Z: Abwesenheit – Zufall / Absence – Accidental*, translated by Michael Turnbull (Berlin, Boston: De Gruyter, 2023), 87–89.]

Epistemic violence, this unquiet connection between two predictably contradictory concepts, is a blind spot in the European history of knowledge. Where the Enlightenment, with its advocacy of science and badge of reason, is understood as the foundation of freedom and self-determination, the

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266 See ibid., 17.
267 See Martin Kemp, *Visualizations: The Nature Book of Art and Science* (Berkeley, Los Angeles: University of California Press, 2000), 2.
268 Ibid.
269 Ibid.
270 Ibid., 4.
271 Bruno Latour, "How to Be Iconophilic in Art, Science, and Religion," in *Picturing Science. Producing Art*, ed. Carrie Jones and Peter Galison (London: Routledge, 1998), 436.

concept of epistemic violence is an irritation that questions the narrative of a continual rationality. Science has not only been hierarchically structured but also violently applied. European history is a colonialist and therefore violent history in which the forms of knowledge belonging to the powerful (economically and technically better off) prevailed over those of the oppressed. Knowledge is part of a trial of strength. The concept of epistemic violence can be helpful in analyzing the complexity and globality of this deployment of knowledge.

Although science—and the knowledge it produces—is thought of as a solution to violence, it has long been recognized that it is structurally involved in the production of violence. The term "epistemic violence" is used by the literary scholar, theorist, and postcolonial intellectual Gayatri Chakravorty Spivak in her essay "Can the Subaltern Speak?" from 1988. Spivak initially observes that the philosopher Michel Foucault locates epistemic violence in the reframing of the psychiatric discourse at the end of the eighteenth century, when madness was declared the opposite of reason.[272]

Just as the mad are constituted as other, so too is the colonial subject.[273] The same mechanisms lie behind both; both are "projects of epistemic overhaul" that work as the "dislocated and unacknowledged parts of a vast two-handed engine."[274] For her critical examination of the difficult role of intellectuals in relation to subalterns—that group of people excluded from the political system and left unheard—Spivak chooses a dialogue between the intellectuals Michel Foucault and Gilles Deleuze.[275] Both agree that "intellectuals must attempt to disclose and know the discourse of society's other," but they ignore their own ideological, historical, economic, and intellectual entanglements, argues Spivak.[276]In doing so they relieve themselves of their institutional responsibility as critics.[277] They leave it to the oppressed, of whom they claim that they "speak, act, and know *for themselves*," to represent themselves.[278] Spivak, however, answers the question as to whether the subaltern can speak with a clear "no." In reference to the brutal ritual of widow-burning and its prohibition by the British colonial rulers, Spivak shows how complex and desperate the role of the subaltern woman in the Third World is. As a colonized, genderized subject she becomes a pawn in the hands of two competing hegemonic discourses.[279] British colonial power styled itself as the saving voice of rationality and humanity, with the ulterior motive of legitimizing its territorial presence.[280] In an analytical deconstruction of the sentence "White men are saving brown women from brown men," Spivak not only illustrates the muteness women's position objectified between

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272 See Michel Foucault *History of Madness*, trans. Jonathan Murphy, Jean Khalfa (New York: Routledge, 2006), 28ff, and Gayatri Chakravorty Spivak, *Can the Subaltern Speak? Reflections on the History of an Idea*, ed. Rosalind C. Morris (New York: Columbia University Press, 2010), 35.

273 See Foucault, *History of Madness*, 181, and Spivak, *Can the Subaltern Speak?* 36.

274 Spivak, *Can the Subaltern Speak?* 35.

275 Spivak refers here to "Intellectuals and Power: A Conversation between Michel Foucault and Gilles Deleuze," in Michel Foucault, *Language, Counter-Memory, Practice: Selected Essays and Interviews*, trans. Donald Bouchard and Sherry Simon (Ithaca: Cornell University Press, 1977), 205–217.

276 Spivak, *Can the Subaltern Speak?* 23.

277 See ibid., 34.

278 Ibid., 30.

279 Spivak in no way defends the practice of widow-burning. She uses the historical example of its abolition by the British in 1829 in order to discuss the discursive contrast between "ritual" and "crime"—"the one fixed by superstition, the other by legal science." Spivak, *Can the Subaltern Speak?* 51, 56.

280 See ibid., 61.

imperialism and the patriarchy but also the dangers that arise when others speak for them.[281] "Can the Subaltern Speak?" is Spivak's attempt to measure such silences.[282]

A theorization of the concept of epistemic violence is an important focus of the peace and conflict researcher Claudia Brunner.[283] Brunner defines epistemic violence as "that contribution to the violent social conditions inherent in knowledge itself, in its generation, formation, organization, and effectiveness."[284] Epistemic violence has its roots in Europe, its "specific history" in colonialism and capitalism, and it functions through racism and sexualization "as the basis of the global division of labor and resources."[285]Brunner differentiates three mutually constitutive levels of epistemic violence: micro, meso, and macro. The microlevel has to do with individuals, with their physicality and its associated subject status, which is constituted by categories such as gender, sexuality, origin, or ethnic affiliation.[286] Epistemic violence is experienced through exclusion and discrimination, through the lack of a voice and of not being heard.[287] Subalterns and the unheard are subject to those who exercise epistemic violence—who, however, are neither aware of their privileges nor would they associate this "normal situation" with violence, says Brunner.[288] In academic and scientific contexts they participate in epistemicide—the obliteration of cultures of knowledge—to the extent that they expediate "epistemic monoculture in scientific practice."[289] On the microlevel epistemic violence effects the individual subject directly as personal experience, but it should not be understood as an individual problem because this would overlook its normative structural embeddedness. On the mesolevel epistemic violence primarily refers to the preconditions and structures of knowledge. But this doesn't have solely to do with the analysis of knowledge as the result of a scientific process, but more with its possible conditions for emergence and discursive systems. Central to these considerations is the "fact that [...] a previously religious-theological Christian system of knowledge was secularized and naturalized in the course of Europe's colonial expansion to become the basis of the enlightened modern scientific paradigm."[290] This naturally results in the dominance of androcentric, Eurocentric, occidental knowledge, and its classification and hierarchization leads to the establishment and exclusionary hardening of the academic disciplines.[291] Brunner's macrolevel refers not only to "the geographical and political space of the colonial modern era but also to its epistemic realm."[292] Hegemonic and ordering structures develop within this global sphere, and transform historically from religious to secular and academic systems of knowledge "with which it became possible to rationalize and legitimize the violent and global subjugation, exploitation, and annihilation of human beings and the natural world."[293] The academic system is thus an element

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281 See ibid., 48.
282 Ibid.
283 Claudia Brunner, *Epistemische Gewalt: Wissen und Herrschaft in der kolonialen Moderne* (Bielefeld: transcript Verlag, 2020), 9.
284 Translated from ibid., 274.
285 Ibid.
286 See ibid., 278.
287 See ibid..
288 See ibid., 279.
289 Translated from ibid., 280.
290 Translated from ibid., 284.
291 See ibid., 285.
292 Translated from ibid., 292.
293 Translated from ibid., 292f.

in the emergence and maintenance of a coloniality of power, with the global consequence of an asymmetry in living and working conditions, quality of life, and life expectancy.[294]

Heads or tails

The drawing *Untitled (Arirang)* was made intuitively with the idea that there is a fundamental contradiction within the positions a subject can adopt. It is an attempt to capture the outer edges of this contradiction: disciplining and individualization.[295] (See figure 30)

Whether someone experiences epistemic violence is inextricably linked with his or her "coordinates" and "key data" within a spectrum of subject positions. This spectrum results from the continual negotiation of global as well as national, social, and cultural influences and norms.

Ornamentation of the body, and the attempt to align the body with a choreography of uniformity in which all individuality is eliminated, is one extreme pole on this spectrum. The Arirang mass games, which take place every year in the North Korean capital, Pyongyang, are a symbol of the suppression of all individuality of the subject. The intended aesthetic requires a perfect collectivity that from a distance results in a geometrical image. Siegfried Kracauer analyzed such ornamental dance formations using the example of the Tiller Girls in his 1927 essay *The Mass Ornament*. The Tiller Girls were large, exclusively female early twentieth-century dance groups whose movements consisted of synchronized movements that Kracauer called "demonstrations of mathematics."[296] "The hands in the factory correspond to the legs of the Tiller Girls," according to Kracauer.[297] The mass ornament, consisting of anonymous dancers (whose names do not appear in the program), is "the aesthetic reflex of the rationality to which the prevailing economic system aspires."[298] The dance is an abstraction of the Taylorist working and living conditions of the masses in the factories and offices of the time. The uni-formation of the bodies represents their anonymization and the exclusion of personhood. The mass ornament is a mute pattern, for in contrast to religious cults and rites it lacks symbolic power—it is "the *rational and empty form* of the cult."[299] The body of the people, as portrayed in the mass ornament, is a form of subjugation based on the elimination of subjectivity and individuality.

But there is also an opposite pole on the spectrum of possible subject positions—the elite individual at the political, cultural, religious, economic, or scientific forefront. In the drawing *Untitled (Arirang)* the heads of the female dancers are superimposed by coin portraits of mainly male European historical figures, from ancient Rome to the present, but also portraits of Asian, American, and African people's representatives. The elites portrayed on coins are a doubled representation,

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294 See ibid., 292f.

295 The "subject" is understood here, after Andreas Reckwitz, as "a *socio-cultural form* [...], as the contingent product of symbolic orders that in very specific ways model what a subject is, how it sees itself, how it is supposed to act, speak, and move, and what it can want." Translated from Andreas Reckwitz, *Das hybride Subjekt. Eine Theorie der Subjektkulturen von der bürgerlichen Moderne zur Postmoderne* (Berlin: Suhrkamp, 2020), 47.

296 Siegfried Kracauer, "The Mass Ornament," in ibid. *The Mass Ornament. Weimar Essays*, trans., ed. Thomas Y. Levin (Cambridge, Mass.: Harvard University Press, 1995), 76.

297 Ibid., 79.

298 Ibid..

299 Ibid., 84.

Fig. 30. Untitled / Arirang
2019 / 20
Ink, pencil, acrylic paint, and graphite powder on paper
50 x 70 cm

standing not only for an economic value but also for the individual as the subject that stands out and is distinguished from the others in its leading function. The characteristics of these subjects are stylized into biographical singularities. All aspects of the personality become a matter of interest. The individual is fragmented by new insight and increasingly differentiated reflection in biography after biography.

For the most part it is the "fateful accident"—as the philosopher Odo Marquard calls it—that determines the subject position we adopt on this spectrum, whose opposite poles have been described above. How much space for self-development or limitation through disciplining and normativity do we experience? The knowledge discourses we are fitted into dictate our social and cultural practices. They anticipate the narratives we are more likely to hear. Epistemic violence can only be avoided if self-empowerment and self-determination are inherent in the process of acquiring knowledge. What possibilities and spaces is a society prepared to create in order to resist a monoculture of knowledge? In nature the principle of biodiversity is an essential guarantee for the maintenance of an ecosystem, and the question arises as to whether this principle of pluralism shouldn't also apply to the knowledge a society produces.

5.5 Idiot

[This passage is a text by Micha Payer, from Payer Gabriel, *A±Z: Abwesenheit – Zufall / Absence – Accidental*, translated by Michael Turnbull (Berlin, Boston: De Gruyter, 2023), 92–94.]

"You idiot!"—these are throwaway words, spoken on impulse. Colloquially, "idiot" takes the pressure off interpersonal conflict. In the media context, and at a time of increasing populism and skepticism about science and even truth, idiots are all the rage. From the philosophical perspective—around Deleuze—every thought is initially idiotic.[300] What are idiots, and what do they do? And have they unjustly fallen into disrepute? Can it also make sense to make an idiot of yourself? A philosophical perspective on idiots can be found in the chapter "Idiotism" in *Psychopolitics: Neoliberalism and New Technologies of Power*, by Byung-Chul Han, which can also be read in this volume.

This encyclopedic endeavor, *A ± Z*, likewise requires the precondition of idiotism. Calling a book an "encyclopedia" in an entirely and conclusively post-homo-universalist era is outrageously idiotic. But there may be method in idiocy.

The term "idiot" is ambiguous. Etymologically it begins innocuously enough: "Latin *idiota, idiotes* < Greek *idiotes* [ιδιώτης], 'private citizen; ordinary person; ignorant layperson, bungler,'" reads the derivation.[301] The idiot cultivates what is his own ("Greek *ídiota*, 'own, private, specific'").[302] The idiot is "the common man," is "without influence," a "private person," an "ignoramus," a "layman," a "non-initiate," someone who pays no heed to the affairs of the *polis*.[303] The idiot is a Janus bifrons. Hard in differentiation (anti-social, non-participatory), soft in the realm of the inconceivable (endlessly extended conceptually). He is unpolitical but nonconformist, indifferent but critical. In early Christianity, to be an idiot meant to oppose the establishment and the elites—a "flirting with intellectual narrowness," but with the aim of a greater understanding that transcended all forms of earthly knowledge.[304] While in the Middle Ages a deliberate abandonment of knowledge was still ascribed to the idiot, the link between idiotism and madness is a latter-day phenomenon.[305] From the sixteenth century onwards—at the latest in the seventeenth—no one wanted to be called an idiot any more.[306] And now idiots belong in hospital.

There's something pathological and melodramatic about idiots. When melodramatic they are unsettling, in a productive form of refusal. For those keen on idiotism, being an idiot is a method. An idiot deliberately misreads the signs, using transposition of meaning as an artistic approach. "He is the disordered player of the Same and the Other,"[307] says Michel Foucault of Don Quixote at the

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300 For Deleuze, idiocy is a presuppositionless beginning of thought: "The philosopher takes the side of the idiot as though of a man without presuppositions." In Gilles Deleuze, *Difference and Repetition*, trans. Paul Patton (New York: Columbia University Press, 1994), 130. See also Byung-Chul Han, "Idiotism," in this book.

301 Translated from *Das Herkunftswörterbuch: Etymologie der deutschen Sprache* (Mannheim, Leipzig, Vienna, Zurich: 2007), 358.

302 Ibid.

303 Translated from Andreas Urs Sommer, "Kurze Geistesgeschichte des Idioten," in *Zeitschrift für Ideengeschichte*, no. IV/2, summer 2010, ed. Warren Breckman, Jost Philipp Klenner, Wolfert von Rahden (Munich: C. H. Beck, 2010), 5.

304 Ibid., 7.

305 Ibid., 10.

306 Ibid., 11.

307 Michel Foucault, *The Order of Things. An Archaeology of the Human Sciences* (1971) (New York: Vintage, 1994), 49.

threshold of a new episteme. He misjudges the world by falsely interpreting the signs. It's similar with Clever Hans in Grimms' fairy tale. What happens here is a methodical misapplication in courtship. It's a story of displacement: Hans always follows his mother's advice, but offset in time and applied to the subsequent situation, where it turns out to be inappropriate, like cogs whose notches fail to engage. The needle lands in a haystack, the knife in a sleeve, the calf on its head, and finally the eyes of the livestock are gouged out so as to be thrown at Gretel. It's a quaintly surreal story, and it ends in failure.

From an artistic point of view, methodical lack of seriousness is very fruitful, a practicable approach that implies a certain attitude of refusal familiar from idiots. The deliberate—that is, consciously applied—methodical lapse is reminiscent of natural mutation, of chance, which edges into the predictability of habitual orders of events. In science it's necessary to break the rules in order to make progress.[308] But this doesn't happen entirely intentionally, nor is it the result of ignorance or negligence.[309] The history of science proves that "there is not a single rule, however plausible, and however firmly grounded in epistemology, that is not violated at some time or other."[310] And artistic work, too, needs to avoid being trapped in self-imposed rules; they always need breaking, in some way or other—through idiotism, for example. But idiots don't necessarily insist on discovering something new. They're more interested in exchanging the usual with the usual. One form of development.

5.6 Visual Epistemology

[This passage is a text by Micha Payer, from Payer Gabriel, *A±Z: Abwesenheit – Zufall / Absence – Accidental*, translated by Michael Turnbull (Berlin, Boston: De Gruyter, 2023), 72–79.]

There is a long and intimate relationship between knowledge and visuality. After all, to know something originally means to have seen it with one's own eyes. The verb *to know* comes from the "Old English *cnāwan* (earlier *gecnāwan*) 'recognize, identify', of Germanic origin; from an Indo-European root shared by Latin *(g)noscere*, Greek *gignōskein*."[311] Ever since there has been a need to preserve and communicate what we see and experience, visual forms of expression have been among the common aids to recording, ordering, and storing it. Looking at the mechanisms through which a gradual transition took place from a prescientific to a scientific society—"science" from the "Middle English (denoting knowledge) ... from Latin *scientia*, from *scire* 'know'[312]—we can see that visuality, visually stored knowledge, played an essential role. Detailed explanations for this can be found in Bruno Latour's article on inscription below.[313] Inscriptions systematize what we have seen and what we know. They include a variety of graphically structured media—maps, plans, sketches, tables, diagrams, coordinates, and so on. They can be correlated and superimposed. They enable what is oversized and complex to be brought into a reasonable, even pocket-sized form: think for example of the plan of a building, which enables it to be transferred anywhere in the world without having

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308 See Paul Feyerabend, *Against Method* (1975/88) (London: Verso, 1993), 14.
309 Ibid.
310 Ibid.
311 *The New Oxford Dictionary of English*, ed. Judy Pearsall (Oxford: Oxford University Press, 1998), 1018.
312 Ibid., 1664.
313 See Bruno Latour, "Visualisation and Cognition: Drawing Things Together" under "Inscription" in this book, where the text is reprinted in full. This text can be found in Payer Gabriel, *A±Z,* 129-145.

to be moved. Latour calls these *immutable mobiles*, very useful, unalterable, but nevertheless mobile bearers of information.[314] Knowledge can thus be dispersed more easily, and the others—the research community—are more easily informed, convinced, or even disabused by inscriptions.[315] As potent, pervasive, and decisive as the visual coding of knowledge may be, it is all the more astonishing that there is no distinct field of science devoted to its systematic analysis. Perhaps this is due to the fact that the academic subjects that work with visual forms of knowledge don't necessarily overlap: "Visual epistemology may have been integral to engineering, architecture, industrial design, textiles, cartography, scientific illustration, and statistical analysis, but it failed to become a separate field among academic disciplines. [...] Though ignored by fine arts for most of its history, the systematic production of graphic knowledge has a very long tradition."[316] A comprehensive summary of such a historically dispersed and multidisciplinary visual production of knowledge is given in the two books *Graphesis* and *Visualization and Interpretation*, by the writer, artist, and scientist Johanna Drucker. In these works she illuminates the field of visual epistemology. The codex, digital user interfaces, monitors, virtual renderings, and visualized information exhibit very different properties in their mediality, yet they share a function in the visual production of knowledge.[317] Johanna Drucker therefore cites them in an analysis focused on the argumentative and autonomous aspects of graphic structures. She is particularly concerned with those images that don't represent knowledge but rather produce it.[318]

Two basic assumptions extensively discussed in theoretical discussions about the *pictorial turn* are primarily important to visual epistemology. They include philosophical problems historically presented by the image, such as its reduction to depiction and the failure to see its materiality.

1. The occidental realm is characterized by a logocentric world view. The pictorial is seen as problematic to the cognitive process because an image's lack of sharpness can deceive, distort, or invite misinterpretations. This prejudice about the deceptiveness and the distortive effect of the sensorially perceived image has persisted since Plato. The numerical and alphabetical coding of knowledge is stable in contrast to visualization, for which there is no established systematic equivalent.[319] But this ongoing problem of the image can have its advantages. The quality of resistance due to the lack of a systematics of graphic forms (which Drucker calls "graphicality") is an epistemological property of the pictorial that becomes effective if the concept of knowledge is not conceived statically but is situated and embedded in the interaction of those seeking it.[320]
The education system also reflects a degree of visual skepticism.
It ascribes an inferior role to the arts—those subjects based on sensory perception—because

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314 See ibid.

315 See ibid.

316 Johanna Drucker, *Graphesis: Visual Forms of Knowledge Production* (Cambridge, Massachusetts: Harvard University Press, 2014), 17f.

317 See ibid., 10: "But paradoxically, the primary effect of visual forms of knowledge production in any medium—the codex book, digital interface, information visualizations, virtual renderings, or screen displays—is to mask the very fact of their visuality, to render invisible the very means through which they function as argument."

318 See ibid., 10.

319 See Johanna Drucker, *Visualization and Interpretation: Humanistic Approaches to Display* (Cambridge, Massachusetts: MIT Press, 2020), 30: "But no equivalent to either alphabetic or numeric code exists in images."

320 See ibid., 30: "The resistance of graphicality to systematicity is one of its fundamental (epistemological) properties."

historically and philosophically, seeing has not been linked with thinking.[321] And yet psychology has shown that a number of cognitive processes are involved in visual perception.[322] "Visual Perception is Visual Thinking" declares Rudolf Arnheim, a pioneer in the rehabilitation of the image and our sense of sight in regard to its cognitive function.[323] Seeing means correlation, consideration, adapting proximity and distance, taking the light into account, selecting, focusing. All this occurs in a general way, unconsciously, and as a result of a chain of evolutionary and personal events. Our seeing—looking, watching, regarding, observing, glaring, staring—is in a constant state of flux. Our sense of sight is to some extent an evolutionary, culturally and personally influenced, adaptive ordering function that enables us to navigate in a highly complex, flexible, constantly changing environment, but at the same time—necessarily due to our orientation in the world—involves conventional ways of seeing that imply oversight. And this too is a skill that can be highly useful for survival. In certain situations an absolute focus is vital, but even within the information glut of our everyday visual culture we are frequently called upon to make use of our ability to ignore.

2. A second problem of interest to visual epistemology is the fact that images used by science to support its findings are often treated as transparent surfaces whose material properties are looked through like the glass in a picture frame. In the scientific fields that use images as a means of argumentation, they are spoken through regardless of their status as images.[324] The strange ways of talking about images result from the context of their use, from their assignment within the discourse. A special type of speech is required for scientific images: "One says [...], looking at an image, 'That is a triangle,' and not 'That appears to me to be the portrayal of a triangular structure.'"[325] The hapticity of an X-ray image, for example, and a reflection on illumination as the precondition of its readability are irrelevant to a diagnostic judgement. It would be an irrational disorder to transpose the discourses. But it must be observed that in many scientific disciplines the "evidential power inherent in images" or "pictorial evidence" play a decisive role in the development of argumentation irrespective of the significance of the images as objects.[326]

Johanna Drucker emphasizes the importance of technology and media in the production of visual knowledge: "All images are encoded by their technologies of production and embody the qualities of the media in which they exist."[327] Digital codes too rely on a material basis, and the assumption of the code as "pure difference" is a fundamental misunderstanding based on ignorance of the complicated materiality of the digital media.[328]

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321 See Rudolf Arnheim, *Visual Thinking* (Berkeley, Los Angeles: University of California Press, 1979), 3.

322 See ibid., 13: "My contention is, that the cognitive operations called thinking are not the privilege of mental processes above and beyond perception but the essential ingredients of perception itself."

323 Ibid., 14.

324 Ludger Schwarte, *Pikturale Evidenz. Zur Wahrheitsfähigkeit der Bilder* (Paderborn: Wilhelm Fink, 2015), 185.

325 Translated from ibid., 185.

326 Ibid., 185.

327 Johanna Drucker, *Graphesis*, 21f.

328 "Pure difference" means the most basic of all distinctions, namely between nothing (0) and something (1). Purity is conceived as immaterial—transcending physical embodiment. See Johanna Drucker, *Visualization and Interpretation: Humanistic Approaches to Display* (Cambridge, Massachusetts: MIT Press, 2020), 23: "This idea of a 'pure difference' [of code], one that was constituted without material instantiation, was completely false, but it found many eager advocates nonetheless. [...] Ignorance of the complicated materiality of digital technology underpins this belief."

Because of the complexity of images that convey knowledge, and naturally also because of our image-dominated environment, Drucker advocates "graphesis." Her neologism should be understood as a systematic study of the visual production of knowledge. The aim of such a study is the attainment of a critical understanding of how we process visual information.[329] Graphesis makes no distinction between the digital or analogue visual production of knowledge. Drucker traces a wide arc from the lines that structure an over 5,000-year-old Sumerian cuneiform tablet, for example, to those that model a virtual object as a three-dimensional network. The question is always how visual structures behave in relation to the production of knowledge. Don't they produce knowledge in a distinct way, like the line that underscores a word to give it emphasis, the knowledge tree that assigns an element to its unalterable, the arrow that indicates the dynamics of a thought process? Our visual history of knowledge contains numerous examples of this.[330] These visual structures, which are not signs, letters, numbers, or sets of data, aim to fit these elements into a form, to frame, arrange and present them. But the form itself of this overview should not be overlooked, as it is through it that relations are produced, weight given, and attributions fixed.[331] Things are made both possible and impossible: overview, readability, ascertainment, and orientation become possible; seeing or connecting the elements differently and questioning the selection and origin of the elements themselves become impossible. We should be wary of the idea that data are merely collated empirical facts sampled from nature and visualized in an image that makes their pattern visible. Numerous decisions have to be taken from sample to pie chart.

Images that present something—Drucker refers here to nonrepresentational images for the purpose of argumentation—are particularly likely not to bring to light existing facts, but to create and structure knowledge.[332] Drucker gives one particularly clear example of the necessity for a differentiated view of visualized knowledge in the model of the atom, which has continually been readapted:

> The image of the atom as a small solar system of particles in orbit, for instance, is not based on observation, but on an idea of how to represent a model of a phenomenon. The creation of images, such as traces in a cloud chamber, may affirm or undermine a theoretical hypothesis. But conceptualization of phenomena is often as strongly influenced by the models made as by observation (think of gender categories as an example where changing models have changed perception).[333]

The atom can't be observed; it can only be conceptualized in paraphrase. Yet the visualized concept looks like an observation. We are accustomed to visual models that concretize theoretical concepts and look to us like actual facts. What is presented as an image, we can see, and what we can see, we know. Under the heading of visual epistemology we could paraphrase "what can we see?" with "how can we see?" What happens when visualized models like these images that look

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329 Ibid., 3.

330 Johanna Drucker gives an extensive overview of the different ways to organize knowledge visually in *Graphesis*, particularly in the chapter "Interpreting Visualization: Visualizing Interpretation," 64–137.

331 It may vary considerably, and includes such visual structures as circle, bar, flow, line, and area diagrams, pictograms, and maps.

332 See Johanna Drucker, *Visualization and Interpretation*, 70.

333 Ibid., 18.

like observations are smuggled into the artistic process? When they are given different signs and relieved of their epistemological function to enter a different semantic space. What happens when we examine the aesthetic decisions around scientific images?

Visual art—one way of dealing with the world visually—has accrued a wealth of experience in reflecting on and analyzing the combination, arrangement, structure, and relationship of individual elements, whether abstract or figurative, within an overall system. Making images means thinking extensively about chance and necessity, and taking any number of decisions. How are these decisions taken in the visual configuration of scientific ideas? The methods of semantic permutation, a "transfer of meaning" into a different field of knowledge, could shed some light on this. In visual art, images question themselves without overlooking their own status, material, or style. So it would seem natural to propose that visual art might prove fruitful for a visual epistemology, at the point where the spectrum widens to an examination and comparative analysis of scientific images. Or where semantic permutation reveals the intention of images and discloses ideologies. Or where images chafe at the texts and texts at the images. Where contrast can be felt, where the ephemerality of looking meets the linearity of reading.

BIBLIOGRAPHY PART II

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