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MANY-VALUED AESTHETICS

Interconnections in the Work of Mary Bauermeister

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[transcript]

In memory of Mary Bauermeister (1934–2023)

Contents

1. Prologue

The days of the two-valued image of the world, with its dichotomic distinctions of subject and object, of thinking and thing, of form and content, of mechanical and organic, of nature and society, of thing and soul […] are in any case over.[1]
Gotthard Günther, 1959

The real whole might well be, we conceive, an indivisible continuity. The systems we cut out within it would, properly speaking, not then be *parts* at all; they would be *partial views* of the whole. And, with these partial views put end to end, you will not make even a beginning of the reconstruction of the whole.[2]
Henri Bergson, 1907

"Yes, no, perhaps"—these words aptly summarize the evolution of the oeuvre of the German artist Mary Bauermeister. The three expressions must be accurately defined as equal in value and equivalent. Neither a hierarchy nor a progressive weighing up to a subsequent dissolution is what is meant: This brief formula can rather be understood as the smallest nucleus of Bauermeister's art. She developed it in the years 1961 to 1963, but her works up to that point also reveal a trend that anticipates this direction. Bauermeister's work initially presented itself heterogeneously and sometimes eclectically, with manifold materials, media, and techniques employed as well as diversity of form. Her entire oeuvre is, however, harnessed into a network of cross references and follows a genealogy. Although several works seem to form

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1   Gotthard Günther, *Idee und Grundriss einer nicht-Aristotelischen Logik: Die Idee und ihre philoso-phischen Voraussetzungen*, 3rd ed. (Hamburg: Fritz Meiner, 1991), 334.
2   Henri Bergson, *Creative Evolution*, trans. Arthur Mitchell (New York: Holt, 1911), 36 (italics original).

autonomous groups and look like a break with the artist's specific, previously established aesthetic, there are nevertheless overarching lines of connection—revealing them is one of the concerns of this study.

What follows emphasizes the common and not the disparate and to that end repeatedly has recourse to Bauermeister's sources, which she read as a young artist and that flowed into her work.[3] Her areas of interest were broadly diversified and included not only writings on cultural theory and philosophy but also literary, political, sociological, scientific, and mathematic themes. Not every treatise has a direct correspondence in her works, and this study does not attempt to distill out visual translations of discursive models. Rather, it attempts to show which concepts occur many times in her oeuvre and which conclusions can be drawn from that—always connected with the question of how the theoretical construct behind Bauermeister's works could be further developed with current research. The historical context is accordingly merely the point of departure for the observation, because Bauermeister's art—according, at least, to one of the theses advanced here—can appropriately be interpreted with theories of the assemblage, reflections on the aesthetics of materials, and the theories of New Materialism.

One of the books with the farthest-reaching influence on Bauermeister is *Idee und Grundriss einer nicht-Aristotelischen Logik: Die Idee und ihre philosophischen Voraussetzungen* by the German philosopher Gotthard Günther of 1959. In that treatise Günther attempts to challenge the two-valued logic in which object and subject are always confronted with identity and nonidentity. The extension that Günther describes leads to a many-valued logic that Bauermeister adopted as a catalyst for her production of art and then developed from it an autonomous approach to the work of art as object. Her Writing Pictures and sculptural objects of artificial and natural materials should be categorized as preparation for this. From 1963 onward, she made her so-called *Linsenkästen* (Lens Boxes): hybrid structures of image and sculpture that produce reflections in intricate compressions on several levels. Among other things, they address the production of the work of art itself as well as their own precursor and successor works, opening up a network of metareferentiality. In addition, the process of perceiving works of art, contemporary trends in art, and natural, evolutionary are themes; random processes, mathematical equations, and biographical events are also treated. The "reflection [and] the movement of

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3   Mary Bauermeister granted the present author access to her library and indicated which books were important to her at which time. In some cases her library preserves the copies she first purchased and read, having survived several changes of studios and continents, marked with underlining and notes—these books, too, were available when preparing this book.

becoming"[4] within the Lens Box is a continuous evolution and a referential system of cross references.

This ongoing circulation of addressed themes, inserted elements, and their reflection forms the connections that will be described, following Gilles Deleuze and Félix Guattari, as an assemblage in which "movements of deterritorialization" and "processes of reterritorialization" occur at the same time, or they reciprocally condition each other.[5] A work of art should not be viewed as isolated; rather, the assemblage creates an extension: to other works as well as to the themes treated, the contextual conditions of the exhibition venue and of the art world, and to the artist's subjectivity. In general, in that process the works obtain a status that locates them outside of the attribution as a "simple" object: the work becomes a "quasi-object"[6] by circulating themes, found, natural, or industrial objects, by words that congeal into Writing Pictures but at the same time remain identifiable, and by optical distortion. The term "quasi-object" was coined by Michel Serres and refers to an object's potential to produce subjectivity: When the quasi-object enters into a community, it "marks or designates" the subject as such; without this address, the human being is still in a presubjective stage.[7] The quasi-objects—that is to say, the individual works of art—not only construct the artist-subject but also create us as viewers, because we are brought into a community and into an exchange.

A situation results in which, first, one can no longer assume a self-contained unity, since a constant interchange among the works occurs and, second, this exchange forms a common body. This epistemological visual critique in Bauermeister's works is supported by a metaphysical approach that breaks down supposedly existing subject-object dichotomies in order to have an effect on the work of art and its possibilities. The conclusions that should be drawn from that for Bauermeister's oeuvre will be revealed successively over the course of the book.

In contrast to many artists of her generation, Bauermeister only sporadically wrote texts in the form of essays on art theory or manifestos, although she wrote unusually much, albeit primarily in her artworks themselves or in sketchbooks. Bauer-

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4   Georg Wilhelm Friedrich Hegel, *The Science of Logic*, ed. and trans. George Di Giovanni (Cambridge: Cambridge University Press, 2010), 345.

5   See Gilles Deleuze and Félix Guattari, *Thousand Plateaus: Capitalism and Schizophrenia*, trans. Brian Massumi (Minneapolis, MN: University of Minnesota Press, 1987), 10–11, 92, and 703–6. "Assemblage" is understood to mean the political theory and not the artistic practice or descriptive term for a medium; for an attempt to synchronize the two, see Bill Brown, "Re-Assemblage (Theory, Practice, Mode)," *Critical Inquiry* 46, no. 2 (Winter 2020): 259–303.

6   See Michel Serres, *The Parasite*, trans. Lawrence R. Schehr (Baltimore: Johns Hopkins University Press, 1982), 225–28.

7   Serres, *The Parasite* (see note 6), 225. Serres sometimes also calls the "quasi-object" the "quasi-subject" but only to emphasize the status of objects, namely, that they should not be seen as things incapable of action.

meister was born in Frankfurt am Main in 1934 and was thus only a few years younger than, for example, the founders of the Zero Gruppe, Heinz Mack and Otto Piene, or her comrade-in-arms for many years Nam June Paik; they had in common with American colleagues such as Robert Morris, Donald Judd, Robert Smithson, Carolee Schneeman, and Yvonne Rainer that they lay out their working methods and understanding of their own works in texts. In addition to their own interpretation of their works, this strategy led to distinction from and self-assertion over predecessors and ensuring attention in the competitive field of contemporary art.[8]

The statements in the Lens Box cannot, moreover, be compared to a proclamatory or polemic manifesto, nor can they serve as a literal reception theory. The chains of words are brief aphorisms characterized by alliterations and homophones. They are brought together with sketches, scribbles, mathematical symbols, arrows, and notes to create a composed Writing Picture that is the manifestation of trains of thought. One concern of these works is the productive dimension of the writing process as "private writing," in which writers can order and refine thoughts, thus resulting in a circular effect between the memory and external product.[9] Bauermeister's philosophical, epistemological, metaphysical writings in her works came out of the extension of two-valued logic into a potentially infinite dimension of equivalent statements with equal truth content.

The chimera of text and image is combined with objects, photographs such as reproduction, natural materials such as stones, and distortions by optical lenses or wooden spheres to create a "symbol system" that is supposed to generate knowledge.[10] To that end, Bauermeister developed a personalized iconography that consisted of both subject parts and philosophical reflection but whose approach goes beyond a mere "individual mythology." That concept, coined by Harald Szeemann in 1963, seems apt only in a superficial examination, because Bauermeister never wished to create out of "egocentrism" a universally valid language that then transitions into "vigorous naturalness."[11] Rather, her works of art participate in overarching discourses and also make explicit statements about them; they get involved in existing discussions and do not create arcane new ones. That also explains why Bauermeister never developed a theory of the Lens Box or issued a manifesto on her

8   See Dorothee Wagner, Schreiben in der Kunst: *Amerikanische Künstlertexte der 1960er Jahre* (Bielefeld: transcript, 2018), 61. On the relationship of attention in the art of the 1960s in New York, see Philip Ursprung, *Grenzen der Kunst: Allan Kaprow und das Happening, Robert Smithson und die Land Art* (Munich: Silke Schreiber, 2003), esp. 19–30.

9   See Wolfgang Raible, "Über das Entstehen der Gedanken beim Schreiben," in *Performativität und Medialität*, ed. Sybille Krämer (Munich: Wilhelm Fink, 2004), 191–214, esp. 197–202.

10   See Nelson Goodman, *Languages of Art: An Approach to a Theory of Symbols* (Indianapolis, IN: Hackett, 1976), 143–45.

11   Harald Szeemann, "Individual Mythologies" (1972), trans. Jonathan Blower in Szeemann, *Selected Writings* (Los Angeles: Getty Research Institute, 2018), 65–68, esp. 66–67.

artistic approaches: the writing in her Lens Box and its arrangement imply an immanent theory of art. The works contain their own specifications, how they are to be understood, and also the intellectual superstructure behind them. The statements are tied to the work's "practices of showing"; they create "aesthetic thought," which is not a genuinely theoretical experience but a certain kind of reflection that must be distinguished from purely discursive argumentations or those that can be verified by positivist methods.[12] Both strands—notational iconicity and aesthetic showing—meet in Bauermeister's dedication to meta(-physical) reflection.

In order to do justice to the works, I have selected an approach based on the theory and philosophy of art. It is contextualized with the art criticism written about Bauermeister in the 1960s and 1970s, including an examination of Bauermeister's reception as a young artist primarily in New York, where she lived, with interruptions, from 1962 to 1972. The descriptions and categories drawn on for her art are significant here. Another focus is on the materials and compositional elements of which the works of art are composed, on their arrangement and the references they contain, together with the sources absorbed by Bauermeister and their extensions. The next step is to tie them back to the overarching theoretical discourses on art in which Bauermeister's works participate by means of their structure.

I do not intend to foreground the historical situation of the culture or art in postwar Germany or in New York in the 1960s, since there are already numerous studies that do that, so contextualizations will occur only on the margin.[13] Nor will I attempt to find similarities to or appropriations from any artistic precursors or movements or borrowings from contemporaries. First, Bauermeister's works are extremely special in terms of both content and style; second, such a similar study has already been conducted.[14] Her art will be related cursorily to a feminist context only insofar as the works require it.[15] Moreover, rather than a biographical review or an survey of the

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12 See Dieter Mersch, *Epistemologies of Aesthetics*, trans. Laura Radosh (Zurich: Diaphanes, 2015), 117 and 128.

13 Important studies of Bauermeister's art include Alejandro Perdomo Daniels, *Die Verwandlung der Dinge: Zur Ästhetik der Aneignung in der New Yorker Kunstszene Mitte des 20. Jahrhunderts* (Bielefeld: transcript, 2011); Andi Schoon, *Die Ordnung der Klänge: Das Wechselspiel der Künste vom Bauhaus zum Black Mountain College* (Bielefeld: transcript, 2006); Ursprung, *Grenzen der Kunst* (see note 8).

14 See Kerstin Skrobanek, "'Die Jacke Kunst weiter dehnen': Mary Bauermeisters Aufbruch in den Raum," PhD diss., Frankfurt am Main, 2009, Univ.-Bibliothek 2014, http://publikationen .ub.uni-frankfurt.de/frontdoor/index/index/year/2014/docId/35011 (accessed April 17, 2019). The state of research on Mary Bauermeister's art includes only a limited number of scholarly treatises; they are cited in the relevant passages and are therefore not listed in a separate chapter.

15 Here again the reason is that such a study has already been done: Irene Noy, "Noise in Painting: Mary Bauermeister's Early Practice and Collaboration with Karlheinz Stockhausen," in Noy, *Emergency Noises: Sound Art and Gender*, German Visual Culture 4 (Oxford: Peter Lang,

artist's oeuvre, my ambition is to reveal the structures of her artistic evolution and the associated discourses in order to categorize it art historically.[16] Several representative works will be analyzed in more detail for that purpose in order to expose the questions with which Bauermeister grappled.[17] One immeasurably valuable source for that is the artist's archive; in addition to exhibition catalogs and reviews, it is above all handwritten notes and the three sketchbooks from the 1960s that offer insights into the conceptual processes of producing the works.[18] Clarifying how she works also offers the opportunity to acquire a holistic insight into the levels of meaning in the works.

This procedure is not chronologically arranged; first, in chapter 2, using the *Needless Needles* group of works as examples, Bauermeister's (main) philosophical sources are explained and immediately connected to observing how they are expressed in the works, what autonomous dimension the art obtains as a result, and how the works continue the thinking about philosophy—grasping this is fundamental to understanding Bauermeister's art. The theory of many-valued logic offers a backdrop against which a majority of her oeuvre can be read. All the chapters participate in multivalence and round out Bauermeister's interpretation of the theory that is referred to here as "many-valued aesthetics."

2017), 127–60; Irene Noy, "Art That Does Make Noise? Mary Bauermeister's Early Work and Exhibition with Karlheinz Stockhausen," *immediations: The Courtauld Institute of Art Journal of Postgraduate Research* 3, no. 2 (2013): 25–43.

16   Her connection to the German composer Karlheinz Stockhausen is considered only when has added value for the interpretation of the works selected here. For their joint personal and artistic history, see Mary Bauermeister, *Ich hänge im Triolengitter: Mein Leben mit Karlheinz Stockhausen* (Munich: Bertelesmann, 2011). On their reciprocal artistic influence, see also Leopoldo Siano, "Between Music and Visual Art in the 1960s: Mary Bauermeister and Karlheinz Stockhausen," in *The Musical Legacy of Karlheinz Stockhausen: Looking Back and Forward*, ed. M. J. Grant and Imke Misch (Hofheim: Wolke, 2016), 90–101; Paul V. Miller, "Mary Bauermeister and Karlheinz Stockhausen: A Collaboration in Sound and Space," in *Mary Bauermeister: The New York Decade*, exh. cat. (Northampton, MA: Smith College Museum of Art, 2014), 87–97; and Michaela Geboltsberger, "Die 'malerische Konzeption' und der Einfluss von Aleatorik im Werk von Mary Bauermeister—im Kontext zu Karlheinz Stockhausens Kompositionstechnik," thesis, Vienna, 2012. On the relationship of the marginalized wife or muse compared to her artistic partner, see Katie McCabe, *More than a Muse: Creative Partnerships That Sold Talented Women Short* (London: Quadrille, 2020).

17   The present author has also compiled a catalogue raisonné of Mary Bauermeister's work, commissioned by the artist and the Studio Mary Bauermeister. An overview of her works, exhibitions, collections, and bibliography may be found in the online catalogue raisonné.

18   Part of Bauermeister's archive has been accessible digitally since 2012 at the Zentralarchiv für deutsche und internationale Kunstmarktforschung (ZADIK) in Cologne; the physical files are still in the Studio Mary Bauermeister. If a document is available at ZADIK, the inventory numbers are indicated. Bauermeister's sketchbooks have not been digitized by ZADIK.

Chapter 3 takes a step back in time; it treats the combination principle, which resulted from her study of art, the nonobjective painting of the postwar era, and New Music and its notational systems. The themes and techniques with which Bauermeister experimented in her early work reveal in combination why the ideas of a metaphysical extension of logic could fall on fertile ground as the foundation for compositions. Multivalent aesthetics is not therefore based on the combination principle but rather, conversely, these elements flow into the inspirations that Bauermeister derived from her reading of Günther. In addition, this step backward makes it possible to encounter several aspects that find their way into her works again and again.

Chapter 4 then studies the materials employed from the perspective of an "aesthetics of materials." Bauermeister's use of natural materials, materials not usually employed in art such as synthetic materials, or the so-called modeling compound as well as their combination in the work reveals her skepticism toward preexisting categories. These amalgams open up a productive dimension in which the elements employed can be defined as "material dispositifs."[19] They oscillate between combination and many-valued approaches and are also determined by the poetics of finding.

In a next step, the focus shifts to the combining of text and drawing under the topos of notational iconicity. Chapter 5 addresses the potentials of writing that reveal levels of meaning in the process and from their arrangement and have a productive relationship to language so that writing things down can be seen as more than a recording medium. Bauermeister's use of writing and its fluid transitions to drawing, in which both are usually simultaneously present, create a nested reflexivity that emphatically desires to appear polyvalent.

This also transitions into chapter 6 of the study, which analyzes the object and metareflections within and between works. Constant reflection on all components of the work of art transports the work into the discourses embedded in it: metareferences result that Bauermeister intends and comments on in turn. This leads to an analysis of her own work including all the hints about interpretation, to a reflection on aesthetic composition, on activating the viewers, and in general to interlockings that are continually refined by means of different elements employed by the artist.[20]

A compound of metalevels is initiated by the artworks themselves. They have specific "trajectories," which should be traced as far as possible here so that the superficial observation of apparently arbitrary leaps and discontinuities gives way to

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19   See Christiane Heibach and Carsten Rohde, "Material Turn?," in *Ästhetik der Materialität*, ed. Heibach and Rohde (Paderborn: Wilhelm Fink, 2015), 9–30, esp. 19.

20   See Werner Wolf, "Metareference across Media: The Concept, Its Transmedial Potentials and Problems, Main Forms and Functions," in *Metareference across Media: Theory and Case Studies*, ed. Werner Wolf with Katharina Bantleon and Jeff Thoss (Amsterdam: Rodopi, 2009), 1–85, esp. 65–68.

network-like contexts.[21] The concept of the assemblage is also significant in this context, as is the expansion of the self-productivity of the object. In what follows I work with the term "networking," which can be described as having the goal of "spatial and visual manners and ways to create connecting links of identical elements."[22]

My concentration on the period from 1955 to 1975 results from caesuras in Bauermeister's career as an artist that had effects on her oeuvre. In 1955 she ended her studies at the Hochschule für Gestaltung in Ulm. Several inspirations that she found there can be identified in different reformations that recur repeatedly in her work. From the mid-1970s, or at the latest with the start of the new decade, changes in Bauermeister's work can be observed that entail new techniques, themes, and concepts and are determinant until the early 1990s—these would require a more detailed study that can be offered here.[23] The focus is therefore on the 1960s, since a first apex of Bauermeister's creative work occurred in those years. The approaches that matured until the early 1970s remained characteristic of her works.

One leading American art critic in the 1950s and 1960s, Harold Rosenberg, wrote with respect to an exhibition at the Museum of Contemporary Art in Chicago in 1967: "Though she was somewhat out of key with the exhibition and, visually, was the best artist in it, Mary Bauermeister, a young German Post-Surrealist, is also art-conscious in the most aggravated degree."[24] This sentence reveals several notable levels of meaning at once in its effort to approach Bauermeister's art. Leaving aside the praise, it is striking that Bauermeister's works are perceived as not belonging, even though the exhibition *Pictures to Be Read/Poetry to Be Seen* offered a look at contemporaneous trends in the use of writing in works of visual art—that is, the very theme on which Bauermeister was working.[25] Her works thus appeared somewhat isolated even in the milieu in which they were supposed to be at home. In addition,

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21   See Bruno Latour, *An Inquiry into Modes of Existence: An Anthropology of the Moderns*, trans. Catherine Porter (Cambridge, MA: Harvard University Press, 2013), 74–77.

22   See Sebastian Giessmann, *Die Verbundenheit der Dinge: Eine Kulturgeschichte der Netze und Netzwerke* (Berlin: Kadmos, 2016), 15.

23   In the 1980s Bauermeister began to accept commissions to design gardens, which would dominate her work for at least a decade. The approaches developed earlier remained; they were joined by spiritual concepts that previously had not had any influence on her works; addressing them would require a new interpretational branch. In the 1990s, these concepts receded to the background again in her works; she began to reflect again on the themes that had been dominant earlier, resulting in a new phase of work that continues to be determinant.

24   Harold Rosenberg, "Museum of the New," in Rosenberg, *Artworks and Packages* (Chicago: University of Chicago Press, 1969), 144–56, esp. 152.

25   See *Pictures to Be Read/Poetry to Be Seen*, exh. cat. Chicago, Museum of Contemporary Art Chicago, 1967. The curator of the exhibition was Jan van der Mark, who brought together twelve artists; it also was the inaugural exhibition at the Museum of Contemporary Art Chicago.

the term "Post-Surrealist" is striking. It is an assessment that one reads often that can be traced back to a misunderstanding of the texts in her works, and it will be examined in chapter 5. Contradictory things are not only understood as liberating the productive dimension of the unconscious that leads to a more accurate reality but also equally aptly as a mediating of perspectives. The "art-consciousness" addressed by Rosenberg goes back to the employment of referentiality to the self, to others, and to objects and is—as the art critic correctly described it—a characteristic quality of her works.

Nam June Paik, in a text on Bauermeister, comes very close to interpretations derived from her oeuvre when he writes: "Mary has, as one of the very few painters, succeeded in injecting a new onthology [*sic*] of 'indeterminacy' to the essentially heavy and immovable art of painting."[26] "Indeterminacy" does not appear to be foregrounded in Bauermeister's work to the same extent it was for John Cage or Paik himself in the evolution of their aesthetics, Bauermeister, too, nevertheless participated in that discourse in several works. More remarkable is Paik's reference to "ontology" and "painting," since a look at the Lens Box legitimately raises the question of categories for these objects; several of them approach sculptures, while others should be categorized rather as paintings. Though they seem outdated from our present perspective, the 1960s—that is, the period in which Bauermeister developed the Lens Box—were characterized by "trench wars" over interpretive authority.[27] Bauermeister herself avoided these discourses: on the one hand, by neither writing texts nor joining a group of artists and, on the other hand, by the art-immanent analyses that she foregrounded. They also revealed the "new ontology" that made the works seem to be aesthetic, theoretical object with which reflexive statements of networking could be made.

In 1965, in one of her few published historical statements, Bauermeister describes her method as fragmentation, process, and compound: "Each work becomes in itself a statement and with each new work I try to enlarge and change that

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26   *Nam June Paik and Mary Bauermeister, Letters Mary Bauermeister*, ed. Sang Ae Park (Yongin: Nam June Paik Art Center, 2015), 162. His text was originally written for the exhibition Recent Paintings and Constructions at the Staempfli Gallery in New York, which was held from February 29 to March 25, 1972.

27   Formalist art critics such as Clement Greenberg and Michael Fried called for a particular concept of medium specificity that was challenged by artists with their own interpretations Paradigmatic essays include those of Donald Judd, Robert Morris, and Alan Kaprow, who not only explained their own artistic approach but at the same time distinguished themselves from formalism. The escalation of this period is ironized in Tom Wolfe's *The Painted Word*: critics and artists produce words to offer the public instructions for the reception: "The new order in the art world was: first you get the Word, and then you can see." Tom Wolfe, *The Painted Word* (New York: Farrar, Straus and Giroux, 1975), 54.

special statement."[28] Each work of art can be viewed as a unity in itself and already makes a special statement. This, however, will also be applied to all of the following works in that they contain both extensions and changes. This demonstrates, first, Bauermeister's antidogmatic approach; in her works she repeatedly commented on, questions, and contradicts decisions—even explicitly rejected them. From this follows, too, however, that the compound of works of art is already contained in the single work since all of them are involved in a statement. The quotation from Henri Bergson in the epigraph shines through here; it should be understood as another key to Bauermeister's oeuvre: The individual works contain the whole, participate in it, but the simple sum of those individual works does not produce the work as a whole. Statements in art are not reproduced but rather are subject to an evolution that combines them with one another in such a way that not only the works but also small details from them already form "partial views" of the whole. The "indivisible continuity" that Bergson describes, which keeps everything in an "endless flow," provides a metaphorical access.[29] In Bauermeister's works, the statements are repeatedly challenged in a work-immanent way; that is precisely how the individual participates in the whole.

As a summary of Bauermeister's oeuvre, the formula "yes, no, perhaps" has blind spots, like any interpretation. These blind spots should be, as far as possible, addressed in the chapters. "Truth" is, according to Friedrich Nietzsche, merely an "army of metaphors, metonymies, and anthropomorphisms"; with time we have forgotten that our metaphors are not truths but rather illusions.[30] According to Nietzsche, art has the advantage that it can tear apart the "rigid and regular web of concepts."[31] Although putting complex contexts in order is, therefore, dependent to some degree on formulas or metaphors, they are merely an illusory approach. Works of art and especially the formation of a corpus of works that has been unfolding for more than sixty-five years are too diverse for apodictic formulas or final interpretations. The potentiality of art consists precisely of going beyond discourses bound to language. Because the three words "yes, no, perhaps" themselves have a broad framework of associations in this particular sequence, they come closest to her oeuvre. Purely quantitatively, the three expressions are presumably the most often written concepts in Bauermeister's works. They occur in a large number of works, sometimes explicitly

28   Mary Bauermeister, "The Artists Say," *Art Voices* 4, no. 3 (Summer 1965): 64–65, esp. 64.

29   Bergson, *Creative Evolution* (see note 2), 5.

30   Friedrich Nietzsche, "On Truth and Lie in an Extra-Moral Sense," in Nietzsche, *Writings from the Early Notebooks*, ed. Raymond Geuss and Alexander Nehamas, trans. Ladislaus Löb, Cambridge Texts in the History of Philosophy (Cambridge: Cambridge University Press, 2009), 253–64, esp. 257. Nietzsche's explicit critique of metaphysics will be countered below with an extension of metaphysics.

31   Nietzsche, "On Truth and Lie" (see note 30), 262.

in this group of three, sometimes alone or in constant repetition, only briefly interrupted by one of the others. They do not attempt to advance a Hegelian dialectic, so that there is a mediation between them that creates a process of dissolution in that one or more words is left behind "richer because it negates or opposes the preceding."[32] Rather, they contain a Spinozian tendency "Each individual thing endeavors, in so far as it can, to preserve its own being."[33] Each of the words of "yes, no, perhaps" has its own identity in Bauermeister's art, and none of them can be subordinated to any other.

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32 Georg Wilhelm Friedrich Hegel, *The Science of Logic*, ed. and trans. George Di Giovanni (Cambridge: Cambridge University Press, 2010), 33.

33 *The Ethics of Benedict Spinoza, Demonstrated after the Methods of Geometers, and Divided into Five Parts*, trans. D[aniel] D[rake] S[mith] (New York: D. Van Nostrand; New York: G. P. Putnam's Sons, 1888), 136, Postulate, Proposition VI.

2. Aesthetics of Many-Valued Logic
Needless Needles with Gotthard Günther

> The subject is, as we know, not simply identity with itself but identity of reflection with the other. On other words: Object being is existence without a gradient of reflection, but subject being is existence based on a gradient of reflection.[1]
> *Gotthard Günther, 1959*

In Mary Bauermeister's copy of *Idee und Grundriss einer nicht-Aristotelischen Logik* (Idea and Outline of a Non-Aristotelian Logic), the passage cited in the epigraph is underlined and marked with the note "That is the most important thing."[2] It is understandable that she saw this as one of the core points of Günther's philosophy. In general, he describes a difference between the subject's reflection process and that of the object: With a thought process that takes place in a subject, there is reflection on something outside of it that can be called the object. At the same time, there is an "inner" process that Günther calls "identity of reflection." That merely means that we as subjects have the opportunity to think about our own thinking, to reflect on our own reflection. Günther comes to this description, on the one hand, by means of the philosophy of Georg Wilhelm Friedrich Hegel and, on the other hand, by way of a thought experiment that takes a subject that is not itself as the starting point of reflection.[3] Namely, if I think of something from my subjective position, it is a simple object. If, however, it comes to reflect on another subject, by the implications of classical logic, according to Günther, it must also become an object. Likewise, if

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1   Gotthard Günther, *Idee und Grundriss einer nicht-Aristotelischen Logik*, vol. 1, *Die Idee und ihre philosophischen Voraussetzungen*, 3rd ed. (Hamburg: Felix Meiner, 1991), 330. The pagination of the third edition cited here is identical to the first.
2   Bauermeister's edition is filled with underlined passages and notes such as "gut," "very good," "excellent," and "very elegant"; in addition, Bauermeister wrote in the margins both exclamation points and question marks as well as expressions such as "Nonsense" and "Flop Doodle."
3   See Günther, *Idee und Grundriss* (see note 1), 96–102.

the other subject thinks of me, I would then become merely an object. Another subject, a "you," however, is not "dead and causally linked" but rather "transparent and alive" and also has the potential to relate itself to its own reflection.[4] With these descriptions of the "gradient of reflection," Günther seeks to reject the core axioms of classical logic, which for him means Aristotelian logic, in order to develop the "foundation" for a many-valued logic.[5]

Bauermeister was not a metaphysician illustrating the equivalent of Günther's thought processes in her works; rather, she drew several conclusions from her reading that decisively conditioned the pictorial themes and appearance of *Needless Needles* and subsequent works. One sees references to many-valued logic in individual works even prior to 1963, but they do not seem to have been necessary for the overall conceptions of the works to the same degree. It is plausible to assume that Bauermeister read Günther's book in 1961 and later. The first references appear in her sketchbook on those pages that must have been written in approximately that time frame: "Yes, no [...] either or etc. see Günther" is found on a page between the combination principle for the works of art that she had planned before or during a stay in Sicily. A second essential reference—"1+1=3"—first occurs several pages later, in the context of the *Needless Needles* light sheet.[6] Bauermeister was more explicit in the sketchbook's "theory section." It includes more text and fewer drawings; moreover, issues of art theory are explained here in aphorisms rather than presenting conceptions for individual works. The texts seem like a multilayered conversation of the artist with herself. This section has twenty-six pages, and, in contrast to the orientation of "Skizzenbuch/Quaderno," it begins in the back and the writing has been rotated 180 degrees. In a lengthy paragraph in January 1962 the artist notes:

> "The question is true like the answer. 'Yes or no' or 'yes and no' or 'neither yes nor no' or something (absurd beyond all that) that is also beyond 'neither yes nor no,' = tautologies 1+1=3 not two-valued thinking."[7]

Through Günther's book Bauermeister found her self-empowerment as an artist to express in a specific way her radical doubt about categories, which had already ex-

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4   Ibid., 103–4.

5   Gotthard Günther, "Die Theorie der 'mehrwertigen' Logik" (1971), in *Beiträge zur Grundlegung einer operationsfähigen Dialektik*, vol. 2 (Hamburg: Fritz Meiner, 1979), 181–202, esp. 181.

6   See Mary Bauermeister, "Skizzenbuch/Quaderno, 1961–1963," unpublished source, paginated by the artist, pp. 64 and 105.

7   Ibid., T5. The page numbers in this sketchbook are prefaced by the letter T; the underlining in this passage is original; that is the case for all quotations from Bauermeister's sketchbooks.

isted before she read it; moreover, the publication had a crucial influence on her working out her personal aesthetic.[8]

The consequences of that reading are comparable to Marcel Duchamp's attending a theatrical production of Raymond Roussel's *Impressions d'Afrique* in 1912; perhaps even to John Cage's use of the *I Ching* for his compositions.[9] The universal validity and the inferences in the cases of Duchamp and Cage have to be categorized just as carefully in Bauermeister's case. A comprehensive legitimation of the strategies employed can never be obtained from reference points, since a work of art is composed of manifold entities and the creative process has its own dynamics yet again. Nevertheless, much evidence can be identified in the works of art with which we can get close to Günther's thought processes and the conclusions that Bauermeister draws from them. In order to present them in what follows, many-valued logic according to Günther's view is contextualized with a group of works that reveals one of the first of all the consequences that Bauermeister derived from the metaphysical approach.
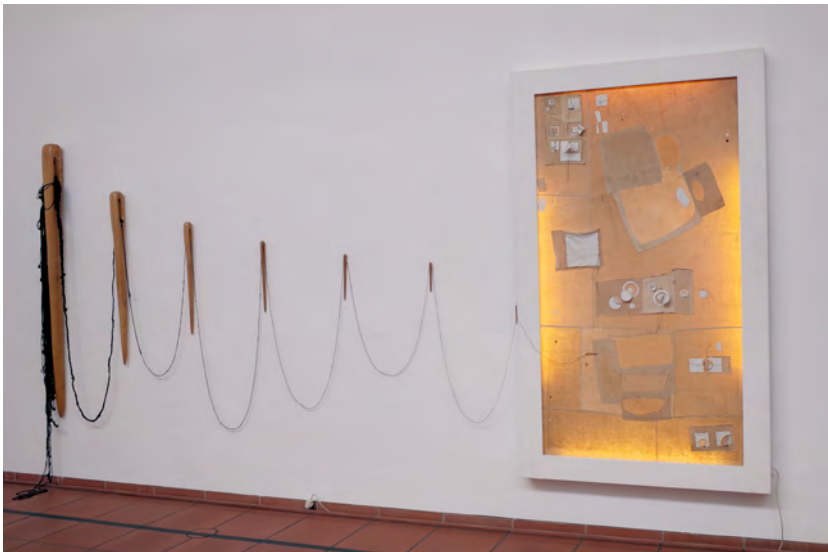
2.1 *Needless Needles*

The works of the *Needless Needles* group are closely connected thematically: sewing, embroidering, and patching as a cultural and artistic technique is addressed in all of the works that belong to it. The motif of the seam in harmony with and distinction from the drawn line as well as the specific theme of the needle are among the constants. Its title, *Needless Needles*, contains an error for the sake of alliteration: Bauermeister wanted to translate "Nutzlose Nadeln" into English, which would have been

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8   For decades she repeatedly emphasized the importance of this publication and its rejection of two-valued thinking. "I am interested in a pluralistic view of the world—not an Aristotelian, dualistic approach." Mary Bauermeister quoted in "Powerhouse [Interview with Mary Bauermeister]," *New Yorker* (July 31, 1965): 24–27, esp. 26. In an interview in 2017, Bauermeister emphasized this again: Susanne Boecker, "Mary Bauermeister: Dubio Ergo Sum," *Kunstforum International* 252 (February–March 2018): 218–27, esp. 223; see also Mary Bauermeister, *Ich hänge im Triolengitter: Mein Leben mit Karlheinz Stockhausen* (Munich: Bertelsmann, 2011), 108.

9   On the significance of Roussel's play based on the eponymous novel of 1909, see Lars Blunck, *Duchamps Readymade* (Munich: Silke Schreiber, 2017), 48–49; Calvin Tomkins, *Marcel Duchamp: A Biography* (New York: Henry Holt, 1996), 90–93; Alexander Streitberger, *Ausdruck, Modell, Diskurs: Sprachreflexion in der Kunst des 20. Jahrhunderts* (Berlin: Reimer, 2004), 51–52. In 1950 Cage was given an anthology of Chinese texts and thereafter repeatedly referred to these writings, from which he developed his compositional principle of "indeterminacy"; see John Cage, *For the Birds: Conversations with Daniel Charles*, trans. Richard Gardner (Boston: Marion Boyars, 1995), 43–46; Julia Robinson, "John Cage and Investiture: Unmanning the System," in *The Anarchy of Silence: John Cage and Experimental Art*, exh. cat. (Barcelona: Museu d'Art Contemporani de Barcelona, 2009), 54–111, esp. 81–83.

"Useless Needless." This "error" was, however, made deliberately and already points to the significance of writing in her works. The potentials in imprecisions and slight shifts are integrated in order to open up new levels of meaning. Newly created expressions or phrases are then developed in order to become part of the creative process. That also explains why "Needless Noodles" occupies a prominent place in one of the *Needless Needles* works. The point of departure for this group of words included a light sheet, a drawing, and a Lens Box produced in the years 1963 and 1964. They already contain all of the themes that the later *Needless Needles* works will take up again, which is why the three works are included here. In the early 1970s she made ten more Lens Boxes on the subject; in addition, there are lithographs of the drawing that Bauermeister reworked; and, finally, more Lens Boxes were added in 2016.[10]

Fig. 1: Needless Needles, 1963–64, found linen sheet, fluorescent tubes, canvas, ink, sewing needle, wooden objects and painted wood construction, 350 x 700 x 11 cm, Museum Ludwig, Köln/Cologne, Donation Gesellschaft für Moderne Kunst am Museum Ludwig e.V. with Support from the Stadtsparkasse Köln, 2004 (ML/SK 5151).

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10   The total number of identified works with the title *Needless Needles* is currently seventeen. There is a light sheet titled *Needless Needles Junior* from 1963; it was clearly given this title by Bauermeister later and does not have the specific themes.

The *Needless Needles* Light Sheet

This group of works has its origin in 1963 with a work that belongs to the so-called *Lichttücher* (Light Sheets) (fig. 1). Their source material is patchwork bed sheets that Bauermeister found during a stay in Sicily in the autumn of 1963. The myth told by the artist says that the sheets were hanging on the clothesline to dry and the sun shining through them emphasized the pattern of the patches.[11] It is essential that the patches were not applied intentionally but rather a random collection resulted because the bedsheets had to be repaired in places. The Sicilians made these repairs so the sheets could continue to be used. Bauermeister stretched the light sheets out in wooden boxes and lit them from behind with neon tubes and other lighting to emphasize the patterns and evoke the situation of their discovery. This raw material was used by the artist for a number of works, including the light sheets in the 1960s but also for sculptures beginning in the 1980s.[12] The light sheets were sometimes left unworked, that is, merely spanned in the wooden boxes, but sometimes Bauermeister added new patches to intensify their structure or to form words, as in the case of *Perhaps (Light Sheet)* of 1963 (fig. 2). There it is clearly evident that the middle patches were placed so it could continue to be used as a bedsheet while the top and bottom patches were sewn on afterward—after Bauermeister had cut the word "perhaps" or "yes" into them, for example. For other light sheets several sheets were sewn together to create larger formats.

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11   See Bauermeister, *Ich hänge im Triolengitter* (see note 8), 126–27.
12   The catalogue raisonné database registers a group of forty works using this material.

Fig. 2: Perhaps (Light Sheet), 1963, found linen sheet, fluorescent tubes and painted wood construction, 153.4 x 115.9 x 13.3 cm, Mary Bauermeister Art Estate.

The *Needless Needles* light sheet was reworked the most. Not only were additional patches applied but also canvas cutouts on which Bauermeister wrote or drew; in addition, she worked additional seams into the sheet.[13] There is also an installation of wooden "sewing needles" that begins in the work and together with wool, which is intended to simulate yarn, crosses the borders of the frame on the left. The needles spread out horizontally on the wall, increasing in size but with the same distance between them. Together with the needle installation, the work measures approximately 350 by 700 by 11 centimeters, making it one of the largest light sheets. Several bedsheets had to be sewn together just for the dimensions of the box. The seams Bauermeister worked in by hand with needle and thread are ubiquitous. They mirror the patches already found on the sheets and become visible only on closer inspec-

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13   For a study of the work based on the aesthetics of materials and for the interpretations that result from the use of fabric, needles, and yarn, see section 4.2.

tion. The dark yellow of the light sheet, which transitions almost into the greenish-brown, is crucially related to the work's lighting situation. The light sources in the box consists of four less intense neon lights; with the other light sheets, the sheets are light with a clearly brighter shade.[14] The sewn-on pieces of canvas consist largely of square or round forms. Several cutouts also simulate the contours of the scraps of fabric applied and are arranged in a mirroring of them, for example, in the top third of the work on both the left side and the right. The square and round canvas cutouts are not always sewn completely to the sheet. In the circular forms in the center, the round cutout has a cutout of its own, which is then folded out to a different extent. Seen beneath it is either another canvas cutout or the bedsheet. It is equivalent to the square pieces of canvas in the top left corner as well as at bottom left, though the latter have circles, semicircles, and quarter-circles cut out of square forms. Several of these canvas cutouts are marked with drawings, symbols, words, series of natural numbers, or short sentences that refer to the needle motif or to sewing and thus evoke networks with other works in the group.

In addition to these connections outside of the work, there is also a commentary system on a microlevel: In the top left corner various forms are drawn on a square canvas cutout; it looks as if the seams on the sheet are approaching the piece of canvas from three directions and transforming into drawings when they meet the canvas. The wooden border that meets the canvas from the right is initially continued by drawn lines. An arrow and the word "good" comment on these abstract forms as being worthy of depiction. The further the lines penetrate into the center of the canvas cutout, however, the more they transform first into circles and then look increasingly like hearts; above these forms stand the words "too sentimental." When the forms have become two small hearts, the word "bad" stands above them, clearly larger and with an arrow. With this small detail in the work Bauermeister was referring to contemporaneous artistic debates. Above all at the Hochschule für Gestaltung in Ulm, which followed in the tradition of the Bauhaus, representationalism was strictly rejected and romantic symbols like the pictogram of a heart would have been inconceivable. Bauermeister not only was trained in that climate but the first years of her work were also characterized by abstraction. Deliberately integrating such elements and then questioning them is one of the changes in her work that begin in the early 1960s and culminate in the Lens Boxes. It is a deliberate ambiguity intended to reflect doubt not only about her own categories but also about the dogmas of art.

The conceptions on this work can be found on page 104 of the "Skizzenbuch/Quaderno, 1961–1963," and they reveal that Bauermeister reflected in detail, giving herself instructions for executing a specific work, which she then tried to implement

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14   It is, moreover, reasonable to assume that the light sheet was exposed to some difficult conservational conditions before entering a museum collection. The bedsheet had changed continents several times and was also stored in Bauermeister's studio.

(fig. 3).[15] This approach can often be identified by looking at her sketchbook. In this case, however, the concept was only brought to bear when the work was already "1/2 fertig" (1/2 finished), as is written at the beginning of the page. Bauermeister had to "noch einarbeiten" (still work in) the subsequent dots. Listed below that are several more aspects such as "Nähanweisungen einfügen" (Insert sewing instructions) or "Flicken polstern" (Upholster patches), which are found in the final work; other points, such as "Geschichte des Tuchs" (History of the sheet) or definitions from a "dictionary," were not incorporated. This example is typical of Bauermeister's way of working: The concept does not have to stand at the beginning; rather, the idea for a work or a group can have been begun already in physical form. That is followed by conceptualization, which can also mean a refinement of an already existing work. Then parts of the written recording from the sketchbooks are implemented; all of the aspects are used only rarely. Many of the "refinements" of already existing works were never executed but remained in a conceptual state. The combination principle is also brought to bear here, which means that specific aspects of the planned works are later distilled out and used for other works.

The *Needless Needles* light sheet was first exhibited in a group show at the Galeria Bonino in New York City.[16] The exhibition, titled 2 *Sculptors, 4 Painters*, was the first gallery show in her new adoptive country and was held at the turn of the year in 1963 and 1964. The art critic Brian O'Doherty called the light sheet a "trick psychological mirror" and the best work in the exhibition; he also honored it as a "distant cousin" of Duchamp's *The Large Glass*.[17] In this group exhibition and the first solo exhibition at the Galeria Bonino that followed it in 1964, the light sheet was being still shown under the title *Linen Nähbild* (Linen Sewing Picture).[18] In addition, it was also presented in a way that two light sheets were stretched out in a double box. It stood in the gallery space so that *Linen Nähbild* could be seen in front and another work, the

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15   See Bauermeister, "Skizzenbuch/Quaderno" (see note 6), 104.

16   The Galeria Bonino was Bauermeister's first gallery in New York; their collaboration continued until the early 1970s and there were several museum exhibitions and institutional acquisitions during that period.

17   See Brian O'Doherty, review of a group exhibition at the Galeria Bonino, *New York Times* (December 29, 1963). The comparison to Duchamp's so-called *Large Glass*, officially titled *La mariée mise à nu par ses célibataires, même* (The Bride Stripped Bare by Her Bachelors, Even) of 1915–23, was particularly important to Bauermeister, who deeply admired Duchamp as an artist. In 1965 she created the Lens Box *Hommage à Mar-bert Du Breer*, whose title is a composite of the names Marcel Duchamp and Robert Breer. Duchamp also admired Bauermeister's works; for example, in a letter to his gallerist Arturo Schwarz he recommended that he put Bauermeister under contract as an artist, and that collaboration began in the early 1970s; Hauke Ohls, "Interview to Mary Bauermeister by Hauke Ohls," in *Mary Bauermeister: 1+1=3*, exh. cat. (Milan: Galeria Gariboldi, 2017), 6–44, esp. 43.

18   See *Bauermeister: Paintings and Constructions*, exh. cat. (New York: Galeria Bonino, 1964).

so-called *Linensculpture*, on the back. The illustrations in the catalog and the exhibition views show that the work was not further reworked by Bauermeister—apart from the installation of wooden needles and removal from the double box. The thematic fields of needle, sewing, and their transformations were already mature.

Fig. 3: Skizzenbuch/Quaderno, 1961–1963, unpublished source, paginated by the artist, p. 104.
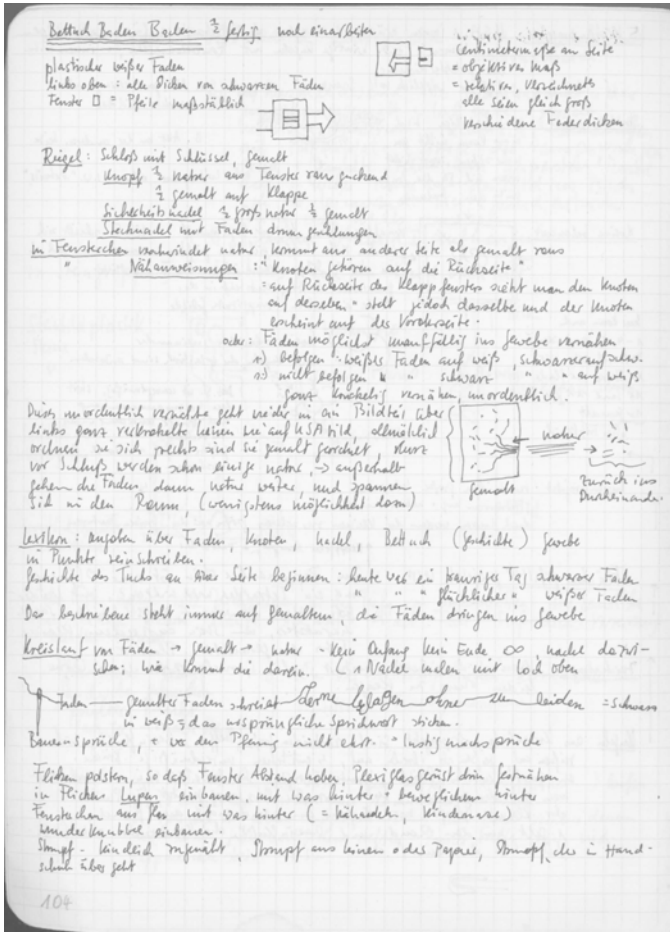
Needless Needles Drawing

The renaming of the light sheet from *Linen Nähbild* to *Needless Needles* very proba-
bly happened during or just after the end of Bauermeister's solo exhibition in 1964,
given that she produced the *Needless Needles* drawing at that time (fig. 4).[19] That work
treats the same theme as the light sheet. The drawing is graphite and ink on paper
and measures 49.8 by 60 centimeters. Largely in black-and-white, it also contains
several red and blue passages. It seems typical of Bauermeister's approach to draw-
ing, which is a combination of carefully executed elements and scribbling. The use
of writing, numbers, and their distortion comes into it as well. The graphic, spatial
arrangement is just as important, so that the voices are integrated as a productive
part. Accordingly, on the work on paper highly dense sections appear alongside sev-
eral areas without drawings.

Fig. 4: *Needless Needles*, 1964, pastel, ink on paper, 49.8 x 60 cm, *The Mu-
seum of Modern Art, New York, Gift of John S. Newberry, 1964, 269.1964.*
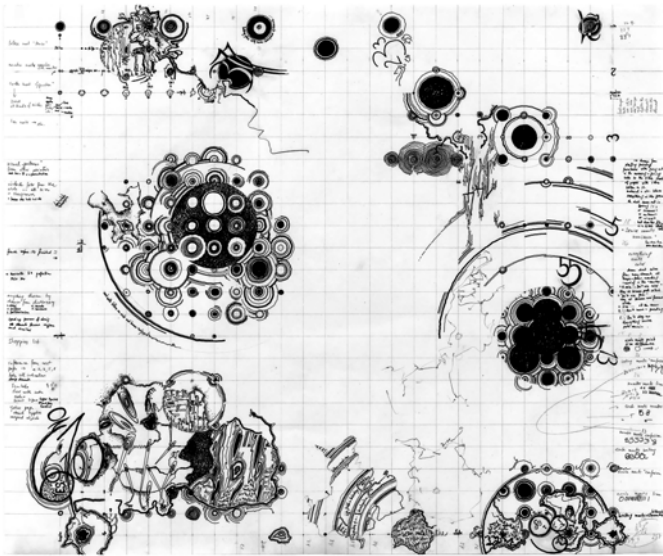
As in several other works as well, "instructions" were prominently inserted into
the work that Bauermeister apparently regarded as thematic directions to herself
and as guidance for viewer's reception in equal measure. They are distributed on

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19   It is also conceivable that Bauermeister integrated the drawing after the exhibition opened;
      neither the catalog nor other documents of the exhibition show the work.

the left and right edges and limited to the rectangular boxes that are offshoots of the square lines of the grid on the entire ground of the drawing. The system of instructions is complex and cannot be decoded completely, which is probably what Bauermeister intended. It seems more like a conceptualization that was set up in advance to counter the potentiality of an open drawing space to be filled with specific themes and networks with other works. Several of the instructions can be easily understood, such as "circle meets 'figuration'" in the upper left corner, because in the grid a drawing circle is transforming into a face. Written directly above that are the statements "numbers meet operation with numbers" and "letters meet 'sense.'" Here the situation is already less clear, because although the grid begins with a number or letter, at least from the third square onward a conglomerate of letters results in the middle of which the word "No!" is clearly legible. In connection with lines and arrows, everything is framed in a circular structure that is breaking down. The effort to interpret the instructions literally is already reaching its limits here; other scraps of writing are fraught with ambiguity, for example, "finish before it's finished!!" or "shopping list"—both also on the left edge. In addition, the instructions need not be carried out visibly but rather, it seems, as if they could also lie "under" the drawing's support: words and drawing in circular form break out illusionistically in the center at the bottom. Another hint supporting this assumption can be seen in the open area in the lower right corner. Among other things, the statements "number meets line" and "circle meets number" have lines pointing to the bordered open areas, as if these processes were occurring in them. Following the instructions literally contributes less to understanding the work than looking at the transformed elements in the work and their connections: to other works of the *Needless Needles* group, and to the theoretical concepts treated in them.

One crucial such concept—many-valued logic—will be examined elsewhere. It is clear from the grid that it cannot be considered in isolation. It reflects Bauermeister's reading of Wolfgang Wieser's book *Organismen, Strukturen, Maschinen: Zu einer Lehre vom Organismus* (Organisms, Structures, Machines: Toward a Theory of the Organism), published in 1959. In it the zoologist and evolutionary biologist Wieser illustrated, with the aid of a "coordinate system," a "spatial" and "temporal plan" of the growth of living creatures.[20] If one of the two factors is shifted—for example, if there are "changes in speed" in a process—this necessarily leads to "changes in form" in general.[21]

As it relates to the *Needless Needles* drawing, this means that the circular structures in the middle on the left resulted from changing one of the two factors. Within the grid, either the spatial or the temporal determinants were changed, which then

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20   Wolfgang Wieser, *Organismen, Strukturen, Maschinen: Zu einer Lehre vom Organismus* (Frankfurt am Main: Fischer, 1959), 149–50.

21   Ibid., 156–57.

transformed the shape of a simple circle. The "change in form" produced not only additional circles but also the pattern of semi- and quarter-circles as well as the circular connecting lines. Overall, it looks as if the process of growth is not yet completed. There seems to be rampant growth on the left side; it has a deformed circle that contains the information of the process in the words "circle composing." Wieser's statements make it clear, however, that the drawn structures should not be seen as uncontrolled deformations: "The principle is always the same: a simple transformation of the coordinate system changes the inscribed type of animal in such a way that it resembles another type that exists in nature."[22]

Bauermeister's applications of principles of biological growth to the art of the drawing is intended to result in a new harmony of the components, despite all the superficial disorder. The artist is given the opportunity to experiment freely with forms, strokes, symbols, numbers, and words and to legitimize this with the theory she has studied—that is to say, to work beyond (self-imposed or historical/art-inherent) restrictions. On the one hand, a metaphorical change to one component of the coordinate system radically changes the "speed of growth," that is to say, the transformation can continue in any direction. On the other hand, despite this change, everything in the grid is a controlled result—it simply results in a new form.

Another aspect of Wieser's work that can be seen as inspiration for the drawing is the principle of the "surface" and the underlying "causal connections": this applies to the illusion that there is a layer of drawing "under" the painting's ground that conditions the visible. According to Wieser, that which lies under it increased "the diversity but also the order of the phenomena."[23] The circular drawing with red parts, arrows, and words that is breaking out in the center at the bottom edge thus has a dual function. Not only does it stand for the manifoldness of the surface, with words such as "include anything," but it also increases the order. The open areas of the drawing, which convey some calm in this otherwise unmanageable and intricate composition, only seem at first glance to contain no pictorial elements. They are not neutral voids but rather signs of an intensified manifoldness. Because nothing can be seen in these places, the drawing becomes even more complex. Bauermeister is referring here to a scientific publication that in turn tries to describe natural processes using philosophical terminology.

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22   Ibid., 157.
23   Ibid., 11.

Needless Needles Lens Boxes

Needless Needles Vol. 5 was also created in 1964, as the last of these three works
(fig. 5).[24] This work is an upright-format Lens Box measuring 96 by 63.5 by 10.7
centimeters; although it is overwhelmingly in shades of gray and white, just a few
red lines and spheres in black or the color of the untreated wood break through its
homogeneous look. The materials are typical of many of Bauermeister's Lens Boxes:
two panes of glass have been inserted, one after the other, into the boxlike recession
of the wooden construction, and the convex and concave lenses were glued to them.
In addition, wooden spheres and hemispheres are mounted in and on the Lens
Box—several of the spheres have been drawn and written on. The work has a broad
frame spanned by canvas that is integrated into the overall composition as picture
surface of its own. In the background of the Lens Box photographs reproducing
details of the *Needless Needles* light sheet have been inserted. Drawings, symbols,
numbers, years, and writing are strewn over not just the recession in the Lens Box
but also the panes of glass and the spheres; the frame is also covered by them. Inside
the Lens Box are three sewing needles and several small stones. The stones in the
lower right third of the recession are sorted by form and color and then glued on,
becoming ever smaller. They have been selected for their flat, oval form.[25]

The Lens Boxes are a genuine invention by Bauermeister, and together with the
so-called Stone Pictures they are among her best-known groups of works.[26] They
form the largest corpus of works in Bauermeister's oeuvre; around 350 of them were
made in highly diverse forms.[27] Their construction always follows a similar pattern,
with the exception of a few Lens Boxes whose housing is stainless steel, they are
wooden, boxlike constructions into which several panes of glass have been inserted,

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24   The *Needless Needles* Lens Box and drawing are illustrated in the catalog of Bauermeister's
      solo exhibition at the Galeria Bonino in 1965: *Bauermeister: Paintings and Constructions*, exh.
      cat. (New York: Galeria Bonino, 1965). The two works cannot be identified in the views of the
      exhibition, however.

25   On stones as a material in Bauermeister's art, see section 4.3.

26   Contemporaneous critics were already describing the Lens Boxes as innovative works ex-
      clusively associated with Bauermeister; see Howard E. Smith, "Mary Bauermeister," *Art and
      Artists*, 6, no. 7 (November 1971): 40–41, esp. 40. In her dissertation Skrobanek speaks repeat-
      edly of the Lens Boxes as the artist's "unique selling proposition"; see Kerstin Skrobanek, "'Die
      Jacke Kunst weiter dehnen': Mary Bauermeisters Aufbruch in den Raum," PhD diss., Frankfurt
      am Main, 2009, Univ.-Bibliothek 2014, http://publikationen.ub.uni-frankfurt.de/frontdoor/i
      ndex/index/year/2014/docId/35011, pp. 5, 64, 80, and 112 (accessed April 17, 2019). There is
      also a myth of found materials as the starting point for the Lens Boxes; according to Bauer-
      meister, she was able to purchase the lenses for the first Lens Boxes from the widow of a Dutch
      watchmaker; Bauermeister, *Ich hänge im Triolengitter* (see note 8), 78.

27   The works on paper, which represent the largest group of works, are not included in this num-
      ber.

one behind the other. Lenses, wooden spheres, and sometimes also stones, straws, or found objects have been glued to them, and the spheres and panes of glass are written or drawn on. The background of the Lens Box can also have drawings, writing, spheres, stones, objects, and photographic reproductions, as can the frame, if there is one, like *Needless Needles Vol. 5,* and depending on its width. Several Lens Boxes do not have a background, so that they are placed in the room free-standing like sculptures rather than being fastened to the wall of the exhibition like a painting. The artist referred to a Lens Box without a background as a "look-through," since it is partially transparent.

Fig. 5: Needless Needles Vol. 5, 1964, ink, offset print, glass, glass lens, wooden sphere, canvas, photographs, sewing needles and painted wood construction, 96 x 63.5 x 10.7 cm, Mary Bauermeister Art Estate.

The structure of the Lens Boxes multiplies the possibilities for alienation, distortion, and transformation within the works, since the (written) drawings of fine lines and words are influenced by the lenses. Depending on whether the lenses are convex

or concave, and how the viewers are positioned in relation to the work, they result in enlargements, reductions, or reflections, so that sometimes the direction of the words is from right to left, for example. The slightest change of focus or a movement during the act of viewing results in a completely new view; the resulting facets of interpretation are one of Bauermeister's primary goals.

Art critics reviewing the Lens Boxes have repeatedly described them as challenging and unsettling. This is due to their compositional density, the themes they treat, and the distortions caused by the lenses, which make a static, focused gaze more difficult. In 1965 David Bourdon described the experience as that of "looking in on a Wagnerian cycle from the wrong end of the opera glasses."[28] More than fifty years later, the reception of the Lens Boxes still has a challenging effect, which Holland Cotter has described as follows: "The effect is like looking underwater, but also into an ungraspable fourth dimension."[29]

Viewing the Lens Boxes (*Linsenkasten*) as closely related to the medium of the box, which was very widespread in art after World War II and at the latest from the 1960s onward, seems obvious at first. Bauermeister's work has been included in group exhibitions that tried to classify artistic experiments with the medium of the box.[30] The most recent survey of this kind, titled *Welten in der Schachtel: Mary Bauermeister und die experimentelle Kunst der 1960er Jahre* (Worlds in a Box: Mary Bauermeister and the Experimental Art of the 1960s), was in 2010.[31] The aspects of ordering and appropriating objects and processes through the medium are particularly significant here. Boxes initially introduce distance between the objects and the viewers; at the same time, they produce an overview. The objects presented are raised to a level of equal hierarchy; in addition, a contextualizing of them occurs—both these things are employed by Bauermeister in her Lens Boxes. Historical connections have been made between Bauermeister's art and the works of art by Joseph Cornell and George Brecht, both of whom created arrangements with chains of subjective associations, and an association with the use of boxes in High Modernism, whether by

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28 See David Bourdon, "More Is Less, More or Less," *Village Voice* (April 1965).

29 Holland Cotter, "Mary Bauermeister 'Omniverse,'" *New York Times* (May 5, 2016), https://www.nytimes.com/interactive/2016/05/06/arts/design/art-galleries-nyc.html (accessed April 20, 2019).

30 See Lucy Lippard, "New York Letter," *Art International* (March 1965): 63–64. The exhibitions were, among others: *The Box Show*, Byron Gallery, New York February 3–27, 1965; *Contemporary Boxes and Wall Sculpture*, Museum of Art, Rhode Island School of Design, September 23–October 17, 1965. See *Contemporary Boxes and Wall Sculpture*, exh. cat. (Providence: Museum of Art, Rhode Island School of Design, 1965).

31 The exhibition *Welten in der Schachtel: Mary Bauermeister und die experimentelle Kunst der 1960er Jahre* was on view from October 2, 2010, to January 16, 2011, at the Wilhelm-Hack-Museum in Ludwigshafen am Rhein.

Kurt Schwitters, Marcel Duchamp, or the Surrealists.[32] Likewise, there have been efforts to contextualize the Lens Boxes within the playful challenges to audience participation and quotidian gestures of the Fluxus movement, which employed the medium of the box as a democratic approach.[33]

In what follows, however, I do not attempt to rehearse the theme of the "artwork in a box," since Bauermeister has already been associated with that; such interpretations cover, at best, only some aspects of her work. Although the Lens Boxes are close to boxes in formal terms, "a shared aesthetic of simultaneous suspension and order" is not crucial to them.[34] The frame of *Needless Needles Vol. 5* is integrated completely into the composition, so that the boxlike recession does not provide an impetus to ordering.[35] The constructions filled by Bauermeister—even those without a frame—are an extension of the space of the compositions in which it is possible to create connections between objects and are by no means intended to be permeated by private mythologies. Moreover, there is no "sealing" of the Lens Boxes with a pane of glass; rather, several layers of glass are inserted one behind the next, each of which has objects, writing, and other compositional elements. At most, they work with Michel Serres's understanding of the "box" (*boîte*); he speaks of a "box for generating images."[36] The box serves him as a metaphor for perception in general. For example, as a philosopher he creates a box of "thinking" filled with images—just as Bauermeister did as an artist. We need these limited housings to achieve perception and knowledge at all. As soon as it is created, however, we have to find a way to leave it: we lock our reason in a box and then try to escape it.[37] These nestings ramify further and become more complex, but no escape is possible. In this view, the Lens Boxes are an outsourced box of thinking and of (metaphysical) knowledge.

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32   See Alexander Eiling, "Worlds in a Box: From Reliquary to 'Boîte-en-Valise,'" in *Worlds in a Box: Mary Bauermeister and the Experimental Art of the Sixties*, EGLS Judith Rosenthal, exh. cat. Ludwigshafen am Rhein, Wilhelm-Hack-Museum, 2010–11 (Bielefeld: Kerber, 2010), 23–30; Kerstin Skrobanek, "Worlds in a Box: Mary Bauermeister and the Experimental Art of the Sixties," in ibid., 65–80. See also Skrobanek's dissertation, the final chapter of which concerns the medium of the box in Bauermeister's work in comparison with earlier and contemporaneous artists: Skrobanek, "'Die Jacke Kunst weiter dehnen'" (see note 26), 138–73.

33   See Kerstin Skrobanek, "Stone Towers and Magnifying Glasses: Mary Bauermeister's Years in New York," in *Mary Bauermeister: The New York Decade*, exh. cat. (Northampton, MA: Smith College Museum of Art, 2014), 17–51, esp. 44. For a discussion of how Bauermeister's art relates to Fluxus, see section 3.4.

34   See Jennie-Rebecca Falcetta, "Acts of Containment: Marianne Moore, Joseph Cornell, and the Poetics of Enclosure," *Journal of Modern Literature* 29, no. 4 (2006): 124–44, esp. 128.

35   The frames of the Lens Boxes will be analyzed and interpreted in section 6.3.

36   Michel Serres, *The Five Senses: A Philosophy of Mingled Bodies*, trans. Margaret Sankey and Peter Cowley (London: Bloomsbury Academic, 2018), 147.

37   Serres, *The Five Senses* (see note 36), 147–48.

Fibonacci Networks

As in the eponymous light sheet and drawing, the themes of needles and sewing and their transformation are omnipresent in the Lens Box. The diverse connections between these works should be thought of in terms of many-valued logic and will be contextualized accordingly below. There are, moreover, elements that point far beyond the *Needless Needles* group and are found in many of Bauermeister's works. One of these can be linked to the addendum to the Lens Box's title: *Vol. 5*: to the left of the recession stands the full title on two lines: "Volume 5 / needless needles." This does not mean that it is the fifth work in the group; for example, no "Vol. 4" was ever executed or even planned. The number refers to the Fibonacci sequence, a recurring feature in Bauermeister's art, which, along with the omnipresent numbers, also reflects her interest in natural processes.

Beginning with one, each number is always added to the previous one, resulting in the following progression: (0), 1, 1, 2, 3, 5, 8, 13, 21 … The Fibonacci sequence has been known since antiquity and was first described by Leonardo da Pisa, known as Fibonacci, in his publication *Liber Abaci*, published in 1202 and then in a revised version in 1227.[38] With this sequence of natural numbers he tried to determine the growth of rabbit populations. Following da Pisa, the Fibonacci sequence has been described as fundamental to many natural growth processes, such as flowers, shells, and even fatty acids. The connection between the golden section and the Fibonacci sequence is that as it progresses the quotient of the sequence moves ever closer to the ratio of the golden section (1.6180339887). There is a long tradition in art and architecture of employing that ratio of numbers as the basis for a composition.[39] In recent years doubt has repeatedly been expressed about the validity of these discussions that associate the Fibonacci sequence and the golden section and attribute "natural" proportions to both. A harmony "based on nature" probably does not exist.[40]

Of Bauermeister's contemporaries, Mario Merz is probably the artist most associated with the Fibonacci sequence, which he first employed in an exhibition of his works in 1970.[41] Bauermeister was probably interested in the mathematical se-

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38   See Huberta Lausch, *Fibonacci und die Folge(n)* (Munich: Oldenbourg, 2009), 1–3.

39   The golden section is the solution to a mathematical problem introduced by Euclid. On the golden section's connection to art and architecture, see Priya Hemenway, *Divine Proportion: Phi in Art, Nature, and Science* (N.p.: Sterling, 2005), esp. 90–120; Albert van der Schoot, *Die Geschichte des goldenen Schnitts: Aufstieg und Fall der göttlichen Proportion* (Stuttgart: Frommann-Holzboog, 2005).

40   See Clement Falbo, "The Golden Ratio: A Contrary Viewpoint," *The College Mathematics Journal* 36, no. 2 (2005): 123–34, esp. 134.

41   See Elizabeth Mangini, "Solitary/Solidary: Mario Merz's Autonomous Artist," *Art Journal* 75, no. 3 (2016): 11–31, esp. 25. The Fibonacci sequence "would become a lasting trademark of Merz's

quence, as Merz was, because it could be used to make natural processes visualizable in an abstract way. Whether this can in fact be seen as given or merely represents a generalization is of less interest than the reasons why Bauermeister integrated the sequence into her works, whereby historical knowledge of Fibonacci numbers has to be included as well. Bauermeister employed the sequence in her compositions from the mid-1950s onward and always saw a connection to natural processes in them.

Needless Needles Vol. 5 should therefore be seen as the next step in the growth of the sequence and not just as a numbering. Moreover, the numbers of the Fibonacci sequence are found all over the Lens Box: In the upper left corner inside the box its numbers up to thirteen are written one above the other on glass. Part of the sequence is also placed in the lower left, on the frame, marked with arrows, to the left and right of the edge of the canvas that is glued to the frame. This part of the canvas has an illusionistic function. On the left side of the Lens Box's recession, the canvas appears to emerge from the glass area as if "opening up like a book"; where it is glued to the wood frame, Bauermeister drew repeated cross-stitches to make it look sewn on. Drawing techniques on its upper edge are used to suggest that the canvas consists of three sides "opened up like a book," once again partially sewn on with cross-stiches. On the ends of the three drawn sides are a "1" on the middle one, a "3" on the back one, and on the front one, which is "opened up" for us, a "5." These three Fibonacci numbers thus indicate the three different "volumes" of the Lens Box; the viewer sees only *Vol. 5* because that is the side that is "opened up."

The *Needless Needles* drawing also refers to the Fibonacci sequence. The numbers up to fourteen are written, one below the next, on the upper right edge of the grid, as if they were constituent of the transformation of the circular elements within the drawing. In addition, numbers from the Fibonacci sequence can be found all over the drawing's ground: 144 appears several times, for example; upside down between the three circular structures, as if to suggest it is "flowing downward," because its digits are elongated and intertwined. This detail is also seen in the upper right corner, between the 3 and the 5, on the edge of the grid. The progression of the sequence is thus part of the transformation of the higher Fibonacci number 144. Two other aspects come into play, namely, the instructions on the left and right edge, at the same height: whereas on the right a "dream" of the artist is written in which she plants "little sheets of paper with ideas written on it," and images evolve out of that, in the left offshoots of the grid we read "visual 'patterns' from other painters." In addition to the Fibonacci numbers 3 and 5, the idea of the natural growth of ideas turning into art affects the number 144, as do art historical borrowings. One may speculate that Bauermeister had Salvador Dalí's painting *La persistance de la mémoire* of 1931 in mind for her "downward-flowing" numbers. At the very least its clock motif is one

artwork" (ibid., 11). The composer Béla Bartók and the architect Le Corbusier also emphatically employed both the sequence and the golden mean in their works.

such "visual pattern." The combination of the individual elements triggers chains of association that can be continued endlessly. The highest number from the Fibonacci sequence that can be identified in the work is the 610 that appears several times in the lower right corner. In the *Needless Needles* light sheet the Fibonacci numbers are written one below the next on square canvas cutouts sewn on to the upper right corner of the work. The sequences of numbers are half covered, because the canvas is folded open, and hence it is primarily the verso that is seen. Another manifestation of the Fibonacci sequence on a light sheet concerns the installation with the wooden sewing needles: their dimensions are based on that sequence of numbers, so that every subsequent "needle" is the sum of the two previous ones.

By employing the Fibonacci sequence in all three works, Bauermeister manages to link parts of the composition to a principle that, at least at the time, was thought to describe growth processes in nature. By doing so she is reflecting on her own role as an artist who, though she makes the decision to use the Fibonacci sequence, delegates the aesthetic result—as in the example of the wooden sewing needles—to the progression. Moreover, the Fibonacci numbers establish on a first, basic level a network with the other works of the *Needless Needles* group because they are in all the works. The different formulations create a connection of "identical" elements between the works of art. In many other works by Bauermeister, this mathematical sequence was either used for the composition or written in them as numbers. They also turn up in the Stone Pictures and in works composed of several natural materials. In the sketchbook from 1961–63 one even sees experiments with developing a modified sequence in which the Fibonacci numbers are taken as the point of departure in centimeters and then a millimeter is deducted at each step.[42] In general, the Fibonacci sequence represents for Bauermeister an aesthetic abstracted from natural processes that moves away from the dependence of the subject, because it is a principle derived from nature. The number sequence responds only to the steps of growth by describing them and thereby making them intelligible. When using the Fibonacci sequence, Bauermeister does not run the risk of falling into a subjective dogma, because it permits (alleged) insights into principles that stand outside of the sphere of influence of subjects and are accessible to them only in a mediated way.

Thanks to the "opened" canvas page of *Vol. 5*, on the left next to the recession in the Lens Box, a passage of text becomes visible that refers to another element in Bauermeister's art: the text is concerned with reflecting on art and its historical trends. In writing backed with black one read there: "towards a (one or several) (brand) new academism." The words "one or several" and "brand" are arranged so that they can be read as additions. Two asterisks behind the statement refer to the multipart question further down. There stands "what do you have against" with a

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42   See Bauermeister, "Skizzenbuch/Quaderno" (see note 6), 42–43. The sequence is employed in *Sand Stein Kugel* (Sand Stone Sphere) group; this is discussed in section 3.4.

listed numbered "1–8," one below the next. The words denote artistic parameters such as "perspective," "beauty," "ugly," and "colour" but also personal ones such as "me" and "you"; in addition, "eg." as an arbitrary continuation is seen several times. The dot on the i in "academism" is in the shape of a heart, which was already described as "bad" on the *Needless Needles* light sheet. The entire passage is intended to comment on the artistic positions of the neo-avant-garde, who, depending on the context, were thought to be developing avant-garde trends or to be institutionalizing them and therefore failing.[43] In 1964 Bauermeister was not trying to propagate a new academism but rather pointing out that the strict rejecting of something always entails the risk of running into a new "constriction," that is, of producing a new academism.[44] As strategies against "modernist orthodoxies" Bauermeister designs a system of "radical inclusiveness" in her art.[45] "Radical inclusiveness," by contrast, includes, contrary to dominant contemporaneous trends, one's own subject, complex structures internal to the work, playing with perspective, illusion, and words in order to reflect on them on another level of equal value. Directly below the eight questions on academism on the *Needless Needles* Lens Box a line reads that Bauermeister's "radical inclusivity," the status of unconditional polyvalency, should not

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43   Examples of positive, almost teleological models of development include Benjamin H. D. Buchloh, "Michael Asher and the Conclusion of Modernist Sculpture" (1980), in *Neo-Avant-garde and Culture Industry: Essays on European and American Art from 1955 to 1975* (Cambridge MA: MIT Press, 2003), 1–39, and Rosalind E. Krauss, *Passages in Modern Sculpture* (Cambridge MA: MIT Press, 1981). The moment of failure is prominently described in Peter Bürger, *Theory of the Avant-Garde*, trans. Michael Shaw (Minneapolis: University of Minnesota Press, 1984), 55–59. Hal Foster attempts to show that the idea of the avant-garde is not a historical one. He describes five positions in contemporary art that continue with avant-garde legacy with adapted strategies; see Hal Foster, *Bad New Days: Art, Criticism, Emergency*, 2nd ed. (London: Verso, 2017).

44   This skepticism can be observed even with respect to her own art. When she pursued a particular approach, she automatically tried to integrate its opposite. This derives, on the one hand, from her study of critical theory; two books in particular are cited by her as important: Herbert Marcuse, *One-Dimensional Man: Studies in the Ideology of Advanced Industrial Society* (Boston: Beacon, 1964). Contradictions are not resolved; rather an "illusory unification" of opposites follows from a general "character of the refusal" (ibid., 256). Equally important for Bauermeister's doubts is Max Horkheimer and Theodor W. Adorno, *Dialectic of Enlightenment*, ed. Gunzelin Schmid Noerr, trans. Edmund Jephcott (Stanford: Stanford University Press, 2002). On the other hand, Bauermeister identifies an essay by Henry David Thoreau, who inspired her, already as a young artist, to resist prescriptions, even self-imposed ones: "Law never made men a whit more just; and, by means of their respect for it, even the well-disposed are daily made the agents of injustice." Henry David Thoreau, "Civil Disobedience" (1849), in *Civil Disobedience and Reading* (London: Penguin, 1995), 1–41, esp. 4.

45   See Liz Kotz, "Language Upside Down," in *Mary Bauermeister* (see note 33), 59–77, esp. 66. In her essay Liz Kotz also attempts to locate Bauermeister within trends in the evolution of art in New York in the 1960s.

be understood literally but as a strategy: "don't in-/ex- clude metha-/para-/item-physics." Not including and excluding is the paradox that the Lens Box demands. In the works, however, it seems rather as if Bauermeister is initially including very much in order to cause metalevels and networks to emerge from it. Metaphysics experiences an emphatic incorporation in the composition of her works although the historical trends would lead one to expect rather analytic philosophy, structuralism, and critical theory.

The "gradient of reflection" in the subject described by Günther only becomes clear when two subjects reflect on an object at the same time, since that results in awareness that processes of reflection exist outside of oneself that cannot be seen by me. The simultaneous movement of reflection by two subjects can in the case of *Needless Needles* cause elements to result in the works of art that may seem contradictory according to common principles of logic but impart knowledge here. "Simultaneous movement of reflection" should not be understood literally here, because the works of art are not an application of philosophy and potentially always have the possibility of finding themselves in such a situation.

2.2 "A Trans-Aristotelian Human Type": Many-Valued Logic according to Gotthard Günther

> To a non-Aristotelian logic must correspond a trans-Aristotelian human type and to the latter in turn a new dimension of human history.[46]
> *Gotthard Günther, 1959*

Gotthard Günther originally planned two volumes for his "non-Aristotelian logic." The first volume of 1959 was intended to challenge the philosophical axioms of classical logic and in part refute them in order to illustrate the necessity to describe a new "transclassical" logic. In that book a second volume is repeatedly announced that would use the philosophical foundation to develop a many-valued logical calculation based on it that would legitimize with formal logic the new "rational form of thinking."[47] This second volume was never published, for which Günther cited several reasons: First, the "backbone" of many-valued calculation, which he had previously tried out in an essay, turned out "on further reworking not to be sound enough."[48] Gün-

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46   Günther, *Idee und Grundriss* (see note 1), 114.

47   Ibid., 306 and 363–68. Bauermeister's copy still has "Erster Band" (First Volume) in its title, which was removed in later editions.

48   See ibid., XXII. The essay with the many-valued calculation on which the second volume was to be based was published in 1958: Gotthard Günther, "Die Aristotelische Logik des Seins und

ther had no doubts about his theoretical discussions and his insights, which he had attained above all from a reading of Hegel, but it was not possible for him to produce the relevant truth tables. Second, he described his contact with cybernetics and bio-physical computer theory as crucial, because they made it obvious that his theory cannot be simple a place-value system in classical logic. It required rather a general extension of bivalency that, he hoped at least, could be undertaken by mathematicians.[49]

Because Günther refers to metaphysical thinking in his philosophical principles of extension, his name is not primarily associated with "non-classical logic."[50] Jan Łukasiewicz, Emil Leon Post, Rudolf Carnap, and also Gottlob Frege are repeatedly mentioned by Günther as trailblazers of a "New Logic," but at the same time also rejected, since none of them challenged the ontological principles of bivalency.[51] Günther, however, continues to see this as a given, even if it is merely "ignored" by logicians, with the result that they subliminally tag along as an assumption. For Günther, the goal is not to "relativize" or "gradate" true and false but rather to create an extended situation. When many-valued logic is addressed in what follow, it refers to a metaphysical approach.[52]

The line between the two terms "metaphysics" and "ontology" is, according to Günther, a categorization. He understands ontology as the symmetry of subject and object, in which everything given can be traced back to a root of its being, so that, on the highest level, thinking and being form a unity.[53] For Günther, this basic assumption of Western philosophy has to be challenged. To achieve this, it is first necessary

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die nicht-Aristotelische Logik der Reflexion," in *Beiträge zur Grundlegung einer operationsfähigen Dialektik*, vol. 1 (Hamburg: Fritz Meiner, 1979), 141–88.

49   See Günther, *Idee und Grundriss* (see note 1), XXIII; and Günther, "Die Theorie der 'mehrwertigen' Logik" (see note 5), 184. Only the introduction and the unfinished first chapter were published as essays in the second volume. Günther seems to have broken off writing on it before getting to the logical calculations; see Gotthard Günther, "Logistischer Grundriss und Intro-Semantik" (1963), in *Beiträge zur Grundlegung einer operationsfähigen Dialektik*, vol. 2 (Hamburg: Fritz Meiner, 1979), 1–115.

50   Günther is not mentioned in Graham Priest's "standard work"; in the section on the history of "many-valued logic," Priest identifies Jan Łukasiewicz as the "inventor" of many-valuedness and discusses Stephen Cole Kleene, Emil Leon Post, and Saul Kripke; see Graham Priest, *An Introduction to Non-Classical Logic: From If to Is*, 2nd. ed. (Cambridge: Cambridge University Press, 2012), 139–40. Other publications on the subject do not mention Günther either, e.g., Siegfried Gottwald, *Mehrwertige Logik: Eine Einführung in Theorie und Anwendung* (Berlin: Akademie, 1989), esp. 5–9.

51   See Günther, *Idee und Grundriss* (see note 1), 94 and 167; Günther, "Die Theorie der 'mehrwertigen' Logik" (see note 5), 182–84.

52   See Günther, "Die Theorie der 'mehrwertigen' Logik" (see note 5), 182. Günther calls "probability logics" a "pseudo-many-valued logic"; Günther, *Idee und Grundriss* (see note 1), 137–38.

53   See Günther, *Idee und Grundriss* (see note 1), 14–19.

to have a (many-valued) metaphysics without ontology, that is, without the basic assumptions of the Platonic-Aristotelian tradition.[54] The "being of the entity" cannot be traced back to a final unity into which thinking is ultimately assimilated; the excess of reflection in the subject escapes this dissolution. What is supposed to happen is using the means of metaphysic to describe the world as "ontologically many-valued" so that a "new ontological picture of reality" results that is no longer two-valued with a primordial root.[55]

Günther's Aristotelian Axioms

Aristotle—at least according to Günther—provided the structures of two-valued logic. By borrowing and extending the ideas of Plato, the ancient philosopher is responsible for our interpretation of the world and the order that goes hand in hand with it. We can trace back to him not only the juxtaposition of thinking and being, whereby being is the higher-level authority, but also the value interpretations of "true" and "false" and the separation of "form" and "content." The whole of Western logic until Günther attempts to satisfy bivalency without rejecting its principles.[56] Günther is simplifying a great deal here, since there is extensive criticism of Aristotle's axioms of logic, probably the first of which were made by the Greek polymath himself, who doubted the principle of bivalency in statements about the future.[57]

In addition to the philosophical unique selling proposition that Günther would like to claim for himself, his apodictic statements on the subject should be under-

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54   See ibid.

55   See Günther, "Die Theorie der 'mehrwertigen' Logik" (see note 5), 184 and 198. Following Günther, here too I operate with the term "metaphysics" to avoid presuming bivalency with the term "ontology." Aristotle understood metaphysics to be "the knowledge of the most knowable," from which all other knowledge can be derived; Aristotle, *Metaphysics, Books I–IX*, trans. Hugh Tredennick (Cambridge, MA: Harvard University Press, 1933), 11–13, esp. 15. In 1965, in his lecture on metaphysics, Theodor W. Adorno offered a less optimistic prognosis for that philosophical discipline: "Today metaphysics is used in almost the entire non-German-speaking world as a term of abuse, a synonym for idle speculation, mere nonsense and heaven knows what other intellectual vices." Theodor W. Adorno, *Metaphysics: Concept and Problems*, ed. Rolf Tiedemann, trans. Edmund Jephcott (Cambridge: Polity, 2001), 1.

56   See Günther, *Idee und Grundriss* (see note 1), 241–42. In this view Aristotelian logic is merely a term Günther chose; elsewhere he writes himself that Aristotle did not inaugurate logic but merely crucially "further developed" it—nevertheless, Günther calls everything two-valued "Aristotelian"; see ibid., 92. In his preface to the second edition of his *Critique of Pure Reason*, Kant criticized logic since Aristotle since it "seems to all appearance to be finished and complete." Immanuel Kant, *Critique of Pure Reason*, ed. and trans. Paul Guyer and Allen W. Wood (Cambridge: Cambridge University Press, 1998), 106. Kant's philosophy is characterized by the determination of a new metaphysics as science; ibid., 148.

57   Aristotle, *On Interpretation*, trans. Harold P. Cooke, in *The Categories, On Interpretation, Prior Analytics* (Cambridge, MA: Harvard University Press, 1962), 114–79, esp. 131–41.

stood to mean that by generalizing he would like to focus attention on precisely the one point. Not only his book of 1959 but also the essays that address this complex of themes are a recurring reflection on the fact that logic is two-valued and needs a metaphysical extension. He ignores the existing formulations in philosophical and mathematical logic because no one has described his train of thought on the different qualities of reflection and self-reflection from the three positions "I," "you," and "it"—that is, "subject," "other subject," and "object." "Classical logic," which for him merely describes the processes between a subject and an object, is accordingly merely a "special case" of logic; only "transclassical logic" completes it.[58]

The "trans-Aristotelian human type" from the epigraph of this section manages to avoid bivalency. His thinking and hence also the determination of true and false take on a new dimension that is closer to the complexities of reality: "All philosophy until now, in the East as well as in the West, is characterized by this strange ignoring of the 'you' as an index for an autonomous philosophical motif."[59] In the context of this study, however, a discussion of the clarity of Günther's discussion in comparison to other positions of (many-valued) logic will not lead us to our goal; rather, Bauermeister's succession to his ideas and their productive applications are of interest.[60] She has studied Günther's book from 1959; there are no indications that she read his previous or subsequent writings, even on the subject of "trans-Aristotelian logic."

For Günther, the fundamentals of logic are the four propositions (axioms) that Aristotle defined for metaphysics, "for they apply to all existing things, and not to a particular class."[61] This "philosophical core axiomatics" consists of: the principle of (non)contradiction, the principle of identity, the principle of the excluded third (*tertium non datur*), and the principle of sufficient reason.[62] If they could be refuted in whole or part, then it would be possible for Günther to base his "non-Aristotelian logic" on that.

Aristotle sees the principle of noncontradiction as "the most certain of all principles" and hence as the foundation for the other axioms.[63] He says: "It is impossible for the same attribute at once to belong and not to belong to the same thing and in the same relation."[64] In this view, a double coding that something at once is and is

58   Günther, "Die Theorie der 'mehrwertigen' Logik" (see note 5), 198.

59   Günther, *Idee und Grundriss* (see note 1), 69.

60   For efforts to place Günther within the discourse on logic, see Kurt Klagenfurt, *Technologische Zivilisation und transklassische Logik: Eine Einführung in die Technikphilosophie Gotthard Günthers* (Frankfurt am Main: Suhrkamp, 1995), and Cai Werntgen, *Kehren: Martin Heidegger und Gotthard Günther; Europäisches Denken zwischen Orient und Okzident* (Munich: Wilhelm Fink, 2006).

61   Aristotle, *Metaphysics* (see note 55), 159.

62   Günther, *Idee und Grundriss* (see note 1), 123.

63   Aristotle, *Metaphysics* (see note 55), 161.

64   Ibid.

not does not seem possible under any circumstances. Likewise, something logically positive cannot at the same time contain its own negation: if a statement is considered true, its opposite is necessarily false. In "trans-Aristotelian logic," however, this strict contradiction no longer seems to apply fully, since two logically positive values that induce their opposite stand side by side, and both can hold true. A situation that can result from the process of reflection when not only a subject and an object serve as the point of departure of the observation. Bauermeister illustrates this on a first, basic level in her works with the constantly recurring use of the string of words "yes, no, perhaps," which should likewise not be understood as a mutual contradiction.

The process of reflection is closely tied to the principle of identity: an object of reflection must always be identical with itself, since that is the only way we as subject can make a separation and recognize it as an object; if this identity did not exist, it would be impossible to have knowledge of something.[65] Günther leaves this principle untouched at its core, although he attempts to refute. This is done, however, via a detour that again implies the reflection process. This connects to the principle of the excluded third, to which Günther devotes the most attention: To achieve a many-valued logic, it is above all necessary to undermine the strict *tertium non datur*. As soon as it is necessary to assume a "trinitarian metaphysics," the next step to a "system of infinite values" is easy to make.[66]

The principle of the excluded third shows that there cannot be any intermediary "between contrary statements" that takes on the value of the statement or its contrary.[67] It must therefore remain separate from the principle of noncontradiction, although they refer to each other. Günther defines the excluded third as a situation in which "between two contradictory predicates, of which one identifies the object and the other represents the situation of reflection of the logical subject as its negation, a third (predicate) is excluded systematically and on principle."[68]

The third is for Günther another subject with its own reflection process. In Bauermeister, a third is perhaps most readily visible by means of the word "perhaps"; it does not just stand for an uncertainty but is also the mediation between "yes" and "no" as an autonomous value. It is similar with the formula "1+1=3," which Bauermeister at times even uses as a signature and which is found repeatedly in her oeuvre in different forms of visualization.[69] This formula reflects a nucleus of

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65   Ibid., 121–25.

66   Günther, *Idee und Grundriss* (see note 1), 91 and 313.

67   Aristotle, *Metaphysics* (see note 55), 199.

68   Günther, *Idee und Grundriss* (see note 1), 127.

69   The line "1+1=3" is found repeatedly in Bauermeister's Writing Drawing. There is also a work with that title form 1964, a Writing Drawing that Bauermeister distorted with lenses. *1+1=3: An Exhibition of Retinal and Perceptual Art* was, moreover, the title of a group exhibition at the University Art Museum of the University of Texas in 1965 that included Bauermeister; it is possible that the curators were inspired by Bauermeister in choosing the title: "1+1=3 is not good

Bauermeister's thinking comparable to "yes, no, perhaps." The apparently simple and immediate understandable sum "1+1" is made illogical by the number "3" after the equal sign. Because of the simplicity of the formula and its all-too-clear mistake, it could be dismissed as a trivial Surrealist game. But "1+1=3" should be read as a challenge to the principle of the excluded third. The two numbers before the conclusion cannot really incorporate a "third," but here it is plainly the number "3" to reveal the extension of bivalency. An inference from the theory of many-valued logic that Bauermeister derived from her reading and that is also suggested in Günther also comes into play here, namely, that the negation of a conjunctive meaning does not automatically signify the loss of conjunction.[70] That means that the small calculation "1+1=3" is not necessarily wrong; it is only if the principle of bivalency is assumed as the foundation.

Two-valued thinking is completed with the fourth axiom, the principle of sufficient reason: The sufficient reason describes that a subject has a compelling reason to think puts itself in a negatively separated sphere opposite the positive entity—that is to say, is not assimilated by it. Here we see a close connection to the principle of identity, since, for example, it is only the ability of objects to identify with themselves that results in the separation of subjects, which are now given a sufficient reason to reflect on the object from a subjective position. All four axioms are structured to stabilize bivalency.[71]

Günther's Relationship to Hegel

For Günther, being as the positive is identified with the object, whereas the subject is to be described with the negative or the nothing; this leads to a "metaphysical gradient" that favors being.[72] Günther bases his definitions of positivity and negativity on Hegel's terminology. For the philosopher of German idealism, "absolute negativity" emerges in contrast to being through the subject's reflection process.[73] The "nothing" that results for Hegel should not be understood as a marginalization compared to positivity but rather as the manifestation of "essence" in an ontological sense: "The

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or bad, right or wrong; it is an experience." Robert Engman, "Some Thoughts About Values," in *1+1=3: An Exhibition of Retinal and Perceptual Art*, exh. cat. (Austin: University Art Museum of the University of Texas, 1965), n.p. In 2017 there was a solo exhibition titled *Mary Bauermeister 1+1=3*; see *Mary Bauermeister 1+1=3*, exh. cat. (Milan: Studio Gariboldi, 2017).

70   See Günther, *Idee und Grundriss* (see note 1), 355.

71   See ibid., 236–37.

72   Ibid., 322.

73   Georg Wilhelm Friedrich Hegel, *The Science of Logic*, ed. and trans. George Di Giovanni (Cambridge: Cambridge University Press, 2010), 342 (11.245).

negativity of essence is its self-equality."[74] The important thing is that the "negativity" and "equality" of the "metaphysical gradient" described by Günther shift in favor of the subject, because being can penetrate the sphere of essence (negation) through the process. It is possible for all of us as subjects to create a situation in which we use our cognitive faculties to approach an object though reflection. Now we must define ourself with positivity when we place the object, being, in negation to it in order to make the epistemic movement. According to the axioms of logic, being is not only identical to itself, to make distinguishing possible, but, beyond that, also opens up the sufficient reason for the thought process. In a next step the "reflective movement" enters; it is a negation as such, that is, a reference to itself that has its own being.[75] "Pure, absolute reflection" is a "movement from nothing to nothing," which in turn neither means that being should continue to be sought in something else nor that it comes to a dissolution, "but its being is its own equality with itself."[76] The process of reflecting on the negation of the negation leads to a situation in which, according to Hegel, "shine" is left behind. It is precisely the rest from the sphere of being and hence a privileging of the subject; it participates in being based on the double movement while it is actually located in the realm of the nothing.

Günther intensely engaged with Hegelian logic already in his dissertation, laying the cornerstone for his later theory of "non-Aristotelian logic."[77] The impetus for extending bivalency into many-valuedness was Hegel's description of thinking being capable of uniting nothing and being in itself. Günther identifies as another reason for the necessary extension the "breakdown of the mathematical, physical image of the world" by discoveries in the natural sciences and the emergence of quantum physics in the early twentieth century. The research of Albert Einstein and Werner Heisenberg had in his view ensured that the subject could no longer continue to be marginalized or generalized when describing phenomena.[78] But this is more of a marginal note in Günther, since his approach lies in the metaphysical determination of the subject. (German) idealism failed, in his view, because the identity of reflection in the subject could not be adequately determined: Kant's transcendental, logical subject has a privileged position relative to the empirical subject and object and thus the possibility of absorbing both in it.[79]

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74   Ibid., 344 (11.247). Hegel defines "essence" as the process in the subject: "Essence is *reflection*, the movement of becoming and transition that remains within itself." Ibid., 345 (11.249).

75   Ibid. (11.249).

76   Ibid., 346 (11.250).

77   See Gotthard Günther, *Grundzüge einer neuen Theorie des Denkens in Hegels Logik*, 2nd ed. (Hamburg: Felix Meiner, 1978).

78   See Günther, *Idee und Grundriss* (see note 1), 60 and 186–88.

79   See ibid., 174. "Thus such objects are nothing further than the transference of this consciousness of mine to other things, which can be represented as thinking beings only in this way"; Kant, *Critique of Pure Reason* (see note 56), 415.

The Hegelian attempt to determine the excess of reflection that results from two-valued reflection within the subject is for Günther too strictly tied to the dialectic approach, so that the logical step out of bivalency is not taken.[80] Moreover, Hegel's transcendental subject did not have the opportunity to posit its own reflection process as an object and thus obtain trivalency, because the "predicate calculation" of the discipline of (mathematical) logic had not yet been developed in his day.[81] That Hegel "suspected" a many-valuedness but was unable to draw the necessary conclusions from it and therefore had to remain in bivalency is a speculation by Günther that can be traced back to his massive admiration for the idealist philosopher—an attribution that need not necessarily hold up. Günther derived his own interpretations from the "excess" described in Hegel's logic, which results from the reference to one's own reflection.

Many-Valued Logic

In order to present a "non-Aristotelian logic," Günther first rejects "intersubjective universal validity": he defines this as a consensus that when two subjects have one concept of an object the concept should be regarded as accurate for all subjects.[82] The construction of a universally valid subject may stabilize two-valued logic but it ignores the double reflection process described by Hegel, since "external reflection begins from immediate being, *positing* reflection from nothing."[83] The "positedness" of reflection, which is nothing other than "immanent reflectedness"—according to Günther's insight—would have to take place not only in my own subject but also in another subject if both focus on one object.[84] It is not that I as subject reflect on the thought process of another subject, which could only be speculation on a process not accessible to me. It can rather be assumed that if I as subject have the double reflection process in me another subject must necessarily have it as well—provided that we do not assume strict solipsism.

Subjectivity should therefore be divided into the situation of I, that of not-I (you), and that of the object, whereby the understanding of "you" must be seen as an infinite multitude of "I's" if misunderstanding is to be avoided.[85] "I am neither the other that I encounter as impenetrable and dead, nor am I the other than I encounter as transparent and alive, since it is not *my* life."[86] This point is crucial to

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80   See Günther, *Idee und Grundriss* (see note 1), 100 and 176–79.
81   See ibid., 221–26. "At the beginning of the nineteenth century it was simply not humanly possible to do things better than they were accomplished in Hegel's works." Ibid., 226.
82   See ibid., 11.
83   Hegel, *The Science of Logic* (see note 73), 351 (11.255).
84   Ibid., 352 (11.256).
85   See Günther, *Idee und Grundriss* (see note 1), 53–66.
86   Ibid., 104.

Günther's metaphysics, seen all other descriptions and conclusions set out from it. It is also closely connected to the passage that Bauermeister identified as the "most important" one in her copy of the book. Intersubjectivity would result in a (transcendental) higher-order subject. Because we as subjects bear within us the reflective identify described in relation to Hegel, and that makes the status of the subject possible in the first place, there can be, according to Günther, no generalization. We have no insight into the "alien" identity of reflection but must assume that it exists, since the other subject would have to be categorized as an object. Günther argues that this happens in Kant, who does not distinguish between objects and other subjects, since for him both are unattainable things, which results in an equation of everything outside of one's own reason.[87] In a later essay Günther attempts to get closer to the thought process with the metaphor of the "space of consciousness": Every individual is a self-contained world, and there exist many of them.[88] Two "space of consciousness," that is, too subjects, can meet and in each an individual chain of reflection takes place that the other cannot see. If the two subjects turn to an object, they form a "compound contexture" which "has a higher logical complexity" then when only the two-valued separation of subject and object dominates.[89]

Because theoretically any subject could experience this situation with any other, and this is also possible in turn with any object, there must be "infinitely many ontological places."[90] This description cannot be resolved because the different reflection processes must necessarily remain opaque: "The reflective difference between 'for oneself' and 'for us' remains unexplained."[91] This should not be confused with an "understanding" between two subjects about what they see, because Günther is operating in metaphysics and its axioms, so that epistemological questions about the structures of our thinking and the conditions of reflection that we must have are always intended. What follows from additional processes of reflection in subjects other than oneself is the challenge of the principle of the excluded third. For another subject—a you—performs the same processes as I as subject and cannot therefore be understood as mere object. Günther therefore sometimes also speaks of a "second-order object," which subjects become when they integrate one another into a situation.[92] In the case of the excluded third, however, it is impossible for such a "second-order object" to be integrated into the reflection process as well, because

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87   See Günther, "Logistischer Grundriss und Intro-Semantik" (see note 49), 2–4.

88   Günther, "Die Theorie der 'mehrwertigen' Logik" (see note 5), 191.

89   Ibid., 192.

90   Ibid., 199.

91   Günther, *Idee und Grundriss* (see note 1), 341.

92   See ibid., 83.

it can only consist of a positivity and the negation to be contrasted with it, there is no room there for a second (autonomous) negation that would mean a third predicate.

> "The you is not an I-like object either. Since when I make myself my own object in reflection, I do not yet become the you. The you is therefore neither a simple object nor is it no more than the I turned into the object of reflection. It is rather a third, which is excluded from the two-valued structure on principle."[93]

This relaxed exclusion represents a challenge to the axioms of logic and is closely connected to another principle, namely, that of sufficient reason. It is not sufficient to distinguish our own thinking from the positive entity so that we form an opposite pole to it. The other subjects, the "second-order objects," are also a reason, which is, however, structured differently. Subjects literally force their existence upon us, since they are "equipped with autonomous thought processes" that "we must parry in our own reflection."[94] If we have a sufficient reason to distinguish ourselves from objects, there must be an extended one to create the mutual distinction of other subjects, since they are a third and may not be unified with objects that lack reflective determinations. It already follows from these descriptions that metaphysics based on logic and all the certainties that we derive from it must be called into question.

This is, however, only the first step that Günther takes, because the course of double reflection in every subject as formulated by Hegel also leads to many-valuedness. The "most important thing" in Bauermeister's copy of Günther's *Nicht-Aristotelische Logik* is the passage that a subject is "identity of reflection with the other." Contrary to initial appearance, there are two parts to this step that build on each other and refer to Hegel's logic:

> "In this determination, it [reflection] is doubled. At one time it is as what is presupposed, or the reflection into itself which is the immediate. At another time, it is as the reflection negatively referring to itself; it refers itself to itself as to that its non-being."[95]

Günther summarizes this and other similar lines of thought in Hegel with the formulation "reflection in itself of the reflection in itself and in others."[96] When a subject refers to an object, it results in a first process of reflection in the subject that incorporates an "other" along with it. If this situation is reflected on yet again—what Hegel described as negation of the negation—it results in a second "reflection in itself" that contains the first process of reflection as its foundation. Thinking no longer

93   Ibid., 277.
94   Ibid.
95   Hegel, *The Science of Logic* (see note 73), 348–49 (11.252–53).
96   Günther, *Idee und Grundriss* (see note 1), 259.

has a simple object as it does in two-valued logic; rather, it is assumed that the subject in the process of reflection is aware that it has in its thoughts an object identical to itself and then reflects anew on that situation. The "double reflection in itself" must theoretically take place in subject and objects; it is merely expressed differently in subjects, since they are capable of cognitive acts; nevertheless, for Günther it is "the whole metaphysical world process itself."[97]

The antithesis between subject and object that is a pillar of (two-valued) logic repeats itself again in the subject itself. What follows from this identity of reflection is the renewed rejection of the principle of the excluded third, except that here the third is found in the process of reflection itself and does not require another subject. The second thing that joins the subject and the object is process of reflection that depends on thinking and is a "derivative." Günther also develops from this the challenge to the principle of identity. By means of "reflection in itself and in the other," the subject takes in to itself the object of thinking. If identity of reflection results, that is, double reflection, the original object changes; the first process becomes a "'merely' thought one," while the second process represents the thinking.[98] In the process of thinking identity of being faces a challenge by means of identity of reflection.

Both anomalies of two-valued logic that Günther—the recognition of the you and identity of reflection—aspire to challenge the axiom of the (non)contradiction that Aristotle calls the foundation of the others. The contradiction that something is in a certain way and at the same time is not, because it can also be different, becomes acceptable. This seems to be a conclusion behind Günther's texts, but he rather merely suggests it and does not derive further conclusions from it. By rejecting the axioms, the "true" can now occur in "two forms": "an 'immediate' one and an 'altered' one."[99] "Aristotelian" and "counter-Aristotelian" exist at the same time by means of double reflection in itself, and not only in one's own subject but also in every other. The process of reflection occurs individually in every subject without the possibility of reciprocal insight. A simple exchange of two subjects on something supposedly objective is thus no longer valid, since each of them runs through its own reflection at the end of which stands a personalized knowledge. There is, however, no indication that this process always proceeds the same way. Günther merely sees it as given that the double negation in the subject can reinstate the "original positivity."[100] The process that proceeds solitarily in every subject creates a statement that leads back from the identity of reflection to identity of being again: "The new

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97   Ibid., 267.
98   Ibid., 348–51.
99   Ibid., 359.
100   Ibid., 382.

values now serve not to relativize the difference between absolutely true and absolutely false but rather to connect new two-valued contextures to the classical original contexture."[101] This quotation, which is one of the few in which Günther permits a conclusion that derives from many-valuedness is significant in two aspects: First, for him it is emphatically not about gradations to be located between the fixed points of true and false that thus represent a gray zone; rather, it is about a situation that goes beyond that. Second, the connection of new two-valued contextures does not result in the subject-object dichotomy continuing to be the final authority. By rejecting the classical axioms, there is a multiple true and false, which can be traced back to many-valuedness. It may be concluded that one consequence of Günther's theory is that two equally valuable concepts of an object exist when two reflect on one and the same object—even contradiction is possible.

2.3 A Trans-Aristotelian Type of Artist: The Many-Valued Aesthetic of *Needless Needles*

One passage in Bauermeister's sketchbook permits inferences about her understanding of Günther: "Two-valuedness does not grasp our being. Only three-valuedness encompasses this idea."[102] This section transitions into the conclusion that works of art are the "representation of an idea + the idea of a representation. Not either-or but reciprocal."[103] By "idea" (*Vorstellung*) she means the identity of reflection, that is, the process that occurs in every subject. What follows from reciprocity is the transgression of bivalency in the artistic visualization. Bauermeister calls it the "outer" or also "external being," which one must try to depict, along with "being" and "nonbeing," in the work of art.[104] All aspects relate to one another equally and are the three-valuedness described by Günther.

Perhaps the first direct attempt to visualize it in Bauermeister's oeuvre is the small written passage in the work *Gestalt zu Struktur* (Form to Structure) of 1961 (fig. 6). This work is at the transition from Bauermeister's abstract works to the drawings with writing and the Lens Boxes. Written on the right side of the diamond-shaped area in the center are the words "ja-nein-vielleicht-entweder oder ausserdem" (yes-no-perhaps-either or moreover). This string of words is also one of the first examples of writing in her art, although with Bauermeister one can never rule out that the words were added by her quite some time after the work was completed, since many examples of such later revisions can be found. Just two or

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101   Günther, "Die Theorie der 'mehrwertigen' Logik" (see note 5), 192.
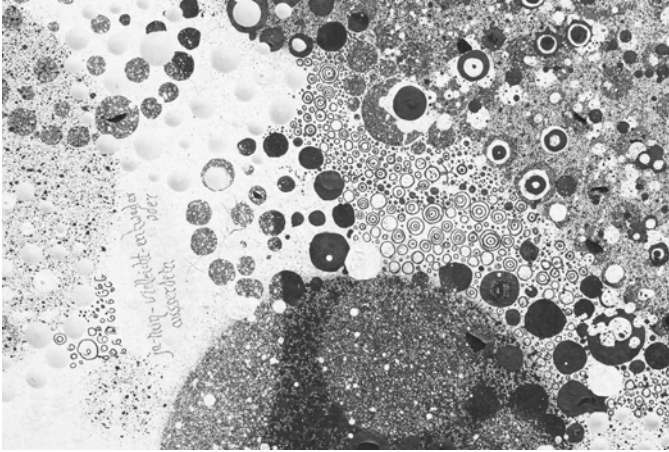102   Bauermeister, "Skizzenbuch/Quaderno" (see note 6), T12.
103   Ibid.
104   See ibid., T13.

three years later, this had become the formula "yes, no, perhaps"; the transformation into English as her main language took place with her move to New York.

Fig. 6: Gestalt zu Struktur (Detail), 1961, casein tempera and ink on canvas, 98.5 x 98.5 cm, Mary Bauermeister Art Estate.

Many-Valued External Being

The many-valuedness initiated with the introduction of a third value, "external being," is revealed in different ways. "Yes, no, perhaps" is found several times on the *Needless Needles Vol. 5* Lens Box, for example, on the left side beneath "academism." Here the words "sold out" have been added as well as "some perhaps still available"—this strategy of ironic commentary is omnipresent in Bauermeister's work. A certain predictability of specific themes is also commented on by the artist. For example, in the lower right corner of the recession on a wooden sphere one reads: "idea for next painting No Yes Perhaps." The sequence undergoes a slight change to point to the corset into which artists—including Bauermeister—force themselves when they follow a style. The instruction on the right side of the *Needless Needles* drawing— "Don't obey me"— refers to a passage in Bauermeister's sketchbook, in which there are several instructions, one below the other, such as "Don't use: colors, forms, space, time, art, kitsch, nature," which are affirmed again and again with "Yes Sir!" The final instruction is "Don't obey me!!," which plunges the artist

in the doubt of "Yes Sir, No? Sir?" and then transitions over into Günther's many-valuedness.[105]

Many-valued logic is thus also employed to avoid getting caught up unreflectively in one's own categories or at least to try to allude to them. The formula "1+1=3," with its emphasis on incorporating the excluded third, can also be found in her works. On the *Needless Needles* light sheet, "1+1=3 janein" (1+1=3 yesno) is written on a canvas cutout in the right section of the center. The Lens Boxes contain "1+1=?3" on a layer of glass, though the "3" is part of the Fibonacci sequence written vertically. The light sheet and the light box also include the line "1+1≠1+1," which can be regarded as a simple rejection of the (prohibited) contradiction. Much like on the Lens Box, the statement "don't exclude metaphysics" is written on the *Needless Needles* drawing. It need not be assumed that there is "no thinking free of metaphysics";[106] rather, Bauermeister intends these lines for herself in order to continue to remain open to this direction of thinking (as well).

"Yes, no, perhaps" and "1+1=3" are, however, merely signs of many-valued logic on a first level that is the easiest to spot. Bauermeister's "external being" is revealed in very different ways that tally only in their motivation. Transformations of individual elements and networks between the works are the result of many-valuedness: Each of the three works of *Needless Needles* contains the "same" elements of the needle motifs but their formulations differ. The basic constant "needle" transitions in the drawing into distortions, sometimes with roots, or into the written word "Needle," and the light sheet is extended into the wooden installation along with drawn needles. The Lens Box contains glued in sewing needles and drawn, transformed needles that evolve, for example, out of drawn seams; one also finds the written word "Needle." Bauermeister shows that a simple element like a needle not only can take out a number of forms but also carries them around; the works have available a simultaneous multiple perspectivity that ordinarily sets out from a single viewer's standpoint. They reveal the consequences of a many-valued metaphysics. Every needle, whether written, drawn, glued on, or made of wood, is a logical form of the idea of "needle" as an ontological object. All visualizations in her works have an equivalent reality that concerns not only their materiality but also their form, which is "prior [...] and more truly existent"—their "essence."[107] From the perspective of many-valuedness, this contradiction is possible; all of the elements can be viewed metaphysically as equally "true." The discussions of the Fibonacci series and the grid of the drawing being influenced by the natural sciences make it clear that one aspect of Bauermeis-

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105   See ibid., 64. The aforementioned first mention of Günther in Bauermeister's sketchbook is found here.

106   Armen Avanessian, *Metaphysik zur Zeit* (Leipzig: Merve, 2018), 46.

107   Aristotle, *Metaphysics* (see note 55), 317 and 125.

ter's work can never be viewed in isolation; many-valuedness is a basic constant in her work.

The drawn, sewn, and reproduced patches are another example of transformation and networking: Although they can be found at least drawn in all three works, the light sheet is strewn with embroidered seams. In addition to those that were already there at the moment of the finding, Bauermeister added a number of them. Günther's logic also explains the reflections of the patches that are distributed across the entire upper half of the work. The point of departure for them could be the dark, nearly square patch in the upper third of the work to which is attached a nearly semi-circular fabric cutout on the right. On the bottom, a somewhat larger square with a white, oval piece of canvas sewn on and, to the right of it, a patch that is the mirroring of the piece of canvas. From this combination of patches, Bauermeister used needle and thread to add the outlines to the bedsheet. On the upper edge of the work, for example, a partial outline of the dark, square patch and the cutout on the right loom into the work. The outline reaches almost to the two "original patches" and is rotated several degrees. Copies of these two patches, rotated about 270 degrees, are embroidered at bottom left, where the outline leads through the patches with the square piece of canvas and the white one. Another mirror starts from the two oval cutouts of the group of patches; their clipped contours loom in below it on the right. This strategy of reflections and shifted arrangements of embroidered copies of patches can also be described for the central group of patches on the lower third of the light sheet; the overall effect is similar to that of the needles; it clarifies a many-valuedness as equivalency of the individual parts. Accordingly, none of the patches is the starting point; all of them can be seen as equals, with no prototype and no copy. In this polycontextual perspective, the simultaneity of the appearance is significant; the work offers several "insights" simultaneously.

In the Lens Box, parts of the patches of the light sheet are inserted into the background of the recession in the form of photographic reproductions in order to illustrate another level of networking and possible many-valued forms. In the upper right corner of the Lens Box, parts of the upper left corner of the light sheet can be seen. This middle passage, which consists of nested, circular canvas cutouts, also forms the center of the recession of the Lens Box. To that end Bauermeister used enlarged details of photographs that had been taken for her first exhibition catalog at the Galeria Bonino in 1964.[108] That also explains the different perspective of the reproduction and hence also the background of the Lens Box. In order to develop the transformation further, Bauermeister sketched lines on the layers of glass as if they were the outline seams of the light sheet or as if the reproduced patches were "sewn on" by lines. Because the lines are drawn on the layers of glass, however, the movement of the viewer results in a minimal shift vis-à-vis the "real" embroidered

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108   See *Paintings and Constructions* 1964 (see note 18), n.p.

lines that are reproduced here—in this way the transformations of the individual elements are pushed further and further. The next level of intricacy results from the use of lenses, which add a level of distortion to the existing complexity. The type of lens is crucial here—whereas the convex ones enlarge, the concave ones reduce—and the viewer's angle and movement. The *Needless Needles* drawing also takes up the distortion, but does so in a way specific to the medium. For example, the lower left corner shows not only needles and the suggestion of sewn lines but also circular forms with distorted elements that seem to evoke a lens. In addition to convex and concave effects that can be seen throughout the drawing, this section at lower left contains a distortion as if the act of viewing were captured in the process of changing.

The goal is to create a great diversity of elements that build on networking and transformation that despite the contradiction in their appearance are not mutually exclusive but rather, viewed metaphysically, logical. The variety of visualizations corresponds to the potentially infinite complexity of many-valued reflection. According to Günther, identity of reflection produces a reflective object, "an image of reflection" on a "level of the object."[109] This is literally the case in Bauermeister's work: the many images of reflection are concretized in her works of art and then, for example, influence one another through their spatial proximity, which makes them come together again in the viewing. Here too, moreover, the lenses are crucial: on another level they illustrate the identity of reflection for the viewers since they make impossible a reception that would be static and potentially always the same.

Of the numerous other elements in the *Needless Needles* works for which a similar status could be described, one stands out in particular: The work "Holy Bible Edition Redigue" is contained in the light sheet and in the light box but was never realized. In the light sheet it is drawing on the back of a square piece of canvas that is simply sewn on to an edge and for that reason looms forward into the room. It is labeled "Holy Bible edition rediguées" and dated 1963, and an opened book is drawn above it. In the Lens Box the title is written on the left of the recession, here as "Holy Bible redition edigué" and directly followed by the question: "how is that spelled?" In addition, the title shines through the opened page 5 in mirror writing. If it were possible to turn back the illusionistically drawn three pages of the Lens Box, the page in the middle would cover the recession but expose the work "Volum:1 'Holy Bible edition redigué 1964." The many allusions to the work of art continue in the catalog of Bauermeister's first solo exhibition in New York; here number 7 in the list of exhibited works is titled "Holy Bible edition Redigue" of 1964, but its size is not indicated in centimeters, as is the case with the other works, but given as "different sizes."[110] It is not possible to say with certainty whether she originally planned to execute the work, or whether these were supposed to remain symbolical; both are possible in Bauermeister's approach.

109   Günther, *Idee und Grundriss* (see note 1), 335.
110   See *Paintings and Constructions* 1964 (see note 18), n.p.

The revised edition of the Bible at least has the status of an autonomous work of art in the exhibition catalog and is inserted in various sizes in the light sheet and light box.

First, it becomes clear that the networks between the works can also exist on extended levels, not just with the themes specific to the work. Second, this now reveals a new level of many-valuedness: not only can individual elements be changed by identity of reflection within a work and yet have an identity of being that remains the same. But (planned) works of art like the "Holy Bible Edition Redigue" can go through this process, but they need not exist independently to do so but can be just a concept. With her own interpretation and continuation of many-valued logic Bauermeister creates a personalized aesthetic; the understanding of the term "aesthetic" used here is crucial to this: "The real must be fictionalized in order to be thought."[111]

An Aesthetic Concept of Many-Valuedness

Two components seem indispensable to describe a many-valued aesthetic for Bauermeister's artworks: First, recognizing objects as works of art so that the meaning derived from it experiences a fictionalization; second, viewers proceed by identifying within the conglomerates of signs, constructing their own interpretations accordingly. Works of art have the ability to illustrate a philosophical, metaphysical model as a speculative metaphor, because they can be active conveyors of contradictions—researching activity in the aesthetic can "thanks to their inherent contradiction illuminate something which cannot otherwise be asserted."[112] The recipients' own individual interpretation is necessary since a large number of subjective perspectives is one of the conditions for conceiving many-valuedness. A large majority of these qualities can be determined with the art theory of Jacques Rancière and his discussion of aesthetics.

In the widely ramified discourse of aesthetics, Rancière adopts several independent positions. The evolution of art since antiquity is for him tied to three "regimes": In the "ethical regime," which can be largely traced back to Plato's philosophy, the way of being of images corresponds directly to the way of being of individuals and of society.[113] Accordingly, the "poetic" or "representative" regime is determinant; it begins with Aristotle and in his work mimesis becomes the determining factor: it gives the arts autonomy in their own field.[114] The "aesthetic regime" follows as the third,

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111   Jacques Rancière, *The Politics of Aesthetics: The Distribution of the Sensible*, trans. Gabriel Rockhill (London, UK: Bloomsbury Academic, 2013), 34.

112   See Silvia Henke et al., *Manifesto of Artistic Research: A Defense against Its Advocates* (Zurich: Diaphanes, 2020), 49.

113   Rancière, *Politics of Aesthetics* (see note 111), 16–17.

114   See ibid., 17–18.

beginning in the early nineteenth century and lasting into our present.[115] Works of art have a specific way of sensible being; they are no longer tied to mimesis; rather, their identification as objects of art is the active achievement of the spectator; Rancière calls this "aesthetics."[116] His use of the word "sensible" should not be confused with a sensory experience or visual perception. The "distribution of the sensible" that occurs by means of aesthetics is the production of "sense," which is created by a community when it arrives at a mediated distribution of phenomena.[117] Here Rancière's theory of aesthetics is tied to his view of "dissensus." People share the work of interpreting their shared world or when redistributing sense. "Dissensus" is temporary nonagreement that results when two individuals or groups meet and negotiate commonalities.[118]

For the French philosopher, the concept of aesthetics is tied to an active transaction of individuals who make determinations and only thereby produce the sense that would not exist without these processes. Rancière is thus distancing himself from the discipline of aesthetics as conceived by Alexander Gottlieb Baumgarten, who made the perceiving subjects and the "perfection" of their sensory experiences the center of his theory.[119] The Greek term "aisthesis" is also less important for Ran-

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115   See ibid., 18–19.

116   Jacques Rancière, *Aesthetics and Its Discontents*, trans. Steven Corcoran (Cambridge, UK; Malden, MA: Polity, 2009), 8.

117   Jacques Rancière, interviewed by Jan Völker and Frank Ruda, "Politique de l'indétermination esthétique," in *Jacques Rancière et la politique de l'esthétique*, ed. Jérôme Game and Aliocha Wald Lasowski (Paris: Éditions des Archives Contemporaines, 2009), 157–75, esp. pp. 159–60.

118   This status of two "heterogeneous processes" is described by Rancière as "politics"; Jacques Rancière, *Disagreement: Politics and Philosophy*, trans. Julie Rose (Minneapolis: University of Minnesota Press, 1999), 30.

119   See Alexander Gottlieb Baumgarten, *Ästhetik*, vol. 1 (1750), ed. Dagmar Mirbach (Hamburg 2007), 521. Rancière does not do historical work on the discourse of aesthetics but merely employs eclectically several elements; he starts out from his understanding of the word as a kind of container that can be filled with various set pieces. This is surprising insofar as he engaged more with the writings of Aristotle when developing his concept of politics, so there he certainly worked with a fixed point of political theory. His division of art into "regimes" also seem ahistorical, since it unifies all genres, epochs, and forms of media. It is even conceivable that instead of "aesthetics" he could choose another term; for example, he would write about an "epistemology" of art as its active identification. The close association of the term "aesthetics" with art, the multitude of associated interpretations, and its "relative" openness probably motivated Rancière to operate with this word as well. For a survey of the discourse on aesthetics, see Norbert Schneider, *Geschichte der Ästhetik von der Aufklärung bis zur Postmoderne* (Stuttgart: Reclam, 1996). On the complex, changing history of this this discourse in the field of art history, see Peter Bexte, "Anmerkungen zum Verhältnis von Ästhetik und Kunstgeschichte," in *Denken und Disziplin: Workshop der Deutschen Gesellschaft für Ästhetik*, ed. Juliane Rebentisch, 2017, http://www.dgae.de/wp-content/uploads/2017/06/dgaeX_dud_bexte.pdf (accessed April 21, 2020). One specific quality of Rancière's concept of

cière; in his publication of that name he speaks of a "mode of experience" for art in the past two centuries.[120] With his statements he positions himself contrary to a number of trends in aesthetics that have emerged in various forms since Baumgarten.

"Aesthetics [...] denotes neither art theory in general nor a theory that would consign art to its effects on sensibility. Aesthetics refers to a specific regime for identifying and reflecting on the arts."[121] In Rancière's view, this ordering effect is initiated by recipients whom he calls "spectators": When they encounter an object, they not only have to turn it into a work of art but, in the "role of active interpreters," truly "develop their own translation."[122] The work of art is introduced into a field of tension that opens up between the artist and the "emancipated spectator." Only that leads to the situation in which independent interpretations and the working out of sense can occur. Accordingly, artistic works are a "third thing," in which no "uniform transmission," that is, the introduced intentions, is automatically evoked. According to Rancière, the work of art excludes any identity "of cause and effect."[123] In Kant's aesthetics, too, awareness is assumed for the identification of art: "art can only be called beautiful if we are aware that it is art."[124] In his view, however, the determination must be made independently of nature and should produce an unintentional, dis-

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aesthetics, and the reason it is used in what follows, is his view that each spectator is entitled to his or her own interpretation in order to work out the "sense" of it. This counteracts a potential finitude of interpretation, a determination that is crucial to many-valued logic. Rancière's cannot be reconciled with the discourse on the "aesthetics of perception," in which the qualities of experience define the work of art; see Stefan Deines, Jasper Liptow, and Martin Seel, eds., *Kunst und Erfahrung: Beiträge zu einer philosophischen Kontroverse* (Berlin: Suhrkamp, 2013).

120 See Jacques Rancière, *Aisthesis: Scenes from the Aesthetic Regime of Art*, trans. Zakir Paul (London: Verso, 2013), ix–xvi, esp. x. Aristotle frames it in a more specific contest as an epistemic mode of perception; see Aristotle, *On the Soul*, in *On the Soul*, *Parva Naturalia*, *On Breath*, trans. W. S. Hett (Cambridge, MA: Harvard University Press, 1935), 8–203, esp. 103. On the Aristotelian theory of the senses, see Wolfgang Welsch, *Aisthesis: Grundzüge und Perspektive der Aristotelischen Sinneslehre* (Stuttgart: Klett-Cotta, 1987). For an attempt to describe Aristotelian *aisthesis* as aesthetics, see Peter Mahr, "Das Metaxy der Aisthesis: Aristoteles' 'De anima' als eine Ästhetik mit Bezug zu den Medien," *Wiener Jahrbuch für Philosophie*, no. 35 (2003): 25–58.

121 Rancière, *The Politics of Aesthetics* (see note 111), 4.

122 See Jacques Rancière, *The Emancipated Spectator*, trans. Gregory Elliott (London: Verso, 2009), 22. Or as Rancière expresses it elsewhere: "everything that exists is always a construction or a configuration of the sensual." Jacques Rancière and Peter Engelmann, *Politics and Aesthetics*, trans. Wieland Hoban (Cambridge: Polity, 2019), 65.

123 Rancière, *The Emancipated Spectator* (see note 122), 15.

124 Immanuel Kant, *Critique of the Power of Judgment*, ed. Paul Guyer, trans. Paul Guyer and Eric Matthews (Cambridge: Cambridge University Press, 2000), 185.

interested purposiveness. The "beauty of art" is tied to the movements in reason and their categories, because it is considered a "beautiful representation of a thing."[125]

What happens in Rancière can be called "fictionalization": "testimony and fiction" constantly get closer in the twofold movement of identification and interpretation; they "come under the same regime of meaning."[126] Works of art—and for Rancière in particular the image—can express more with their "silent speech" than is possible in a discourse.[127] For him, the transfer occurs not in the sense that there is an active statement of a work of art that need only be received by the spectators; that would contradict their role. Nor is it the case for Rancière that an interpretation is intrinsically tied to an artistic work or that the latter is fitted out with ideas. The "pensive image" he describes merely evokes a previously unthought thought in us.[128] The marginalization of the sensible, as the influence of external factors on our sensory experience, is not resolved according to Rancière. It may be that it does not happen to avoid a double coding and to be able to pursue rigorously his interpretation of art's "creation of sense." Hegel's statement that a work of art contains additional means that do not show themselves "within the immediate appearance," so that one must always assume a connection of sense and the sensible, can nonetheless be the basis for this.[129]

To understand Bauermeister's many-valued aesthetics, Rancière's approach needs to be extended, since the production of meaning in works of art must have an intrinsically epistemic force in order to participate in the metaphysical. Dieter Mersch describes this episteme as "reflexive knowledge" of the arts.[130] It is the opportunity to make statements with works of art that need not be discursive and are not bound by scientific truth conditions but rather open up a way of imparting knowledge that has an independent, equally valuable mode: "But artistic knowledge is neither prereflexive nor prelinguistic, it is simply unsayable. Rather it is just as presentable as it is reflexive."[131] The statements of works of art arrive "unexpectedly" or in a "flash of inspiration"; moreover, the "singular paradigms" do not refute each other; instead, with each work a new, equivalently valid statement is made that can be experienced in it.[132] The individual elements in the work of art form the context in which one can proceed by identifying.

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125   See ibid., 189.

126   See Rancière, *The Politics of Aesthetics* (see note 111), 34.

127   Jacques Rancière, "The Future of the Image," in Rancière, *The Future of the Image*, trans. Gregory Elliott (London: Verso, 2007), 1–31, esp. 13.

128   See Rancière, *The Emancipated Spectator* (see note 122), 107.

129   Georg Wilhelm Friedrich Hegel, *Introductory Lectures on Aesthetics*, ed. Michael Inwood, trans. Bernard Bosanquet (London: Penguin, 1993), 23.

130   Dieter Mersch, *Epistemologies of Aesthetics*, trans. Laura Radosh (Zurich: Diaphanes, 2015), 30.

131   Ibid., 42–43.

132   See ibid., 53 and 137.

The three works that represent the origin of the *Needless Needles* group have the opportunity to make statements individually and in combination because they are works of art. With them a meaning is produced that cannot appear elsewhere to the same degree and is moreover a "reframing of material and symbolic space."[133] On the first level a many-valued meaning in *Needless Needles* is visualized but what emerges, because art has the potential to take things further, is a "structural metaphorization."[134] Bauermeister's works of art do not illustrate Günther's philosophy; it is rather an active appropriation of a concept in order to derive from it compositional principles for her own art, which are then—in combination with other theoretical positions—a continuation of many-valued logic. It is crucial to this not only that objects must be defined as works of art but that this identification is based on a subjective and fictional meaning: "She [the emancipated spectator] composes her own poem with the elements of the poem before her."[135]

Many-Valued Aesthetic

This makes it clear why it was necessary to connect a many-valued aesthetic to Rancière's theories. The active identification of objects as works of art takes place separately in each subject; the "creation" of a work of art connects separated processes of reflection that undermine the principle of the excluded third. Bauermeister's aesthetic of "external being" first requires for many-valuedness the reflection of two subjects each of whom is permitted to have an individual interpretation. This is the case on a first level with Rancière's aesthetics: every subject performs its own act of interpretation that is granted equivalent significance by the "equality of intelligence."[136] Günther achieves an extension of the axioms according to a logical definition already with the implementation of a second subject in the situation of reflection: it is the second or potentially infinite subject what is indispensable to Rancière's aesthetics.

In this view, there is a second level, since for Rancière the work of art is the "third thing," which stands between the recipient and the artist. In his interpretation he refers not to the principles of logic according to Aristotle, and such a reinterpretation would not be productive. Crucial are simply the parallels in the intention of undermining existing dualisms by introducing a third, independent value. If the work of art is interpreted as a third, following Rancière, this leads to the extension of a

133   See Rancière, *Aesthetics and Its Discontents* (see note 116), 24.

134   See Umberto Eco, *The Open Work*, trans. Anna Cancogni (Cambridge, MA: Harvard University Press, 1989), 88.

135   Rancière, *Emancipated Spectator* (see note 122), 13.

136   See Jacques Rancière, *The Ignorant Schoolmaster: Five Lessons in Intellectual Emancipation*, trans. Kristin Ross (Stanford, CA: Stanford University Press, 1991), 38.

many-valued aesthetics: not only do two subjects and an object (the work of art) permit contradictions and the rejection of identity but in the situation of artist and recipient the work of art becomes the included (excluded) third.

Especially in her Lens Boxes, but also in her drawings, Stone Pictures, and material paintings, Bauermeister drew or glued-on portraits of herself or of details, such as her hand or her eyes.[137] The audience encounters when viewing the visualized subject of the artist, who is often depicted while working, and the object. In this situation it is not crucial whether a second subject is reflecting at the same time, since it already contains three values. In the triad of artist, viewer, and work of art, all three can be considered a third excluded by the others, but none of them can be left out by them. In Günther's work, the step of identity of reflection follows; through it the logical contradiction becomes a metaphysical fact. As soon as a subject reflects on an object, the object changes in the renewed reflection. What is crucial about the description of identity of reflection is that there are other entities with the potential to reflect to establish "three metaphysical roots."[138]

Bauermeister's many-valued aesthetics, which is immanently executed in her works, participates in the identity of reflection and the introduction of several logical values that are not substitutable. Both things "reveal" themselves, since they are composed of elements that are transformed by reflection. In her works the phases of the rejection of the axioms described by Günther are not clearly identifiable; rather, various elements of the book are bundled and illustrated. In the work of art something metaphysically impossible happens on a metaphorical level: the simultaneous visualization of different acts of reflection. For Rancière works of art are the only objects with sufficient potential to do that: "It [art] is the transcription of an experience of the heteronomy of Life with respect to the human."[139] The (illustrated) production of reality in works of art and by means of its networks is the production of the synthesis of disparate processes—the immeasurable multitude of possible reflections crystallizes in an object.

Many-Valued Aesthetics by means of the Identity of Reflection of the Object

It has already been pointed out that in Günther's view the identity of reflection in the subject and object must occur, because it is a metaphysical constant; the German philosopher sees this as given only in subjects, however. He orients himself around the Kantian separation of subject and object, whereby the excess of reflection lies on the side of the individual. In Bauermeister's work, an extension follows here: the

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137   See section 6.2.

138   Günther, *Idee und Grundriss* (see note 1), 91.

139   Jacques Rancière, *Dissensus: On Politics and Aesthetics*, trans. Steven Corcoran (London: Continuum, 2010), 181.

intrinsic process of a "double reflection in itself" shifts, so that it can also come from the object. This shift into the works of the art will be described here as the "identity of reflection of the object" and joins the many-valuedness or identity of reflection presented by Günther. The identity of reflection of the object—that is to say, the double reflection of elements within the artistic work—occurs when a work of art incorporates an object that already represents the first level of reflection and then reflects on it again through transformation, distortion, or commentary.

Bauermeister's Lens Boxes are full of such processes. They occur in miniature on seemingly very basic levels, for example, to the right of the recession in *Needless Needles Vol. 5*: Here the canvas-stretched frame shows two semicircular, brown shadows that stand out against the gray background. Each has a drawn arrow pointing at it above which the word "screw" is written. This tiny detail represents the integration of an extrapictorial object—namely, a screw on the back of the frame, which was intended to stabilize the Lens Box but here penetrates into the picture's ground. This results in a tautological commentary on what can be seen there in order to secure the detail's status as art. Without this renewed reflection, the first integration—the visible imprint of the screw—might be considered a mistake.

In addition to such miniature events there are also "more obvious" examples of this kind of reflection. That is the case with the reproduction of the middle section with circular canvas cutouts of the *Needless Needles* light sheet that is glued to the background of the Lens Box and then transformed by lenses or by lines drawn later. This manner of integrating her own artistic works by means of photographic reproductions, drawing, or written title and then commenting on them again is a common motif in Bauermeister's work.[140] The situation in which the "double reflection in itself" within the object is reflected on again can also occur. Not only is the reproduced section of the light sheet in the Lens Box transformed by lenses but one can also read "foto canvas" on one of the panes of glass. This indicates that the pieces of canvas are first photographed and then inserted into the Lens Box, then they are transformed by lines and lenses, and finally that which can be seen is commented on. The renewed reflection on the identity of reflection of the object shows that many-valued aesthetics is not a strict separation of three levels, but neither should it be interpreted as a sequence.

The extension by a third value—whether that of two viewers or the trinity of artwork, viewer, and artist—is just as necessary as the process of double reflection in the subject and in the object. All processes run parallel in the works of art, which therefore produce not a "true-false dichotomy" but rather a "conjunctionality."[141] Its

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140   This approach and the conclusions drawn from it are discussed further in section 6.1 using the Lens Boxes *Square Tree* and *Square Tree Commentary* as examples.

141   Mersch, *Epistemologies of Aesthetics* (see note 130), 46. Umberto Eco had already pointed out in a different context that works of art challenge classical metaphysics: "Informal art calls

status as art does not demand the articulation of provable hypotheses, which is why the *Needless Needles* works are able to unite in themselves various many-valued processes and extend them. The overlapping of metaphysical processes in the works and the challenges of viewing them were also described repeatedly in contemporaneous art criticism.[142]

The identity of reflection of the object gives works of art an agency that Günther would not have attributed to an object. In Bauermeister's work, it becomes evident because works of art contain manifold simultaneity. Not only are situations shown in the works that cannot be visualized in their juxtaposition, but the individual elements seem to circulate between the works and influence each other mutually with a dynamic of their own. Bauermeister noted in her sketchbook accordingly: "Everything is what it is but can also be changed completely by the thing to which it has been related."[143] A shift of the double reflection into the work of art itself was never discussed in detail by Bauermeister in her writings; here again it is the events immanent to her art that suggest it as well as the texts she read as a young artist.

The identity of reflection of the object may have derived from Bauermeister's study of the British philosopher and mathematician Alfred North Whitehead, especially from his "cosmology," which he outlines in *Process and Reality*: Whitehead argues for taking one's own subject as the starting point, which in principle unites him with Günther, and abandoning "subject-predicate forms of thought" in metaphysical study.[144] With his concept of "actual entities," which are considered the final and most elemental entities, the British philosopher is transitioning into a situation in which all phenomena are treated equally. Every actual entity consists of countless others and therefore has an unlimited potential for being interpreted. They are all engaged in a process of becoming and heterogeneous individuality: "No two actual entities [can] originate from an identical universe; though the difference between the two universes only consists in some actual entities."[145] Not only are the entities radically different from one another, but from that quality follows, first, that every actual entity can influence every other, therefore adding or removing one results in

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into question the principle of causality, two-valued logics, univocal relationships, and the principle of contradiction." Eco, *The Open Work* (see note 134), 87.

142   See Emily Genauer, "Mary Bauermeister," *New York Herald Tribune* (April 17, 1965). The art critic John Gruen aptly noted with regarded to Bauermeister's works: "It is a case of drowning in one's own metaphysics." John Gruen, "Mary Bauermeister," *New York Magazine* 3, no. 18 (May 4, 1970): 58.

143   Bauermeister, "Skizzenbuch/Quaderno" (see note 6), T9.

144   Alfred North Whitehead, *Process and Reality: An Essay in Cosmology; Gifford Lectures Delivered in the University of Edinburgh during the Session 1927–28* (New York: Macmillan, 1929), 34–38.

145   Whitehead, *Process and Reality* (see note 144), 44. Each of the actual entities is in its own universe so that completely new universes result when their combination is changed.

a completely new situation that requires a different interpretation. Second, White-head describes the connectedness of actual entities to one another: in it all elements have adopted a position that knows no exclusion.[146]

If Whitehead's actual entities are included, performativity is no longer limited to subjects' activity of reflection: One example would be the detail in the lower right corner of the *Needless Needles* light sheet. Here a thread embroidered into the bed-sheet leads to a canvas cutout and transitions into the drawn seams and needles into which a "real" thread is threaded. As soon as the seam transitions back into the bed-sheet, the thread again transforms into an embroidered one. In this constellation, following Whitehead, every element should be viewed as an actual entity, and they would influence one another. Connected with the reflection of the object, the real thread undergoes via renewed reflection a transformation into the drawn one. It is suggested, moreover, that the needles used to sew are included. They too have, how-ever, already been transformed into drawn ones—only the real thread is still in the eye. The (many-valued) contradiction is revealed by the object.

Seen metaphysically, it is impossible for a subject to visualize this plurality si-multaneously, which is why the object takes over the metaphorical substitution. Af-ter reading Günther with Whitehead in mind, Bauermeister's intentions seem to extend the potential she illustrated in her compositions to the object level (as well). This is in keeping with the artist's approach, since the effort to remain always un-dogmatic leads to the hybridization of philosophies. Furthermore, by harmonizing the actual entities it is possible to focus more on the conjunction of the elements in the works and the fragile equilibrium among them. Adding an object changes the whole composition. In the *Needless Needles Vol. 5* Lens Box, for example, several small stones are glued on top of one another and then inserted into the recession on one of the layers of glass. Around the piles of stones Bauermeister drew circles that look like the outlines of more stones, and written next to them are the words "Stein" (stone) and "St. Pierre." The latter is a compound of an abbreviation of "Stein" or "stone" and the French word for stone: "pierre." At the same time, it is a pun on Saint Peter, or St. Pierre in French. The artist is behind all of her compositional decisions, of course, but they were made in an effort to realize a "trans-Aristotelianism," which in turn takes its own forms in the works of art, since the distortions of the lenses and the proximity of the elements to one another create new (many-valued) connections. The elements can be viewed individually as well as in a group, which means that they have the opportunity to influence one another. In this speculative situation the (drawn) outlines can exist first, then small stone towers grow out of several of them and ultimately result in trilingual combinations of words. In the identity reflection of the object this scenario makes sense metaphysically. It is an occurrence that can

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146   Whitehead, *Process and Reality* (see note 144), 72–73.

have recourse to the potentiality of actual entities and adds another layer to many-valued aesthetics.

As already stated, Bauermeister's strategies cannot be separated. The three levels—the extension to a third, the double reflection in the subject, and the double reflection in the object—are not mutually exclusive; rather, they are intertwined in the work of art. Depending on the nature of the microevents in her works and her approach, different strategies stand out; only together, however, can they decode the muddled situations of reciprocal reference, transformations, networks, and metalevels. For that reason, the three many-valued approaches cannot be sharply distinguished because Bauermeister's works are not a metaphysical treatise. The introduction of a "non-Aristotelian logic" into her compositions is, however, of a fundamental nature that can be described as a foundation of her artistic procedure. Her general doubt about bivalency turns her into a "trans-Aristotelian type of human being and artist"—this leads to reflection on the object and networking. One question that inevitably raises is whether in attempting to escape bivalency Bauermeister crates a new (many-valued) dogma. We will continue to look at that in the chapters that follow, but it can already be seen that Bauermeister tries to avoid that danger by introducing her own subject into her works and thus making it available. The goal of her strategy of "anything anywhere always anyway all things involved in all other things" is to postpone as long as possible any potential limitation.[147]

In a publication coauthored with Bertrand Russell—another book on the young artist's reading list—Whitehead defined the "complex object."[148] The complex object consists of parts that are connected to one another: "Broadly speaking, a *complex* is anything which occurs in the universe and is not simple."[149] This passage suggests a view that, following Deleuze and Guattari, can be called an assemblage and has had a renewed boom in theoretical treatises in recent years. "Heterogeneous elements" are brought together in an assemblage and held together by "consistency";

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147   This quotation was the working title for a third solo exhibition at the Galeria Bonino in New York, which was held from February 7 to March 4, 1967: *Bauermeister: paintings and constructions*, exh. cat. (New York: Galeria Bonino, 1967), n.p. The title can be found in Bauermeister's sketchbook from this period: Mary Bauermeister, "Skizzenbuch, 1965–67, USA," unpublished source, paginated by the artist, p. 11. The radical inclusivity in her works is one reason why Kerstin Skrobanek sees the roots of Bauermeister's art in the European avant-gardes, for example, in the Merz collages of Kurt Schwitters; see Skrobanek, "'Die Jacke Kunst weiter dehnen'" (see note 26), 19. The Dadaists' approach to found materials influenced Bauermeister, as she herself repeated confirmed in statements. Nevertheless, these discussions of many-valuedness should have made it clear that Bauermeister was pursuing other intentions.

148   Alfred North Whitehead and Bertrand Russell, *Principia Mathematica*, vol. 1 (Cambridge: Cambridge University Press, 1910), 45.

149   Whitehead and Russell, *Principia Mathematica* (see note 148), 47.

it creates "coexistence" and "succession."[150] The situation in which various forces simultaneously affect connections will be made fruitful for Bauermeister's strategies later, along with extensions of the concept of the assemblage. This is related to more recent philosophies, such as New Materialism. This position is echoed in a later essay by Günther in which he addresses his theory of polycontextuality:

> "In a poly-contextural Universe we do not have to consider Life as an element totally alien to inanimate matter, because matter in itself already contains the seeds of Life in its dialectical contraposition of Being and Nihility."[151]

In Günther's work polycontextuality evolved out of his research into many-valuedness and cybernetics and suggests an extension of the understanding of the object or the material that was still unimaginable in his outline for "trans-Aristotelianism."

I have concentrated on more recent philosophical studies to avoid sticking solely to sources that Bauermeister read at some point in her career. This provides a basic framework that offers insight into her initially inscrutable oeuvre and her compositions. But because works of art cannot be traced back exclusively to the artist's intentions, as Rancière already makes clear in his discussion of the "third," we cannot restrict ourselves to interpreting Bauermeister's specific sources. From the early 1960s onward, her discourse evolved, which is why the Lens Boxes, light sheets, stone works, and material works exist in an expanded resonating chamber. Working with the artist's historical sources and concepts is just as important as integrating more recent scholarship.

Because the theory of many-valuedness may be considered a basic constant in Bauermeister's oeuvre, however, it has to be continually cited and will be discussed in the detailed descriptions of the works. What follows will focus more on individual aspects of various works by Bauermeister, though it will also return to the *Needless Needles* series. In the next chapter the focus of the analysis will shift to the period in Bauermeister's oeuvre that predates many-valued logic. That look at several stations of her early work is intended to illustrate the strategies she pursued in her German period and in the context of the postwar avant-garde of Europe. It will shed light on the combination principle on which her work is based that led to many-valuedness. This helps us to understand the connections that are constituent of the evolution of Bauermeister's oeuvre.

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150   Gilles Deleuze and Félix Guattari, *Thousand Plateaus: Capitalism and Schizophrenia*, trans. Brian Massumi (Minneapolis, MN: University of Minnesota Press, 1987), 357, 364.

151   Gotthard Günther, "Life as Poly-Contexturality" (1973), in *Beiträge zur Grundlegung einer operationsfähigen Dialektik*, vol. 2 (Hamburg: Felix Meiner, 1979), 283–306, esp. 304.

3. Combination Principle

In Mary Bauermeister's early work, there are several dominant thematic areas that are crucial for her development as an artist: From her brief periods of study in Ulm and Saarbrücken, a few elements remained as did the desire to take her own artistic path. The spectrum of European postwar art and the situation in the Rhineland in the later 1950s anchored the discourses on abstraction in her first creative phase. Looking beyond the boundaries of her own genre was equally crucial. Bauermeister absorbed stimuli from other artistic disciplines, above all from contemporaneous trends in music and their structural thinking in parameters. Performances and actions, in which Bauermeister was involved primarily as an organizer, were also important during this period; they offered platforms that made artistic experiments possible.

From 1955 to around 1961–62 one phase in her work can be identified that is marked, on the one hand, by unhierarchically selected borrowings from artistic stimuli from all genres but localized in the European, abstract avant-garde with a clear focus on contemporaneous trends. On the hand, several aspects are already being developed here that recur again and again in the following creative phases. Her oeuvre in her early years as a fine artist has, alongside eclectic moments, a clear relationship to her profession; she remained a visual artist. Beyond that, a syncretism with mathematics, natural sciences, and philosophy also emerged in this phase. The totality of the influences on Bauermeister when she was a young artist resulted in a combination principle; that term is intended to summarize her artistic approach prior to the transition to many-valued aesthetics. It does not mean a teleological model of succession or progressive perfection. The combination principle stands on par with many-valued logic as a means of expression; only together do they make it possible to experience what takes place in the works that we are describing here as many-valued aesthetic. The rise of many-valued logic as a point of reference, in the early 1960s and at the latest with *Needless Needles*, does not result in break in Bauermeister's works. It represents rather a shift in focus in which the many elements of the combination principle are continued. Depending on the work, one or the other trend gains the upper hand.

Bauermeister did not develop her own terminology for her approach. In her sketchbook the word "combination" occurs repeatedly; because it is a tenet in her early work, I have added the word "principle." In the same place Bauermeister also mentions "mediations with respect to" and details how the combinations should in theory be designed.[1] She names as its parameters "material, technique, working time, color frequency, outline-size-volume, place, full-empty"—these seven concepts are in turn composed of additional units: they are executed in the "material mediations"; that term covers eight materials and techniques.[2] The following pages of the sketchbook describe in minute detail how the individual "material mediations" are combined and which variations result from that; for example, "straw mediation to relief," of which there are five different realizations.[3] Bauermeister formulated this systematic experiment only for "material"; it is, moreover, only the theory about what the combinations were supposed to look like. In the process of being implemented, the compositions are substantially altered by her and put into an order that seems aesthetic to her—a gap that cannot be planned.[4] The combinations detailed in writing are a cognitive declaration of intention that is intended only for the conceptual process; the level of realization enters into it independently.

The sections that follow will list successively the inspirations, techniques, reference points, and Bauermeister's specific approach to them that together make up the combination principle. This is also in keeping with Bauermeister, who initially employs specific techniques or materials in series of works and retains several elements from them in order to employ them now and again in later groups of works. Her repertoire is first expanded before using it freely. Bauermeister thus created an arsenal of possibilities that are connected as equals in her art and cause ever-new works to result. She took one element and contextualized it in a work with one or more others; this process precedes differently each time in its details; only the principle that something is combined remains the same.

In her early work in general, one detects doubt about the existing categories and their succession. Bauermeister had already studied Whitehead's philosophy by this

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1   See Mary Bauermeister, "Skizzenbuch/Quaderno, 1961–1963," unpublished source, paginated by the artist, p. 16.

2   See ibid. The eight terms "stones, dots, straws, pastel structure, relief, ink drawing, rust picture, stillness-void-nothing" are sorted under seven roman numerals.

3   See ibid., 16–21.

4   Here Bauermeister appears to be closer to statements by Duchamp and Willi Baumeister that describe the process of implementation as a productive method, especially because a preformulated plan can never be consistently implemented in the same way. Duchamp described this as "art-coefficient"; Marcel Duchamp, *The Writings of Marcel Duchamp*, ed. Michel Sanouillet and Elmer Peterson (New York: Oxford University Press, 1973), 138–40. For Baumeister, it is the "unknown"; see Willi Baumeister, *The Unknown in Art*, ed. and trans. Joann M. Skrypzak (Berlin: epubli, 2013), 167–76.

time. In a publication that the artist particularly emphasizes he states: "Time, space, matter, material, ether, electricity, mechanism, organism, configuration, structure, pattern, function, all require reinterpretation."[5] For Whitehead, this situation resulted from the scientific revolutions going on around him. He argued, however, that it was necessary to reflect philosophically on the sciences, because without that they would be merely an "anti-rationalistic movement."[6] Before one gets to a revolution and reflection on it, however, the British philosopher believed that it was necessary for a lengthy sequence to have already occurred: first, new ideas, intuitions, and mentalities evolved, which then create the metaphysical preconditions for the subsequent scientific revolutions.

Applied to Bauermeister, this would mean that before a situation of many-valuedness can arise, "preparation" is necessary in order to be able to take that step at all. On the one hand, the autonomy of the steps cannot be ignored, because they recur again and again as such in varying contexts; on the other hand, inherent in every step is also its networking with another. That results in a far-reaching connectedness: none of the phases of her work stands alone; rather, they are interwoven with one another in a constant reaching ahead and back.

3.1 Principles of Education

Mary Bauermeister's academic education was comparatively brief. She began two degree programs at art schools but did not complete them. Documents show that she left secondary school in Cologne in September 1954 and was at the Hochschule für Gestaltung in Ulm in December 1954 at the latest; in April 1955 she was already enrolled at the Staatliche Hochschule für Kunst und Handwerk in Saarbrücken.[7] At some point in the course of 1956, was back in Cologne as a freelance artist with her own studio.

Teaching at the Hochschule für Gestaltung in Ulm began in 1953 in in 1955 it moved into a building on the Oberer Kuhberg designed especially for it. The Constructivist artist and designer Max Bill was rector of the Hochschule from 1953 to 1957, which he emphatically understood to be a successor institution to the

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5   Alfred North Whitehead, *Science and the Modern World: Lowell Lectures, 1925* (New York: Macmillan, 1925), 23.

6   See ibid., 22.

7   All of the details are based on archival materials from Mary Bauermeister's studio. One finds there, for example, her diploma from the secondary school in the Kalk district of Cologne, a letter to its former director requesting a monthly stipend for the Hochschule in Ulm, and her student ID card for Hochschule in Saarbrücken.

Bauhaus.[8] The international students were not regarded as artists but as designers who were trained to solve problems in the design of industrial products. Despite the ambition to be democratic that it tried to convey, it was repeatedly criticized because a "formalist thinking in systems" dominated the Hochschule, even going as far as an "obsession with method."[9] In its early years, teaching was essentially shaped by Bill's views of art. He advocated developing "mass-market consumer goods" in which "beauty" was not only supposed to derive from "function" but also took on a task of its very own: "the maximum effect is achieved with the minimum of materials," which had to be achieved by means of constructive design.[10] Artists were supposed to work on everyday productions and give them form. That was the only way to ensure that art can bring to bear its influence on society. Bill formulated his maxim as: "artists must take the responsibility for the real world."[11]

Pastel works on paper by Bauermeister from 1955 to 1957 that were marked by constructional, mathematical thinking have been preserved. *Quadratische Spirale* (Square Spiral) of 1955 was composed using the Fibonacci sequence (fig. 7): Beginning with the four smallest squares—three yellow ones and a violet one—three squares are always added whose dimensions result from adding the previous ones. The fourth square in turn contains the subdivisions into smaller sections, whereby all four together form the size of one of the three subsequent squares. This complex structure, which is concealed by its initially impression of clarity, can be decreased or increased ad infinitum in the imagination, so that the association of a square

8   See Dagmar Rinker, "'Produktgestaltung ist keine Kunst': Tomás Maldonados Beitrag zur Entstehung eines neuen Berufsbilds," in *ulmer modelle—modelle nach ulm: Zum 50. Gründungsjubiläum der Hochschule für Gestaltung Ulm*, exh. cat. Ulmer Stadtmuseum, 2003 (Ostfildern-Ruit: Hatje Cantz, 2003), 38–49, esp. 38.

9   See Brigitte Hausmann, "Experiment 53/68," in *ulmer modelle—modelle nach ulm* (see note 8), 16–33, esp. 31. Bauermeister also complained in a letter to her former drawing teacher at her high school, Günther Ott, that the university was "dangerous" for those who were not Constructivists. In addition, she criticized the view that art should be treated like a form of mathematics. Günther Ott had been essential in introducing Bauermeister to abstract art; in his class he had helped his students to appreciate avant-garde positions of the postwar era; Mary Bauermeister to Günther Ott, [1955], unpublished source, Zentralarchiv für deutsche und internationale Kunstmarktforschung (ZADIK), Cologne, K01_V_002_0010, pp. 1–7. In retrospect, Bauermeister commented on her leaving the Hochschule für Gestaltung in Ulm as follows: "I didn't want to become a designer. I didn't want to design toasters for Braun. I was an Expressionist in that sense." Julia Voss, "Ein Tag bei Mary Bauermeister: Interview," in *Mary Bauermeister: Momento Mary*, exh. cat. Berlin, Villa Grisebach (Berlin: Deutscher Kunstverlag, 2017), 38–44, esp. 42.

10   Max Bill, "Beauty from function and as function" (1949), in Bill, *Form, Function, Beauty = Gestalt*, trans. Pamela Johnston, Architecture Words 5 (London: Architectural Association, 2010), 32–41, esp. 33 and 37.

11   Max Bill, "A, B, C, D ..." (1953), in Bill, *Form, Function, Beauty = Gestalt* (see note 10), 42–59, esp. 46.

spiral becomes even clearer. Bauermeister underscores this with a second work, *Spirale in Gelb* (Spiral in Yellow), also from 1955 (fig. 8). This spiral runs in the opposite direction as the square version. Here, too, the Fibonacci series determines the composition: the course of the violet passage, which stands out against the bright yellow background, is also calculated.

Fig. 7: Quadratische Spirale, 1955, pastel on paper, 62.5 x 48 cm, Mary Bauermeister Art Estate.

Fig. 8: Spirale in Gelb, 1955, pastel on paper, 62.5 x 48 cm, Mary Bauermeister Art Estate.
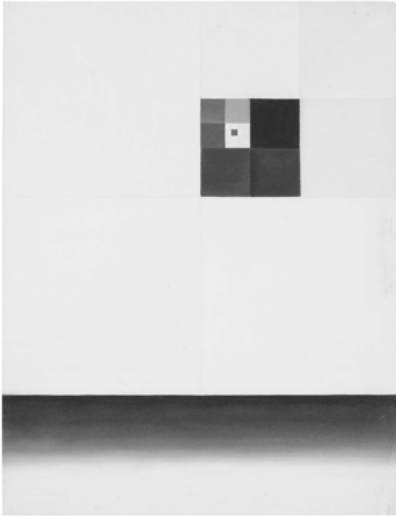
The later use of the Fibonacci sequence in *Needless Needles* and as an element in many other works begins here. Bauermeister did not take strictly mathematical approach in her oeuvre, but as conveyed by the assignments at the Hochschule für Gestaltung it was one aspect embodied in it. Detailed calculations in the form of sketches working with the golden section reveal a continuing occupation with these themes even after Bauermeister left Ulm. These sketches were executed as pastel works from 1957 that use mathematical calculation to achieve a harmonious composition (fig. 9). Formulas of natural numbers were based on a mathematical problem such as the golden section of the Fibonacci sequence or could also be a sequence of numbers she thought of herself will continue to be a feature of Bauermeister's work.

Fig. 9: Ohne Titel (Untitled), 1957, pastel on paper, 48 x 48 cm, Mary Bauer-meister Art Estate.
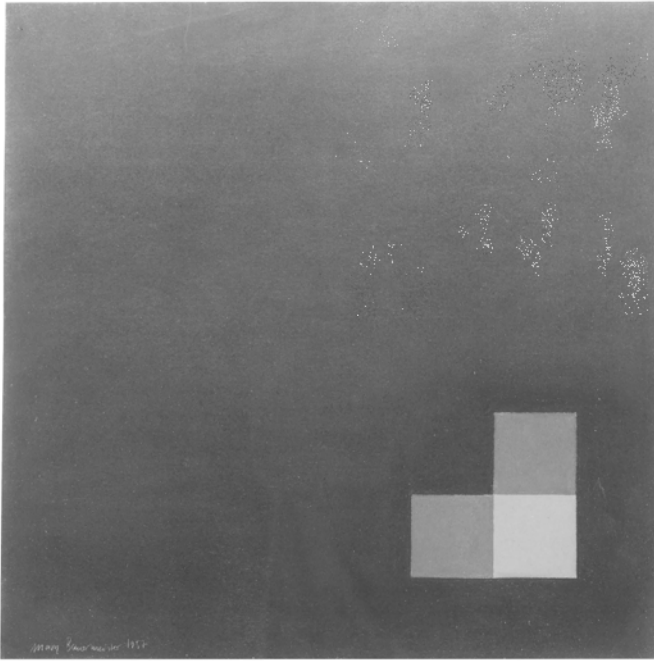
The philosopher Max Bense was brought to the Hochschule für Gestaltung by Bill already in 1953. From 1955 to 1957, he headed the Information department and also gave lectures on aesthetics, art, semiotics, and cybernetics.[12] Bauermeister's notes show that while at Ulm she participated in Bense's lectures and seminations on his concepts of aesthetics based on technology and information theory.[13] In addition to

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12   See Martin Mäntele, "Magier der Theorie," in *ulmer modelle—modelle nach ulm* (see note 8), 82–87, esp. 83; Elisabeth Walther, "Unsere Jahre in Ulm: 1953 bis 1958, 1965 und 1966," in ibid., 90–93, esp. 90.

13   On one of the manuscripts, the title of a seminar paper that Bauermeister was supposed to write for Bense's course is indicated; it is not known whether she wrote it or whether it preceded her departure from the Hochschule. The theme reveals not only Bauermeis-ter interest in philosophy but also, already at this point, specifically in Aristotle: "Analyse eines klassischen Textes nach aristotelischen Kategorien und Abgleich mit Husserls Sein-sthematik" (Analysis of a Classical Text according to Aristotelian Categories and a Com-parison with Husserl's Themes of Being); Mary Bauermeister, "Notizen zur Vorlesung von Max Bense über Moderne Ästhetik" (1955), unpublished source, paginated by the artist, Zentralarchiv für deutsche und internationale Kunstmarktforschung (ZADIK), Cologne: K01_IX_002_0014, pp. 1–6; Mary Bauermeister, "Aufzeichnungen zu Vorlesungen und Sem-

presenting models based on semiotic theory, in his lectures Bense also distinguished metaphysical terminologies by contrasting them with the "technical" vocabulary that he preferred.[14] As a young student Bauermeister was confronted with a strict rejection of metaphysical categories. Bense wanted to establish a "scientific aesthetics" in order to eliminate the "speculative cultural prattle" that he considered metaphysical reflection to be.[15] His "aesthetics of information" claimed to create a universally valid foundation for interpretation based on semiotic concepts. To that end he developed an all-encompassing semiotics to observe aesthetic states: "The aesthetic of a text refers not to the object world of its so-called content but also to the world of signs in which it was realized."[16] Bense also advocated a "mathematical aesthetics" that can be used as the foundation for the "generative aesthetics" that is decisively associated with him—because only by means of the universality of mathematical description can be a general "constructiveness of the world" be achieved.[17]

It is reasonable to assume that Bauermeister encountered cybernetic theories thanks to Bense: cybernetics in a general understanding as a "chain of feedback" in which "transmission and return of information" are decisive and are so without human influence could be applied to her works.[18] There has already been one attempt to apply the implications of cybernetics to Bauermeister's works, with a focus on the autonomy of the elements and their connections and relationships.[19] Over the course of the present text, the horizon of circular references back and forward is continually built up; moreover, Günther's reference to cybernetics is notable; through it he came into contact with the formulation of many-valued logic, and it influenced his theory of polycontextuality. Because many-valuedness—or rather Bauermeister's appropriation of it—is crucial to her oeuvre, but she does not employ, either inside or outside of her works, a vocabulary based on technology or communication, cybernetics is rather a peripheral horizon. A direct application of cybernetic theory

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inaren von Max Bense" (1955), unpublished source, paginated by the artist. Zentralarchiv für deutsche und internationale Kunstmarktforschung (ZADIK), Cologne: K01_IX_002_0097, pp. 1–34.

14   See ibid.

15   Max Bense, *Einführung in die informationstheoretische Ästhetik: Grundlegung und Anwendung in der Texttheorie* (1969), in Bense, *Ausgewählte Schriften, vol. 3, Ästhetik und Texttheorie*, ed. Elisabeth Walther (Stuttgart: J. B. Metzler, 1998), 251–417, esp. 257–58.

16   Ibid., 377.

17   See ibid., 335–36.

18   See Norbert Wiener, *Cybernetics; or, Control and Communication in the Animal and the Machine*, 2nd ed. (Cambridge, MA: MIT Press, 2013), 96.

19   See Wilfried Dörstel, "Die Zehntausend Wesen haben ihre eigentümliche Struktur, aber sie formulieren sie nicht," in *Mary Bauermeister: All Things Involved in All Other Things*, exh. cat. (Cologne: Galerie Schüppenhauer, 2004), 46–51.

to Bauermeister's oeuvre does not therefore seem appropriate, since it would necessarily shift the focus too much to technical aspects of communication. It cannot be ruled out that she absorbed stimuli for her networking, but cybernetic thinking should not be considered the focus of her work.

In an essay from 1957, Günther, too, was preoccupied with Bense's aesthetics. Günther's assessment of "aesthetics based on information theory" was decidedly positive; he speaks of a "universal, integrative aesthetics," which Bense outlined in order to be able to grasp all aesthetic phenomena worldwide.[20] Here again Günther's interpretation was aimed at rejecting Aristotelian logic, which in his view was too closely tied to Western history. The axioms of Aristoteles are bound to a "regional, cultural a priori logic" and could therefore never be universally valid.[21] Interestingly, Bense's aesthetic approach is interpreted by Günther as turn away from "classical" metaphysics and toward a many-valued view; he sees himself affirmed once again in his challenge to two-valued logic. Bense's explicit marginalization of metaphysics, which he considered unscientific, seems to be less the focus for Günther.[22] Günther considered many-valued logic is fundamental to all processes in the world, so that even a decidedly antimetaphysical aesthetic based on semiotic theory is usurped by it.

Bauermeister referred to specific aspects of Bense's ideas, but she did not name any of his works as having influenced her decisively; certain elements of the "aesthetics of information," especially terms such as "repertoire" and "schema" were certainly integrated by Bauermeister into the design of her (early) works.[23] In none of her works, however, is there any direct reference to it, as there is to non-Aristotelian logic. Not every intellectual stimulation found an immediate application. Rather, Günther's appropriating strategy seems to offer a blueprint for Bauermeister's approach in her works: "radical inclusivity" provides for the inclusion of different elements, among them also (philosophical) theories, but everything passes through the filter of a many-valued metaphysics.

Another correspondence between Bense's writings and Bauermeister's art could be seen in the German philosopher's emphasis on mathematics. The influence of mathematics should be traced back not only to the situation of her education in Ulm

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20   See Gotthard Günther, "Sein und Ästhetik: Ein Kommentar zu Max Benses 'Ästhetische Information'" (1957), in Günther, *Beiträge zur Grundlegung einer operationsfähigen Dialektik*, vol. 1 (Hamburg: Felix Meiner, 1979), 353–64, esp. 356–64. In that text Günther states that he is a "passionate party liner in issues of art," this is not reflected in his books or essays; unlike many philosophers, Günther did not write any texts on art; ibid., 362.

21   Ibid., 356.

22   See Max Bense, "kleine abstrakte ästhetik" (1969), in Bense, *Ausgewählte Schriften*, vol. 3 (see note 15), 419–43, esp. 421.

23   See section 3.4.

and the lectures by Bense she attended there; mathematics also has a role that is emphasized in the writings by Whitehead that Bauermeister explicitly mentioned. For Whitehead, it is the "most original creation of the human spirit."[24] His metaphysical determinations of "actual entities" can also be illustrated with mathematical approximations: "The generality of mathematics is the most complete generality consistent with the community of occasions which constitutes our metaphysical situation."[25] In the initial unclarity about which sources Bauermeister used in constructing her oeuvre it can thus be regarded as an amalgam of several. It should not be assumed, moreover, that a new aspect joins in as a result of every point of contact. The levels of references can only be understood down to a microlevel at which it becomes too abstract.

After she switched to the Hochschule für Kunst und Handwerk in Saarbrücken, which was directed by Otto Steinert, Bauermeister came into contact with the medium of photography. During this time she experimented with chemical processes that are used in the context of the practice of photography; she employed them, however, as a painter to create abstract compositions. She also created works with poster paint and transparent films, which were integrated into a geometric, constructional formal idiom. Although she attended a college class in photography, Bauermeister remained a painter or object artist; there are no autonomous photographic works in her oeuvre. The image produced with a camera was simply employed as a material, like the photographic reproductions in the *Needless Needles* light sheet that form the background of *Needless Needles Vol. 5*.

As she had previously in Ulm, Bauermeister continued to make pastels that pursue an organic abstraction: garish colors and intertwining lines intended to convey dynamics and to recall distantly microbic life.[26] Although the time she spent studying in Saarbrücken was longer, the (brief) episode in Ulm had a more enduring influence on the young artist. After returning to Cologne, she produced her last organic, abstract, and brightly colored pastels; from 1958 onward, she was already breaking away from reduced and nonrepresentational works. Bauermeister produced these compositions suggestive of Art Informel in parallel with constructive works in her

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24   Whitehead, *Science and the Modern World* (see note 5), 29. Bauermeister had a strong affinity to mathematics already in school; her family even imagined she would have a career in the field.

25   Ibid., 38.

26   See Maria Velte, "Mary Bauermeister: Das Werk," in *Mary Bauermeister: Gemälde und Objekte, 1952–1972*, exh. cat. (Koblenz: Mittelrhein Museum, 1972), V–XIV, esp. V. Einen Überblick über Bauermeisters Kunst in den 1950er Jahren in; *Mary Bauermeister: Die 1950er Jahre*, ed. Renate Goldmann, Leopold-Hoesch-Museum und Papiermuseum Düren, 2013 (Cologne: Schüppenhauer Art + Projects, 2013), In 1956 Bauermeister and a colleague painted a mural in the organic-abstract style in the Landeszentralbank in Saarbrücken.

oeuvre into the late 1950s—thereafter calculations in the form of the Fibonacci sequence and other combinations of numbers continued to be found in her works.

3.2 Facets of Abstraction

The compositions that now make up the majority of her oeuvre were initially works in reduced pastel, usually on black deckle-edge paper. In their appearance they participate, on the one hand, in contemporary trends to abstraction and nonrepresentationalism.[27] These works reveal borrowings from art movements such as Tachisme and Art Informel. On the other hand, parallels to the emerging Zero movement are evident in them. Likewise, from 1958 onward she created her first larger pastel works on canvas, before the artist applied this formal language to works with casein tempera on canvas or wood. By the end of 1958 at the latest, Bauermeister developed her dot structure, which together with the so-called *Wabenbildern* (honeycomb pictures) represents an early characteristic of her oeuvres. This is in general a phase of nonrepresentational painting that will remain determinant until the end of 1962.

Tachisme and Art Informel were two of the dominant art movements in Europe in the middle of the twentieth century; in the history of their evolution and of their terminology, they cannot be sharply distinguished.[28] The term "tachisme" had been used in French two hundred years earlier in art theory for painting employing

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27   Martin Schulz points out that nonrepresentational painting is used "usually terminologically in a rather blurry distinction from abstract painting," but that the first means that something was depicted without any equivalent outside of the painting; Martin Schulz, "Imi Knoebel, 'Schwarzes Kreuz': Gegenstandslose Kunst zwischen Malerei und Installation," in *Kanon Kunstgeschichte: Einführung in Werke, Methoden und Epochen*, ed. Kristin Marek and Martin Schulz, vol. 4, *Gegenwart* (Paderborn: Wilhelm Fink, 2015), 109–36, esp. 116–17. "Nonrepresentationalism" should be understood to mean that in this context as well.

28   The two terms are also often used as equivalent; Norbert Schneider, *Theorien moderner Kunst: Vom Klassizismus bis zur Concept-Art* (Cologne: Böhlau, 2014), 225–32. Rolf Wedewer calls Informel a "collective name" that covers "two different forms of expression": "the gestural and texturologies"; Rolf Wedewer, *Die Malerei des Informel: Weltverlust und ICH-Behauptung* (Berlin: Deutscher Kunstverlag, 2007), 10. In the remainder of this text the terms "Tachisme" and "Art Informel" will be used as largely synonymous; both stand for the expressive tendencies in Bauermeister's works without her having been an artist would could be categorized in these trends. The concept of Art Informel that Gottfried Boehm proposed applies best. For Boehm, Art Informel is not a "*style*, but methods by which the formless and never formable […] could be tapped to produce configurations of an unprecedented kind." Gottfried Boehm, "The Form of the Formless: Abstract Expressionism and Art Informel," in *Action Painting—Jackson Pollock*, exh. cat. Riehen, Basel, Fondation Beyeler, 2008 (Ostfildern: Hatje Cantz, 2008), 38–46, esp. 40.

chance and passages unrelated to objects; in addition, it was used as an epigonal disparagement of the term "Informel."[29] In retrospect, Art Informel is generally understood to refer to an international art movement of European origin, which from the later 1940s to the early 1960s occupied a dominant position, for which several terms existed in parallel at first, for example, "Abstraction lyrique," "Art Autre," and "École de Paris." Works of Art Informel were characterized by an effort to trigger "static pictorial features": the subjective "trace" of a processual artistic expression was applied to the canvas by means of the material of paint, which brought the act of painting into the foreground.[30] The famous phrase "abstraction as world language," formulated by Werner Haftmann and associated with documenta II of 1959, had a formative influence on Bauermeister.[31] Several years would pass before she reintroduced the representational into her work.

Her pastel works on paper are characterized by a reduced use of materials. Small pastel fragments are dynamically worked into the black surface, so that the artist's gesture finds a correspondence in the composition (fig. 10). In parallel she produced works from the same materials that already undertake an attempt to order: the pastel structures run horizontally across the support, but the streaks of reduced color no longer unfold expressively, instead suggesting a side by side (fig. 11).

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29   See Nicola Carola Heuwinkel, *Entgrenzte Malerei: Art informel in Deutschland* (Heidelberg: Kehrer, 2010), 28–31.

30   See ibid., 67 and 329.

31   With documenta II, Art Informel and American Abstract Expressionism came to be differentiated as well; ibid., 112. Haftmann wrote in the catalog to documenta II: "The picture is no longer the field of reproducing a recreated outside world; it is the field of evoking an appearance." In his view, that had universal validity since 1950 at the latest. "Art has become abstract." Werner Haftmann, "Malerei nach 1945 (documenta II Katalog)," in *documenta: Idee und Institution; Tendenzen, Konzepte, Materialien*, ed. Manfred Schneckenburger (Munich: Bruckmann, 1983), 49–54, 53–54. Increasingly, this restricted perspective has been subject to revisions in recent years, for example, in the exhibition project *Postwar: Art between Pacific and Atlantic, 1945–1965* in 2016–17 and at the Haus der Kunst in Munich and also *Art in Europe, 1945–1968* in 2016–17 at the ZKM in Karlsruhe, organized in collaboration with the ROSIZO in Moscow and the BOZAR in Brussels. On the ideological justification for the sole validity of abstraction, see Patrice Neau, "Abstraktion: Weltsprache oder Ausdruck der 'dekadenten westlichen Moderne'?," *ILCEA. Revue de l'Institut des langues et cultures d'Europe, Amérique, Afrique, Asie et Australie* 16 (2012): 1–13, esp. 5–8.

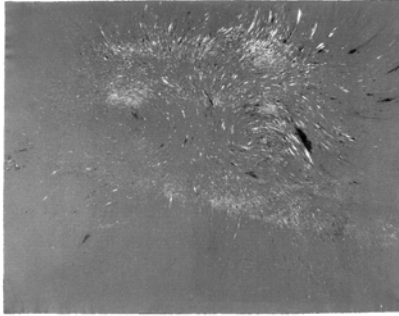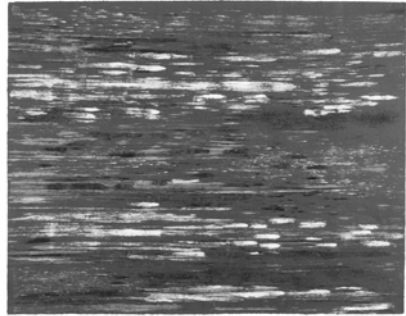Fig. 10: Ohne Titel (Untitled), 1958, pastel on paper, 49 x 62 cm, Mary Bauermeister Art Estate.

Fig. 11: Ohne Titel (Untitled), 1959, pastel on paper, 49 x 62 cm, Mary Bauermeister Art Estate.

Dot-Structure Paintings

The next step is her dot structures, which combine side by side with a one on top of the other. The "taches" (French for "spots," "stains," or "smudges") that led to the term Tachisme are no longer employed by Bauermeister as an expressive, random design element but rather in an increasingly controlled way: The work *Ohne Titel* (Untitled) of 1958 consists of two vertical-format wood supports joined by a hinge on the bottom (fig. 12). The white "page" and the black one need not remain in the position illustrated here but can be "opened," so that the dimensions of the painting are no longer 64 by 68 centimeters but an accordingly elongated format of 128 by 34 centimeters—and it can just as well stop at every position in between. This provides an ability to alter the composition, but the sequence of black and white creates a connecting transition in each case. Now, however, only the background of the work is formed from "spots"; above it, and especially in the center of each half of the painting, the artist has applied to the dots additional dots that grow ever smaller, usually in colors that contrast with one another. The dots thus undergo a layering in this way. It can also happen that a black dot as ground contains several white dots of different sizes next to one another, into which in turn black dots are added. These passages stand in direct contradiction to the spontaneous gesture of Art Informel, Tachisme, or Action Painting as the American pendant.[32]

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32   See Wedewer, *Die Malerei des Informel* (see note 28), 35–39. Wedewer emphasizes the "common roots" of Art Informel and Abstract Expressionism. An early, distinct turn away from the European tradition in which the canvas is called an "arena" or "event" was may by American critics, among others; see Harold Rosenberg, "The American Action Painters" (1952), in *Art in America, 1945–1970: Writings from the Age of Abstract Expressionism, Pop Art and Minimalism*, ed. Jed Perl (New York: Library of America, 2014), 225–37.

Fig. 12: Ohne Titel (Untitled), 1958, casein tempera, hinge on wood, 64 x 68 cm, Mary Bauermeister Art Estate.
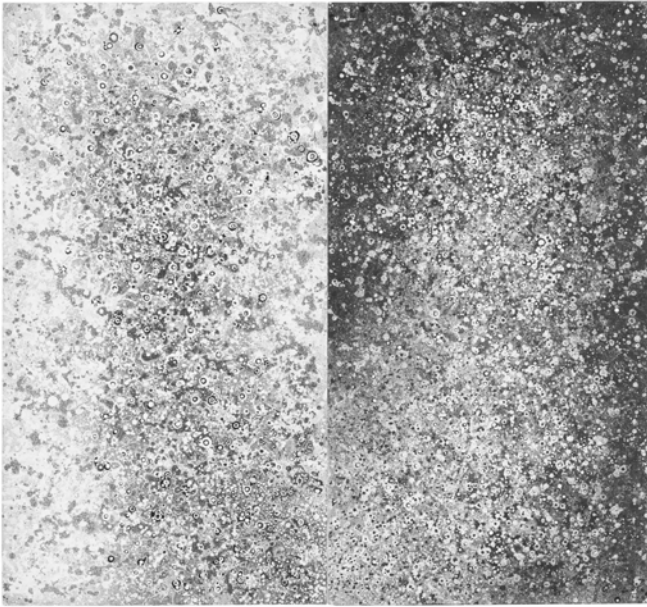
Max Bill once stated about a work on canvas from 1959–60 by his former student paradoxically that it was "constructive Tachisme," which Bauermeister promptly used as the work's title (*Konstruktiver Tachismus*) (fig. 13). On the edges of the canvas, which measures 100 by 165 centimeters, one recognizes a spontaneous, almost random approach to the material paint. Yet even just a few centimeters from the edge the black and white dots are meticulously composed. The further the viewers step back from the work, the more the individual dots blur; stepping closer, however, reveals Bauermeister's "constructive" approach: the background is often filled with black or white dots and then one or more additional dots is painted on several of these dabs of paint.

Fig. 13: Konstruktiver Tachismus, 1959–1960, casein tempera on canvas,
100 x 160 cm, Museumsverein Düren am Leopold-Hoesch-Museum Düren
(LHM&PM 2015/0106).
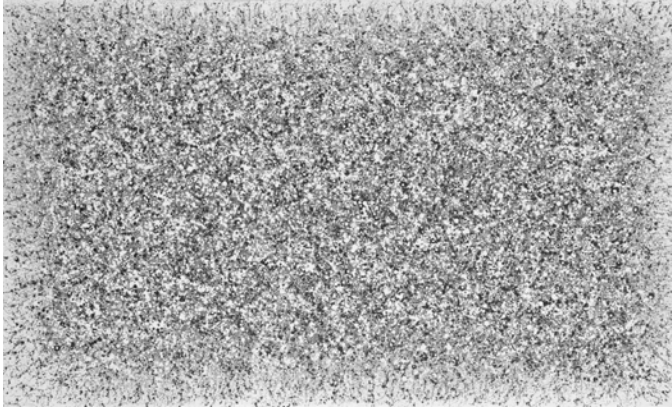
The dot structures placed Bauermeister in the circle of the Zero movement. That artists' association was founded in Düsseldorf but was networked with other artists' groups so that from 1958 to 1966 one can speak of a European art movement that stood for dissociating from and overcoming Art Informel.[33] Zero sought to transcend individual expression—which through the physical working of the material painting took on a "combative" aesthetic—by "striving to overcome."[34] The utopian new beginning it propagated came with the use of monochrome painting, photosensitive materials, and a reduced visual language. Rather than the term "compositions," they preferred words such as "grid" or especially "structure"; they not only stood for a desubjectified approach but were also supposed to lead to "clarity, order,

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33   See Dirk Pörschmann, *Evakuierung des Chaos: Zero zwischen Sprachbildern der Reinheit und Bildsprachen der Ordnung* (Cologne: Walther König, 2018), 14. Its founders, Otto Piene and Heinz Mack, were initially members of an Informel artists' association before taken an explicit position against "contaminated" colors and the subjective gesture; see ibid., 38–48.

34   See Ulrike Schmitt, "Der Doppelaspekt von Materialität und Immaterialität in den Werken der Zero-Künstler, 1957–67," PhD diss. Köln 2011. Kölner Universitäts Publikations Server 2013. https://kups.ub.uni-koeln.de/4863/1/SchmittDiss.pdf, p. 199 (accessed June 1, 2020).

and purity," which promised to objectify aesthetics.[35] Bauermeister was peripherally connected to Zero on an artistic and personal level.[36]

Furthermore, her works around 1960 tend to dot in an equivalent direction: In the work *Gestalt zu Struktur* (Shape to Structure) of 1961, the individual dots are placed according to a structural arrangement (fig. 14). The background, outside the white diamond in the center of the work, is formed by blotches of black or white casein tempera in different sizes; at first, the method seems to be like that of *Konstruktiver Tachismus* or the two-part hinged work *Untitled*. To design the open white area Bauermeister created a stencil from pressed wood with circles of different sizes cut out (fig. 15). The stencil was placed on the diamond in an initial orientation in order to draw in circular structures of individual dots in a controlled way. The bright circular structures in particular are built up into a kind of relief by the paint; there are also several darker circles consisting of delicate sprinkles of paint. Then the orientation of the stencil was changed, creating the effect of several superimposed larger and smaller circles, each of which has a different shape. In these superimpositions, too, Bauermeister retained a structural order; for example, the two larger circles in the top center of the diamond are composed of different dot forms: solid black dots transition into circles of equal size that are white inside and have only a black contour line; the contour lines are contextualized with round shapes composed of spatters of paint; all of it together is framed in a circular form. Despite the different layers, the overall result is a controlled clarity achieved by nesting a simple element like the dot. These structures are actively released by Bauermeister, as the title already implies.

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35   See Pörschmann, *Evakuierung des Chaos* (see note 33), 60–61 and 121. The spoken and written statements of the Zero artists are permeated by a metaphysical style with which the works of art contrast visually; the compositions are, however, intended to participate in the "pathos" of the language. Bauermeister did not make metaphysical commentaries in written form but rather attempted to illustrate a metaphysics.

36   Zero cofounder Otto Piene presented one of his "light ballets" in Bauermeister's studio in Cologne on March 26, 1960; she also exhibited works by the Zero artists Alvier Marvignier and Heinz Mack. Bauermeister knew Mavignier from the time they were both studying in Ulm. She did not, however collaborate with Zero until 2015, when Bauermeister participated in the Zero performance night at the Martin-Gropius-Bau in Berlin. The associated Zero survey exhibition at the Martin-Gropius-Bau had not initially included a work by Bauermeister; only after the performance night was one of her light sheets from 1963 integrated into it. Other artists who had participated in the exhibitions of the Zero movement in the 1950s and 1960s— Hal Busse, for example—were not represented in the tour of this retrospective exhibition either; see Petra Gördüren, "'Bin ich dann heute gegenständlich und morgen nicht?' Hal Busses künstlerischer Werdegang zwischen Figuration und Abstraktion," in *Hal Busse: Das Frühwerk, 1950–1970*, exh. cat. (Berlin: Kunsthaus Dahlem, 2019), 13–40, esp. 27–31.

Fig. 14: Gestalt zu Struktur, 1961, casein tempera, ink on canvas,
*98.5 x 98.5 cm, Mary Bauermeister Art Estate.*
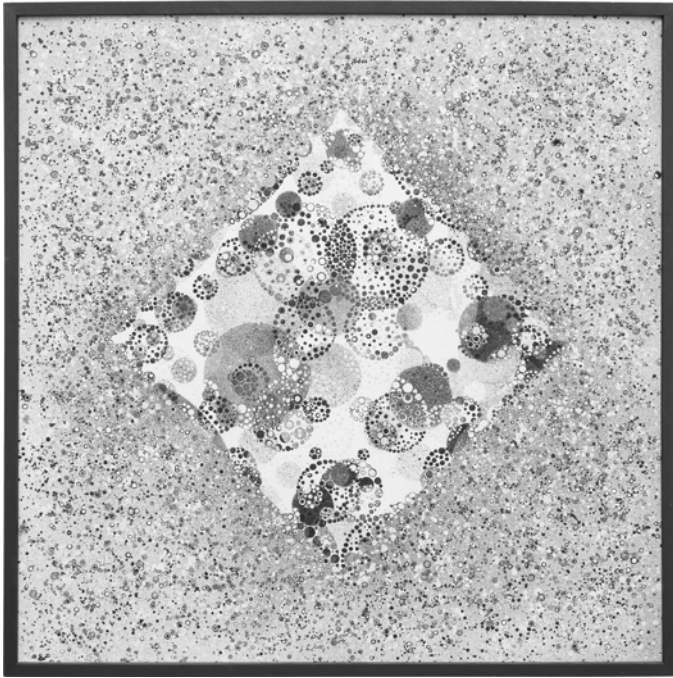
Rather than an expressive statement, her works have "ordering tendencies" that also dominated in the works of the Zero artists.[37] In Bauermeister's case, the combination she decided on is characteristic. That does not usually mean arranging the material into a preestablished pattern that promises a supposed "objectivity" of the artistic design but rather the expressive is integrated in order to form a coexistence in combination with a controlled, preplanned approach. In *Gestalt zu Struktur*, Bauermeister followed neither an Informel idea nor one oriented toward structure but also tried to avoid any dogmatism by incorporating both.

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37   See Pörschmann, *Evakuierung des Chaos* (see note 33), 179. With Zero, "the author's subjective dimension of the author" would give way to "autonomy of the work as the concrete object"; Francesca Pola, "The Image Redefined: Poetics of Zeroing in the European Neo-Avant-Garde," trans. Howard Rodger McLean in *Zero: The International Art Movement of the 50s and 60s*, exh. cat. Berlin, Martin-Gropius-Bau, 2015 (Cologne: Verlag der Buchhandlung Walther König, 2015), 191–99, esp. 195.

Fig. 15: Gestalt zu Struktur (Stencil), 1961, casein tempera on wood, 50 x 50 cm, Mary Bauermeister Art Estate.
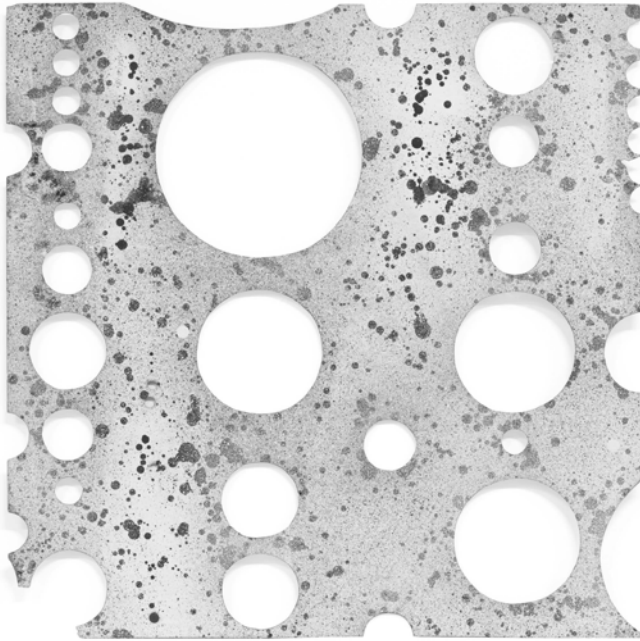
Because of her frequent use of dots, points, and circles in this phase of her oeuvre, Bauermeister has repeatedly been associated with Wassily Kandinsky's theory of art.[38] For Kandinsky, the point is a "a tiny world," which as a perfect "negative el-

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[38]   His publications *Das Geistige in der Kunst* (The Spiritual in Art) and *Punkt und Linie zu Fläche* (Point and Line to Plane) in particular have been cited, the former also in connection with the influence of music on Bauermeister's art; see Kerstin Skrobanek, "'Die Jacke Kunst weiter dehnen': Mary Bauermeisters Aufbruch in den Raum," PhD diss., Frankfurt am Main, 2009, Univ.-Bibliothek 2014, http://publikationen.ub.uni-frankfurt.de/frontdoor/index/ind ex/year/2014/docId/35011 (accessed April 17, 2019), 128–34; Kerstin Skrobanek, "Worlds in a Box: Mary Bauermeister and the Experimental Art of the Sixties," in *Worlds in a Box: Mary Bauermeister and the Experimental Art of the Sixties*, trans. EGLS Judith Rosenthal, Frankfurt am Main, exh. cat. Ludwigshafen am Rhein, Wilhelm-Hack-Museum, 2010–11 (Bielefeld: Kerber, 2010), 65–80, esp. 72–73; Irene Noy, "Art That Does Make Noise? Mary Bauermeister's Early Work and Exhibition with Karlheinz Stockhausen," *immediations: The Courtauld Institute of Art Journal of Postgraduate Research* 3, no. 2 (2013): 25–43, esp., 38; Irene Noy, "Noise in Painting: Mary Bauermeister's Early Practice and Collaboration with Karlheinz Stockhausen," in Noy, *Emergency Noises: Sound Art and Gender*, German Visual Culture 4 (Oxford: Peter Lang, 2017), 127–60, esp., 159–60; Michaela Geboltsberger, "Die 'malerische Konzep-

ement" symbolizes a self-contained satisfaction.[39] Every single point can already be a fully ample unity in itself, and with its shape it participates in the forms of nature, which as "tiny particles in space" is also made up of points.[40] Kandinsky develops a terminology that defines the point as a counterweight to the line. Both are "primordial elements of painting," yet because of its dynamic the line has an inherent temporal aspect that completely escapes the point as a static element.[41] For Kandinsky, the circle is caught in an ambiguous status: it has properties of the point and of the line at once, and as a self-contained form is caught up in a continuous motion. Circles are therefore the "least stable and at the same time stablest plane figure"; in addition, they contain "simplicity" and "complexity" in equal measure.[42] In Kandinsky's work, statements about the elements of painting are mixed with the effort to illustrate the specifics laid out there in his abstract compositions. The viewers are supposed to be able to understand the calmness and the dynamic that participate in time-based, musical phenomena thanks to the extension of color symbolism.[43]

That Bauermeister incorporates natural phenomena into her works is clear not only from her use of the Fibonacci sequence; her Honeycomb Pictures and her use of natural materials should also be interpreted accordingly. It can also be assumed, moreover, that she read Kandinsky's writings early on, probably during her artistic education.[44] Applying it to her painterly construction of point structures, it would mean, first, a superimposition of individual "small worlds," all of which are self-satisfactory. Together they can, as in *Gestalt zu Struktur*, also form a circle; this results in an ambiguity: a dynamic with a simultaneous standstill made up of forms that are ideally small and ideally round and that, according to Kandinsky, promise that time will be largely absent.[45]

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tion' und der Einfluss von Aleatorik im Werk von Mary Bauermeister—im Kontext zu Karlheinz Stockhausens Kompositionstechnik," thesis, Vienna, 2012, esp. 68–71 and 77.

39   Wassily Kandinsky, *Point and Line to Plane* (1926), in Kandinsky, *Complete Writings on Art*, ed. and trans. Kenneth C. Lindsay and Peter Vergo (Boston: G. K. Hall, 1982), 524–699, esp. 538 and 546.

40   Ibid., 554.

41   Ibid., 565 and 573.

42   Ibid., 599 and 666.

43   See Wassily Kandinsky, *On the Spiritual in Art* (1911–12), in Kandinsky, *Complete Writings on Art* (see note 39), 114–219 esp. 159.

44   The book *Über das Geistige in der Kunst* was reissued in 1952 with Max Bill's involvement. Bill is credited as the editor of *Punkt und Linie zu Fläche*; the foreword is signed by him with the details "Zürich und Ulm, Januar 1955"; the foreword was thus written when Bauermeister was still at the Hochschule für Gestaltung. There is also a work by Bauermeister from 1956–57 titled *Linie wird zu Fläche* (Line Becomes Plane), which suggests she was (again) grappling with Kandinsky's theory.

45   Kandinsky, *Point and Line to Plane* (see note 39), 545.

In connection with her use of dots as a dominant element in her painting, Bauermeister herself referred to *The Monadology* by Gottfried Wilhelm Leibniz.[46] For the philosopher, monads are the atoms of nature that are responsible for the composition of all things: each monad must be individual, because in nature there are no two identical things, unless they are subject to continual change.[47] Monads are, however, imperishable entities what Leibniz calls "incorporeal automata"; even if their composition changes, they continue to exist.[48] Much as in Kandinsky, in Leibniz one also detects a metaphysics that relates to natural phenomena. Bauermeister's dot structures can be harmonized with aspects of nature and its atomic (metaphysical) description.

At the same time, however, her works also show that one cannot stop with this interpretation. In the right corner of the white diamond of *Gestalt zu Struktur*, the artist made diverse fine line drawings. They are found outside of the circles composed of dots made with the stencil. The drawings contain circles painted inside one another that suggest they are "wandering into" the diamond from the field outside it. It is an accumulation of nested monads that stand outside the preestablished ordering structure of the stencil. Yet they are meticulously drawn and seem to stand beyond any gesture of Art Informel. This effect becomes even clearer a few centimeters lower: There, between a grayish-white circle of spatters of paint and a circular form, which is composed of white, slightly relief-like dots, delicate and intertwined lines have been drawn. They look as if they wanted to relate the surrounding circular forms to one another. That detail recalls the dissolving circular structures in the *Needless Needles* drawing and the distortions evoked in the act of observing when lenses are employed.[49] Many-valuedness is integrated into the dot and circle forms, which stand between Tachisme and Zero; the multiple layers of viewing that are illustrated simultaneously begin here. Bauermeister was initially interested in pursuing nonrepresentational painting that could be positioned within contemporaneous discourses. Her interest in materials, forms, and natural phenomena as well as the question of their interpretation—to which the monadology she mentioned offers an approach—adds another level. Following that, it is the effort to combine and refine that determines her art: she called a simple repetition without development "academic and anti-creative."[50]

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46   Artist's personal remark to the author in Mary Bauermeister's studio, June 28, 2019.

47   See Gottfried Wilhelm Leibniz, *The Monadology* (1714), in Leibniz, *The Monadology and Other Philosophical Writings*, trans. Robert Latta (Oxford: Clarendon, 1898), 215–71, esp. 217–23.

48   See ibid., 229 and 259.

49   In Bauermeister's workbook of 1961–62, *Gestalt zu Struktur* is dated November 1961; she had been given the lenses several months before in the summer of 1961.

50   See Mary Bauermeister, "The Artist's Say," *Art Voices* 4, no. 3 (Summer 1965): 64–65, esp. 65.

Honeycomb Pictures

The aforementioned Honeycomb Pictures, which represent a separate group of works in Bauermeister's early oeuvre, are another strategy for incorporating natural processes into art. She executed them from late 1957 to 1961 as autonomous works; after that they continued to exist as one technique to be combined with others.[51] The Honeycomb Pictures are predominately monochrome, like most of Bauermeister's works at the beginning of her artistic career. As in her dot-structure paintings, she employed blue, red, and green as well as white; the mixing of several colors occurs only rarely; black does not occur in the Honeycomb Pictures. The colors that Bauermeister used at the time reveal a closeness to the Zero movement and to Constructivism, which she was taught at the academy.[52] The initial material of the Honeycomb Pictures is a particle board worked with modeling compound. The latter is a commercially available product that can be formed in a soft state and then hardened. Bauermeister has appropriated this craft material and applies it in layers to a wooden support in order to create an interwoven structure of honeycombs of different sizes, then the works are painted.

At 50.8 by 50.8 by 6.3 centimeters, *Ohne Titel (Wabenbild)* (Untitled [Honeycomb Picture]) of 1957–58 is one of the largest square Honeycomb Pictures (fig. 16). There are both rectangular and round ones: *Rundes Wabenbild* (Round Honeycomb Picture) of 1960, for example, has a diameter of 75 centimeters and contains, in addition to honeycomb, round or "distorted" relief-like structures (fig. 17).[53] These works are not attempts to spatialize an abstract pictorial color as a kind of relief; rather, the artist is making a natural process visible: a bee colony performs the organized building of honeycombs; their hexagonal form is often found in natural structure because it is highly stable.[54] In contrast to the regularity of the hexagonal form in natural processes, the Honeycomb Pictures reveal several shifts in focus, ranging from changes in size and the nesting of several honeycombs to the breakdown of the honeycomb form. The Honeycomb Pictures are also framed by an ambiguity: more clearly than in Bauermeister's reference to point and circle, not only is the formal language of nature imitated but also the process of creation. The artist applies layer upon layer and associates this with the techniques of monochrome painting. The Fibonacci sequence as well as the use of points or honeycombs refer to phenomena outside of

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51   After the honeycomb technique had occurred only sporadically for decades, Bauermeister completed several new Honeycomb Pictures in 2016.

52   See Pörschmann, *Evakuierung des Chaos* (see note 33), 45–48.

53   Bauermeister also experimented with curved lines and gridlike structures that used materials similar to the Honeycomb Pictures.

54   See Marcus du Sautoy, *Finding Moonshine: A Mathematician's Journey through Symmetry* (London: Fourth Estate, 2008), 10–15.

the artistic and are combined with other elements. Moreover, Bauermeister's honeycombs are not only created artificially but were also integrated into paintings years later as a found material.[55]

Fig. 16: Ohne Titel (Wabenbild), 1957–1958, modeling compound, casein tempera on particle board, 50.8 x 50.8 x 6.3 cm, Michael Rosenfeld Gallery LLC, New York, NY.
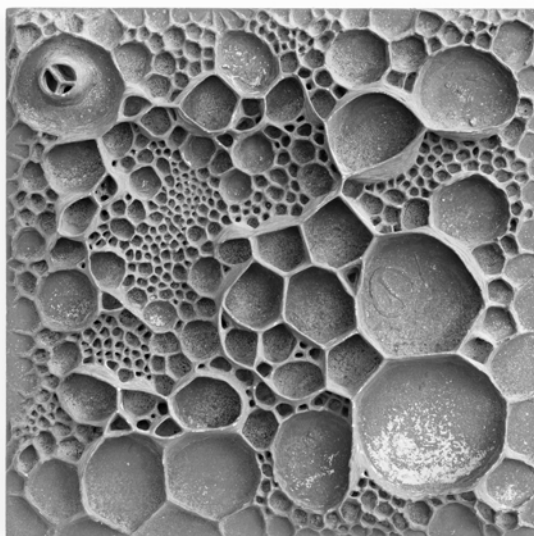

Bauermeister's phase of abstract work, which at times evolved into nonrepresentationalism, continued to be something that could be integrated over the course of her oeuvre—another element of her "radical inclusivity." Moreover, it is an ironic commentary on her own (early) approach that occurred again and again in her works, especially in the system of reflexive commentary of the Lens Boxes. This also occurred in other works, as has already been shown using the example of the *Needless Needles* light sheet; here a drawing of a heart has been labeled "bad": something representational with romantic connotations is rejected—a reflexive reference to her own approach in her early work.

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55   For a more detailed interpretation of the honeycomb as a natural element and its application to compositions, see section 4.1.

Fig. 17: Rundes Wabenbild, 1960, modeling compound, casein tempera on particle board, 75 cm (diameter), Museum Ludwig, Köln/Cologne (ML 10364).
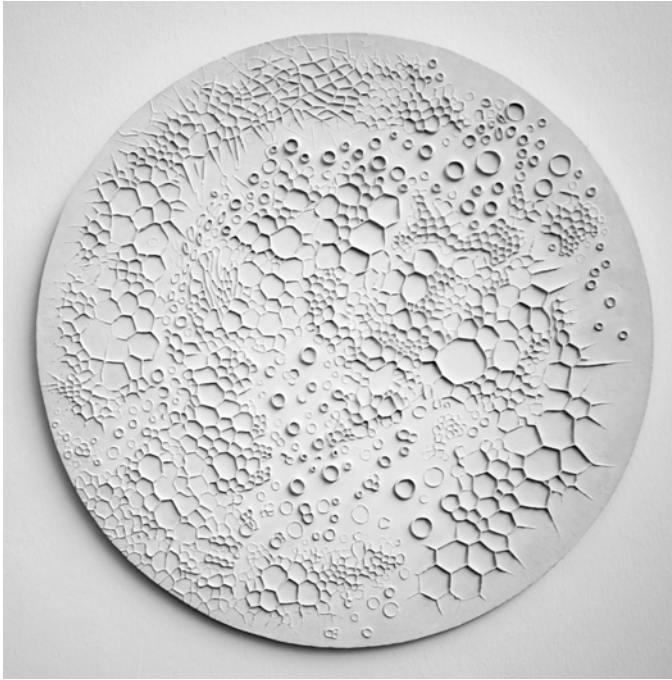
3.3 Musical Parameters

The compositional techniques of dodecaphony, so-called "twelve-tone music," and their extension into the total serialism of New Music were integrated by Bauermeister into her visual art. That should not be understood to mean that she intended to convert writing or series of numbers into music or, conversely, the writing of music into a diagrammatic form.[56] Rather, she appropriated forms of musical composi-

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56   See Birgit Mersmann, "Schriftikonik: Musikalische Notation und Diagrammatik in den Schreibarbeiten von Hanne Darboven und Jorinde Voigt," in *Musik und Schrift: Interdisziplinäre Perspektiven auf musikalische Notationen*, ed. Carolin Ratzinger, Nikolaus Urbanek, and Sophie Zehetmayer (Paderborn: Wilhelm Fink, 2020), 107–33. Mersmann clarifies these two strategies using the artists Hanne Darboven and Jorinde Voigt as examples; Darboven's tendency to form rows and to work with serial patterns of signs can be mostly easily associated with Bauermeister; ibid., 130.

tion as an (additional) element in order to create works. In addition, Bauermeister incorporated the basic attitude of total serial music:

> "Serial music results from a worldview that assumes continuous courses between extreme poles and makes the gradual mediation between them its constructive tool. Seen in this way, the color white represents a gradation of black and vice versa."[57]

In addition to mediation, it was also the attempt to treat individual entities equally and to reveal the translation of musical parameters. Of a whole series of works in her early phase, the Magnet Pictures and *Malerische Konzeption* (Painterly Conception) represent this effort.[58]

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57   Elena Ungeheuer, "Schriftbildlichkeit als operatives Potential in Musik," in *Schriftbildlichkeit: Wahrnehmbarkeit, Materialität und Operativität von Notationen*, ed. Eva Cancik-Kirschbaum, Sybille Krämer, and Rainer Totzke (Berlin: Akademie, 2012), 167–82, esp. 171.

58   In the 1960s musical references were incorporated into her works again and again: written notes or instructions from scores especially from graphic notation can be found in her Writing Drawings and Lens Boxes. In addition, there are works in which music is decidedly a primary reference, such as the joint work *Notenbaum* (Note Tree) 1963–64 with Karlheinz Stockhausen, into which an excerpt from a score by the composer is integrated. There are also two Lens Boxes with the title *Music Box* of 1965 and 1966–68 and a Lens Boxes called *This Has Nothing to Do with Music* of 1969. The scholarly literature on musical references in Bauermeister's work is the most extensive of all, which results not only from her many references to musical terminology or structures but also from her connection to Karlheinz Stockhausen; Paul V. Miller, "Mary Bauermeister and Karlheinz Stockhausen: A Collaboration in Sound and Space," in *Mary Bauermeister: The New York Decade*, exh. cat. (Northampton, MA: Smith College Museum of Art, 2014), 87–97; on the aforementioned distinguishing or mutual influence, see Noy, Siano, and Skrobanek. *Malerische Konzeption* and Stockhausen's terminology is contextualized in Geboltsberger, "Die 'malerische Konzeption' und der Einfluss von Aleatorik" (see note 38), 25–31. The influence of Stockhausen should recede into the background here, since concentrating on points of contact between her famous partner and later husband do not do justice to the works. As already shown, a large number of levels are united in Bauermeister's art. The exhibition *Vom Klang der Bilder: Die Musik in der Kunst des 20. Jahrhunderts* at the Staatsgalerie Galerie Stuttgart included two works that were categorized under the heading "Bildpartituren – graphische Musik" (Visual Scores—Graphic Music): *Music Box* of 1965 and a work on canvas using the point technique from 1961 with titled (with a term from musical terminology *Kontrapunkte* (Counterpoints); Karin von Maur, ed., *Vom Klang der Bilder: Die Musik in der Kunst des 20. Jahrhunderts*, exh. cat. Stuttgart, Staatsgalerie, 1985 (Munich: Prestel, 1985), 306.

Magnet Pictures

Bauermeister produced a total of four Magnet Pictures in the years 1958 and 1959. The first is *Magnetbild Schwarz-Weiss* (Magnet Picture Black-and-White); like every Magnet Picture, it has a square ground of 75 by 75 centimeters and is executed in Bauermeister's point technique (fig. 18).[59] The makeup of the Magnet Pictures is also identical; they consist of four wooden boards—two square ones of different size and two rectangular ones of equal size. The "magnet" of the title refers to the magnets on the back of the four particle boards that provide a magnetic ground for the wooden elements. Viewers thus have in principle the opportunity to take down one of the four boards, rotate it ninety degrees, and reinsert it in the picture, changing the composition. This is possible in all directions with all four boards; moreover, the positions of the boards can be switched, resulting in a large number of possible appearances (figs. 19 and 20).

They were determined by Bauermeister in sketches and calculations, emphasizing the serial aspect and revealing the inherent potential of the Magnet Pictures: the *Möglichkeiten Serieller Malerei* (Possibilities of Serial Painting) portfolio consists of thirty-four A4 sheets with sketches shown all the possibilities for changing the composition; the nineteen sheets of *Flächenvariation* (Planar Variation) are A5 format and contain series of numbers arranged vertically that run through all the variations. Both portfolios were created by Bauermeister in 1959, that is, after the first Magnet Picture.[60] Accordingly, they are no preparatory sketches or a theoretical conceptualization that are applied to a work but rather a retroactive attempt to use notation to document one's own composition in order to get an overview of the possibilities that result from changes of equal validity.

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59   The other Magnet Pictures are: *Magnetbild Rot, Magnetbild Blau-Lila, Magnetbild Grün*, so also named after their colors.

60   See Frederik Schikowski, "Interview mit Mary Bauermeister: 'Was macht es mit euch, wenn ihr was ändert?'," in *Spielobjekte: Die Kunst der Möglichkeiten*, exh. cat. Basel, Museum Tinguely, 2014 (Heidelberg: Kehrer, 2014), 34–43, esp. 37.

Fig. 18: Magnetbild Schwarz-Weiß, 1958, casein tempera, magnets on wood on magnetical surface, 75 x 75 cm, Museum Ludwig, Köln/Cologne (ML 10363).
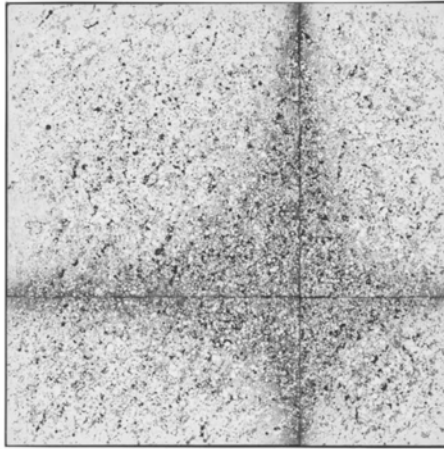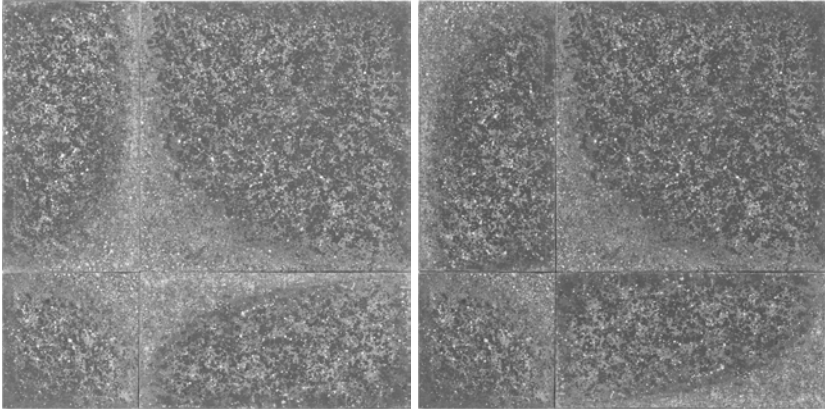

Fig. 19: Magnetbild Blau-Lila, 1959, casein tempera, magnets on wood on magnetical surface, 75 x 75 cm, Mary Bauermeister Art Estate.

Fig. 20: Magnetbild Blau-Lila (Variation), 1959, casein tempera, magnets on wood on magnetical surface, 75 x 75 cm, Mary Bauermeister Art Estate.

Bauermeister began making compositions dynamic with the aforementioned hinge painting *Ohne Titel* of 1958, which makes two ways of presenting it possible, if one counts the intermediate steps as merely a transition. With *Magnetbild Schwarz-Weiss*, the possible variations were expanded: the first two pages of *Möglichkeiten Serieller Malerei* describe the structure of the Magnet Pictures and determine how the

course of the point pattern results (figs. 21 and 22).[61] The following pages are strewn with sketches; each one shows a new variation of the Magnet Picture. The four elements of the picture are numbered and are rotated ninety degrees one after the other. It is always indicated which of the four image elements remains in which position and how the others are rotated. When it comes to a composition that overlaps with a previous one, Bauermeister drew the sketch anyway and then crossed it out. The sheets thus show all 256 variations that result when the small square picture element is in the lower right field. Now the arrangement of the boards can be switched, opening up even more variations (1,024 in all). It is also possible to hang the Magnet Pictures in a diamond shape, as other sketches by Bauermeister show. So a large number of possible compositional appearances are compressed in one picture; moreover, the Magnet Pictures are an early example of explicitly integrating viewers, since the changes to the work are supposed to be introduced by their intervention.[62]

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61   The pattern is a quarter-circle expanded to the size of a semicircle, so that with a particular orientation of the four magnet boards a closed circle results. On the second page of *Möglichkeiten Serieller Malerei* this is also adopted as the initial composition for the variation. Bauermeister's archive has a ten-page carbon copy from an attorney who was hired to patent this pictorial structure; in this document the composition is described in detail in a legal tone. The patent application was never submitted, but this shows how much Bauermeister's thinking of the late 1950s was dominated by the spirit of the avant-garde inventor, of creating something "new" and at the same time a fear of becoming the victim of epigones. The title *Möglichkeiten Serieller Malerei* was employed again by Bauermeister in 1960 for a four-part painting consisting of oblong elements that can be rearranged; only one of those four parts survived.

62   The Magnet Pictures were at least originally constructed in a way that viewers were allowed to try out new compositions; with the Magnet Picture in the Museum Ludwig in Cologne and that in the Staatliches Museum in Schwerin, this is not permitted for conservation reasons. For a study of the multiplicity of the image that is potentially inherent in any work of art, see David Ganz and Felix Thürlemann, "Zur Einführung: Singular und Plural der Bilder," in *Das Bild im Plural: Mehrteilige Bildformen zwischen Mittelalter und Gegenwart*, ed. David Ganz and Felix Thürlemann (Berlin: Reimer, 2010), 7–39.

Fig. 21: Möglichkeiten Serieller Malerei (Sheet 1), 1959, pencil, ink on paper, 29.7 x 21 cm, altogether 34 sheets, Museum Ludwig, Köln/Cologne, acquisition made possible by Initiative Perlensucher, permanent loan by Gesellschaft für Moderne Kunst am Museum Ludwig Köln e.V. 2019 (Dep. ML/Z 2019/026/01-34).
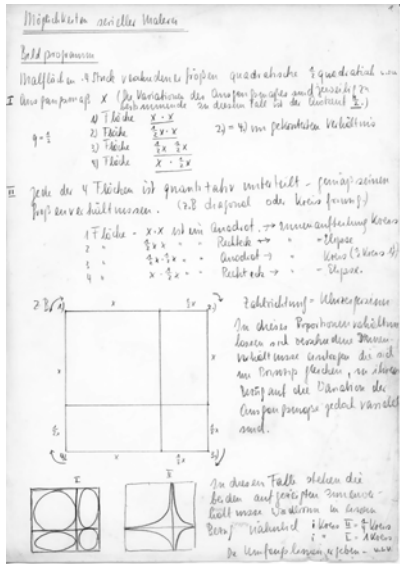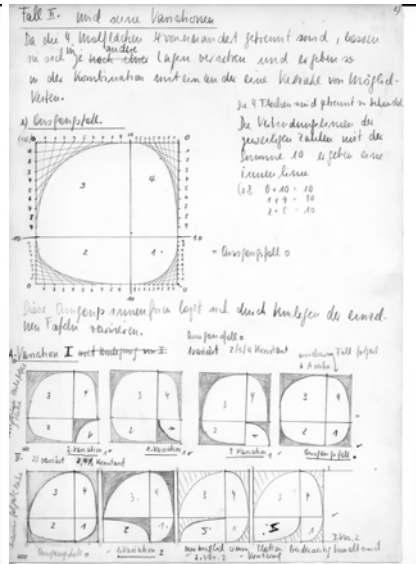
Fig. 22: Möglichkeiten Serieller Malerei (Sheet 2), 1959, pencil, ink on paper, 29.7 x 21 cm, altogether 34 sheets, Museum Ludwig, Köln/Cologne, acquisition made possible by Initiative Perlensucher, permanent loan by Gesellschaft für Moderne Kunst am Museum Ludwig Köln e.V. 2019 (Dep. ML/Z 2019/026/01-34).

The sheets of the *Flächenvariation* consist entirely of rows of numbers; only the first two pages have sketches that clarify the structure of the Magnet Pictures and the system of rows (fig. 23). The sequence "2V1/3V2," for example, says that the first board is rotated ninety degrees twice and the second ninety degrees three times; thus it indicates a specific composition. As she did with the sketches, Bauermeister later crossed out the compositional doublings.[63]

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63   We address here only a few aspects of the Magnet Pictures that are important for Bauermeister's procedure in the rest of her oeuvre; for a more detailed examination of the Magnet Pictures and especially of the structure of the two portfolios of sketches, see Hauke Ohls, "Mary Bauermeister und die Möglichkeit serieller Malerei," in *Mary Bauermeister: Die 1950er Jahre* (see note 26), 33–46.

Fig. 23: Flächenvariation (Sheet 7), 1959, pencil on paper, 22 x 17 cm, alto-gether 19 sheets, Mary Bauermeister Art Estate.
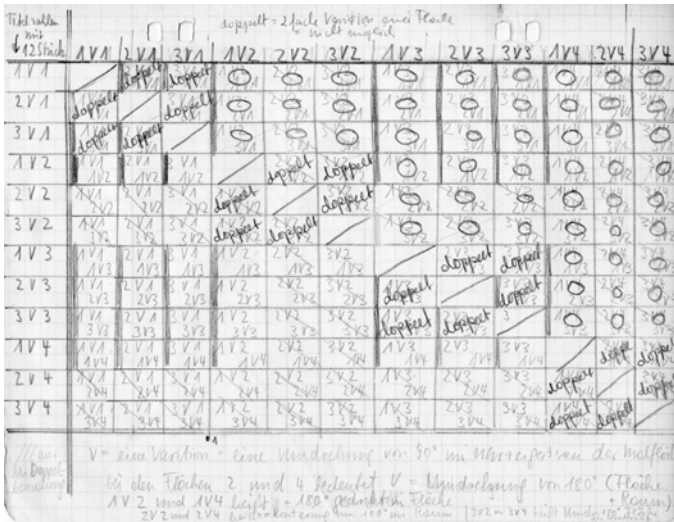
The Magnet Pictures thus participate in dodecaphony with their four picture elements that can be turned with equal validity. In this compositional technique, developed by Arnold Schönberg and taken substantially further by Anton Webern, the pitches are no longer arranged according to motifs or themes but in rows.[64] An element in a musical composition is employed unhierarchically. Bauermeister became familiar with twelve-tone music via the radio; after World War II the medium was controlled by the Allied occupation forces and used for "reeducation."[65] Thinking in rows has a metaphorical correspondence in the four wooden boards: each of the possible appearances of the work has an equivalent status, like the individual tones in musical compositions that have been released from the structuring model of thirds, fourths, fifths, and tonics. Thanks to the design of the point structure, the Magnet Pictures have two "harmonious" initial positions, both of which are also used in the sketches: first, the closed circular form and the structure in which the corners meet with the four semicircles. Painterly means are used to attempt to transfer a musical

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64   See Ungeheuer, "Schriftbildlichkeit als operatives Potential" (see note 57), 172. On the development of modern music, its compositional techniques, and its schools, see Alex Ross, *The Rest Is Noise: Listening to the Twentieth Century* (New York: Farrar, Straus and Giroux, 2007), esp. 33–73, 355–410, and 444–72.

65   Andreas Hagelüken, "Eine originäre Kunst für das Radio," in *Sound Studies: Traditionen, Methoden, Desiderat; Eine Einführung*, ed. Holger Schulze (Bielefeld: transcript, 2008), 29–55, esp. 39–40. Bauermeister has also said that there was also sheet music of Schönberg and other composers of the Second Vienna School in her parents' home.

principle to a picture, but in the face of the Magnet Pictures a medium-specific "remnant" is left behind: the equality of pitches and the equality of pictorial composition cannot be completely harmonized. This recalls Theodor W. Adorno's description of relations between music and painting: "The moment one art imitates another, it becomes more distant from it by repudiating the constraint of its own material."[66] For him the arts "converge" only where each one remains in its principle.[67] To an extent, Bauermeister seems to follow that idea, in that she pursues no syncretism of musical and painterly phenomena but rather adopts a compositional principle from music and applies it to her works. In the Magnet Pictures, only one composition can ever be seen at a time, while all the others are inscribed based on the structure of the works and systematically recorded by the sketches.

The mutual reference of music and visual art, which is framed in an extensive, reciprocal discourse, seems to play no overarching role for Bauermeister; it is rather an aspect that is adopted into the combination principle.[68] The very title *Möglichkeiten Serieller Malerei* already makes Bauermeister's reference to music clear. Nevertheless, it need not be seen as a rapprochement with electroacoustic (serial) music, since in the Magnet Pictures only one parameter was treated as equal, which is equivalent to twelve-tone music. The term "serial" was still used for Schönberg's compositional technique until the end of the 1940s and can be observed in the Magnet Picture and in the sketches or rather in the series of numbers that serve as a starting point.[69]

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66   Theodor W. Adorno, "On Some Relations between Music and Painting," trans. Susan Gillespie, *Musical Quarterly* 79, no. 1 (Spring 1995), 66–79, esp. 67.

67   Ibid. In his essay Adorno appears to be uncertain how to evaluate the relation of music and painting, since convergence can, in his view, also lead to "crass infantilism." He is indebted to the idea that the "natural" differences in the arts should not be undermined by the "unraveling" he describes; ibid., 76–78.

68   The determination of time and space, respectively, is an obvious difference between a painting and a piece of music. For insights into the complex connections between the two professions of music and visual art and their hybridizations, see Hans Emons, *Komplizenschaften: Zur Beziehung zwischen Musik und Kunst in der amerikanischen Moderne*, 2nd. ed. (Berlin: Frank & Timme, 2017); Hajo Düchting and Jörg Jewanski, *Musik und Bildende Kunst im 20. Jahrhundert: Begegnungen, Berührungen, Beeinflussunge*n (Kassel: Kassel University Press, 2009); and even exhibitions such as *A House Full of Music: Strategies in Music and Art*, ed. Ralf Beil and Peter Kraut, exh. cat. Darmstadt, Institut Mathildenhöhe 2012 (Ostfildern: Hatje Cantz, 2012) and *Sound of Art: Musik in der bildenden Kunst*, exh. cat. (Salzburg: Museum der Moderne, 2008).

69   See Mark Delaere, "Auf der Suche nach serieller Stimmigkeit: Goeyvaerts' Weg zur Komposition Nr. 2 (1951)," in *Kontexte: Beiträge zur zeitgenössischen Musik*, ed. Orm Finnendahl, vol. 01, *Die Anfänge der seriellen Musik* (Hofheim: Wolke, 1999), 13–35, esp. 16. Serial structures were also important to the Zero movement as a way of create new pictorial inventions beyond Art Informel; see Pörschmann, *Evakuierung des Chaos* (see note 33), 103.

Painterly Conception

The three pages of *Malerische Konzeption* contain only a few sketches; it consists overwhelmingly of numbers and text that have been arranged in rows and columns (fig. 24).[70] This work was created in 1961 in a composition course taught by Karlheinz Stockhausen at the Darmstädter Ferientage für Neue Musik (Darmstadt Summer Course for New Music). The typewritten explanations at the beginning of Bauermeister's manuscript were added retrospectively.[71] In contrast to the Magnet Pictures, *Malerische Konzeption* explicitly refers to the total-serial compositional techniques of New Music, which apply thinking in multidimensional to musical parameters: not only is pitch employed without hierarchy but also duration, articulation, dynamics, frequency, and timbre are placed in mathematically calculated rows in order to exclude subject influence for the most part. Serial composition of electroacoustic music recedes behind "generative logic" that is a "complex conceptualization."[72] Another difference from the Magnet Pictures is that *Malerische Konzeption* is a completely written plan without any visual realization, as if only the two paper portfolios had been created with sketches and rows of numbers and not the four Magnet Pictures.

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70   As with the Magnet Pictures, I address here only several aspects of *Malerische Konzeption*. For insights into the structure, the individual parameters, and the "events" that are to be described by them, see Hauke Ohls, "The 'Malerische Konzeption': A Conceptual Tool of Cognizance," trans. Simon Stockhausen, in *Mary Bauermeister: Signs, Words, Universes*, exh. cat. Bergisch Gladbach, Kunstmuseum Villa Zanders, 2017–18 (Dortmund: Kettler, 2017), 77–83.

71   The reproduction was prepared for the catalog of the exhibition at the Stedelijk Museum in 1962. Presumably Bauermeister had written on A4 paper in very small handwriting.

72   See Elena Ungeheuer, "Ist Klang das Medium von Musik? Zur Medialität und Unmittelbarkeit von Klang in Musik," in *Sound Studies* (see note 65), 57–76, esp. 67. Serial techniques led to an "intellectualization and mathematization of musical parameters"; Hagelüken, "Eine originäre Kunst für das Radio" (see note 65), 43.

*Fig. 24: Malerische Konzeption (Sheet 2), 1961, ink on paper, 40.6 x
29.6 cm, altogether 3 sheets, Exhibition Files Stockhausen/Bauermeister,
Stedelijk Museum, Amsterdam, 1962 (2006.5.0149).*

It must be said that there is probably no way to perform *Malerische Konzeption*: it
defines eleven parameters in the left column that are refined on the next two pages.[73]
For example, the parameter "time" refers to the "duration of the performance," that is
to say, the time Bauermeister takes producing a work. It is defined on a scale of "1–5,"

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73   The parameters include frequency, intensity, volume, time, material, number, proportion,
     quality, organics, movement. The formulations of the parameters contain duplicates, some
     of which contradict themselves. That alone shows that *Malerische Konzeption* cannot be im-
     plemented literally.

which Bauermeister called "potentials": "1" is "the least time," which is defined on the second page as "found material" and "approximately 0 hours"; "5" is "very slow"; the specification on the second page indicates "circa 1797 hours." The goal of *Malerische Konzeption* is to create works of art that are always composed of the eleven parameters, each of which has to be assigned one of the gradations "1–5"; the result should on principle total 36. The gradations of parameters are distributed in such a way that every "event," as Bauermeister called the works in the plan, arrive at the same number of points; everything else can be combined freely. With regards to a realization, however, several problems are immediately evident; for example, the technique to be used is not specified on the first page. If Bauermeister's Point Structures, Honeycomb Pictures, or Lens Boxes are stipulated, then for every technique there would be a potential of 11^5 or 161,051 works; moreover, several parameters cannot be implemented; new chemical bonds would have to be synthesized for them—for example, in order to realize gradations of "reaction to temperature" in the parameter "material."

With *Malerische Konzeption*, it is less about physically creating a new work than about the possibility of combining predefined parameters on a conceptual level: Bauermeister initially wanted to apply "parameter analyses and the serial composition technique" to "optical composition."[74] In keeping with the context of the making of *Malerische Konzeption*, strict serialism is more clearly evident in it than in the Magnet Pictures. The degrees of gradation between the parameters also reveal the mediation between extremes that constitutes the serial "worldview."[75] If we attempt to understand the individual parameters and their gradations in order to connect them in a way that their sum is 36, it reveals the number of possible combinations that results from the structure of *Malerische Konzeption*. This is, however, merely an (extreme) example Bauermeister's strategy of connection individual elements in order to use the potential of links. *Malerische Konzeption* cannot be regarded as the endpoint of the development of the combination principle; Bauermeister's oeuvre does not have one, and the works always participate in this fundamental strategy in a specific way. Her effort to approximate serial compositional technique let to a written notation whose (anticipated) results are not bound to the laws of time and space.

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74   These two brief quotations are from the typewritten text on the work, which is signed "Mary Bauermeister." *Malerische Konzeption* is categorized as conceptual art in Ohls, Die 'Malerische Konzeption'" (see note 70), 77–83.

75   See Ungeheuer, "Ist Klang das Medium von Musik?" (see note 72), 67.

Notationality

The "events" described in *Malerische Konzeption* must be distinguished from the material basis of the plan that produces them: It is written with ink on paper and contains letters that form sentences, numbers that form rows, and small sketches. The individual elements are arranged in a structured way that makes it possible to read them horizontally and vertically.[76] Both *Malerische Konzeption* and the two portfolios on the Magnet Pictures can be viewed in the context of score and notation.[77] They participate in the revolutions in the area of musical notation that led to the emergence of graphic notation of music: Over the course of the 1950s an "aesthetic autonomy" of the notation over the performance developed.[78] Liz Kotz sees John Cage as the crucial initiator of this development, out of his experiments with chance operations and writing them down and out of his teaching activities evolved methods of notation such as the "word piece" and the "event score."[79] Artists such as George Brecht, Yoko Ono, and La Monte Young formulated instructions that were at once a call to action, poetic material, and autonomous work of art. These instructions are laden with potential for open meaning, which requires that the performer actively complete it. By transferring the principle of musical notation as instructions for ac-

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76   The theme of notational iconicity in Bauermeister's oeuvre will be examined in greater detail in section 5.1; the material marginalization of writing and number will also be challenged in the process.

77   The word "score" stands here for the fixed result and "notation" for the method of achieving it. Because both terms have been admitted into a field of fixed rules, in order to achieve general readability Christian Grüny proposed using the English term "score" in German specifically for "language-based notation"; Christian Grüny, "Scores: Notationen zwischen Aufbruch und Normalisierung," in *Musik und Schrift* (see note 56), 135–58, esp. 136–37. One only employs the English word "scores" in German in connection with proper names if there is a connection to artist works. The more neutral term "musical graphics" seems open enough to apply it to many experiments and is therefore primarily used here. Karlheinz Stockhausen also emphasized the emancipation of musical graphics from performance in a lecture in which the *Schriftbild* (notation) takes on its own aesthetic quality; Karlheinz Stockhausen, "Musik und Graphik," in Stockhausen, *Texte zur elektronischen und instrumentalen Musik*, vol. 1, *Aufsätze, 1952–1962, zur Theorie des Komponierens*, ed. Dieter Schnebel (Cologne: DuMont, 1963), 176–188.

78   See Liz Kotz, *Words to Be Looked At: Language in 1960s Art* (Cambridge, MA: MIT Press, 2010), 48.

79   See ibid., 59–65. Experimental extensions of notations can also be found in the work of Earle Brown, Sylvano Bussotti, Christian Wolff and compositions of electroacoustic music. Matteo Nanni refers to a development since the 1960s with a "profound dovetailing of the auditory and the iconic" as well as the "performative and written"; Matteo Nanni, "'Quia scribi non possunt': Gedanken zur Schrift des Ephemeren," in *Die Schrift des Ephemeren: Konzepte musikalischer Notation*, ed. Matteo Nanni (Basel: Schwabe, 2015), 7–14, esp. 11.

tion, the way the time structures are recorded in the works also changes; they are no longer indicated in strictly rhythmic units of measure.[80]

On the one hand, Bauermeister participated in these experimental extensions to liberate the score from its subordinate, ancillary function and grant it contingency and autarchy. On the other hand, she did not take the step of directly addressing the audience members who are necessary as one crucial level. Both *Möglichkeiten Serieller Malerei* and *Flächenvariation* are retroactive notations that record the use of a principle of musical composition. With reference to Nelson Goodman, both these portfolios can be said to be closer to a notational system than they may at first seem. For Goodman, anything can be a score that has fixed characters and complaints: which is crucial is that a score identifies a particular work from performance to performance.[81] If the performance differs from a note set in the score, their connection breaks down, so that it must be considered a different work; accordingly, he calls Cage's way of writing down a piece an "autograph diagram," since its semantic openness cannot be transferred to any "work"; what happens is rather "copies *after* and performances *after* that unique object."[82] In this view, the two writings on the Magnet Pictures are (retroactive) scores in Goodman's sense, since the visual possibility of distributing the four boards is laid out in them. Here an expanded concept of the score comes in that can no longer be reduced to the writing down of notes and a temporal sequence of sounds. A temporal aspect is inscribed in the fixed composition of a Magnet Picture, since it no longer has the opportunity to adopt other appearances but these are already formulated in the sketches and rows of numbers. The viewers' own responsibility is limited to the point at which the four boards are switched: Bauermeister systematically described only the situation in which the smallest wooden board is in the bottom right corner. Notationality identifies 256 possibilities; the other variations are possible if the viewers do more themselves; nevertheless, they stand outside the score.

For Goodman, many aspects in a score always remain unexecuted; precise prescriptions are impossible as well—except when using numbers.[83] *Flächenvariation* demonstrates not only Bauermeister's interest in an approach with numbers, as the calculations on the constructive works and the use of the Fibonacci sequence have already shown, but by means of its concentration on the formation of rows a more explicit effort to get closer to the compositional technique of twelve-tone music.

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80   See Gabriele Brandstetter, "Schriftbilder des Tanzes: Zwischen Notation, Diagramm und Ornament," in *Schriftbildlichkeit* (see note 57), 61–77, esp. 61; Kotz 2010 (see note 262), 71.

81   Nelson Goodman, *Languages of Art: An Approach to a Theory of Symbols* (Indianapolis, IN: Hackett, 1976), 177–84.

82   Ibid., 190.

83   See ibid., 190–91.

For mathematics, the "unambiguous and uncontradictory definition" is essential.[84] It is a structure that does not permit any "causalities," "explanations," and "interpretations," since otherwise they would fall outside of the self-referential system.[85] Bauermeister sometimes uses a form of recording whose nature is impossible for the performers to interpret themselves. In the case of the Magnet Pictures, the two portfolios *Möglichkeiten Serieller Malerei* and *Flächenvariation* are autonomous and yet stand in a notational connection to the Magnet Pictures. Produced as a retrospective reflection, the resulting two works are on a part with the Magnet Pictures.

In the case of *Malerische Konzeption*, the situation is different. There is neither a realized equivalent nor the possibility to create one. This work, too, is only peripherally connected with contemporaneous trends of easily performable instructions in notational style. It has an aesthetic autonomy in written form and can be considered an autonomous work of art. It would perhaps even be conceivable to perform individual parts but not incorporating all of the parameters and their refinements. The sketchbook has a note: "Darmstadt project can be performed like this." The associated sketch and the descriptions, however, show a nested work of a variety of Bauermeister's techniques that are supposed to enter into structure relationships on a microlevel (fig. 25).[86] The sketched work was never realized; this page from sketchbook shows, however, that for Bauermeister the emphasis in *Malerische Konzeption* was on the possibility of combining and networking individual techniques. It also shows the impossibility of performing it is inherent in the work, since even the sketch for a realization does not implement the parameters or the potential of 36.

Malerische Konzeption can best be interpreted as a work that draws inspiration from techniques for composing music in order to create a work of visual art. Its appearance is close to that of graphic music, but its content refers to painting.[87] The aforementioned instructions in the *Needless Needles* drawing can also be understood in that context: They also derive from the world of graphic music, and Bauermeister also applied them in earlier works. Faithful execution is no more intended in *Needless Needles* than in *Malerische Konzeption*; it is rather the reference to a technique

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84   Dieter Mersch, "Die Geburt der Mathematik aus der Struktur der Schrift," in *Schrift: Kulturtechnik zwischen Auge, Hand und Maschine*, ed. Gernot Grube, Werner Kogge, and Sybille Krämer (Munich: Wilhelm Fink, 2005), 211–33, esp. 215.

85   Ibid., 217.

86   See Bauermeister, "Skizzenbuch/Quaderno" (see note 1), 11–12.

87   In the context of graphic music Elena Ungeheuer also speaks of "realization scores" that recall "circuit diagrams" Ungeheuer, "Schriftbildlichkeit als operatives Potential" (see note 57), 174. Skrobanek calls *Malerische Konzeption* a "score for painters"; Skrobanek, "Die Jacke Kunst weiter dehnen" (see note 38), 34–35. Geboltsberger calls the work a "score for fine artists"; Geboltsberger, "Die 'malerische Konzeption' und der Einfluss von Aleatorik" (see note 38), 4.

originally used to compose music as an element to make it possible to create a drawing. Notation is one parameter of the combination principle that Bauermeister used alone for works in her early phase and later incorporated as just one aspect.

Fig. 25: Skizzenbuch/Quaderno, 1961–1963, unpublished source, paginated by the artist, p. 11.
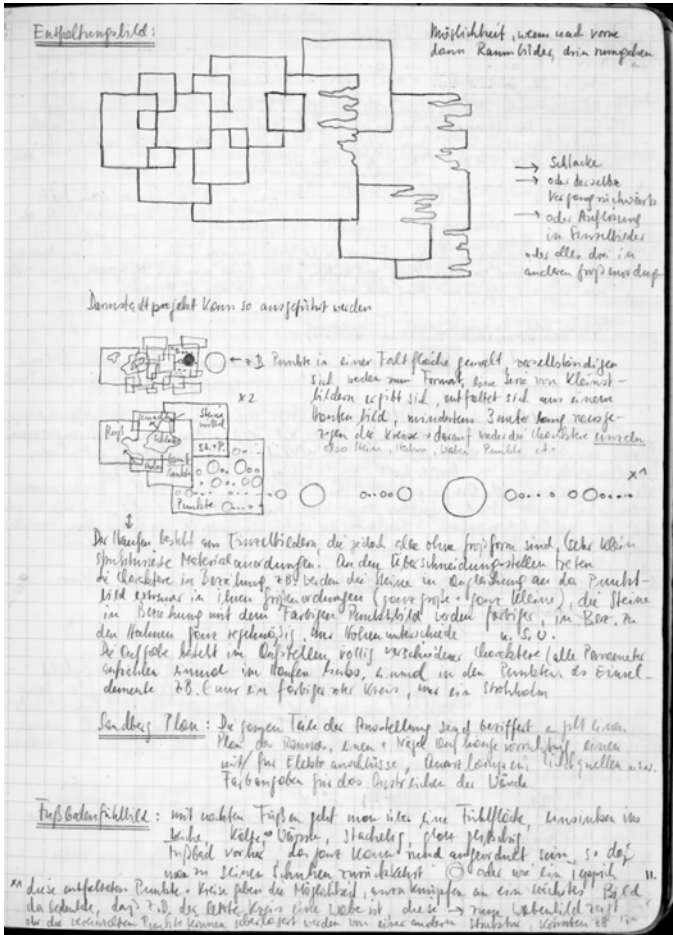
Beyond Fluxus

Describing Bauermeister as an explicitly interdisciplinary artist, and especially the idea that she belonged to the Fluxus movement, derives from a misunderstanding based on the events in her studio at Lintgasse 28 in Cologne from 1960 to 1962.[88] In her studio in those years there were exhibitions, concerts, performances, and actions with international and interdisciplinary participation. The artists documented were, among others, Nam June Paik, John Cage, David Tudor, Morton Feldmann, Carolyn Brown, La Monte Young, Merce Cunningham, Mauricio Kagel, George Brecht, Sylvano Bussotti, Cornelius Cardew, Benjamin Patterson, Pyla Patterson, Otto Piene, and Almir Mavignier.[89] These intermedia performances before an audience included, for example, Paik's *Hommage à John Cage* from June 16 to 18, 1960, and *Originale*, a work of musical theater, also grew out of these events. The latter was a joint production by Bauermeister and Karlheinz Stockhausen and was performed from October 26 to November 6, 1961, at the Theater am Dom in Cologne.[90] Both the actions and performances and the contact to Fluxus have led to Bauermeister being described as part of that international artists' movement or at least her work being contextualized in similar categories.[91] One can only agree here with Wulf Herzogenrath's assessment: on the one hand, he emphasizes the "performance possibilities" that Bauermeister made possible for "that which was

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88   In January 1960 Bauermeister moved into an attic apartment in Cologne's old town belonging to the architect Peter Neufert; she paid her rent with works of art.

89   For profound insight into the individual events at the studio on Lintgasse, including a chronology and historical categorizations, see *intermedial, kontrovers, experimentell: Das Atelier Mary Bauermeister in Köln, 1960–62*, ed. Historisches Archiv der Stadt Köln (Cologne: Emons, 1993). Despite the widespread rumor, Joseph Beuys was never in Bauermeister's studio.

90   See Wilfried Dörstel, "Situation, Moment, Labyr, Fluxus; oder, Das verbrannte Original: Das Musiktheater 'Originale' von Karlheinz Stockhausen," in ibid., 186–205. Stockhausen is listed in the program as "composer" and Bauermeister as "painter," among the performers is Nam June Paik, who is announced as presenting "Actions."

91   In newspaper articles, interviews, and exhibition announcements since the 1990s, Bauermeister has been described as a Fluxus artist; before that she was considered a sculptor. She is not usually included in survey exhibitions of the Fluxus movement; cf. *Fluxus at 50*, exh. cat. Wiesbaden, Museum Wiesbaden, 2012 (Bielefeld: Kerber, 2012). Wulf Herzogenrath used the more general expression "performances" for the events in Bauermeister's studio, and he observes that they created the "art metropolis of Cologne" in the first place; Wulf Herzogenrath, "The Birth of the Art Metropolis Cologne in 1960 in the Studio of Mary Bauermeister," in *Worlds in a Box* (see note 38), 145–48.

later called Fluxus or Neo-Dada"; on the other hand, he describes Bauermeister's own artistic work independently of those art movements.[92]

As an organizer Bauermeister was in contact with George Maciunas, a decisive Fluxus spokesman; a concert under Maciunas's aegis was planned in her Cologne studio but never came to pass. In his often extremely polemical manifestos Maciunas writes, among other things, of rejecting aspects of professionalism of art and its commercialization that he hoped would achieve a living, universal understanding:

> "The 'anti-art' forms are directed primarily against art as a profession, against the artificial separation of a performer from [the] audience, or creator or spectator, of life and art; it is against the artificial forms or patterns or methods of art itself."[93]

Strategies associated with Fluxus such as collective authorship, the marginalization of the (art) object to the point of its dissolution, a reduction that is based on everyday actions and simple gestures or that makes a social utopia of participation possible, while blurring the lines between "art and life," are all inapplicable to Bauermeister's oeuvre.[94] She incorporates quotidian materials as a means of composition but does not use that to critique the uniqueness of the concept of art.

Bauermeister has remained a visual artist. She appropriates elements from other disciplines, for example, from music, literature, and philosophy, but transfers them into the context of her own profession. In doing so she certainly pursues an "integrative concept" when creating her works of art and according challenges categories of media and disciplines.[95] The individual elements do not, however, synthesize into a new understanding of unity beyond the supposed dichotomies of

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92   See Wulf Herzogenrath, "1960: Mary Bauermeister," in *Deutschland: Globalgeschichte einer Nation*, ed. Andreas Fahrmeir (Munich: C. H. Beck, 2020), 710–14, esp. 712.

93   George Maciunas, "Neo-Dada in Music, Theater, Poetry, Art" (1962), in *Art in Theory, 1900–2000: An Anthology of Changing Ideas*, ed. Charles Harrison and Paul Wood (Oxford: Blackwell, 2003, 727–29, esp. 729.

94   See Dorothee Richter, *Fluxus: Kunst gleich Leben? Mythen um Autorschaft, Produktion, Geschlecht und Gemeinschaft* (Ludwigsburg: On Curating Publishing, 2012), 15–93. Bauermeister is mentioned here as one of the early meeting places, but her work is not addressed; ibid., 75–76.

95   See Joachim Paech, "Intermedialität: Mediales Differenzial und transformative Figuration," in *Intermedialität: Theorie und Praxis eines interdisziplinären Forschungsgebiets*, ed. Jörg Helbig (Berlin: Erich Schmidt, 1998), 14–30, esp. 17. The description of an explicit intermediality does not seem appropriate either, since here "a large number of these reciprocal effects between apparatuses of dispersal, processes of symbolizing, codes of communication, and physical media" would be necessary to operate from an "in-between space" that itself encourages a media development; Michael Manfé and Josef Paier, "Facetten der Intermedialität: Eine mediologische Annäherung," in *MedienJournal Intermedialität: Positionen und Facetten* 31, no. 4 (2007): 5–16, esp. 6–10.

art and life. Even the Lens Boxes should still be analyzed in the line of tradition of painting and sculpture. Concerning the use of elements from musical composition such as notation, the difference between Bauermeister's strategies and those of the Fluxus movement are even clearer: the brief instructions of Brecht, Ono, and Young are easily implemented and a challenge to the performers. *Malerische Konzeption* is a complex condensation of interwoven parameters whose implementation is unrealistic and was not the artist's focus.

3.4 (Many-Valued) Combinations

One example of a cumulation of the combination principle is the *Sand Stein Kugel Gruppe* (Stand Stone Sphere Group) of 1962 (fig. 26). It was conceived as a nine-part work but only seven of its parts are presented today. The original conception is found in Bauermeister's sketchbook from that period, in which the work is still called *Sandbildgruppe* (Sand Picture Group).[96] The arrangement of all its elements is variable, or at least that was Bauermeister's original intention; its current form of presentation took shape after just a few years.[97]

Against the backdrop of the combination principle, the combining of materials and techniques and their arrangement on the parts of the picture are significant. The elements open up a perspective on Bauermeister's previous working methods and how they are combined: the point structures occur repeatedly, for example, in ordered black and white points on a square section at top right or as points, circles, and wooden spheres on the left element of the picture. On the main picture, one sees several round cutouts of various sizes made with the technique Bauermeister

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96   See Bauermeister, "Skizzenbuch/Quaderno" (see note 1), 34–36. Each of the nine parts is written on individually. The sketches with the originally intended arrangement show that only five of the planned parts have survived or been executed. The two smaller objects, which today hang on the right, were not planned initially. It is no longer possible to reconstruct whether Bauermeister did not execute all nine parts, some were lost, or in the process of realizing the plan she had already decided on two different elements. The section of the picture described as I.8 at least exists as a work but has not remained in the *Sand Stein Kugel Gruppe*. Exhibition photographs from 1962 show that the work was presented in seven-parts; the accompanying exhibition catalog illustrates the nine parts planned in the sketchbook; to do so, the two missing elements were graphically cut our of other works, reworked, and inserted; see *mary bauermeister (schilderijen) & karlheinz stockhausen (electronische muziek)*, exh. cat. Amsterdam, Stedelijk Museum, 1962.

97   The work *Sand Stein Kugel Gruppe*, the placement of its separate parts, and the connections to Stockhausen are a focus in Skrobanek's dissertation; see especially the interview with Bauermeister on the work; see Skrobanek, "Die Jacke Kunst weiter dehnen" (see note 38), 186–90 and 219–20.

applied in *Konstruktiver Tachismus*, among other works: that is, a deliberate introduction of a phase in her work that was already over at that time. The honeycomb technique is also found again in the section above the main picture; relief-like structures were formed here with Bauermeister's modeling compound.

Fig. 26: Sand Stein Kugel Gruppe, 1962, modeling compound, casein tempera, stones, ink, sand, wooden sphere, glass sphere, natural objects on canvas and wood, 218.4 x 261 x 9.5 cm, Michael Rosenfeld Gallery LLC, New York, NY.

The thinking in rows that defines the composition techniques of dodecaphony and total serial music and the Fibonacci sequence are contained in the long section on the left. In her sketchbook she describes very precisely the structure, numbers, and proportions (fig. 27).[98] The strip is divided into eight numbered sections; the numbers are first placed in an arbitrary series (6, 1, 5, 3, 2, 4, 7, 8). Then each number was assigned a value from the Fibonacci sequence. The lowest number has the highest value in the series, and it indicates in centimeters how wide the section should be. Accordingly, the number 6 has the Fibonacci value 5 centimeters; 1 is 55.1 centimeters; 5 is 8.5 centimeters, and 3 is 21.3 centimeters. The number after the comma indicates the number of rows; it also corresponds to the number of wooden spheres inserted in that section. That is not always strictly followed, for example, the first

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98   See Bauermeister, "Skizzenbuch/Quaderno" (see note 1), 36.

section (6) contains six spheres, but the value indicated is just 5 and not 5.6.[99] The next row formation is the height of the spheres and their diameter; both are also recorded in writing and drawing; here Bauermeister is striving for the multidimensional thinking in rows of total serial music. It becomes an extension of the "simple" assignment of numbers and a value from the Fibonacci sequence that indicate centimeters and number of spheres, and twelve-tone music can still be seen as a point of reference. Deviations from the exact construction of rows, which can already be observed in the distribution of the planes, appear to be a break that Bauermeister employs consciously. Occasional variations are built into it to keep from falling too much into a codified dogmatism. Moreover, the compositional appearance is just as important as the approach in the artistic process—conceptions are always implemented with the visual result in mind.

Fig. 27: Skizzenbuch/Quaderno, 1961–1963, unpublished source, paginated by the artist, p. 36.
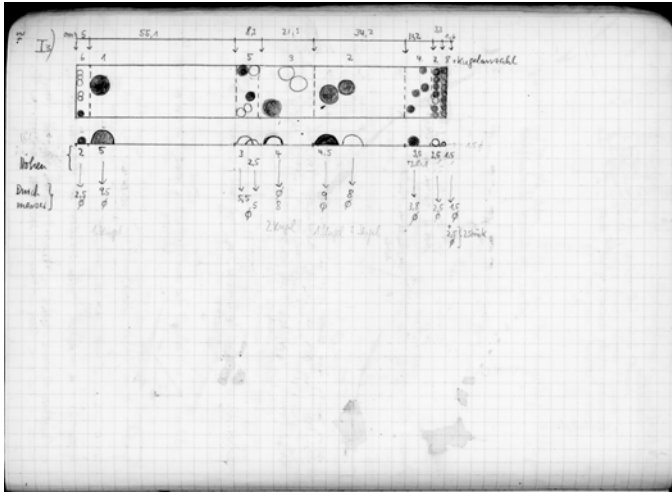
Bauermeister chose sand as the material in all the sections of the painting; it is a material that she uses in the 1960s much as she used pastel in the 1950s: to create monochrome planes, structured transitions, and isolated, abstract patterns. The element composed of stones is the first employed exclusively for a self-contained

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99   In the Fibonacci values, drops the one and the two that in fact belong to the sequence; moreover, the pendant to 4, which according to the system suggested should actually be 13,4, is listed as 11,2. The reason for this is not clear; it shows, moreover, that Bauermeister deliberately integrated deviations.

section. Later she will produce numerous pure stone pictures; previously the small stones were simply one material for compositions that Bauermeister used in 1960 and 1961. The *Sand Stein Kugel Gruppe* is thus not only a bringing together of the combination principles but also a transition to a new group of works.

Chance and Indeterminacy

Additional elements employed by Bauermeister using the combination principle concern chance and indeterminacy. Both concepts had a strong influence on the circle of artists who met in Bauermeister's studio. Accepting methodic change in the creation of art is not possible according to Hans Ulrich Reck; there are at best "strategies of outwitting" that can increase "potentialities" and "contingencies."[100] Chance or incorporating aleatoric elements into a composition merely says that certain results of a process cannot be completely anticipated.[101] This methodical use of chance processes is found often in details of Bauermeister's oeuvre. She did not create a complete artistic work by means of a predetermined process that participates in the creation of chance. The chance is integrated, for example, when it occurs during artistic activity: spilled paint, dripping glue, or stains are not removed but integrated into the composition and often also commented out, pointing out their chance origin. In addition, the lenses have an inherent potential for chance: although they were composed by Bauermeister and repeatedly compared in the process of creating the work, not all eventualities about what the cutouts will look like in the composition can be determined in advance. Especially where there are several layers of glass in the Lens Boxes influencing one another, the viewers are constantly changing their focus in the act of reception.

The term "indeterminacy" was initially adopted by Bauermeister from John Cage, especially from his lecture at the Darmstädter Ferientage für Neue Musik in 1958.[102] In it Cage analyzes musical compositions of his own and by others, differentiating which aspects cannot be spoken of as indeterminacy and to which extent they suit his views of the terms: "Indeterminacy when present in the making of an object [...] is a sign not of identification with no matter what eventuality but simply of carelessness with regard to the outcome."[103]

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100   See Hans Ulrich Reck, "Aleatorik in der bildenden Kunst," in *Die Künste des Zufalls*, ed. Peter Gendolla and Thomas Kamphusmann (Frankfurt am Main: Suhrkamp, 1999), 158–95, esp. 184–91.

101   See ibid., 166; see also Holger Schulze, *Das aleatorische Spiel: Erkundung und Anwendung der nichtintentionalen Werkgenese im 20. Jahrhundert* (Munich: Wilhelm Fink, 2000), 26–36.

102   The section "Indeterminacy" was the second part of the three-part lecture "Composition as Process"; John Cage, "Composition as Process. II. Indeterminacy" (1958), in Cage, *Silence: Lectures and Writings* (Middletown: CT: Wesleyan University Press, 2011), 35–40.

103   Ibid., 38.

It is not permitted to alter the result at the end of an indeterminate process. When performing a composition that works with indeterminacy, a singular event therefore results.[104] In the prologue we already cited Paik's statement that Bauermeister managed to introduce indeterminacy into the medium of painting; in the same text he continues that Cage, Jean-Paul Sartre, and Werner Heisenberg each did so in his own profession: "Imagine the niche carved for Mary in art history."[105] Paik does not identify any specific examples of indeterminacy in his text; before that statement he refers to several "experiments" by Bauermeister, such as the so-called Phosphorous Pictures, works created using Bauermeister's point technique. The paint is replaced by a phosphorous material, which under ultraviolet light first reacts by changing color, stores energy, and then remains fluorescent for an unpredictable time (fig. 28). The process of the composition slowly faded can be considered indeterminate—even though that is just one aspect of these works.

The *Sand Stein Kugel Gruppe* suggests indeterminacy because it is possible to choose freely the arrangement of the individual parts of the painting. Although it is possible to put the elements in a different arrangement Bauermeister drew on position in the sketch, which has since changed only minimally. *Malerische Konzeption* seems to work more comprehensively with indeterminacy. The individual parameters are precisely specified as are the possibilities of combination and the potential of 36, but the (visual) "event," as it is called in the plan, is not crucial. The focus is rather on the concept of bringing several steps together; it is not the fault of indeterminacy that they cannot be exactly implemented but it is part of the spectrum of the concept. To a lesser extent the Magnet Pictures can also be considered in this way. The composition is not predetermined by their structure, at least not within a certain frame. The two documents on the Magnet Pictures undermine this effect in turn: because the compositions for a distribution of the picture areas can be described exactly, indeterminacy is removed from this starting position.

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104   See ibid., 39. On distinguishing chance and indeterminacy in Cage's oeuvre, see Barbara Nierhoff-Wielk, "'A purposeful purposelessness': Zufall in der Kunst von John Cage," in *"John Cage und …": Bildender Künstler; Einflüsse, Anregungen*, ed. Wulf Herzogenrath and Barbara Nierhoff-Wielk, exh. cat. Berlin, Akademie der Künste, 2012; Salzburg, Museum der Moderne, 2012 (Cologne: DuMont, 2012), 254–70.

105   Nam June Paik and Mary Bauermeister, *Letters Mary Bauermeister*, ed. Sang Ae Park (Yongin: Nam June Paik Art Center, 2015), 162.

Fig. 28: Rotglühend, 1961, fluorescent color on canvas, 200 x 50 cm, Mary Bauermeister Art Estate.

That indeterminacy on microlevels can be found continuously in Bauermeister's oeuvre from around 1960 onward is probably not due exclusively to Cage's influence. The artist herself referred to a book by the German physician Viktor von Weizsäcker on biological views of time and form.[106] For him indeterminacy is a "rule-based uncertainty" of nature.[107] Something not predetermined and chance together form a "methodological indeterminacy," which must be introduced as the normal case: "As long as an event lies ahead, it is undetermined; once it has happened, then it is determined."[108] Rules can only be derived in retrospect, when an event has already occurred. That an event of whatever sort will occur is already expected; its occurrence methodologically anticipated. Von Weizsäcker's descriptions also combine a view of chance that is used as a void without it ever being possible to be completely random with Cage's understanding of indeterminacy, which is focused more on the process than the result.

The mediations of materials that Bauermeister conducted in her sketchbook could be described as indeterminant, but they are never carried out in such strictness. In Bauermeister's work, the theoretical concept is always distinct from the result, since the process of execution contains its own dynamic. In her works the distinction of chance and indeterminacy is not fully possible, because von Weizsäcker forges links between the two concepts. It is, however, possible to distinguish a (chance) mishap while working that Bauermeister then incorporated into the work from a conscious (indeterminant) gesture or conception of the work that completely accepts the visual result. Against this horizon, the placing of wooden and glass spheres in the main picture of the *Sand Stein Kugel Gruppe* can be indeterminant or chance: depending on whether Bauermeister let them roll on the canvas and then glued them were they stopped or they fell and obtained their positioning that way.

(Many-Valued) Combination Principle

If several of Bauermeister's forms of expression are traced back to their origin, where they usually occur alone, it becomes clear that they usually determined an entire group of works for a brief time. Thereafter the transition goes into the arsenal

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106 See Viktor von Weizsäcker, *Gestalt und Zeit* (1942; Göttingen: Vandenhoeck & Ruprecht, 1960). A publication by a German physician in 1942 calls for general concern about his relationship to National Socialism and the party. Although Weizsäcker was close to National Socialism and subject to the rehabilitation process after the war, scholars have not been able to identify any "race-based" argumentation in his book; see Cora Penselin, "Bemerkungen zu den Vorwürfen, Viktor von Weizsäcker sei in die nationalsozialistische Vernichtungspolitik verstrickt gewesen," in *Anthropologische Medizin und Sozialmedizin im Werk Viktor von Weizsäckers*, ed. Udo Benzenhöfer (Frankfurt am Main: Peter Lang, 1994), 123–37.

107 See Weizsäcker, *Gestalt und Zeit* (see note 106), 21.

108 Ibid., 22–23 and 25.

of possibilities that can result in a work. In the combination principle, then, various techniques and materials can be employed for a work on equal footing.

A large number of examples can be cited to clarify this course: The works *Flächen Gefaltet* (Planes Folded) of 1962 and *Sandwaben* (Sand Honeycombs) of 1963 both combine the point technique, the use of stones as a compositional means, line drawings, and the honeycomb technique; in addition, the monochrome properties of sand are used. *Flächen Gefaltet* also includes cut straws and an insect shell on the surface of the picture (fig. 29). The two sections that hang down into the exhibition space undermine the standardized form a two-dimensional support, on the one hand, and encourage changing the conventionalized reception of art, on the other, since the form adapts to one corner of the floor.[109]

Integration of 1964 and the Lens Boxes *Four Quart-er-s* of 1965 already represent an extension of the combination principle, since many-valued logic is already integrated in them. In their details both works also clarify the difference that results from the development of the many-valued aesthetic. *Integration* not only combines different techniques but also takes up other works and integrates them as well: on the surface of the painting round cutouts of reproductions of the works *Rechts Draussen* (Outside on the Right), *Ordnungsschichten* (Ordering Layers), *Felder und Zentren* (Fields and Centers), *Sandhalme* (Sand Straws), and *Progressions* have been inserted. These works created between 1961 and 1963 are worked into the group so that in some places they fuse. The delicate lines and point structures of *Ordnungsschichten* are continued outside the reproduction on the support of *Integration* or complete a drawn quarter wooden sphere into a hemisphere, as if the older work were a cast shadow within the newer one.

Not only are reproductions of her own works inserted but old techniques are also imitated. In the section consisting of straws glued on there are round open areas that Bauermeister has painted in her early style suggestive of Tachisme. They contrast with the inserted reproductions and accurately drawn circles, some of which are beginning to break up. The earlier technique seems like a foreign body in the new work and clarifies evolution and connectedness: the painting style should be imagined as the foundation in the works that follow as well, but it is no longer combined with other techniques in a homogenous-looking composition but rather contrasts in a juxtaposition. It is, moreover, an aspect of many-valuedness; not only are older, already executed works contained in the works now being executed and hence visualized at the same time, but the general painting style, which cannot be assigned to a specific work of art she has produced, is also reflected in it. The reproductions of the stone picture *Progressions* can also be interpreted similarly; the photographed material stone is inserted into a conglomerate of drawn and real stones. The three

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109   In the first exhibition in which *Flächen Gefaltet* shown, at the Stedelijk Museum in Amsterdam in 1962, it was presented in this way.

forms of visualization offer different perspectives on an element that is held by identity of reflection in a position of metaphysical suspense. They are different facets of one material that can, according to the many-valued aesthetic, also by changed by the object itself.

Fig. 29: Flächen Gefaltet, 1962, plastic straws, casein tempera, sand, graphite, beetle, ink, stones on wood, 123 x 106 x 37 cm, Mary Bauermeister Art Estate.
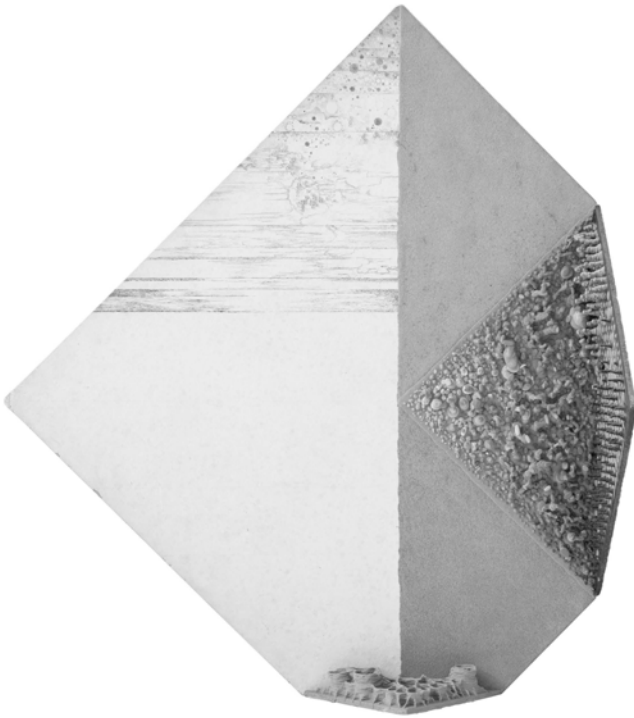
In *Four Quart-er-s*, processes can be identified that point in a comparable direction (fig. 30): The background of the Lens Boxes contains not only a reproduction of *Ordnungsschichten* but also diverse cutouts from the *Needless Needles* light sheet. This networking of works is supplemented by round areas of the black-and-white (Tachiste) point technique of the 1950s. This special section in the point technique should not be thought of in the horizon of the combination principle, since Bauermeister strives for a homogeneous composition in all works based on the combination principle—for example, in *Sandwaben* the techniques are adjusted to one an-

other and not deliberately contrasted. *Four Quart-er-s* still participates in the idea of bringing together individual elements in a combination, but many-valued logic is added in the execution. The (metaphysical) extension of the visual has become more important than a (homogeneous) reuniting of techniques.

Fig. 30: Four Quart-er-s, 1965, ink, offset print, glass, glass lens, wooden sphere and painted wood construction, 76.2 x 76.2 x 12.7 cm, Collection Albright-Knox Art Gallery, Buffalo, New York; Gift of Seymour H. Knox, Jr., 1968 (K1968:15).

Both works—*Integration* and *Four Quart-er-s*—have parts designed by indeterminacy, as Bauermeister understod the concept following Cage and von Weizsäcker. In an open area the artist made uncontrolled strokes. She then worked the interwoven and interrupted lines into the composition by drawing small points and circles that connect the lines or turns several round structures into faces. This methodic chance and spontaneous gesture, which are indeterminant with regard to the result, are thus redesigned as a determinant event in a retrospective process.

The transition from designing the work using the combination principle to many-valued aesthetics is formulated in a lecture on contemporary art that Bauer-

meister gave in the summer of 1962 in Jyväskylä, Finland.[110] The text was written in German and was translated by an interpreter; to illustrate it Bauermeister showed around eighty slides of her own works and of works by other artists.[111]

The lecture also reveals aspects of Bauermeister's conception of art: in her view, artists of the first half of the twentieth century prepared the ground with "abstraction, reduction, destruction, simplification" for her and her contemporaries to "take these achievements as an obvious point of departure"; today the focus should be on "complexity, differentiation, diversity of relationships."[112] Bauermeister speaks in this context of "combinations" or "attempts to link" as being essential and explains this using the example of the *Sand Stein Kugel Gruppe*. The "combining" or "linking" of "elements" always leads to ever-different "optical forms," whereby "style" can be avoided. Bauermeister mentions here Bense's "information theory" as well as its essential concepts of "pattern, model, and schema"[113]: "In every process that produces art there is a physically determined repertoire of material elements (such as colors, sounds, syllables, tones, and such means in general) that is selectively creatively converted into a medium of aesthetic states by means of a code of semantic determination that is capable of communication."[114]

Every statement by Bense seems to be appropriate for a specific point in time in Bauermeister's career—but in a specific understanding of it. The artist did not refer to Bense's semiotic understanding in her works and statements but instead to the concept of the "repertoire" and how its "manipulated distribution" could make an extension of aesthetics possible.[115] As with Günther, she appropriated and in part reinterpreted his theoretical statements. Bense tries to describe the process of artistic production: For him, "the *infinite schema* of probability distribution," which he also calls the "repertoire," has to be "converted into an innovative, original order in the aesthetic, artistic process."[116] Initially, there is a "chaogenetic" disorder in the as-

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110   This lecture is preserved in the archive and consists of six handwritten pages; Mary Bauermeister, lecture on contemporary art, Jyväskylä, Finland, summer 1962, unpublished source, pp. 1–6.

111   The selection shows that Bauermeister was very well informed about the field of contemporary art. She discusses only male artists; by Bauermeister's own account, it was difficult to get illustrations from female artists. The eighteen artists are all from North America or Europe and, although many of them were still at the beginning of their careers then, they have all entered the art historical "canon." None of the artists treated were ever present in Bauermeister's studio on Lintgasse and were at that time, if at all, at best superficially known to Bauermeister personally. Her friendships with Jasper Johns and Robert Rauschenberg, for example, began only after moving to New York.

112   See ibid., 1. All of the quotations that follow are from the lecture, pp. 1–2.

113   See ibid.

114   Bense, *Einführung in die informationstheoretische Ästhetik* (see note 15), 289.

115   See Bense, *kleine abstrakte ästhetik* (see note 22), 422–23.

116   Bense, *Einführung in die informationstheoretische Ästhetik* (see note 15), 270–71.

sembled repertoire; using the "creation schema," this is then brought into aesthetic states that Bense describes as "states of order."[117] Bauermeister's appropriations of these descriptions contributed substantially to the combination principle: Whereas Bense strives to find a formula to describe works of art and the process of their creation that is as universally valid as possible, Bauermeister took parts of his discussions, with which she was clearly familiar, and reinterpreted them for her concerns: "Points, strokes, text are for me elements that I utilize; whether to use found, natural, or artificial material is decided anew for each composition."[118]

Toward the end of the lecture Bauermeister then formulates the transition to many-valuedness and its interpretation. Works of art are not tied to "natural consequences": "What interests me is showing several solutions that in reality contradict each other and stand side by side in the painting more or less peacefully."[119] Then she speaks of the "dualism of Aristotelian logic," of which she explains that "if something is not x, it cannot be not x at the same time," and this view is no longer "valid."[120]

The combination principle is applied not only within one work of art but can even include entire spaces and also art by others; this becomes clear in Bauermeister's first institutional solo exhibition at the Stedelijk Museum in Amsterdam. The museum's director at that time, Jan Willem Sandberg, invited her for the summer of 1962, and they came up with the idea of supplementing the presentation with compositions of electroacoustic music conducted by Stockhausen.[121] In her sketchbook Bauermeister planned a spatial concept intended to bring her works together into a combination with the music as an additional level that would be played back throughout the duration of the exhibition: the individual works of art have, according to Bauermeister, an "area of radiating out and one of radiating in," by which she means that a point picture and a straw picture can be seen together in spatial proximity, so that even if each one consist of just one technique, it is nevertheless possible to bring them into a connection of combination.[122] The combination takes on in this case a temporary dimension, since the individual works of art, the great majority of

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117   Ibid., 289–91.

118   Bauermeister, lecture in 1962 (see note 110), 5.

119   Ibid.

120   Ibid., 6.

121   Jan Willem Sandberg became aware of Bauermeister when the German music critic Dirk Leutscher gave him a copy of *Malerische Konzeption*, and he then contacted Bauermeister. The exhibition at the Stedelijk Museum in Amsterdam went on a tour that took it to the Stedelijk van Abbemuseum in Eindhoven, the Stedelijk Museum Schiedam, and the Groninger Museum from 1962 to 1963. The composers whose works were performed included, among others, Stockhausen, Henri Pousseur, Mauricio Kagel, Luciano Berio, György Ligeti, and Bruno Maderna; *mary bauermeister (schilderijen) & karlheinz stockhausen (electronische muziek)* (see note 96), n.p.

122   On the spatial concept for the exhibition, see Bauermeister, "Skizzenbuch/Quaderno, 1961–1963" (see note 1), 23–27 and 47–48. Bauermeister had also planned to paint the floor

which were produced using the combination principle, are related to one another for the duration of the exhibition and expanded by means of the aesthetic products of others—various pieces of music: the entire exhibition space can thus be understood as the result of a combination.

The catalog for the traveling exhibition includes a Dutch translation of a text by Stockhausen on Bauermeister's works; in it he analyzes her works of visual art using terminology for music.[123] Stockhausen describes the radical equality of forms and elements in Bauermeister's art and relates it to his own compositional approach. That several works of art pointedly refer to techniques of musical composition has already been described; beyond that, however, there are a large number of influences that were all introduced into a system of combination and networking; merely using the parameter thinking of serial music would be too simple. The techniques, styles, and materials preferred by Bauermeister and several multimedia or transdisciplinary approaches were also applied singly in the 1950s, sometimes over an extended period of time, and entire groups of works resulted in that way.

After 1962, the combination principle did not disappear but fed into the composition as one part. Many-valued logic cannot, however, be seen as another part of the combination principle; rather, it causes a completely new category to emerge, one that is influenced above all by previously developed techniques and is described there as her many-valued aesthetics. From this point forward, Bauermeister was concerned with depicting a reality based outside of the logical principles of Aristotle and no longer with bringing together forms of artistic expression in ever-new combinations.

The materials used are of particular importance; this becomes especially clear from the fact that the mediations on materials are the only application of the combination principle that is laid out completely in her sketchbook. This is joined by her employment of a wide range of materials, including traditional artistic ones and those foreign to art. The relevant works, which combine synthetic and natural materials to create their horizon of meaning, were produced in the years after 1961. Works such as *Flächen Gefaltet* and the *Sand Stein Kugel Gruppe* are the earliest examples. These dimensions in Bauermeister's oeuvre still build on the combination principle and are at the same time another aspect of many-valued aesthetics.

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so that the footprints of the viewers would create a connection between the paintings in the room, but this was never realized.

123   In the exhibition catalog, this text was titled "nieuwe formen" (new forms); it was published in German in Velte, "Mary Bauermeister: Das Werk" (see note 26), V–XIV, esp. IX–XI. Its final sentence—"Bilder, die keinen Lärm machen" (Pictures that make no noise)—is challenged by Noy; see Noy, "Art That Does Make Noise?" (see note 38).

4. Material and Materiality
Dimensions of Combination and Many-Valuedness in Bauermeister's Aesthetic of Materials

The materials employed by Bauermeister broadened considerably in her early work. She was constantly adding new components to her repertoire and would then begin to relate them to one another in her art. That development occurred in parallel with a refinement of the combination principle and at times fused with it. Bauermeister's process of producing new connections is already defined as central to her work in an essay from 1972: "The variability of the material points to the fact that the process of relating is central; anything may serve as a starting point."[1] In addition, however, the materials used have an autonomous dimension, since a semantics that is specific to each is inscribed in them by their making, their origin, or the place where they were found, the (original and varying) way of using them or the place they were traditionally employed, their appearance and haptics, and their contextualization with other materials. This has a continuing level that goes beyond combining in order to create ever-new works. Accordingly, an "approach that does justice" to the specific materials but also to their interaction with one another is crucial.[2]

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1   Géza Perneczky, "It Is Perhaps Not Coincidental …," in *Mary Bauermeister*, exh. cat. (Milan: Galleria Schwarz, 1972), 2–14, esp. 10.

2   See Dietmar Rübel, "Abfall: Materialien einer Archäologie des Konsums; oder, Kunst vom Rest der Welt," *Material in Kunst und Alltag*, ed. Dietmar Rübel and Monika Wagner, Hamburger Forschungen zur Kunstgeschichte 1 (Berlin: Akademie, 2002), 119–38, esp. 120. The German term used here, *materialgerecht*, "doing justice to the materials," is understood to mean that the materials of works of art receive attention and are not simply marginalized in an ancillary function relative to the form or idea. It should not be confused with the discourse on *Materialgerechtigkeit*, or "truth to materials," a theme of the late nineteenth century, whether materials should only be permitted to be employed according to their own inherent and specific properties; see Dietmar Rübel, Monika Wagner, and Vera Wolff, eds., *Materialästhetik: Quellentexte zu Kunst, Design und Architektur* (Berlin: Reimer, 2005), 95–96 and 143–44. Study of the horizon of meaning of materials in works of art began rather late in the discipline of art history. Günter Bandmann provided essential impetus for the German-speaking world with two essays: Günter Bandmann, "Bemerkungen zu einer Ikonologie des Materials," *Städel-Jahrbuch* 2 (1969): 5–100, and Bandmann, "Der Wandel der Materialbewertung

In the early years of her oeuvre Bauermeister determinedly employed traditional artistic materials. Her early period is characterized above all by pastel on deckle-edge paper, occasionally interspersed with the aforementioned experiments with chemicals from processes for developing photographs or transparent films while studying in Saarbrücken. There is also a three-part work from this period in which nonrepresentational, expressive structures are applied in black poster paint to panes of glass; around 1956 or 1957 it is an unusual extension of the support in Bauermeister's oeuvre: from 1963 onward, glass then becomes an omnipresent material in the Lens Boxes. Pastel on deckle-edge paper is joined by casein tempera on canvas or wood in 1958. In this same period she added a craft material not intended for artistic use in the form of a modeling compound. This modeling compound was the first example of a material that Bauermeister employed for several years that is not one of the traditional materials for art, such as oil and tempera paints, wood, canvas, stone, and bronze.[3]

It will be followed by many other materials that are "foreign to art," such as plastic straws from 1960; found objects from 1961; flotsam and jetsam, sand, stones, beetles, honeycomb, and wasps' nests from 1962; found linen sheets, electric light sources, and tree trimmings from 1963; mushrooms, plant fibers, and seeds from 1964. In the years thereafter the majority of these materials will be used by Bauermeister again and again. New materials are added to her repertoire when they are necessary to realize a specific group of works—like (old) studio materials for the *Studio Fetish* series of 1967–71, for example—and then usually reappear in other works as well for a time. There are also materials that are found only in a single work; for example, the object *Memento Mori, Momento Mary* of 1969–71 has two human skulls and one an-

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in der Kunsttheorie des 19. Jahrhunderts," in *Beiträge zur Theorie der Künste im 19. Jahrhundert*, ed. Helmut Koopmann and Josef Adolf Schmoll gen. Eisenwerth, vol. 1 (Frankfurt am Main: Klostermann, 1971), 129–57. In 1975 Wolfgang Kemp was still speaking of the material as an "unsolved problem of art history"; Wolfgang Kemp, "Material in der bildenden Kunst: Zu einem ungelösten Problem der Kunstgeschichte," *Prisma: Zeitschrift der Gesamthochschule Kassel*, no. 9 (December 1975): 25–34. Beginning in the 1990s, there was systematic engagement with the semantic levels of materials in works of art; it was initiated by treatises by Thomas Raff and Monika Wagner; the latter also initiated the Archiv zur Erforschung der Materialikonographie (Archive on Material Iconography Research), from which emerged in turn referential texts on working with the material aspects of art. For a first attempt to examine the materials employed by Bauermeister, but without considering the level of many-valued aesthetics, see Hauke Ohls, "'Steine, Lumpen und Kamelköttel …': Zur Materialästhetik von Mary Bauermeister um 1960," in *Mary Bauermeister: Da Capo; Werke aus 60 Jahren*, exh. cat. (Koblenz: Mittelrhein-Museum, 2015), 27–39.

3   See Monika Wagner, *Das Material in der Kunst: Eine andere Geschichte der Moderne*, 2nd ed. (Munich: C. H. Beck, 2013), 11 and 170–71.

imal one.[4] The use of materials that originate outside of an artistic context clearly reached a temporary high point in the years from 1962 to 1964. In that period she created mainly works that employ the strategy of expanding the range of her materials and combining them. These materials continue to be found (occasionally) in in the years thereafter but they can no longer be assigned the status of the primary conveyors of meaning, since the introduction of writing and a metareferential approach become the focus. In her works of art from 1962 to 1964, many-valuedness repeatedly takes the form of materials being combined with one another. If the diversification of the materials she employed that occurred in the 1950s and early 1960s seems to have still been part of her effort to expand the combination principle, the subsequent reciprocal imitation of natural and artificial materials and the fusion into an overall ensemble is already one aspect of many-valued aesthetics.

Material and Materiality

The category of the material has a wide-ranging history similar to that of writings on logic. For Gotthard Günther, Western logic goes back to Aristotle and, at the time he was writing his books, he believed that that ancient legacy unconditionally determined our thinking. Günther's descriptions are too absolutely apodictic; he generalizes to support his argumentation. If, however, one follows the tendency to believe that ancient philosophers (still) have a substantial influence on the categories of our thinking, then the marginalization of materials is extraordinarily fraught with tradition. The stages of first degrading and then upgrading the material are crucial to Bauermeister's many-valued aesthetics, because they immediately clarify the area of tension as soon as the materials are given an autonomous level of meaning in the works of art.

There are numerous passages in Plato's writings that describe a dichotomy between material, thing, stuff, and body versus idea, form, spirit, and soul and observe a divide that favors the last four concepts. In the dialogue *Parmenides*, the young Socrates is challenged about the theory of ideas he is still developing: for an idea must exist for each thing, even for such "ridiculous" ones as "hair, mud, dirt."[5] After initial hesitation Socrates concludes that the ideas exist as "patterns" and that the "visible objects," that is all material objects that we can perceive, must participate in them, but no similarity between them can be assumed. The "like" would presume further ideas that refer to the things and the way that we perceive them in order to

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4   The human skulls were from the collection of her father, Wolf Bauermeister, who was a professor of anthropology.

5   Plato. *Parmenides*, in Plato, *Cratylus, Parmenides, Greater Hippias, Lesser Hippias*, trans. Harold N. Fowler (Cambridge, MA: Harvard University Press, 1926), 193–331, esp. 211.

create "concrete things."[6] It would require, for example, an idea of greatness that mediates between the idea of the thing, between the thing as we perceive it and the greatness of other things, so that the similarity to the original idea is produced—that would have to happen with all qualities, which inevitably leads to an infinite regress. The sphere of idea is strictly separated from "our world," the latter leads to only one relationship between them, and non of the ideas is recognized by us.[7] All objects and the material of which they consist never convey knowledge of the nature of the being of things; they are merely a dissimilar imitation of a pattern. This negation of our material surroundings that can be perceived by the senses goes so far in Plato that he has Socrates declare in another dialogue that philosophers free themselves of the body. (Corporeal) death liberates from the limitations that result from connection to the sensory environment.[8] The degrading of things and the materials of which they are composed is a leitmotif of cultural theory that recurs again and again in many facets. In his aesthetics Kant creates a hierarchy of the arts based on the material they employ and in distinction from form:

> "Yet in all beautiful art what is essential consists in the form, which is purposive for observation and judging […] not in the matter of the sensation (the charm or the emotion), where it is aimed merely at enjoyment, which leaves behind it nothing in the idea."[9]

For Kant, matter is tied to illusion, which we grasp subjectively, and therefore it has a certain arbitrariness relative to the idea. In contrast to the degrading of things and of material, attempts to rehabilitate them can look back on a less intense tradition. Two striking positions within it, Walter Benjamin and George Bataille, will be addressed in section 4.2 in connection with Bauermeister's art: in order to be able to identify the many-valued aesthetics even in works that do not have writing and accordingly do not reveal their contradictions at first glance, the autonomous dimension of the material is necessary.

Equivalent to the degrading of the material beneath the form or idea, a tendency to self-negation has been attributed to the traditional materials of art—for centuries, the focus was not on the paint or pigment and the canvas; rather, everything disappeared behind the motif depicted.[10] For a many-valued aesthetics that

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6   See ibid., 219–23.

7   See ibid., 227.

8   See Plato, *Phaedo*, in Plato, *Euthyphro, Apology, Crito, Phaedo*, ed. and trans. Christopher Emlyn-Jones and William Preddy (Cambridge, MA: Harvard University Press, 2017), 292–523, esp. 317–35.

9   Immanuel Kant, *Critique of the Power of Judgment*, ed. Paul Guyer, trans. Paul Guyer and Eric Matthews (Cambridge: Cambridge University Press, 2000), 203.

10   See Wagner, *Das Material in der Kunst* (see note 3), 18–22.

includes the material and materiality, the inherent potency of the material in question is emphasized first. This inherent potency is, however, not presented as an end in itself by including the production process—this only comes into focus with the Lens Boxes. Nor should the materials selected actively determine the form, that is, reversing the original relation, as Robert Morris, for example, called for.[11] An approach like that of Arte Povera, in which natural, poor, and quotidian materials are used in works of art in order to upvalue them or to reveal an intrinsic beauty applies in only a limited way and only to a few of Bauermeister's works.[12] In her work the material is admitted into a broad field of extra-artistic qualities as a result of its origin; in the next step it imitates other materials, which often do not conform to the artistic canon either, in order to create an overall compositional design together. Every single material has its own level of meaning, as does the combination of them that strives for a synthesis into a new ensemble. In Bauermeister's works, it is the area in between that alternates between absolute marginalization and absolute upvaluation of the material: material has its own levels, just as the form obtained from it does; both create a relationship of exchange, a united hybridization. This results in works in which the—everyday, found, artificial, natural, and traditionally artistic—material reveals a many-valuedness. It results, first, from the challenges to the viewers to identify amalgams and, second, from the imitative fusions with which Bauermeister composes or combines.

For that reason, in the interpretations of the works that follow, the term "material" is joined by the expression "materiality." Materiality is considered "*one* condition of making iconicity possible and effective."[13] In this view, the materials from which a work of art is made and their visual appearance—that is, the aspect that evokes the inevitable and also inseparable duplicity of the image—are irreducible joined to each other. Materiality should not, however, be understood as something "physical" but "rather something that first *happens* from there."[14] Materiality stands for a trace of the material that reaches over to the form of the visual but is neither the one nor the other. Rather, materiality appears as a transformation of the material that by pointing instigates meaning but cannot yet be a completed and interpretable form.[15]

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11   See Robert Morris, "Anti Form," *Artforum* 6, no. 8 (1968): 33–35.

12   See Carolyn Christov-Bakargiev, *Arte Povera*, rev. ed. (London: Phaidon, 2014), 14–47. The beauty in "poor" materials can be read out of the fabric works based on objects found in Sicily; see section 4.2.

13   See Marcel Finke and Mark A. Halawa, "Materialität und Bildlichkeit: Einleitung," in *Materialität und Bildlichkeit: Visuelle Artefakte zwischen Aisthesis und Semiosis*, ed. Marcel Finke and Mark A. Halawa (Berlin: Kadmos, 2012), 9–18, esp. 16.

14   See Dieter Mersch, *Was sich zeigt: Materialität, Präsenz, Ereignis* (Munich: Wilhelm Fink, 2002), 134.

15   With reference to Adorno, Christoph Menke calls this "aesthetic hesitation": even though they are material identically, the signifier is already distinguished from the mere thing by

This interstice in which materiality is found only makes the concept more difficult to grasp, so that it can be described in words only inadequately.[16] In addition, the concept of materiality has to get by without a (long) history of its definition, since the material and any inherent potency it has were long degraded; this has changed only in recent decades; there has even been take of a "material turn."[17]

Bauermeister herself did not use any concept of materiality in creating her works; she was primarily interested in employing different materials in combination. Since the beginning of her engagement with many-valued logic and the specific implementation of that theory in works of art, a change in her aesthetic can be observed. The works to be analyzed next represent this change, and their materiality functions as one possibility to make many-valuedness visible without using writing in the paintings.

4.1   A (Many-Valued) Intermateriality

The term "intermateriality" opens up a dimension that goes beyond an (active) appropriation of a (passive) material: it is the bringing together of two or more materials that in combination have an "excess contingency" that was not predictable.[18] The conception of materiality, which already has a productive level compared to a purely ancillary material, is expanded to include the observing of interaction. Every material stems from a changing and manifold resonance chamber; moreover, the interpretation changes according to the context into which it is brought, and the

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its semantic reference. This conflict occurs on the level of materiality; Christoph Menke, *The Sovereignty of Art: Aesthetic Negativity in Adorno and Derrida*, trans. Neil Solomon (Cambridge, MA: MIT Press, 1998), 33–70, esp. 36.

16   See Finke and Halawa, "Materialität und Bildlichkeit" (see note 13), 13–14.

17   See Thomas Strässle, "Pluralis materialitatis," in *Das Zusammenspiel der Materialien in den Künsten: Theorien—Praktiken—Perspektive*, ed. Thomas Strässle, Christoph Kleinschmidt, Johanne Mohs (Bielefeld: transcript, 2013), 7–23, esp. 7; Manfred K. H Eggert, and Stefanie Samida, "Menschen und Dinge: Anmerkungen zum Materialitätsdiskurs," in *Materialität: Herausforderungen für die Sozial- und Kulturwissenschaften*, ed., Herbert Kalthoff, Torsten Cress, and Tobias Röhl (Paderborn: Wilhelm Fink, 2016), 123–40, esp. 123. Dieter Mersch proposes as a figure of though for the concept of materiality a "strange dual relationship of a negativity that includes a positivity"; by means of the double negation something happens and on the pictorial surface that can be seen as its own phenomenon; Dieter Mersch, "Materialität und Formalität. Zur duplizitären Ordnung des Bildlichen," in Finke and Halawa, *Materialität und Bildlichkeit* (see note 13), 21–49, esp. 43.

18   See Christiane Schürkmann, "Eisen, Säure, Rost und Putz: Material in der bildenden Kunst," in Kalthoff, Cress, and Röhl, *Materialität* (see note 17), 359–75, esp. 369. On intermateriality, see also Anselm Stalder, "Unterwegs im Inter," in Strässle, Kleinschmidt, and Mohs, *Das Zusammenspiel der Materialien in den Künsten* (see note 17), 115–25.

addition of another material multiples the interpretation again. For artists, too, it is an experimental process with an unpredictable outcome: "Artist and material work together in this way."[19]

Contemporaneous art critics repeatedly addressed Bauermeister's selection and use of materials as a special feature. Before the Lens Boxes dominated her oeuvre (especially as it was perceived by the public), she attracted attention in New York's art system of the early to mid-1960s for the materials she employed. Critics praised the use of "out-of-the-way materials," which she combines into works:[20] "She uses strange materials (pebbles, rocks, sand, charred tree trunks, weird sea organisms, soda straws and patched old bed lines, are only some of them) to fascinating abstractions."[21] Uncertainty was repeatedly expressed about the terms to characterize her works, because Bauermeister's art seems to lie between categories. Critics wrote of "paintings," "constructions," "objects," and "accumulations," only the term "sculptures" occurs rarely or was rejected as not seem appropriate.[22] Works such as *Sandhalme* (Sand Straws) of 1962 or *Howevercall* of 1964 are prototypical of an in-between and emphasize it especially by the materials they employ.

Sandhalme was produced in the second half of 1962, one of her first works in the United States (fig. 31). It measures 130 by 190 by 30 centimeters, and its title alludes to the intermateriality of two materials used: sand and plastic drinking straws. Additional materials are glue, parts of wasps' nests and honeycomb, a slice from a tree trunk, driftwood, and soot, since several places have been treated with fire. The central support is a rectangular, sanded plywood. Attached to its upper right is a rectangular piece of driftwood.

Bauermeister put several of the materials together a way that results in a fusion. The slice of tree trunk on the central support is largely covered with straws; they were cut at different lengths and then glued vertically side by side to create changing, almost organic-looking patterns. The straws have also been combined into small groups that automatically suggest a compound, as if the individual round elements were part of a larger amalgamation. Bauermeister has applied a honeycomb to the lower right edge of the slice of trunk; it is flanked by straws, several of which are even attached to its outside. The knowledge that two different materials are joined here is necessary not to assume just one in a superficial viewing, because the straws are only slightly smaller in circumference and are placed closely together, so they too take on a honeycomb-like form. It is just as difficult to decide whether additional honeycombs have been inserted into the field of straws on the left edge of the

19   Schürkmann, "Eisen, Säure, Rost und Putz" (see note 18), 366.
20   Stuart Preston, "Art: Conservative Realism Resurgent," *The New York Times* (March 21, 1964).
21   Emily Genauer, "57th Street & Environs," *New York Herald Tribune* (March 21, 1964).
22   See James R. Mellow, "'Art Can Go on Spawning New Art ad Infinitum,'" *New York Times* (April 26, 1970), 27.

slice of trunk; both materials produce an approximation so that now one seems possible, now the other. Two lines of straws on the sanded board lead away from the slice of trunk. One line runs to the lower right edge and snakes about a little before meeting an oval form; the latter also consists of honeycomb and is bordered with straws. The second line leads to the top right, running under the driftwood board and then reappear in the center of a burned-out opening. One observes here the effect Bauermeister also evoked in the *Needless Needles* drawing, namely, that another level is lying under the support that is only exposed. The straws grow denser in the upper right corner of the driftwood, where they border parts of a wasps' nest and more honeycombs. The wasps' nests thus fit homogenously in the (slightly burned) underground but remain unequivocally identifiable. They are similar in color to the driftwood and are also partially sanded; their relief-like character and above all the furrows, holes, and patterns on their surfaces, however, cause the nests to stand out as an element of natural rather than artistic origin.

Fig. 31: *Sandhalme, 1962, plastic straws, wasp nest, honeycomb, glue, carbon black, tree pit, drift wood on particle board coated with sand, 130 x 190 x 30 cm, Mary Bauermeister Art Estate.*

Intermateriality

Thomas Strässle has described three models of intermateriality in which the materials employed affect one another but each in different ways; each is an "inter-model for the aesthetics of materials."[23] With an eye to the wasps' nest in *Sandhalme* or even the combinations in the *Sand Stein Kugel Gruppe*, one can speak of "material interaction": here there are perceptible material differences that continue to be identifiable; we are deliberately led to encounter them in the work.[24] The straws and honeycombs in *Sandhalme* contrast with that. Their joining can be located between "material transfer" and "material interference": in the former, the "phenomenality and/or functionality of another material is transferred," so that the "material identity" is called into question; in "material interference," an "immateriality" is produced in that both components are combined in a way that they negate each other.[25]

In the case of the honeycombs and straws, another aspect comes into it: neither does one observe just one material imitating the other nor does their combination result in a new material phenomenon. Rather, an interaction results to the extent that there is a not-only-but-also. Bauermeister brings both materials into an unresolvable hanging in the balance: two elements of completely different origin and emergence get closer to each other and thereby suggest a reciprocal resolution, which is, however, not ultimately completed. Identification is still possible on the level of materiality. Moreover, the materials not only happen to have a similar look but something is also being assembled that falls roughly under the dominant categories of natural and artificial.

In their haptics and coloration, which grew more intense over decades, the drinking straws look like paper but were in fact made of plastic. Of the very material that Roland Barthes described in his now iconic entry in *Mythologies* as an "alchemical substance" and prototypical of the postwar era.[26] Synthetically produced and infinitely transformable materials already led to controversies when rubber was introduced; the development of plastic in the early twentieth century then led to the "aesthetics of artificiality," which sought to distinguish itself emphatically form the language of natural forms.[27] The universal use of plastic for everyday consumer objects accompanied the economic miracles after World War II and led visual artists

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23   Strässle, "Pluralis materialitatis" (see note 17), 11–12.

24   Ibid., 14–16.

25   Ibid.

26   See Roland Barthes, "Plastic," in Barthes, *Mythologies*, trans. Richard Howard and Annette Lavers (New York: Hill and Wang, 2012), 93–95.

27   Carsten Rohde, "Plastic Fantastic: Stichwörter zur Ästhetik des Kunststoffs," in *Ästhetik der Materialität*, ed. Christiane Heibach and Carsten Rohde (Paderborn: Wilhelm Fink, 2015), 123–43, esp. 129–31.

to a "reevaluation of the materiality of art"; the "plasticity" of the synthetic material that possesses no (preexisting) form was appropriate for design from then on.[28]

Drinking straws are an artificially formed product of the commodities of a consumer culture and are intended to be used once and then thrown away. In the early 1960s, these and other industrial (mass) products seemed like a utopian promise of universal prosperity and progress, a break with the years of rebuilding after the war. In the twenty-first century, the view of such objects changed fundamentally, since they lead to the ecologically catastrophic formation of microplastics and drive the exploitation of raw materials—a clear example of how historical contexts and hence the assessment of materials change.[29] When Bauermeister began to use straws they were a material without a tradition in art and a consumer good that was available in almost infinite quantities. Their plasticity and artificially produced form are, however, employed to create a connection to or fusion with a natural artifact.

The honeycombs were collected by Bauermeister and integrated into the composition; even the transfer of physical set pieces from nature into the picture did not have a significant tradition and was initially a material foreign to art. Bauermeister's fascination with honeycomb form is already evident from the Honeycomb Pictures from 1957 onward; five years later she then integrated natural honeycombs rather than imitating them with artificial materials. Karl Marx uses the motifs of the bee and the human being to contrast the natural work instinct with human labor power: "a bee puts to shame many an architect in the construction of her cells."[30] This assessment did not, however, lead Marx to value the achievements of bees more: "But what distinguishes the worst architect from the best of bees is that, that the architect raises his structure in imagination before he erects it in reality."[31] Marx's analysis assumes that the animals act instinctively and need not come up with concepts or ideas beforehand. Whether this low esteem can still be justified given what scientists know today is less important than the consequences of it. First, it clearly shows that Marx was still committed to the dichotomy of idea and form versus object and material; second, it reflects the (modern) separation of nature and culture. According to Bruno Latour, at the beginning of the modern era the two concepts began to be regarded as antithetical, with nature associated with facts and science and culture with politics and morality.[32] This separation should never have happened,

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28   Dietmar Rübel, *Plastizität: Eine Kunstgeschichte des Veränderlichen* (Munich: Silke Schreiber, 2012), 306.

29   See Amanda Boetzkes, *Plastic Capitalism: Contemporary Art and the Drive to Waste* (Cambridge MA: MIT Press, 2019).

30   Karl Marx, *Capital: A Critique of Political Economy*, vol. 1, *The Process of Capitalist Production*, trans. Samuel Moore and Edward Aveling (New York: International Publishers, 1967), 178.

31   Ibid.

32   See Bruno Latour, *Politics of Nature: How to Bring the Sciences into Democracy*, trans. Catherine Porter (Cambridge, MA: Harvard University Press, 2004), 99–102.

in his view, because it is an artificial division that separates people from their environment and degrades everything found in it to passive objects without agency. This undermines our embedding in the network of nature that has existed since time immemorial.[33] In addition to Latour, there are a number of authors who consider separating the spheres of nature and culture to be constructed, even dangerous, because it marginalizes the effects of the human species on our planet.[34] Many no longer use the word "nature" for that reason, or only in the sense of the separation, and instead speak of ecology.[35]

In 1962 Bauermeister was not striving to make eco art or for a conscious approach to the categories of nature and culture; only in our present context these levels stand out in her works. She was always interested in forms and materials equally, as a result, however, bringing together honeycombs and drinking straws and combine them in an integrative way actively challenges the dichotomy of artificial and nature—this occurs by means of intermateriality.

The respective aesthetic of materials, which always (also) derives from its context, is determined by materiality—this eventful appearance on the surface of the picture. Synthetic materials such as plastic contain a many-valuedness in that they are artificially synthesized and formed but must have a natural origin, since the elements in their production can all be traced back to natural materials.[36] The very name "straw" points to a natural origin of the form. By means of (inter)materiality,

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33   Latour's book title *We Have Never Been Modern* should really be "We should never have been modern," since he certainly assumes that human artificially separated nature and culture, which for him is the characteristic of modernity; see Bruno Latour, *We Have Never Been Modern*, trans. Catherine Porter (Cambridge, MA: Harvard University Press, 1993). In recent years Latour has increasingly turned to how humans are embedded in the network of their surroundings in order to question the separation of human and nonhuman creatures; see Bruno Latour, *Facing Gaia: Eight Lectures on the New Climatic Regime*, trans. Catherine Porter (Cambridge: Polity, 2017).

34   For that reason, Donna Haraway coined the expression "natureculture" and speaks in her latest publication of a Chthulucene that must be reached if humanity is to have a chance to survive; Donna Haraway, *The Companion Species Manifesto: Dogs, People, and Significant Otherness* (Chicago: University of Chicago Press, 2003); Donna Haraway, *Staying with the Trouble: Making Kin in the Chthulucene* (Durham, NC: Duke University Press, 2016). For any rejection of the categories of nature and culture, or for the need of a new coexistence, the writings of Philippe Descola and Michel Serres are also essential; Philippe Descola, *Beyond Nature and Culture*, trans. Janet Lloyd (Chicago: University of Chicago Press, 2013); Michel Serres, *The Natural Contract*, trans. Elizabeth MacArthur and William Paulson (Ann Arbor: University of Michigan Press, 1995).

35   See Timothy Morton, *Ecology without Nature: Rethinking Environmental Aesthetics* (Cambridge, MA: Harvard University Press, 2007). In this text the term "nature" will only be used in the context of the origin of a material; that is, for everything that is no artificially synthesized. When the term is used, no separation into self-contained areas is implied.

36   See Rohde, "Plastic Fantastic" (see note 27), 126.

a many-valuedness is achieved. Similarly to what was demonstrated for the *Needless Needles* group of works, simultaneities are already visualized in *Sandhalme* of the previous year that run counter to Aristotelian logic as described by Günther. Materiality reveals a many-valued aesthetic, since the elements employed—honeycomb and straws—become indistinguishable. Thanks to the special way they are brought together, each has the potential to be the other for viewers. Here again Bauermeister was not illustrating Günther's writings but drawing conclusions for the use of materials in a situation that must be regarded as fundamentally many-valued metaphysically.

Howevercall as an Intermaterial Assemblage

In the work *Howevercall*, which was created in 1964, two years after *Sandhalme*, the implementation of many-valued aesthetics seems less obvious at first than in the example of the honeycombs and straws, but it can be extracted (fig. 32). The very title of the work—*Howevercall*—illustrates the problems posed by trying to approach the work in a descriptive way: Bauermeister wanted to express "However called," in the sense of "However you want to call something like this."[37] The work was first shown in 1964 at the Galeria Bonino in New York in Bauermeister's first solo exhibition; the exhibition's title—*paintings and howevercalls*—was derived from the work. It was supposed to express the openness of the concept of art that Bauermeister applied in her early works with writing, fabric, and materials.

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37   Her New York gallerist, Fernanda Bonino, asked Bauermeister how to categorize the work she had made. To her question: "How would you call it?" Bauermeister replied: "However you would call it," from which derived the work's title.

Fig. 32: Howevercall, 1964, wood, sand, found driftwood, soot, plant fibers, thread, wool, modeling compound, casein tempera, ink, mushroom, carbon black, 350 x 120 x 120 cm, Mary Bauermeister Art Estate.

Howevercall is a combination of several artificial and natural materials: on a plywood board measuring 120 by 120 centimeters, metal eyelets have been fastened in a grid arrangement, from several of them hang threads of wool or other yarn of different lengths. The threads on the edges of the board tend to be shorter and not placed as close together as in the middle, resulting in a suggestion of an inverted pyramid shape. Brownish spheres are attached to selected threads; they are made of plant fibers that have been compressed into round objects by the waves of the Mediterranean. Other organic objects found on the beach in Sicily are distributed on the floor of the exhibition at the base of the work. The height Bauermeister stipulated for the installation of the work is circa 350 centimeters, so that the lowest hanging

plant fields just touch the wooden beam, which was also found flotsam. The latter is very burned on one side, resulting in a difficult pattern of its structure degenerated into coal. The wooden board on which the beam is standing also measures 120 by 120 centimeters and seems to float just above the floor, because it has small rollers attached to its back for transportation. The burned wooden beam is not placed in the middle of the board but has a decentral location that results in a subdividing of the plane. The lower board is divided diagonally into a dark section and a bright one, which does not run symmetrically from one corner to the other, since the bright side takes up more space. It consists mostly of a sanded surface as well as a second with a white ground on which delicate lines are drawn; they mirror the grain of the wooden beam like a cast shadow. The drawn patterns on the wooden are in turn found again on the beam, as if the white surface were a two-dimensional likeness of a three-dimensional object in a different medium.

This detail reveals one level of the many-valued aesthetic in *Howevercall*: In the spirit of many-valuedness, there is no longer a projection, as if the wooden beam were the "real" object and the drawn passage merely its imitation; rather, each of them as the same degree of reality and could also condition the other. Bauermeister's implementation now makes it clear that she placed the beam on the board in a certain way and then did the drawing on the white strip. What the many-valued aesthetic reveals is another level contained in the beam: It consists not (solely) of the phenomenally perceptible object; rather, its surface structure is an intricate pattern that simultaneously bears within it the potency of a drawing. The drawing is thus another perspective on the beam.

The other levels of many-valued aesthetics become recognizable only when looking at the black surface on the base plate. It is composed of relief-like, round shapes, which consist in turn of a mixture of casein tempera, modeling compound, soot, and mushrooms. This mixture of materials with artificial and natural components stands in for the work *Howevercall* as a whole, in which, much like with *Sandhalme*, both kinds are employed in order to make it more difficult to identify each. They are not only natural materials that are foreign to art from which the work is made and that determine its interpretation but also the immateriality, which brings everything into a holistic system. Very different materials are combined, but each has its own horizon of meaning, yet the combination can only be understood with the composition. This putting together creates in the first place the specific materiality that has many-valued components in *Sandhalme* und *Howevercall*. By means of its title, materials, and design, the work *Howevercall* raises the question how to categorize it; the work alternates between painting, sculpture, and installation—on this level, too, one can speak of many-valuedness.

The system of (inter-)materiality and many-valuedness enters into the concept of the assemblage that this text is continually trying to refine for Bauermeister's artworks. In his research on the concept of the assemblage, Manuel DeLanda, follow-

ing Deleuze and Guattari, described two main aspects that are fundamental to an assemblage: "Two aspects of the concept are emphasised: that the parts that are fitted together are not uniform either in nature or in origin, and that the assemblage actively links these parts together by establishing relations between them."[38]

In this view, every assemblage is initially a merger of components that according to our usual (quotidian) sense is not consistent or uniform. That merely means that the parts of which an assemblage is composed attract greater attention, particularly in their special amalgam. They break with experience and demand interpretation. When Bauermeister causes materials to fuse together in *Sandhalme* and *Howevercall*, it is first and foremost a metaphor for an assemblage. Those works should not be understood as an intentional bundle of objects that are (or can be) produced actively by subjects—rather, the concept of the assemblage should lead us out of the subject-object dichotomy. An assemblage as a work of art is therefore an artist's amalgam of materials and objects only on the first level; in the next step the specific combination has the intrinsic possibility of "active" producing relations between them.

By means of her selection of materials, their combination and fusing, and the theoretical background of many-valued logic, Bauermeister creates a situation in which the works of art contain a many-valued aesthetic. It is only at this point that the assemblage begins. Every assemblage has "extensive" and "intensive boundaries"; viewers can only perceive the "extensive" ones, but they are triggered by "invisible processes" that lead to the "intensive" ones.[39] The concept of materiality should be located in the space between "intensive" and "extensive"; there is a level that protrudes, but at the same time a more comprehensive stratum of events that occur independently. With reference to that DeLanda characterizes the assemblage as a "realist ontology": the concept itself should be seen as a production of the human spirit; the specific assemblages that evolved must, by contrast, be seen as completely independent.[40]

The situation is similar with Bauermeister's many-valued use of materials. While it follows the intention of first combining materials and then putting them in unified compositions that both challenge the (traditional) concepts of artworks and materials and create works that incorporate concepts from Günther's many-valued logic, the assemblage results in an extension of the situation. By way of describing the productivity of its own dynamic, it comes to form overarching connections, since it cannot be assumed that assemblages remain with the boundaries of objects with fixed contours, such as *Sandhalme* and *Howevercall*. Dichotomies such as artificial and natural or the various formations of many-valued aesthetics are integrated

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38   Manuel DeLanda, *Assemblage Theory* (Edinburgh: Edinburgh University Press, 2016), 2.

39   See ibid., 110–11.

40   See ibid., 138.

into the work of art by means of the assemblage, and reveal some of these qualities to the viewers.

4.2 The Poetics of the Found as Material I: Light Sheets and Textiles

The discovery of the patched bedsheets on Sicily led to a separate group of works: the light sheets. As discussed above, the patches had not originally been intended aesthetically but were supposed to make it possible to continue using the bedsheets. Bauermeister then made some changes in particular points: *ONNO (Light Sheet)* of 1963 consists of several bedsheets; they form the fabric ground of abstract patterns (fig. 33). In the next step she sewed bedsheets that had been patched more around them, so that the letters O and N could be added to the cloth ground, nearly filling the format. All of the fabric in this light sheet consists of patches that Bauermeister had not sewn herself; she appropriated the material and then composed it to achieve this look with the two large letters.

Fig. 33: ONNO (Light Sheet), 1963, found linen sheet, fluorescent tubes and painted wood construction, mirrors, 270.2 x 227.3 x 20 cm, Mary Bauermeister Art Estate.

The work is usually exhibited in a hall of mirrors. Two mirrors with the same dimensions as the work are attached to the sides of the wooden box, one on each side, and extend into the space at a ninety-degree angle so that they stand precisely paral-

lel to each other. This produces the effect that one side constantly mirrors the other, opening up a virtual receding space that shows the words "ON" and "NO" in alternation (fig. 34). This too should be understood as incorporating many-valued aesthetics: the arrangement of the two mirrors illustrates that an affirmative expression such as "ON" can always already contain a counterweight such as "NO." Each conditions the other infinitely often, so that no conclusive decision can be made.

The levels of many-valued aesthetics in the *Needless Needles* light sheet have already been mentioned, especially in connection with the other works of that group. A perspective that exposes strategies for content and concepts runs the risk of overlooking the aesthetics of the material. The light sheets bundle up all the levels of meaning of the material in the site and context where it was found: the Italian economic miracle of the postwar era, which began in full force in the late 1950s, had not yet reached rural Sicily by 1963.[41] The perspective of a culture of consumption brings out the abstract structures in the bedsheets, but they are completely irrelevant for their daily use and in the process of repairing; there the result alone is decisive, making further use possible.

Untitled (Light Sheet) of 1963 is at 370 by 370 by 20 centimeters one of the largest light sheets (fig. 35). Bauermeister's kept her reworking of this example to a minimum; words in the form of additional patches, as for *ONNO (Light Sheet)*; other fragments of fabric, canvas cutouts, drawings, and objects, as for *Needless Needles*, were not added. The artist merely sewed several bedsheets together and stretched them in a light box. The patches appear to consist of different layers; the more they are superimposed, the darker that spot becomes: "Surfaces appear to human perception wherever light does not pass through but is reflected and so a contour of a volume becomes visible."[42] Light thus needs matter that it encounters, that it reflects back, and that it only partially penetrates.

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41   See Andrea Leonardi, "Das italienische ‚Wirtschaftswunder' 1950–1963," in *Annali dell' Istituto storico italo-germanico in Trento. Jahrbuch des italienisch-deutschen historischen Instituts in Trient*, nos. 36–37 (2010–11): 69–82, esp. 81.

42   Peter Sloterdijk, "Licht und Widerstand. Über Materie," in Heibach and Rohde, *Ästhetik der Materialität* (see note 27), 33–50, esp. 44.

Fig. 34: ONNO (Light Sheet) (Detail), 1963, found linen sheet, fluorescent tubes and painted wood construction, mirrors, 270.2 x 227.3 x 20 cm, Mary Bauermeister Art Estate.

Fig. 35: Untitled (Light Sheet), 1963, found linen sheet, fluorescent tubes and painted wood construction, 370 x 370 x 20 cm, Mary Bauermeister Art Estate.
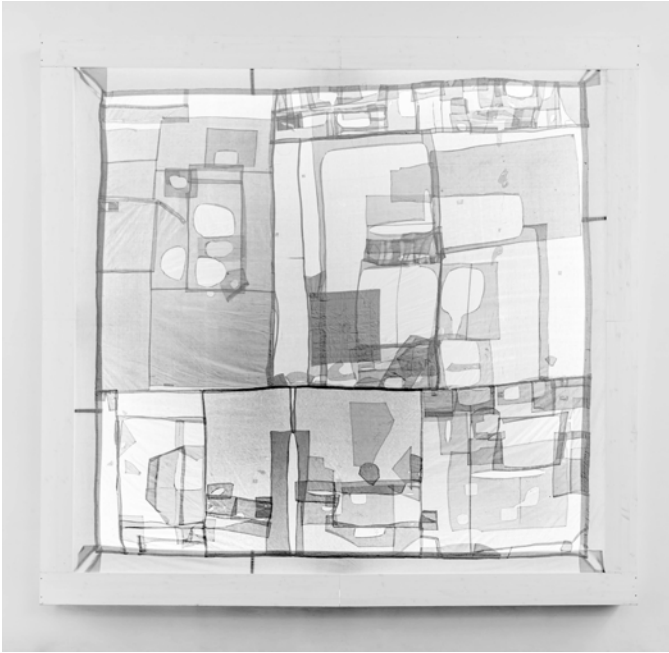
The use of fluorescent lights in the light sheets has an ancillary function; they are supposed to demonstrate chance and the inherent aesthetic that results from repairing the sheet. Bauermeister's use of light has less to do with the qualities that are traditionally attributed to it in the history of culture and art.[43] Bauermeister's view of light is clear from a handwritten note from the early 1960s titled "Licht" (Light):

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43   In Plato's parable of the sun, light and the eye as the organ that receives it already have a knowledge-generating power and serve as a metaphor for insight in general; see Plato, *The Republic*, vol. 2 (Books 6–10), ed. and trans. Christopher Emlyn-Jones and William Preddy (Cambridge, MA: Harvard University Press, 2013), 81–97. In the neo-Platonic tradition after Plotin, and with the "metaphysics of light" in the Gothic era, light reveals spiritual qualities. The latter and the topos of insight remain in the background and can still be found, for example, in the work of Zero artist Otto Piene, who was a friend of Bauermeister's and employed in his text "Über die Reinheit des Lichts" (On the Purity of Light) a metaphysical vocabulary for light's qualities; see Otto Piene, "Über die Reinheit des Lichts," in *Zero* 1, no. 2 (1958): 24–27; translated as "On the Purity of Light," *Zero* (Cambridge, MA: MIT Press, 1973), 46–47. Artistic currents of the 1960 that used light as a material in their works, such as the Light and Space Movement, had a specific approach in which spaces were created by putting light in the foreground. Bauermeister merely commented ironically on this use

> "Art was always equated with 'so-called divine' processes. That is solely on the inability thus far to trace the complexity, i.e., many-valuedness of painterly or—more broadly—artistic processes back to unambiguous initial values."[44]

For her, it was not the supposedly transcendental qualities of light that led to the incorporation of that material but rather the pragmatic decision to illustrate the poetics of the find—the sunlight penetrating the sheets on a clothesline. As the quotation shows, sacred explanations of artistic processes are not acceptable for Bauermeister; that would merely represent a simplification. It is revealing that she associates "complexity" with "many-valuedness," since that seems to be the ultimate effect of many-valued aesthetics: another level that is and was already contained in the works of art—it need only be named.

That history took place on the sheets themselves, since they were presumably in use across generations, is another aspect when textiles—especially with obvious traces of use—are integrated into a work of art: "To be human is to be involved with cloth."[45] At all stations in life, people are accompanied by textiles; individual and private tragedies as well as moments of happiness are inscribed in the bedsheets: every patch and every stain revealed by the neon light represents this. It is reminiscent of Benjamin's historical materialism: for him, "history" is not "homogeneous, empty time" put is always constructed by the relevant official authorities.[46] His materialist history writing employs rather a "constructive principle," in which an artifact itself is observed, and its categorization in a system of marginal objects can "blast out" the course of history.[47] This is made possible by the figure of the collector: the (found) object is separated from its function and transferred to a collection, where it can reveal its history and all the events that have sedimented in it: "for the collector, the world is present, and indeed ordered, in each of his objects."[48] Because they are authentic

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of light in the form of her Lens Boxes; see the work *My Contribution to Light Art is Dead Serious Art*, discussed in section 6.3. On light's power to generate knowledge in relation to visual art, see Hartmut Böhme, "Das Licht als Medium der Kunst: Über Erfahrungsarmut und ästhetisches Gegenlicht in der technischen Zivilisation," inaugural lecture, November 2, 1994. https://edoc.hu-berlin.de/handle/18452/2191 (accessed July 14, 2020).

44   Mary Bauermeister, "199 Licht recto, verso," ca. 1961–62, unpublished source.

45   Beverly Gordon, "Cloth and Consciousness: Our Deep Connections; On the Social and Spiritual Significance of the Textile," in *Art & Textiles: Fabric as Material and Concept in Modern Art from Klimt to the Present*, ed. Markus Brüderlin, exh. cat. Wolfsburg, Kunstmuseum (Ostfildern: Hatje Cantz, 2013), 60–67, esp. 60.

46   Walter Benjamin, "On the Concept of History" (1940), trans. Harry Zohn, in Benjamin, *Selected Writings*, vol. 4 (1938–1940), ed. Howard Eiland and Michael W. Jennings (Cambridge, MA: Belknap Press of Harvard University Press, 2003), 389–97, esp. 395.

47   See ibid., 396.

48   Walter Benjamin, *The Arcades Project*, trans. Howard Eiland and Kevin McLaughlin (Cambridge, MA: Belknap Press of Harvard University Press, 1999), 207.

artifacts, the things can be used to reconstruct past events, and so the course of time is reveals. In his text Benjamin also refers to Plato's "archetypes of things," but the material can bring out an island of the "sea of fog" of the senses.[49]

In addition to the bedsheets, which would be disposable items in an industrial context, this function of an authentic souvenir also seems to apply to Bauermeister's *Flickenkleider* (Patched Clothes) of 1963 (fig. 36). The items of clothing are also from Sicily, and Bauermeister sewed canvas cutouts to some of them. A body lends individuality to an item of clothing; the textile takes on the person's outlines, without the person, the piece of fabric is usually just a placeholder in the absence and has the function of a memento.[50] Gunnar Schmidt speaks in this context of clothing's "textile-anthropological dimensions."[51]

If one overemphasizes the mnemonic function of a textile object, one can lose focus on its material and materiality—which is equivalent to Bataille's critique of (historical) materialism and hence of the position Benjamin represents. For Bataille, the objects merely enter into a relationship of exchange in lieu of ideas; it is, however, still an "idealistic" order, as he expresses it in an entry on materialism in the journal *Documents: Doctrines, Archéologie, Beaux-Arts, Ethnographie*, which has also come to be known as the *Critical Dictionary*: in his view, materialism valorizes a science of things, rather than trying to help the material or the material world itself out of its devalued status.[52] This "senile idealism" must be replaced by a "direct interpretation [...] of raw phenomena."[53] In his highly regarded text "Informe" (Formless) he extends this interpretation to the dichotomy of form and material: philosophy has only one purpose, to compel a form; the assertion of the formless is necessarily perceived as "declassify[ing]."[54] Something formless has no rights of its own, and saying that the universe itself is formless would be to equate it with a "spider" or with "spittle."[55] With his polemic statements, Bataille is trying to put material on a par with the category of form; his provocation calls for rethinking the forming of hierarchies.

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49   See ibid., 205.

50   See Cora von Pape, *Kunstkleider: Die Präsenz des Körpers in textilen Kunst-Objekten des 20. Jahrhunderts* (Bielefeld: transcript, 2008), 32–57.

51   Gunnar Schmidt, "Textile Poetiken: Über Um-, Ein-, und Verkleidungen," in Heibach and Rohde, *Ästhetik der Materialität* (see note 27), 145–71, esp. 150.

52   Georges Bataille, "Materialism" (1929–30) in Bataille, *Encyclopædia Acephalica, Comprising the Critical Dictionary & Related Texts*, ed. Robert Lebel and Isabelle Waldberg, trans. Iain White et al. (London: Atlas, 1995), 58.

53   Ibid.

54   Georges Bataille, "Formless" (1929–30), Bataille, *Encyclopædia Acephalica* (see note 52), 51–52.

55   See ibid., 52.

Fig. 36: Flickenkleider, 1963, found linen sheet, fluorescent tubes, and patches of canvas, variable dimensions, Staatliches Museum Schwerin.

Bauermeister's oeuvre includes, in addition to the light sheets and the work *Flickenkleider*, other textile works that are also from Sicily: the works *Hommage à Rauschenberg* and *Untitled* were both found in 1963 and introduced to the sphere of art (figs. 37 and 38). The first-named work is a conglomerate of many scraps of fabric in different colors and sizes, sewed to a piece of red-and-white-striped fabric measuring 210 by 210 centimeters.[56] There is a distant similarity to works by Robert Rauschenberg, such as *Bed* of 1955. The situation of its origin is, however, reversed; whereas Rauschenberg appropriates both art and nonart objects in order to make a composition from them, thereby expanded the canon of materials, Bauermeister declares a completely unintentional patchwork intended only for use to be a work

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56   Bauermeister has explained that this piece of fabric was being used to cover a chicken cage when she found it.

of art and lines the work to her esteemed colleague with its title. She recognizes the formal similarity of the results of two completely different processes. A detail such as a pair of jeans visible in the top center of the work evokes in the viewers of moment of insight into these processes of chance. The second work, *Untitled*, is made in a similar way; here tattered clothes have been transferred to a dark blue textile ground. One can speak of a sublimation of a "poor" material in these two works; that is equally true of the light sheets, especially when the randomly patched patterns are also illuminated and look almost golden, though that is due to the color of the sheets. This special level admits of a certain closeness to the artists of Arte Povera; in addition, one recognizes the Nouveau Réalistes, who also integrated cast-off objects when they turned to material culture.[57]

Fig. 37: Hommage à Rauschenberg, 1963, found mended cloth, 210 x 200 cm, Mary Bauermeister Art Estate.

57   See Jill Carrick, *Nouveau Réalisme, 1960s France, and the Neo-Avant-Garde: Topographies of Chance and Return* (London: Ashgate, 2010).

Fig. 38: Untitled, 1963, found mended cloth, 210 x 200 cm,
Mary Bauermeister Art Estate.
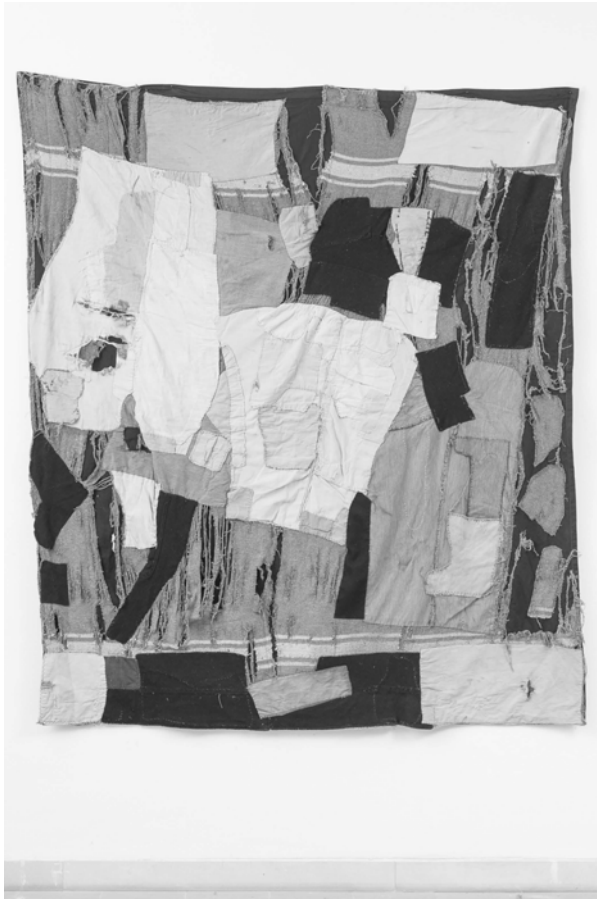
In addition to Duchamp, Bauermeister has repeated referred to Kurt Schwitters as a point of reference, who enabled her to work out her own artistic approach. In his "Merz Art" Schwitters wanted to incorporate all materials visible "to the eye" and compose them, "supported by segmenting, folding, covering up, or overpainting."[58] He called for "essentially […] equal evaluation [*Wertung*] of individual materials" for the artistic process.[59] These views can be found in Bauermeister's works, too; the

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58   Kurt Schwitters, "Merz-Painting" (1919), in Schwitters, *Myself and My Aims: Writings on Art and Criticism*, ed. Megan R. Luke, trans. Timothy Grundy (Chicago: University of Chicago Press, 2021), 24.

59   Ibid.

equal value of materials seems particularly apt. That we cannot stop at this point, however, already became clear in the previous chapters; both the combination principles and many-valuedness have a substructure that goes beyond equal value; it is just our starting point.

With regard to the found objects that Bauermeister integrates into her art, she has occasionally used the term "Ready Trouvé."[60] It is a combination of Duchamp's ready-made and the Surrealist *objet trouvé*. Decades after he made the first ready-mades, Duchamp offered a suggestion of a theory for them: In general, the idea was to take already produced ordinary objects from the world of commodities and transfer them to the sphere of art by means of "déclaration" and "exposition."[61] Combining his method with the *objet trouvé* seems like a contradiction. Whereas Duchamp's is said to be marked by "indifference" toward the object, André Breton, the impresario of Surrealists, described the *objets trouvés* luring one to the find with their "convulsive beauty."[62] The object thus plays the role of a dream; it is supposed to liberate from "paralyzing [...] scruples" and offers the opportunity to gain brief insights into the penetrability of the universe.[63] Bauermeister's understanding of a ready-trouvé should be understood less with reference to the two descriptions by Duchamp and Breton than as an example of the use of language in her oeuvre. The concept should be understood quite literally; it is simply something "found" as "ready" for use in a work of art—whether the bedsheets in the light sheets or the stones and the plant fibers in *Howevercall*. With reference to the line of tradition between Duchamp and Surrealism, in which Bauermeister places herself by using it, her use of the term is entirely inconsistent, because for her it includes both things found and not further processed and the reworked, assembled, and purchased. Moreover, a balanced and

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60   Mary Bauermeister, *Ich hänge im Triolengitter: Mein Leben mit Karlheinz Stockhausen* (Munich: Bertelesmann, 2011), 131.

61   In the brief text "Apropos of 'Readymades'" Duchamp also distinguishes two different types, namely the "reciprocal readymade" and the "readymade aided"; Marcel Duchamp, *The Writings of Marcel Duchamp*, ed. Michel Sanouillet and Elmer Peterson (New York: Oxford University Press, 1973), 141–42, esp. 142. In an interview in 1961 Duchamp explains that he never succeeded in coming up with a satisfying definition of his ready-mades; Katherine Kuh, interview with Marcel Duchamp, in Kuh, *The Artist's Voice: Talks with Seventeen Artists* (New York and Evanston: Harper & Row, 1962), 81–93, esp. 90. On the terms "déclaration" and "exposition" and the concept of the already "made" in Duchamp, see Sebastian Egenhofer, *Abstraktion—Kapitalismus—Subjektivität: Die Wahrheitsfunktion des Werks in der Moderne* (Munich: Wilhelm Fink, 2008), 118–21, and Lars Blunck, *Duchamps Readymade* (Munich: Silke Schreiber, 2017), 15–20 and 117–29.

62   André Breton, *Mad Love*, trans. Mary Ann Caws (Lincoln: University of Nebraska Press, 1987), 13. Duchamp emphasized in several interviews that indifference toward the object and blocking out personal taste at the crucial differences of the ready-made from the *objet trouvé*; see Duchamp, *Interviews und Statements* (see note 61), 216.

63   See Breton, *Mad Love* (see note 62), 32.

mediating approach would be necessary for the combination of the two concepts to succeed at all. Bauermeister tries rather to contextualize the different levels of meaning by joining the two concepts. This does not result in any "substantial" concept but rather in a playful reference to the two earlier ones. It is a small linguistic trick that leads one to question whether the one concept should be adopted or the other—or both at once along with everything in between. In general, Bauermeister is trying to work again dogmatism here. Mixing English and French, as in Ready Trouvé, is found often in her work, as was shown already using the example of "St. Pierre" in the *Needless Needles Vol. 5 Lens Box.*

One crucial aspect of the light sheets and fabric works concerns their material itself; it is not enough to consider its previous use and finding. The prominent use of textiles in an artistic work reveals properties of the material that have been attributed to it in the history of culture: "Textiles [...], based on the modalities for producing them and their form, have always been considered an especially feminine material."[64] One point of departure for this line of interpretation can be seen in Aristotle. The ancient philosopher makes a distinction between form and matter that makes form the higher principle and that is connected with gender associations. For him, only one thing ever results from matter, whereas the form always produces several: "Such too is the relation of male to female: the female is impregnated in one coition, but one male can impregnate many females."[65] Even if such statements obviously seem completely inadequate and without substance today, their historical influence is important, because it is one example of many. Things were equated based on the assumption of an active, masculine formative and a passive, feminine mutable.[66] Not only the dichotomy of form and matter was subjected to this interpretation, but hierarchies were formed even within the material, in which "adaptability" and "mutability" were associated with the "feminine."[67] Working with textiles or "soft" materials in general took on subversive elements after World War II and especially in the 1960s: the materials that had previously been marginalized in the context of art were integrated and appreciated in order to subvert traditional stereo-

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64   Pape, *Kunstkleider* (see note 50), 29. Hartmut Böhme makes similar observations; he not only shows that the textile art has been interpreted as feminine but also connects it with the Ovidian myth of Arachne; Hartmut Böhme, "Mythology and the Aesthetics of the Textile," trans. Michael Wolfson, in Brüderlin, *Art & Textiles* (see note 45), 46–59.

65   Aristotle, *Metaphysics, Books I–IX*, trans. Hugh Tredennick (Cambridge, MA: Harvard University Press, 1933), 47.

66   See Silke Wenk, "Mythen von Autorschaft und Weiblichkeit," in *Mythen von Autorschaft und Weiblichkeit im 20. Jahrhundert*, ed. Kathrin Hoffmann-Curtius and Silke Wenk (Marburg: Jonas, 1997), 12–29, esp. 17–24.

67   See Pape, *Kunstkleider* (see note 50), 28.

types. The "inherent meaning" and "resistance" of the material against the form was emphasized, which also supposed to challenge traditional gender attributions.[68]

The light sheets incorporate these strategies in different ways. The largely unprocessed ones, such as *Untitled (Light Sheet)* of 1963, make the very textile material their theme; next to the abstract pattern of patches, it comes to the foreground: On the one hand, they too are textiles, and the repair succeeds because of the properties of that material. On the other hand, not only is an otherwise marginalized material that is interpreted as rags or trash transferred to the context of art but the inherent beauty of the repair work is also exhibited. In connection with the transfer of everyday materials or objects to the sphere of art, Boris Groys has described a process of exchange in which something is valorized and thereby accepted into the cultural archive, and a simultaneous devalorization occurs, and something else is removed from the archive.[69] Because Bauermeister manages to transform commodities into a work of art that is based on textiles, thereby introducing it to a broader context, she questions at the same time the hierarchies of materials and the prejudices of gender-specific interpretations. Something is transferred into the cultural archive that was already considered depleted by the industrial nations of that era and was associated with the "feminine" in the semantics of materials. Only when it is perceived as a work of art are the various levels of the materials emphasized.

The *Needless Needles* light sheet addresses the cultural categorizations of sewing and embroidering much more directly: In several places on the light sheet Bauermeister wrote sewing instructions or transformed proverbs of domestic manual labor. In the central collection of round canvas cutouts, which are half sewn on and half opened, we read, for example, "knots belong on the backside," followed by an affirmative "yes sir." This instruction to sew flawless was apparently given to Bauermeister by a male authority. She does not, however, apply that proposition but merely writes it, only half-visible, on the back of the sewn, circular canvas. Direct above it, sewn into the textile patch with needle and thread, so that the knot, which brings together several threads, is demonstratively placed on the front side.

A transformed proverb is found to the right of this detail: A round canvas cutout is sewn completely to the light sheet; a short sentence is written, also in a circle, in English and German: "lerne klagen ohne zu leiden," "learn to complain without really suffering." Bauermeister is alluding to a needlepoint embroidered with the Prussian virtue "lerne leiden ohne zu klagen" (learn to suffer without complaining) that she had, by her own account, seen once.[70] This is an allusion to the meditative aspects attributed to working with textiles and especially sewing and embroidering

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68 See Rübel, *Plastizität* (see note 28), 178.
69 See Boris Groys, *On the New*, trans. G. M. Goshgarian (London: Verso, 2014).
70 Artist's personal remark to the author in Mary Bauermeister's studio, June 28, 2019.

by hand.[71] Repetitive and accurate action can, so the embroidery claims, channel one's own suffering by working with fabric. Bauermeister's statement calls for inverting that, thereby ironically exaggerating gender roles: First, her art should not be analyzed as an expression of femininity, even if she works with and sews textiles.[72] Moreover, the change to the sentence calls for a "complaining" that is supposed to occur without any "suffering," which is Bauermeister's allusion to states of hysteria. In keeping with that, there are several seemingly uncontrolled stitches on the canvas cutout; at first they are still trying to frame it, but they evolve into a messy zigzag stitch as soon as they leave the canvas and enter the textile. Complaining without suffering could be a pathologizing of a human state that was accepted because of gender clichés.[73] Only rarely do Bauermeister's works contain obvious feminist statements, which are usually hidden in such details or occur a performative level, in that the artist creates works that reflect on art and insist on their place in the art world.[74]

When working with textiles as a material, the thread itself is significant. It can be seen as a "metaphor for the creative process" in general. As a "thing without qualities," freely reworking it makes it possible to create a new reality, which gives it something of the potential of the line.[75] Moreover, the thread is a "reality external to art," because it stands as a mediator between the creative process of working it and the anthropological dimensions of the textile.[76] The idealness of a drawn line, which as the basic element of drawing is part of the origin myth of fine art, was distilled from it only over the course of history. It is an artificial separate that associates the line with the conceptual and cognitive achievements and the thread with a craft process. The drawn line and the sewn thread, which is the basic material of all textile techniques, were originally of similar importance.[77]

In addition, the thread provides references to the metaphors of networking, a woven form of individual threads creates connections between different elements

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71   See Gordon, "Cloth and Consciousness" (see note 45), 65.

72   See Deborah Cherry, "Autorschaft und Signatur: Feministische Leseweisen der Handschrift von Frauen," in Hoffmann-Curtius and Wenk, *Mythen von Autorschaft und Weiblichkeit* (see note 66), 44–57, esp. 46.

73   See Alain Ehrenberg, *The Weariness of the Self: Diagnosing the History of Depression in the Contemporary Age*, trans. Enrico Caouette et al. (Montreal: McGill-Queen's University Press, 2010), 21–44.

74   See section 5.2.

75   See Gunnar Schmidt, *Ästhetik des Fadens: Zur Medialisierung eines Materials in der Avantgardekunst* (Bielefeld: transcript, 2007), 13–17.

76   See ibid., 146.

77   See Böhme, "Mythology and the Aesthetics of the Textile" (see note 66), 52–53.

so that everything can be linked to everything else by it.[78] Bauermeister illustrates these potentialities of the thread using the features in the *Needless Needles* light sheet but also in the other works from that group. Lines that simulate seams transition repeatedly into "real" seams made with a needle and thread. The frame of the eponymous Lens Box is strewn with drawn lines that are clearly identifiable as such and drawn seams that simulate sewing on a canvas that has been folded back. Bauermeister's works contain drawings that consist of lines but at the same time drawings sewn with threads as well as drawings of simulated (drawn) seams—it is a many-valuedness that unfolds between clearly definable forms of medialization.

4.3 The Poetics of the Found as Material II: Stones

Before examining more closely those areas of interpretation that are connected with Bauermeister's use of writing, drawing, scribbling and their iconicity, I conclude this chapter with another category of finding: Bauermeister collects stones that she then introduces into her works as a material. From an art historical perspective, the "stone" as an umbrella term is one of the most traditional materials for creating works of art. One constant in its meaning is the "solidity and imperishableness" of the material, so that stone was often employed as a "formula of dignity."[79] Moreover, stone is generally regarded as a mediating authority between the organic and inorganic, in that different temporal perspectives are scrutinized: "First, geological time puts human time into perspective and, second, the weathering of stones points to the instability of human reality."[80]

The stones in Bauermeister's oeuvre are the result of weathering. She employs stones found on the beach exclusively, so that do not represent massiveness and imperishableness. This kind of stones had no art historical tradition in the early 1960s, nor could they be associated with nascent Land Art, which employed strategies such as the decentralizing of artistic activity and its institutional reflection, new pictorial forms, and a question of human and natural scales.[81]

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78   See Birgit Schneider, "Caught in the Tangle of the Net: On a History of the Network Metaphor," trans. Amy Klement, in Brüderlin, *Art & Textiles* (see note 45), 328–41, esp. 331.

79   See Thomas Raff, *Die Sprache der Materialien: Anleitung zu einer Ikonologie der Werkstoffe* (Munich: Deutscher Kunstverlag, 1994), 37–38.

80   Benjamin Bühler and Stefan Rieger, *Bunte Steine: Ein Lapidarium des Wissens* (Frankfurt am Main: Suhrkamp, 2014), 14.

81   See Jane McFadden, "Not Sculpture: Along the Way to Land Art," in *Ends of the Earth: Land Art to 1974*, exh. cat. Los Angeles, Museum of Contemporary Art, 2012; Munich, Haus der Kunst, 2012–13 (Munich: Prestel, 2012), 43–60; Philip Ursprung, *Grenzen der Kunst: Allan Kaprow und das Happening, Robert Smithson und die Land Art* (Munich: Sike Schreiber, 2003), 199–210.

The material used by Bauermeister has a regularly oval, at times also round form. All of the stones used have a smooth surface, with no sharp edges or asymmetries. Bauermeister has not intervened in their form or texture; rather they were created over a course of time far beyond the human scale by the wave movements of the sea. Bauermeister uses the English word "pebbles" for the individual stones.[82] The artistic intervention with regard to stones is the activity of collection and repeated selection; stones are seen as a "nearly ubiquitously available natural material."[83] Certain colors are only found at specific beaches; there the stones are selected first for their regular form; in the studio they are sorted by size and the colors are distinguished again; the composition of the work represents the final selection. With a few exceptions, the wooden support was sanded by Bauermeister before she applied the stones. Sand is, like earth, a "medium of memory," natural processes have been deposited in it in order to reach a specific combination.[84] In contrast to stones, however, sand is not associated with individuality but seems to be a "collective."[85]

Like all of the other stone works, *Progressions* from 1963 resulted from this process (fig. 39). The work consists of four plywood boards, arranged in a spiral. The size of the four boards once again refers to the Fibonacci series, with the square open area whose edges are formed by all four parts of the picture is the starting point, that is, the "1." Adding the open area to itself results in the size of the smallest board; adding it to the open area results in the dimensions of the next larger one; a process that Bauermeister continued to the largest board—she thus takes up an aspect from her education that was incorporated into the combination principle. *Progressions* also has a Fibonacci series running in the opposite direction: every element of the painting has a square part into which no stones were inserted. The largest of them contains the smallest stoneless area, and the dimensions increase the smaller the Stone Pictures become. The endpoint here is the open area that is the starting point for the Fibonacci sequence, which was introduced to determine the size of the elements. The work measures 130.2 by 120.3 by 12.1 centimeters and parts of its composition result from a mathematical sequence associated with natural growth processes.

82   The more neutral umbrella term "stones" is used here.

83   See Monika Wagner, "Papier und Stein. Kommunikative Potenziale anachronistischer Trägermaterialien in der zeitgenössischen Kunst," in Strässle, Kleinschmidt, and Mohs, *Das Zusammenspiel der Materialien in den Künsten* (see note 17), 263–76, esp. 264.

84   See Christiane Heibach, "Erd-Verbindungen: Über Erde als 'ideelles' Material in der Kunst," in Heibach and Rohde, *Ästhetik der Materialität* (see note 27), 213–41, esp. 225.

85   See Bühler and Rieger, *Bunte Steine* (see note 80), 189.

Fig. 39: Progressions, 1963, stones on particle board coated with sand, 130.2 x 120.3 x 12.1 cm, The Museum of Modern Art, New York, Matthew T. Mellon Foundation Fund, 1964, 254.1964.


When placing the stones Bauermeister had recourse to two principles that are determinant of her oeuvre: first, ordering in series; the stones were glued side by side according to their size, and smaller stones of suitable form were layered on that, resulting in stone towers that taper toward the top; second, the rather unstructured-looking arrangement in which diverse staggered stone towers are in turn linked by stones. Both seem contradictory at first, but each creates its own ordering of the material. Both the largest pictorial element and the one on the left feature ordering in series; in *Progressions* Bauermeister sought shifts within the rows. Because the darker stones on the right half of the largest wood panel are initially larger, and in

the left, brighter half a rising relief results; stone, a robust material, thereby take on a dynamic. This dynamic must have determined the process of making the work, since the small stones were supposed to be removed from the larger context, like cobble.

In other stone works—*Vinavil* of 1964, for example—this movement of the "passive" material stone is depicted even more pointedly (fig. 40). There are also works constructed without these shifts in size within the rows of stone; in them the material seems to be ordered most consistently: *Verschwindender Horizont* (Disappearing Horizon) of 1966 consists of eight square Stone Pictures applied vertically one above the other on a wooden construction that looms out of the wall into the space, creating a sculptural work (fig. 41). The stone towers are accurately arranged, always from large to small, on top of and next to one another. The reduction of the size of the stones and the height of the stone towers is framed by another progression: the depth of the white wooden pedestal to which the Stone Pictures are attached decreases as it gets taller.

Fig. 40: Vinavil, 1964, stones, ink on particle board coated with sand, 121.5 x 121.5 x 29 cm, Courtesy of Michael Rosenfeld Gallery LLC, New York, NY.

Fig. 41: Verschwindender Horizont, 1966, stones, sand on wood, 250 x 107.5 x 70 cm, Mary Bauermeister Art Estate.
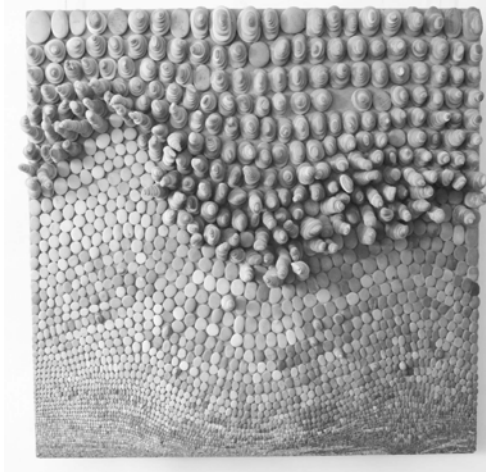
Working with different progressions can be observed repeatedly in the Stone Pictures: each of the two pictorial elements in *Progressions*, which follow the ordered principle of stone composition, has a progression that runs counter to the other: whereas the one runs from large to small, the other is constructed from small to large. The sizes of the panels and the stoneless areas are likewise marked by con-

trary progressions: that of the Fibonacci sequence. It is reasonable to assume that Bauermeister intended the arrangement of the stones in rows to allude to (natural-mathematical) principles of growth such as the Fibonacci sequence. The stone towers convey the impression that their individual components resulted from progressive formulas and accordingly grew naturally. Another possible interpretation is that Bauermeister was alluding to tradition of creating trail markers or asserting one's presence by stacking stones.[86] This would result in, as with the *Needless Needles* light sheet, a performative-feminist level, since with her shore finds the artist was appropriating an unusual material and layering countless towers of all sizes over the course of her oeuvre. Each individual tower could be interpreted as a self-assertion of her own path and an affirmation of her presence and hence as the repeated act of capturing for herself something already explored.[87]

On the smallest and the second-largest pictorial elements in *Progressions*, the stones are arranged in a way that appears unstructured at first. It is, however, another of the artist's principles for dealing with the raw material. On closer inspection, it becomes evident that Bauermeister applied diverse stone towers to the surface. There are connected to one another by more oval stones, to which further towers are glued. From a slight distance, they give the impression of disorder, as if the stones were simulating the situation of their finding. It is, however, instead a more subtle order that demands greater powers of abstraction from the viewers. One could cite here again Günther's polycontextuality, since for him reality and order are two equivalent concepts: "If something *is*, it must have order and if it *appears* as chaos it only means that we have not yet found the code which unravels the seeming chaos and shows us the hidden order in the imbroglio."[88]

This results in a situation similar to that of Bauermeister's point structures. The stone towers are equivalent to the points painted one above the other on the canvas in which a black point has a smaller white one and that in turn has an even smaller black one. With its unstructured arrangement of stones of towers nested into groups and with smaller towers added, it is like looking at *Konstruktiver Tachismus* from a slight distance: it conveys the impression of an expressive randomness. The ordered and planned structured is revealed only when one moves closer.

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86 See Kathrin Rottmann, "Technisch erhaben: Michael Heizers Steintransporte," in *Steine: Kulturelle Praktiken des Materialtransfers*, ed. Monika Wagner and Michael Friedrich (Berlin: de Gruyter, 2017), 99–114, esp. 108.

87 These tendencies in Bauermeister cannot be marginalized. The "documenting" of an artistic act is evident already with the patent application for the Magnet Pictures. The artist's self-assertion is also found in the light sheets, which commented on work with "feminine" connotations, namely, sewing.

88 Gotthard Günther, "Life as Poly-Contexturality" (1973), in *Wirklichkeit als Poly-Kontexturalität*, vol. 2 of *Beiträge zur Grundlegung einer operationsfähigen Dialektik*, 2 vols. (Hamburg: Felix Meiner, 1979), 283–306, esp. 290.

The four parts of *Progressions* unite two different principles for composing with stones; accordingly, the combination principle is thus transformed with the stones in comparison to the technique of painting: from the point structure, which will be employed repeatedly as an element in the further course of Bauermeister's oeuvre, two principles of arranging the stones can be observed, which will also be observed repeatedly. That there is a correspondence between her painting and her composition with stones is made clear by Bauermeister in the work *Layers* of 1964 (fig. 42). That vertical-format work consists of stacked stones and outlines painted in casein tempera to simulate stones glued on top of one another. The upper third of the work has primarily painted forms and a total of five stone towers inserted; in the lower section there are clearly more towers, even though the painted structures continue to dominate; the part of the work created with stones no longer has painted surfaces, though the darker stones sometimes suggest this. Here Bauermeister has united the sorted and stacked stones into one work with drawn round and oval forms inside one another and thus made a direct connect. Because painting gets a counterweight with the stones, in *Layers* it is no longer necessary to decide which technique is imitation and which the model. With reference to the title, it is also possible to think of it as different "layers" of the same principle that merely reveal themselves in different ways: the structures designed with paint and those with stones should both be thought of as in one horizon. That would be another implementation of many-valued aesthetics; there should be no categorical different between the stones and the painted but rather equal value.

Fig. 42: Layers, 1964, casein tempera, ink, stones on particle board coated with sand, 149.9 x 50.8 x 11.4 cm, Collection of Mr. and Mrs. Jean-Pierre Radley, United States.
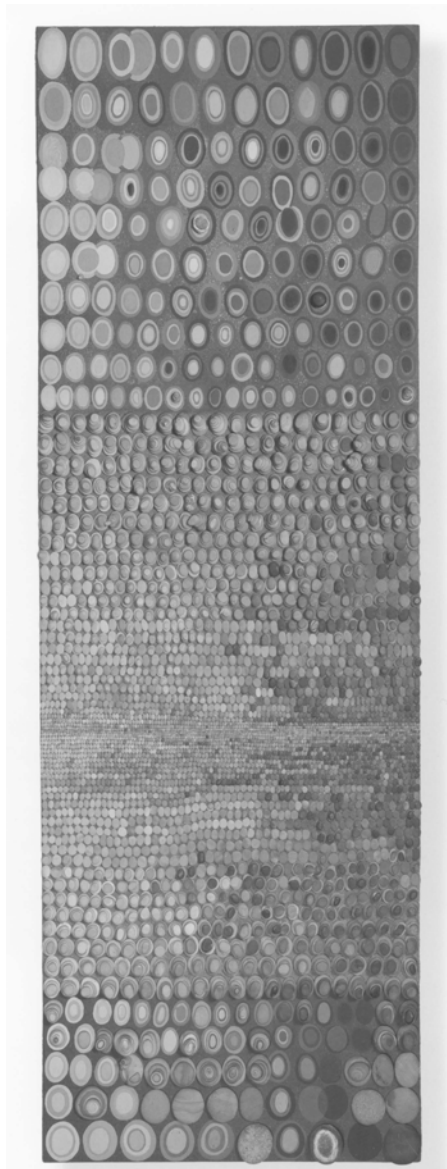
The level of materiality that is contained in the stones and goes beyond material aspects produces a resistance when it comes to contextualizing with painted structures: the stones mediate between human and nonhuman scales of time.[89] They could be found by the artist, placed in a composition, and given strategies of many-valued aesthetics; nevertheless, the stones contain a remnant of natural processes that gives them their special look. Bauermeister does not just employ stones in the Stone Pictures, where they are the dominant material, but also in other groups of works, as one element among many: in the Lens Boxes, for example, where their integration is also reflected on in drawing and writing. The drawn and written are, however, also a material presence of their own, which also has an effect on the level of materiality.

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89   As early as 1966 Roger Caillois was speaking of stones not only being older than life but also that they would still exist after it has disappeared: "They arose before mankind; and man, as he developed, did not mark them with his art or with his industry." Roger Caillois, *Stones & Other Texts*, trans. Valentine Umansky, *Flint Magazine* 1–2 (June 2018), https://sensatejournal.com/stones-other-texts/.

5. The Use of Writing in Bauermeister's Oeuvre

> I use words in those cases where writing
> is quicker than painting or in case
> the idea I have at a given moment
> is expressed better in writing than in
> painting.[1]
> *Mary Bauermeister, 1965*

The quotation in the epigraph summarizes several qualities of the use of writing in Mary Bauermeister's oeuvre: writing has an ancillary function, either to arrive at a more precise statement or to capture the flow of thoughts at all. Her artistic oeuvre is to a large degree based on written characters but not because the aesthetic mixture of handwriting and drawings was a particular concern of hers. Neither is the written word integrated into a composition as foreign matter in order to reflect on artistic traditions in this way—these levels enter into it only secondarily. Initially, she seems to have focused on implementing ideas in the process of creating the work. By the word "idea" Bauermeister meant a random insight that becomes the starting point; the thematic orientation of a work changes continuously, because a medley of comments results. That is what is meant by the expression "at a given moment" in the quotation in the epigraph; while working on the artwork, not only did the artist incorporate all aspects that seemed worthwhile but also implemented them in a way that is quick or more adequate. Sometimes the genuinely more adequate is abandoned in favor of a timely fix.

Once Bauermeister had written or drawn the initial idea, she switched to formulating comments, which can in turn be written or drawn, then new comments follow.[2] This strategy is summed up here by the term "commentary system" and elaborated in more detail. Yet another function is assigned to the use of writing; it is an "intermediary between completely heterogeneous elements."[3] When the comments

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1   Mary Bauermeister, "The Artists Say," *Art Voices* 4, no. 3 (Summer 1965): 64–65.
2   See ibid., 64. In this text Bauermeister describes her work process in individual steps from A to D that contain new comments but can also involve changes to the previous ones.
3   Ibid., 64.

branched out and move too far away from one another in the process, it was possible for Bauermeister to bridge them with writing. This approach also explains the appearance of the works of art; the Lens Boxes in particular are marked by a very intricate aesthetic. The process of the (written or drawn) comment on a comment is theoretically unending: "Sometimes it is finished because it is overcrowded anyway and I cannot fill anything in anymore."[4] In the work process the comments are more crucial than the visual result; the outer borders of the work first provide the termination.

In the *Needless Needles* group discussed above, the needles and the activity of sewing stand at the beginning, and then the comments result in a cosmos of many small details that reflect on the theme. In the process it is also possible to address aspects that, seen superficially, have little in common with the original theme; moreover, the originating idea can no longer be understood. In the case of the work *Don't Defend Your Freedom With Poisoned Mushrooms or Hommage à John Cage* of 1964, which measures 58 by 74 by 8 centimeters, the initial idea was to incorporate and reflect on mushrooms, possibly after finding the three fruiting bodies integrated into the work (fig. 43). In the intricate section of writing and drawing on the left side of the work, a sentence can be made out that could be interpreted as an explanation of that initial idea: "Once I had a dream about mushrooms shortly before I found the mushrooms on a tree shortly after my dream about stones." According to this, the dream about mushrooms and the find shortly thereafter decided the issue, but these sentences from Bauermeister should not be taken literally, since the artist often works with irony, suggestions, and deliberate shifts in meaning in order to avoid unambiguous statements. Explicit explanations would run counter to the latent many-valuedness and the constant thinking of the opposite as well.

To that end, she also worked with a continuous system of quotation: the first words of that sentence are, not coincidentally, a modified paraphrase of the famous speech by Martin Luther King on August 28, 1963. Bauermeister was already in the United States at the time and experienced the political developments from up close, but this did not cause her to create a work explicitly about the march on Washington; it is, rather, just one small aspect in a broadly ramified plexus.[5] The combination is not, however, random but rather follows the (associative) commentary system; these are the individual "ideas" that Bauermeister tries to implement in her works in order

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4   Hauke Ohls, "Interview to Mary Bauermeister by Hauke Ohls," in *Mary Bauermeister: 1+1=3*, exh. cat. (Milan: Studio Gariboldi, 2017), 6–44, esp. 30. In the interview Bauermeister adds: "Sometimes I realize that I did too much."

5   Explicitly political works do not appear in Bauermeister's oeuvre until several years later, especially the works *Great Society* from 1969 to 1971, the series *No Fighting on Christmas (Air Conditioned Nightmare)* from 1967 to 1971, and *Fuck the System* of 1972. One exception is the Lens Box *Title One* of 1965; it refers to the first section of an education act that was passed in 1965 to support children from low-income regions in particular.

to refer to them in turn—though this often happens in contradictions, to avoid the unambiguous.

Fig. 43: Don't Defend Your Freedom With Poisoned Mushrooms or Hommage à John Cage, 1964, pencil, watercolor, ink, mushrooms, on paper and glass, 58 x 74 x 8 cm, Mary Bauermeister Art Estate.
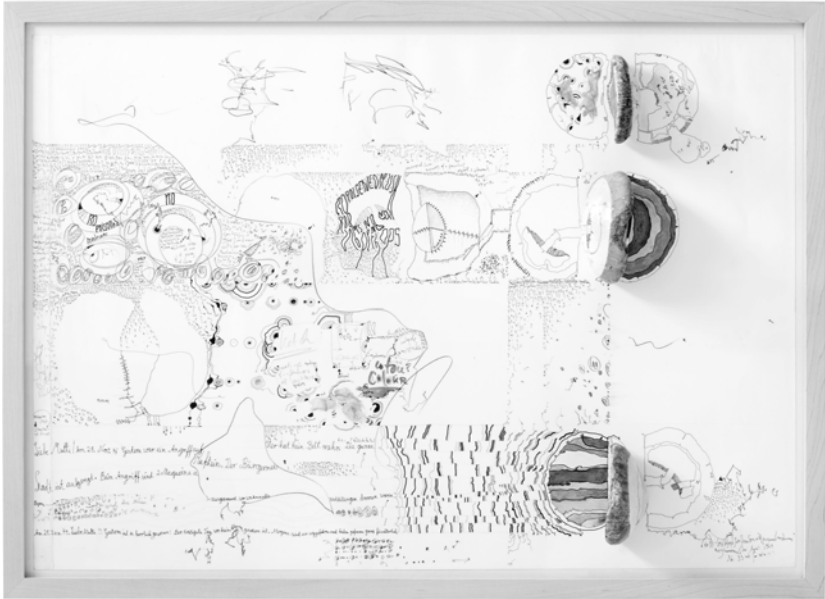
The glued-on, drawn, and written "poisoned mushrooms" pick up the atomic bombs that were a daily threat when the work was made after the bombings of Hiroshima and Nagasaki in August 1945 by the United States as well as the tensions of the Cold War and particularly during the Cuban missile crisis. Diverse small drawings in the work simulate an explosion. In addition, Bauermeister's childhood memories of the war were integrated in the form of lines from letters to her mother. At the edge in the upper left corner of the work stands first "instruction": "memory 1944 / 2 broken + 1 line." Accordingly, below that two fragmented lines have been supplemented with a continuous one; here Bauermeister was copying passages from two letters that she wrote to her mother in 1944 and imitating her handwriting of that time, when she was ten. The upper two lines are from November 28, 1944, the lower two from December 25, 1944.[6] At the time Bauermeister had to participate in the "Erweiterte Kinderlandverschickung" (Expanded evacuation of children to the

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6   The letters have been preserved in Bauermeister's studio.

countryside) in Kufstein, Austria. The earlier letter is about an air strike; the later one states that, unusually, no air-raid siren sounded on Christmas Eve.[7] Bauermeister thus also incorporates autobiographical material into her works; it is an equally valid part of the system of ideas and commentary.

The "poisoned mushrooms" have yet another level that is closely connected to the subtitle—*Hommage à John Cage*: Bauermeister went on hikes in the woods with the American artist and composer to gather mushrooms. The "poisoned mushrooms" should therefore be seen, on the one hand, as an allusion to Cage as an experienced mushroom gatherer and, on the other hand, in a broader context as a reference to the drug culture among artists. Even though the Summer of Love was still three years in the future, the work is already (in part) a commentary on the connection between searching for freedom and consuming drugs.

The title, which is written on the work at the lower right, therefore plays a significant role in the design. Moreover, it is paraphrased several times on the surface of the picture—in Bauermeister's work, it is also possible that the title of the work was derived from the visual result after it was completed.[8] *Don't Defend Your Freedom With Poisoned Mushrooms or Hommage à John Cage* has several areas, such as the quotations from childhood letters and the reference to gather mushrooms with John Cage, that are clearly autobiographical in nature. One cannot conclude from that, however, that Bauermeister constructed her works from autobiographical materials that therefore need to be decoded in order to describe her art. The personal sections are merely one element that Bauermeister integrated in order to construct a plurality that is as inclusive as possible. Preceding purely biographically would be equivalent to succumbing to a strict dogma. As already discussed, integrating her own subject is rather supposed to prevent the reduction of perspectives, since turning many-valued logic to a many-valued aesthetic runs the risk of formulating a general ambiguity and separating oneself as uninvolved. An example of something that should be viewed as outside the autobiographical is the multiple use of "yes, no, perhaps" in this work as should the drawn cast shadows of the glued-on mushrooms, which simulate that they contain either a complete mushroom or a drawing of round elements. In addition, the division of the plane prepares the groundwork for the unfinished, so that uncontrolled-looking, curving lines or the word "sketch" are right next to careful drawings. Moreover, sewn-on canvas cutouts and sewing needles are imitated by drawing, which thus initiate a networking with the *Needless Needles* group.

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7   These memories also became part of the aforementioned group of works *No Fighting on Christmas (Air Conditioned Nightmare)* as well as the Lens Box *I'm a Pacifist but War Pictures are too Beautiful* of 1964–66.

8   The relationship of the title and the work of art and Bauermeister's specific method of producing a productive tension with it will be examined in more detail in section 6.3.

Beyond Surrealism

The reference to the dream about mushrooms or about stones that Bauermeister wrote on the work as well as the commentary system she developed and her use of writing in general should not be confused with the Surrealist method of automatic writing. When Bauermeister began to use writing as an artistic means, this view was widespread in theoretical reflection on her art, especially among American critics, and it is sometimes still found today in studies of her work. Then and now, the misunderstanding is certainly reasonable, since initially it seems there are reasons for this view, but it does not do justice to the content of the works. In the early to mid-1960s, the legacy of Surrealism was still a strong presence in the United States, especially as several of the most important artists had immigrated there and the next generation had adapted Surrealist techniques. At the same time, where was also a tendency to associate the artists of the neo-avant-garde with Surrealism.[9] The young German artist was often categorized as a "surrealist" at first to account for her combinations of materials and incorporation of writing.[10] In Germany, Surrealism only began to be seen as a reference for Bauermeister's work with her first solo exhibition at an institution and thereafter repeatedly.[11]

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9   One representative example is the exhibition *Dada, Surrealism, and Their Heritage*, held at the Museum of Modern Art in New York in 1968; see William Rubin, "Surrealism in Exile and After," in Dada, Surrealism and Their Heritage, exh. cat. (New York: Museum of Modern Art, 1968), 159–86.

10   Brian O'Doherty, review of a group exhibition at the Galeria Bonino, *New York Times* (December 29, 1963); Betty Stapleton, "Her Painting May Be Surrealist, She Is Not," in *Toronto Daily Star* (May 16, 1964); Elizabeth Kilbourn, "Mary Bauermeister," *Toronto Daily Star* (May 23, 1964); Leslie Judd Ahlander, "Foreword," in *After Surrealism: Metaphors & Smiles*, exh. cat. (Sarasota, FL: Ringling Museum of Art, 1972), 4–25, esp. 11.

11   See Maria Velte, "Mary Bauermeister: Das Werk," in *Mary Bauermeister: Gemälde und Objekte, 1952–1972*, exh. cat. (Koblenz, Mittelrhein Museum, 1972), esp. XIV. The connection between Bauermeister and Surrealism is formulated most explicitly by Skrobanek: "Even if Bauermeister planned the theme and design of the box, the execution can be described as entirely in the spirit of the Surrealists as automatic writing ('écriture automatique')." Kerstin Skrobanek, "'Die Jacke Kunst weiter dehnen': Mary Bauermeisters Aufbruch in den Raum," PhD diss., Frankfurt am Main, 2009, Univ.-Bibliothek 2014, http://publikationen.ub.uni-frankfurt.de/frontdoor/index/index/year/2014/docId/35011, p. 50. For a current discussion of Bauermeister's use of writing in her works without reference to Surrealism, see Petra Oelschlägel, "Mary Bauermeister: Signs, Words, Universes," trans. Simon Stockhausen, in *Mary Bauermeister: Zeichen, Worte, Universen*, exh. cat. Bergisch Gladbach, Kunstmuseum Villa Zanders, 2017/2018 (Dortmund: Kettler, 2017), 95–102.

André Breton tried to define Surrealism and the method of Surrealist writing: In his view, reality is still too locked in a "cage" by "the reign of logic."[12] In dreams, but also under the influence of drugs, the restricting influence of human reason is shut off, so that only then do we get closer to authentic reality. For Breton, the dream and the perceived world together result in a new level that offers us more exact insights, which is why for him Surrealism should be called "supernaturalism."[13] Breton defines the "written Surrealist composition" as the "disinterested play of thought," with which in the best case the continual sequence of events in the mind is put down (as) unfiltered (as possible) orally or in writing so that "distraction" is incorporated as a positive marker.[14] This does not mean turning away from reality, however, but, quite the contrary, turning toward it. The automatism that artists are meant to fall into when using the Surrealist method should not be influenced by any aesthetic criteria; that would only impair "*poetic* intuition."[15]

Bauermeister's statements about her commentary system make one think of Surrealism according to Breton at first, but each is framed within a completely different horizon. She did not by any means wish to shut logic out because it has a restricting effect; on the contrary, she wanted to establish a new, in her view more appropriate logic in her works. The "reign of logic" criticized by Breton is adopted by Bauermeister and applied strictly—with the difference that it is extended by the two- or three-valued view. It should be noted here that in his writings Breton used a very general concept of logic that is closely tied to conceptions such as morals or ethics and not to the philosophical discipline of logic, whereas Bauermeister followed only Gotthard Günther's concept, which was in turn decisively influenced by Hegel and specifically his writings on logic. The contexts in which the works of Bauermeister and the Surrealists, respectively, referred to the higher-order concept of logic are thus fundamentally different.

In addition, the supposed indifference to the aesthetic result when using the Surrealist method is irreconcilable with Bauermeister's approach: Her hybridization of writing and drawing is brought into a composed overall appearance, for which she used her specific signature style and deliberately divided the plane in such a way that no elements intersect. The Lens Boxes may contain different layers, but they merely ensure situational superimpositions depending on the viewing angle and corresponding to the reciprocal influence of the individual elements.

12   André Breton, "Manifesto of Surrealism" (1924), in Breton, *Manifestos of Surrealism*, trans. Richard Seaver and Helen R. Lane (Ann Arbor: University of Michigan Press, 1969), 3–47, esp. 9–10.

13   Ibid., 25.

14   Ibid., 29–47.

15   André Breton, "On Surrealism in Its Living Works" (1953), Breton, *Manifestos of Surrealism* (see note 12), 295–304, esp. 304.

Bauermeister's aesthetic of intricacy, which she herself calls "overcrowded," is precisely composed so that the arrangement of writing itself takes on an iconicity. Moreover, in Bauermeister's commentary system one cannot speak of a "stream of thoughts" that is realized unfiltered in writing or drawing. The comments are small elements that are inserted into a work and then are related to one another in terms of the subject matter and composition. Liz Kotz speaks accordingly of "surrealist elements," which flow into Bauermeister's works.[16] One can agree with this assessment insofar as that the Surrealist method partially integrated into combination of techniques with which she creates all her works. Calling Bauermeister a Surrealist in general or reducing the manifold elements in her works solely to the method of automatic writing is unproductive.

Statements about Bauermeister's art in the 1960s already reflect divergences: Lawrence Alloway, for example, called the arrangements of the Writing Pictures "cartographic"; he mentions, among others, Gianfranco Baruchello and Öyvind Fahlström as contemporaries who work in a stylistically comparable way.[17] Bauermeister had several points of contact with both artists in the 1960s; in addition to Baruchello and Fahlström, the Japanese artist Shūsaku Arakawa and the American Ray Johnson, with whom she exhibited repeatedly, should be mentioned to contextualize her works.[18] The art critic James Mellow meanwhile produces a list in his effort to get closer to Bauermeister's use of writing that conveys an absurd image of her works at first but is apt on another level: "It is work of improvident richness, full of visual puns, verbal puns, liberally sprinkled with cryptic allusions and scribbled art jokes."[19] A similar description is offered by Leslie Judd Ahlander, who mentions "visual puns and strange symbols," and by Howard Smith, who sees "aimless little notes, without much reference."[20] The employment of writing in Bauermeister's works has all of these characteristics. Playing with words and images is omnipresent

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16   Liz Kotz, "Language Upside Down," in *Mary Bauermeister: The New York Decade*, exh. cat. (Northampton, MA: Smith College Museum of Art, 2014), 59–77, esp. 65.

17   Lawrence Alloway, "Introduction," in *European Drawings*, exh. cat. (New York, Solomon R. Guggenheim Museum, 1966), 11–18, esp. 14. Instead of the cartographic, section 5.3 emphasizes the "associagrammar," which seems appropriate for the hybrid of writing and drawing.

18   All four artists and Bauermeister were represented in the exhibition *Pictures to Be Read/ Poetry to Be Seen*, which was mentioned above in the introduction. With the exception of Ray Johnson, they could also be seen in *Towards a Cold Poetic Image* at the Galleria Schwarz in Milan in 1967. In one exhibition catalog Bauermeister's works are described as being created from a certain "order"; this trend is said to exist in all the artists participating in the show; Gillo Dorfles, "Towards a Cold Poetic Image," in *Towards a Cold Poetic Image*, exh. cat. (Milan, Galleria Schwarz, 1967), 5–12, esp. 7–9.

19   James R. Mellow, "'Art Can Go on Spawning New Art ad Infinitum,'" *New York Times* (April 26, 1970), 27.

20   Ahlander, "Foreword" (see note 10), 11; Howard E. Smith, "Mary Bauermeister," *Art and Artists*, 6, no. 7 (November 1971): 40–41, esp. 40.

in her Writing Pictures and Lens Boxes, as are statements and jokes about the art system and comments without reference that seem to go nowhere. These small individual elements together, however, participate in a strategy that at first alludes to the combination principle before being assimilated in the overarching many-valued aesthetic. The Lens Boxes can be completely different in their details, which result from the initial theme and commentary system. In general, however, all written or drawn statements participate in a few basic statements that always amount to reflecting on something.

The many-valued aesthetic tries not only to incorporate the opposite continuously but also to adopt the intermediate position to escape a possible dogmatism of a definitive statement; constant questioning and thwarting are intended to give impetus to an unending process of reflection in which the viewers can participate when viewing. The networks and metalevels that this process opens up in the individual works and the merging of separate works into common unities of meaning will be worked out in chapter 6 and refined in the epilogue. The present chapter will study the use of (hand)writing, its iconicity and contextualization with drawing, the specific repetitions of words, and the productive dimension in the use of writing. It will also look at Bauermeister's reflexive approach to written signs and the act of writing.

5.1   A Topology of Notational Iconicity

The individual aspects of reflecting on writing and its iconicity are contained in rich detail in the Lens Box *Writing*. It was created in 1966 and measures 85.1 by 85.7 by 15.2 centimeters (fig. 44). The structure of *Writing* is not unusual for one type of Bauermeister's Lens Boxes of the 1960s: a plywood box functions as the frame, which is integrated into the composition; inserted in a square cutout is a wooden construction that forms a boxlike recession. It is in turn filled with layers of glass, lenses, wooden spheres, writing, and drawing. The diamond-shape arrangement of the recession recalls the aforementioned work *Gestalt zu Struktur*; its colors and the round elements reinforce this impression. These parallels remain on a formal level, however; Bauermeister merely takes up again a compositional model she had used previously and places it in a completely new context.

Fig. 44: *Writing, 1966, ink, glass, glass lens, wooden sphere, modeling compound and painted wood construction, 85.1 x 85.7 x 15.2 cm, Brooklyn Museum, Carll H. de Silver Fund, Caroline A. L. Pratt Fund and Ella C. Woodward Memorial Fund, 67.273.*
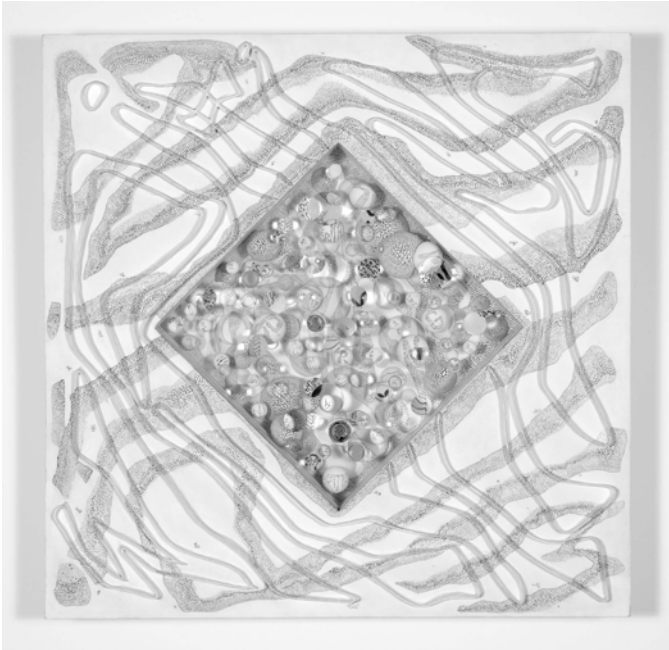
Around the square recession two kinds of intertwined lines are visible; one, the relief-like bright one, which is formed with modeling compound; second, the somewhat wide and dark one, which is composed of (distorted) writing. The writing also covers the modeling compound and thus connects the two structures of lines. At first glance, both kinds of lines appear uncontrolled, but each spells out the title of the work. In the lower left corner of the work, the W of *Writing* in modeling compound is clearly visible; the lower right corner contains the initial letter composed of writing. Each title extends to the opposite top corner; the two words cross, occupying the entire surface of the work. In the background of the recession the word "Writing" can be identified yet again; here the letters are composed of white empty areas in between the tiny writing that otherwise cover the surface. In addition, the title can be formed by the wooden spheres inside the Lens Box, because the individual letters appear on several of them, and in the lower corner the entire title can be read on one sphere. Finally, on the frame, as inside the Lens Box, are individual and grouped letters, all of which refer to the title.

The specific employment of writing on the frame and within the recession that combine to form a new word is omnipresent in Bauermeister's oeuvre: in *Writing* they consist of distorted fine lines that alternate, depending on the direction of reading and the nuances, between the words "no" and "oui." This status between affirmation and negation refers to the many-valuedness that Bauermeister wanted to illustrate in her works. Appropriately, then, the intermediate position is written out in three languages on several of the wooden spheres in the Lens Box: "peut-être," "perhaps," and "vielleicht." The word "perhaps" on the sphere in the upper quarter of the Lens Box is in turn composed of the words "ja," "nein," and "vielleicht." Working with distorted written characters both inside and outside the recession is not only to make reading them challenging but also refers to use of lenses. They distort the individual elements during the act of viewing; for Bauermeister, however, every distortion was not just an optical phenomenon that can occur when looking through a lens; here, too, many-valuedness is foregrounded. That a lens causes distortions is expected by the viewers and conforms with their familiar assumptions. These processes can, however, occur without the use of lenses. On this level the distortions of the lines illustrate the many-valued aesthetic: clearly legible words can occur just as well as those distorted by lenses, and so can distorted writing that is not affected by lenses.

Multivalence simulates two people viewing *Writing* at the same time. Bauermeister conceived her Lens Boxes such that this possibility is already inherent in the work. In addition, there is the process of self-productivity: it says that the individual elements within a work can influence one another. The curved lines of modeling compound and of the elongated, distorted "oui" and "no" illustrate a many-valuedness because of their status between writing and unidentifiable confusion of lines: It is certainly possible that one visitor in the Brooklyn Museum in New York views the work and perceives only uncontrolled lines on the frame and perhaps interprets them as a comment on Abstract Expressionism, since in the case of the modeling compound the lines are accurately applied and in the cases of the written characters the writing or drawing is delicate and clear, so that they can convey alleged spontaneity. The next person identifies, perhaps based on the title, the W in the lower left corner and then is easily able to complete the other letters; the interpretation is entirely different in each case, because one calls attention to the fact that the title is written multiple times in and on the work and depending on the context can be a noun, a gerund, or a present participle. This can cause one to think of reflecting on language and self-referentiality, so that *Writing* is read, for example, as a commentary on emerging Conceptual Art, which is concerned with, among other things using linguistic means to challenge the object level of

the work of art.[21] In the work *Writing*, however, the idea is not emphasized versus the material realization, because it was carefully executed by Bauermeister. There is always an individual component in the reception of works of art, and it emerges according to the predisposition of the viewers, as was already shown with reference to Rancière's concept of aesthetics.[22] *Writing* is, however, not an ambiguous image that can be seen in turn as a rabbit or a duck. The crucial thing is that both—viewing the curved lines and the written word "Writing"—are, seen metaphysically, equally and simultaneously appropriate.

These discussions of the work *Writing* already address several aspects of the use of writing in Bauermeister's oeuvre. Until now we have been talking about written characters that are arranged and designed so that they produce either new writing or something visual. A more precise analysis is required, however, to be able to understand how exactly Bauermeister employed writing and drawing and what produced their connection. In this context, "topology" is understood quite generally as a "heterogeneous field of thinking working on and with spatial connections," since that results in "expressions of relational connections" occurring in a next step that are closer to Bauermeister's networks within her use of writing.[23]

Notational Iconicity

The term "notational iconicity" (*Schriftbildlichkeit*) refers to an approach in which the written is understood not only as a system for notating spoken language but also for processing writing, the specific arrangement on the notational medium, and is also able to refer to or cultivate its own potencies. A written character stands between the poles of language and image and must be seen as a "hybrid" or "hermaphrodite."[24]

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21   Lucy Lippard first emphasized dematerialization in her influential monograph on Conceptual Art before herself proposing a revision of the thesis; see Lucy R. Lippard, *Six Years: The Dematerialization of the Art Object from 1966 to 1972* (New York: Praeger, 1973). The expression Conceptual Art described a wealth of artistic positions, especially in the 1960s and early 1970s. It can include along with dematerialization reflection on art or craft as well as writing-based, photography-, performance-, situation-, actionist-, context-related, and gender-specific or institution-critical works as well as instructions for action, critique of commodification, or a process focused entirely on the artistic idea; see Tony Godfrey, *Conceptual Art* (London: Phaidon, 1998).

22   See section 2.3.

23   Wolfgang Pichler, "Topologische Konfigurationen des Denkens und der Kunst," in *Topologie: Falten, Knoten, Netze, Stülpungen in Kunst und Theorie*, ed. Wolfgang Pichler and Ralph Ubl (Vienna: Turia & Kant, 2009), 13–66, esp. 21–22.

24   Sybille Krämer, "'Operationsraum Schrift': Über einen Perspektivenwechsel in der Betrachtung der Schrift," in *Schrift: Kulturtechnik zwischen Auge, Hand und Maschine*, ed. Gernot Grube, Werner Kogge, and Sybille Krämer (Munich: Wilhelm Fink, 2005), 23–57, esp. 31. Accordingly, Vítězslav Horák speaks of "hybrid signs" for defining something written; Vítězslav Horák, "Hy-

According to Sybille Krämer, writing participates in both, but it is not an image, since as a medium for notating language it is "discretely organized." Nor does it seem appropriate to equate it with language since notating in writing draws on "in-betweens and voids, on two-dimensionality as principle of configuration, and on the simultaneity of the arrangement."[25] Hence writing possesses not only a point of intersection but should also be thought of in its own categories that go beyond a use as a secondary tool. In order to talk about writing as a phenomenon, Krämer proposes a "triadic model," in which two aspects condition the third in each case: it "requires referentiality," that is to say, the written characters must permit a reference to something outside of themselves, even if this referring is not unambiguous; to that end, an "aisthetic presence" is indispensable; it refers to the material appearance it must have; beyond that, "operationality" is crucial: the written elements must be both distinguishable and definite.[26] Writing in general is a "special case of notation," which by operating logically has an effect not only on language but also on other forms of notation.[27]

One perceives in scholarship on notational iconicity trends toward a "re-iconizing" of writing.[28] In the historical process, writing has always been de-iconized, since it depended on social conventions and "abstract" so that the assembled expressions obtain a universally intelligible meaning, whereas each individual letter seems meaningless.[29] In this view, there was once a close connection between image and writing; interpreting them as decidedly different phenomena was based on an artificial separation; Christian Stetter even goes so far as to say that the origin of writing is to be found in the image.[30]

This emphasis seems necessary, because ancient philosophy had formulated—in a way similar to the marginalization of matter in the previous chapter—a subordination of writing to language. The material presence of writing—or its visual or aisthetic quality—is not incorporated. The critique of writing versus the spoken word is

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bridzeichen: Konvergenzen zwischen Bild und Schrift," in *Bild, Macht, Schrift: Schriftkulturen in bildkritischer Perspektive*, ed. Antonio Loprieno, Carsten Knigge Salis, and Birgit Mersmann (Weilerswist: Velbrück Wissenschaft, 2011), 81–92, esp. 90f.

25   See Krämer, "Operationsraum Schrift" (see note 24), 29.

26   See Gernot Grube and Werner Kogge, "Zur Einleitung: Was ist Schrift?," in Grube, Kogge, and Krämer, *Schrift* (see note 24), 9–21, esp. 12–16.

27   See Rainer Totzke, *Buchstaben-Folgen: Schriftlichkeit, Wissenschaft und Heideggers Kritik an der Wissenschaftsideologie* (Weilerswist: Velbrück Wissenschaft, 2004), 55–56.

28   Aleida Assmann, "Lesen als Kippfigur: Buchstaben zwischen Transparenz und Bildlichkeit," in *Schriftbildlichkeit: Wahrnehmbarkeit, Materialität und Operativität von Notationen*, ed. Eva Cancik-Kirschbaum, Sybille Krämer, and Rainer Totzke (Berlin: Akademie, 2012), 235–44, esp. 243.

29   See Konrad Ehlich, "Schrifträume," in Cancik-Kirschbaum, Krämer, and Totzke, *Schriftbildlichkeit* (see note 28), 39–60, esp. 47ff.; Christian Stetter, "Bild, Diagramm, Schrift," in Grube, Kogge, and Krämer, *Schrift* (see note 24), 115–35, esp. 115–18.

30   See Stetter, "Bild, Diagramm, Schrift" (see note 29), 115.

particularly explicit in Plato: Anyone who assumes that "anything in writing will be clear and certain" is "utterly simple."[31] Scholars of notational iconicity are trying to lead writing out of this marginalized role; to that end they repeatedly refer to Jacques Derrida's 1967 study *De la grammatologie* (translated as *Of Grammatology*). As Werner Kogge emphasizes, Derrida's *Of Grammatology* is not "oriented toward writing as a medium or phenomenon" but is rather about a "play of differences" that exists in every text and can be exposed using the concepts of deconstruction.[32] These aspects must always be taken into account with Derrida, who in his philosophy tried to reject everything with "historico-metaphysical character" in favor of "distinctive characteristics."[33] It cannot be denied, however, that in his book Derrida inverted the hierarchy of language and writing: for him language is "a phenomenon, an aspect, a species of writing."[34] In his text he goes as far as to say that the signified and the meaning of a thing can never be visualized if there are no signifiers; in it lies the "origin" of meaning—so that writing stands out "a debased, lateralized, repressed, displaced theme," and "a permanent and obsessive pressure from the place where it remains held in check."[35]

This hodgepodge of marginalizing and parasitical reconquest of the accustomed position that writing should have, according to Derrida, is crucial when studying Bauermeister's employment of the written, but her commentary system is incomplete in this respect. A necessary extension results when the studies in the context of the "iconic turn" are also consulted.[36] The iconic turn has released potentials within

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31 Plato, *Phaedrus*, in *Euthyphro, Apology, Crito, Phaedo, Phaedrus*, trans. Harold North Fowler (Cambridge, MA: Harvard University Press, 1914), 405–579, esp. 565. Socrates is speaking with Phaedrus here and criticizes in particular that written words cannot react to one's vis-à-vis; they "always say only one and the same thing," and moreover "every word […] is bandied about, alike among those who understand and those who have no interest in it." Ibid. Interestingly, all of these statements have been passed down and can still be understood today thanks to their written form. Whether the marginalization of writing in Plato should not be taken seriously, since otherwise the readers would be assumed to be "simple," is a different question.

32 See Werner Kogge, "Erschriebene Denkräume: Grammatologie in der Perspektive einer Philosophie der Praxis," in Grube, Kogge, and Krämer, *Schrift* (see note 24), 137–69, esp. 140.

33 Jacques Derrida, *Of Grammatology*, trans. Gayatri Chakravorty Spivak (Baltimore, MD: Johns Hopkins University Press, 1976), 9.

34 Ibid., 8.

35 Ibid., 270–75.

36 See Birgit Mersmann, *Schriftikonik: Bildphänomene der Schrift in kultur- und medienkomparativer Perspektive* (Paderborn: Wilhelm Fink, 2015), 13, 24–26, 138, and 239. Mersmann dedicates a section of her study to Roland Barthes's brief text "Variations sur l'écriture," which she describes as one of the foundational texts of notational iconics; see ibid., 141–51. She understands notational iconics to be a "pictorial method and theory of the pictorial (sign)" that should not be equated with notational iconicity but rather characterizes a "transdisciplinary approach to visual studies within research into notational iconicity"; Birgit Mers-

the iconic and outside a semiotic approach; it is the "premise that images of our language contribute to concepts and knowledge important things that can only be experienced on this path."[37] When Bauermeister's employment of writing and its connections with drawing are analyzed within the expanded field of notational iconicity, it becomes clear that her use of the written should not be seen in a different context than that of the drawn elements. Accordingly, it becomes possible to understand her statement that writing and drawing can be employed as commentary of equal value.

The Convergences of Writing and Drawing

For Bauermeister, too, language is only a phenomenon of writing, and likewise language is just a phenomenon of drawing: written or drawn statements in her works can be translated into something linguistic, but that does not exhaust all their meaning.[38] The arrangement, reference, and interaction of the written and the drawn contain their own dimensions of meaning; this nonlinguistic logos is not purely visual in nature either. Because of her special approach, in Bauermeister's works both—writing as well as drawing—formulate the "iconic as."[39] This says that something (writing, drawing, and their connection) can provide a meaning-generating designation that occurs by means of aesthetic showing.[40] The result takes the form of a supralinguistic or supraiconic meaning that in combination cannot be judged by scientific

mann, "Digitale Schriftbildlichkeit als Experimentierfeld der künstlerischen Forschung," in *Schrift im Bild: Rezeptionsästhetische Perspektiven auf Text-Bild-Relationen in den Künsten*, ed. Boris Roman Gibhardt and Johannes Grave (Hannover: Wehrhahn, 2018), 317–32, esp. 317 n. 2. Barthes's essay "Variations sur l'écriture" is cited in scholarship on notational iconicity much less frequently that texts by Derrida, but his formulations can be an excellent supplement. In the context of the present study, description of the common origin of writing and art is significant; Roland Barthes, "Variations sur l'écriture" (1973), in Barthes, *Œuvres complètes*, ed. Éric Marty, vol. 4, 1972–1976 (Paris: Seuil, 2002), 267–316, esp. 280.

37   Gottfried Boehm, "Unbestimmtheit: Zur Logik des Bildes," in Boehm, *Wie Bilder Sinn erzeugen: Die Macht des Zeigens*, 4th ed. (Wiesbaden: Berlin University Press, 2015), 199–212, esp. 208. The concept of the image that is necessary to approach Bauermeister's works is developed further in section 6.1.

38   Horst Bredekamp and Sybille Krämer describe this in a clearly more general context for cultures that seek to distance themselves from the "right of exclusivity which language used to claim for itself." They should rather be thought of "in the reciprocity between the symbolic and the technical, between discourse and the iconic"; Horst Bredekamp and Sybille Krämer, "Culture, Technology, Cultural Techniques: Moving beyond Text," trans. Michael Wutz, *Theory, Culture & Society* 30, no. 6 (2013): 20–29, esp. 24.

39   Dieter Mersch, "Schrift/Bild—Zeichnung/Graph—Linie/Markierung: Bildepisteme und Strukturen des ikonischen 'Als,'" in Cancik-Kirschbaum, Krämer, and Totzke, *Schriftbildlichkeit* (see note 28), 305–27, esp. 312.

40   For Gottfried Boehm, the "power of showing" defines the level of action of images; only then are the "somatic and iconic order" connected to each other; Gottfried Boehm, "Das Zeigen

processes of verification or falsification. Rather, for this type of research, (aesthetic) results beyond "true" and "false" must be accepted:

> "As examples of such research practices, we could take dichotomies or incompatibilities or tensions that become manifest between things, actions, textures, materials, or images and sound and their respective composition (*com-positio*) in the sensual sphere."[41]

The five authors of the manifesto argue for thinking the aesthetic, which cannot ever be completed but is rather framed in a constant "becoming" beyond the concept of scientific knowledge. Results are presented by means of "showing" in an aesthetic manifestation beyond any language-based argumentation.[42]

With her Lens Boxes in the 1960s and 1970s, Bauermeister pursued a similar approach. The works are based on obvious antitheses, down to their tiniest details. New drawn forms are always being added, and at the same time, in the spirit of the combination principle described in chapter 3, already incorporated materials or techniques are recontextualized, resulting in further thematic development. The basic strategy in her works was developed in the early 1960s and has remained the same ever since: The artist formulates ever-new contradictions, which generally demand a revision of the perspective in order to obtain unambiguous and concludable statements. In that context Bauermeister also employs written characters in her oeuvre.

In his definition of signs, Umberto Eco concentrates on the transfer from signifier to a signified; there has to be a smooth "correlation" between the two that happens by means of an agreed-upon "code."[43] This understanding of signs is substantially expanded in notational iconicity. The rigid transfer between material conveyor of meaning and transcendent sense is broken up in favor of boundary cross on the "edge of the semiotic universe."[44] Aleida Assmann speaks of "asemantic signs," whose appearance cannot at first be assigned to a stable meaning, which makes their material appearance and their iconicity stand out. For Assmann, images represent "objects and states of affairs outside a single language," whereas writing first has to operate with a clearly limited supply of signs.[45] But the image has the opportunity to reconcile with writing; to do so the forms and quantities of the signs have to be "more strictly standardized" and "more manageable" so that "the reference to a

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der Bilder," in *Zeigen: Die Rhetorik des Sichtbaren*, ed. Gottfried Boehm, Sebastian Egenhofer, and Christian Spies (Munich: Wilhelm Fink, 2010), 18–53, esp. 43–47.

41   Silvia Henke, et al. *Manifesto of Artistic Research: A Defense against Its Advocates* (Zurich: Diaphanes, 2020), 48.

42   See ibid., 39–62.

43   Umberto Eco, *A Theory of Semiotics* (Bloomington: Indiana University Press, 1976), esp. 188.

44   Aleida Assmann, *Im Dickicht der Zeichen* (Berlin: Suhrkamp, 2015), 56–57.

45   Ibid., 189.

system structured differently solidifies."[46] In connection with signs breaking free of writing and turning to the pictorial, which can succeed with "iconic, self-referential, and indexical" strategies, a new mutual hybridization results: the "ambiguous image" that alternates between depicted and depiction, which with writing and image works in both directions in each case.[47] For the potential of that threshold moment when writing operates as something pictorial, or vice versa, the term "graphism" has been employed. According to André Leroi-Gourhan, it is a "symbolic expression" that does not represent any forms, in the sense of imitation, but rather an abstraction, as can be observed in language becoming more highly differentiated and place in the early evolution of human expression.[48] The graphic signs stand in an in-between and produce the shared origin of drawing, or iconicity, and writing—they exemplify their "family resemblance."[49] These determinations were extended to pulled lines so that graphism cannot be pinned down to an expression for drawing but rather "incorporates every kind of line inscribed in surface used as a support."[50] With an eye to Bauermeister's approach to her art, the "scribbling" will be cited and defined below in order to determine the processes more exactly.

The mutual reconciliation of the pictorial and the written, in which drawing is used like writing, and writing in turn like drawing, can be found in many aspects in Bauermeister's work. She uses primarily cursive; the letters are not only legible individually but together result in something pictorial. In *Don't Defend Your Freedom With Poisoned Mushrooms or Hommage à John Cage*, for example, this can be seen in the third reflection of the middle glued-on mushroom: the upper outlines of the fruiting

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46   Ibid., 190.

47   See ibid., 219–31; Assmann, "Lesen als Kippfigur" (see note 28), 235–37. The example of reciprocal hybridization also clarifies why Bauermeister's works do not operate with the discourse of image-text relationships. The written word is not appropriated as foreign matter in images in order to open up the visual work of art; see Katrin Ströbel, *Wortreiche Bilder: Zum Verhältnis von Text und Bild in der Zeitgenössischen Kunst* (Bielefeld: transcript, 2013), 24 and 138. Mitchell's determination would also lead to the oversimplification that all arts consist of a combination of image and text. This "image/text" is for him a "cleavage in representation, a place where history might slip through the cracks"; W. J. T. Mitchell, "Beyond Comparison: Picture, Text, and Method," in Mitchell, *Picture Theory: Essays on Verbal and Visual Representation* (Chicago: University of Chicago Press, 1995), 83–107, esp. 104. It is rather a theoretical approach to get closer to the metapictures of an image; in this context, Mitchell's discussions will become important again in section 6.4.

48   André Leroi-Gourhan, *Gesture and Speech*, trans. Anna Bostock Berger (Cambridge, MA: MIT Press, 1993), 190–92.

49   Sybille Krämer, "Das Bild in der Schrift: Über 'operative Bildlichkeit' und die Kreativität des Graphismus," in Gibhardt and Grave, *Schrift im Bild* (see note 36), 209–21, esp. 216.

50   Katia Schwerzmann, "Dimensionen des Graphismus: Die drei Pole der Linie," in *Über Kritzeln: Graphismen zwischen Schrift, Bild, Text und Zeichen*, ed. Christian Driesen et al. (Zurich: Diaphanes, 2012), 39–57, esp. 41.

body are taken up again on the surface of the picture, first with two drawn lines and a smaller painted mushroom; to the left of that the mirrored outline of drawn seams and needles can be seen, an allusion to *Needless Needles*, and another mirroring of it is composed of words : "no poisoned mushrooms," "perhaps," and "ja, nein," and the individual characters interpenetrate.

Another expressive example that can be cited is *Yes Letter* of 1971 (fig. 45). It is a drawing that is also agreeing to a request for an exhibition at the Staempfli Gallery in New York, which was held the following year under the title *Mary Bauermeister: Recent Paintings and Constructions*. In the drawing Bauermeister explains the current works she would like to exhibit and associates this with a personal anecdote, comments on art and galleries and on the process of making her works. The large "Yes" is made up of words that form sentences and small drawings, which seem to offer additional explanations, on the one hand, but also provide visual interruptions, on the other. Because the drawing as a whole once again repeats a word whose statement refers to the content of the mixture of words and sketches, the work has been compared to the *Calligrammes* of Guillaume Apollinaire.[51] *Yes Letter* brings out self-referential aspects: a work of visual art is being produced that consists of letters and drawings, which together form a letter in reply and the reaction "Yes." This form of self-referentiality, in which words and drawings result in either something pictorial or a new word that refers to itself, it can be called, following W. J. T Mitchell; by means of a "referential circle," the picture refers to the things happening inside it and vice versa.[52]

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51   See Alessandra Nappo, "Flüchtig, Multimedial, Unlesbar: Neue Formen des Briefes in der zeitgenössischen Kunst," in *Zwischen den Zeilen: Kunst in Briefen von Niki de Saint Phalle bis Joseph Beuys*, exh. cat. (Hannover: Sprengel Museum 2017), 43–65, esp. 58–59. Here one can also speak of an "intermediality" in Bauermeister's work: writing designed as a figure creates an "inter-action between writing's design aspect and its reference aspect"; Andrea Polaschegg, "Literatur auf einen Blick: Zur Schriftbildlichkeit der Lyrik," in Cancik-Kirschbaum, Krämer, and Totzke, *Schriftbildlichkeit* (see note 28), 245–64, esp. 258.

52   W. J. T. Mitchell, "Metapictures," in Mitchell, *Picture Theory* (see note 47), 35–82 esp. 56.

Fig. 45: Yes Letter, 1971, ink on cardboard, 36.8 x 54.2 cm, Mary Bauermeis-ter Art Estate.

A compound of writing that together results in something pictorial is usually found in small details like the likeness of a mushroom in *Don't Defend Your Freedom With Poisoned Mushrooms or Hommage à John Cage*. Bauermeister's works are strewn with this method. That drawing and writing together, as in *Yes Letter*, result in a word that makes up the entire composition is an exception. The opposite is clearly more commonly the case, namely, that written characters and drawings together evoke iconicity, or even that drawings are employed like writing. The circular forms in Bauermeister's oeuvre should be analyzed accordingly: they emerge from their point structures in casein tempera and were already executed in the context of the *Needless Needles* drawing. The special way of drawing the circular forms can approach writing—following Aleida Assmann's analyses—that needs standard-ization and manageability to make unambiguous references. The top mushroom glued-on in homage to John Cage reveals a drawn reflection composed of circular forms. Now this could initially be interpreted as a drawn likeness in which it is not necessary to integrate writing. This impression is, however, shattered by another detail in the work in the center a little to the left: here again drawing circular forms have been employed from which the word "ketch" written in pencil stands out. The demonstratively spontaneous writing gesture can easily be completed by the viewer to the word "sketch." The circular forms make the word possible. The circular movement of written word and drawing that suggestion the work is still in progress here is not what is remarkable. Rather, it is the reciprocal transition of drawing into writing and writing into drawing, since the circular forms do not create an abstract S. There use is standardized to such an extent that it is easy to complete them interpretatively: the drawn circular structures are a feature of many-

valuedness in the works. They abruptly break off on the surface of the picture and result in a word that illustrates that the process of conceiving the work inscribed with the word "sketch" and its realization—namely, the drawn circular forms—are contained simultaneously and on an equal basis. Both the "temporary" conception and the "finished" sketch are visible. It must be assumed, moreover, that only the word "sketch" and only the executed sketch, that is, the circular structures can exist. Because the point form of casein tempera on canvas has transformed into delicately drawn circles, Bauermeister's abstract painting style is still included in the circular structures. The latter are now employed standardized, namely, as a prototype of many-valued aesthetics and therefore permit clear references in Assmann's sense.

In addition to the circular forms, the drawn needles and the distorted (by drawing) lines can also be made brought into the proximity of writing. In terms of many-valuedness, it makes no difference whether the words "yes, no, perhaps" are written out, the circular forms drawn, or the distorted lines can perhaps be interpreted as words; the same is true of the written word "needles" or a drawn needle. All of the elements participate in the many-valued aesthetic and in Bauermeister's oeuvre are employed with such frequency or recombined in ever-new ways that they develop their own code, which need only be decoded by the viewers. One can only speak of a situation in which a "syntagmatic bracketing and erratic protrusion" occurs in the words and drawings equally and at the same time; this "palpable competition" between the two modes of reading and seeing produces a floating position, an in-between.[53] When the expression "writing" is used here, in general its meaning of drawing and vice versa should be thought of in parallel.

Spatiality and Materiality

In general, the thematic field of notational iconicity should be tested to ensure that the pictorial is not overemphasized and to counter the marginalization of writing as a mere servant of language, now making the latter primary as an aspect of the iconic turn. It is crucial that alongside the "autonomy of writing" that continues to exist the "written image as autonomous unit of reflection" is manifested simultaneously.[54] One essential criterion that helps the Writing Picture achieve that autonomy

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53   Georg Witte, "Das 'Zusammen-Begreifen' des Blicks: Vers und Schrift," in Cancik-Kirschbaum, Krämer, and Totzke, *Schriftbildlichkeit* (see note 28), 265–85, esp. 271. This has also been described as "operative iconicity," whereby the mediation between writing and seeing has a quality that generates meaning; Sybille Krämer, "'Operative Bildlichkeit': Von der 'Grammatologie' zu einer 'Diagrammatologie'? Reflexionen über erkennendes 'Sehen,'" in *Logik des Bildlichen: Zur Kritik der ikonischen Vernunft*, ed. Martina Hessler and Dieter Mersch (Bielefeld: transcript, 2009), 94–122, esp. 98–117.

54   Mersmann, *Schriftikonik* (see note 36), 141.

can be seen in its spatiality: writing, like other forms of notation, including Bauermeister's standardized use of certain elements of drawing, produces an "artificial special space of planarity."[55] The arrangements on the ground are markings that produce spatiality. This leads Roy Harris to state that writing should be understood to be much more a theory of space than one of signs.[56] Scholars of notational iconicity describe the space produced as decidedly two-dimensional: the division of the plane already begins with the first line drawn, and every additional element transfers a temporal gesture into a (two-dimensional) spatial context.[57] Even the publication *SchriftRäume*, which decidedly addresses the theme of the spatiality of writing with a historic overview, continues to emphasize two-dimensional planarity: at most, a "spatial dimension" can be implied based on the medium of the support, meaning a simulation of spaces; or writing is given sculptural form and employed as an expression of honor; or "simulated three-dimensionality" is represented.[58]

With the construction of her works Bauermeister extended this interpretation. The Lens Boxes consist of various layers of glass with wooden spheres glued to the background that for their part extend into space and are in turn covered with drawings and hence occupy an in-between position spatially. Bauermeister only rarely employed aspects of one-point perspective as a spatial element in her drawings; for her the two-dimensionality artificially produced by writing was broken down by a one-behind-the-other effect that sometimes alternated with one-above-the-other and one-next-to-the-other. Two comments, one above the other, on two layers of glass in the recession of a Lens Box can be placed in a context by the viewers so that the artificially produced two-dimensional plane of writing transitions into a three-dimensional spatialization. The superimpositions were overwhelmingly conceived by Bauermeister already in the process of creating the work; the viewers need only continually focus on the different levels of glass to generate ever-new aspects from the spatial succession. Another example of spatialization of writing by means of overlapping can be made out on the frame of *Writing*: the curved lines of modeling compound that form the title are partially overwritten with fine lines here, which in

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55   Krämer, "Das Bild in der Schrift" (see note 49), 215.

56   See Roy Harris, "Schrift und linguistische Theorie," in Grube, Kogge, and Krämer, *Schrift* (see note 24), 61–80, esp. 74–75.

57   Sybille Krämer, *Figuration, Anschauung, Erkenntnis: Grundlinien einer Diagrammatologie* (Berlin: Suhrkamp, 2016), 14–20; For Krämer, it is the line that frees a surface from its tendency to three-dimensionality. It causes a "metamorphosis" in favor of the artificial production of two dimensions; Sybille Krämer and Rainer Totzke, "Einleitung," in Cancik-Kirschbaum, Krämer, and Totzke, *Schriftbildlichkeit* (see note 28), 13–35, esp. 23; Krämer, "Operationsraum Schrift" (see note 24), 28–32.

58   Christian Kiening, "Die erhabene Schrift: Vom Mittelalter zur Moderne," in *SchriftRäume: Dimensionen von Schrift zwischen Mittelalter und Moderne*, ed. Christian Kiening and Martina Stercken (Zurich: Chronos, 2008), 9–126, esp. 18–56.

turn produce the title and are composed of a small, repeated "no." The two texts cross and together create a notational iconicity in which plasticity has to be incorporated because it represents an essential aspect of the overall appearance.

As with its spatiality, it is necessary to incorporate the materiality of writing if the written is to be viewed suitably. Not only should every single written sign, symbol, or curved line be seen as a potential word but it is itself already an object—just as much as a glued-on stone or mushroom: "written characters and configurations are objects. Writing down is objectifying in the sense that perception is confronted with an object that outlasts the act of perception."[59]

Regarding written characters as objects foregrounds especially the "aisthetic presence" of the "triadic" model of writing. Even if this should not be the only perspective it is important because the interpretation of words as objects clarifies the material qualities of their appearance. In a drawing it is the paper, which has a medium already as an object dimension, and the strokes add more and more; together the produce a material-based composition in which the productive potential of materiality has an effect.[60] The materiality of the objects forms its own dimension of meaning. The superficial contradictions and their combination and separation depend on them production meaning as material configurations. Without these underlying conditions of materiality, there is a much greater possibility that the individual words will remain in their semantic context. "Yes," "no," and "perhaps" can all be simultaneously true because as objects they possess a materiality that keeps them from being reduced to their referentiality.

Liz Kotz has called the use of words in Bauermeister's oeuvre a "cacophony of signs." For "yes" in particular she has emphasized that it is an "empty sign" and becomes a "visual or rhythmic element" when it is not in a context or associated with a question.[61] Kotz is pointing to strategies of visual poetry as an environment for Bauermeister's works in which components of written characters that generate the picture are employed. This is inadequate insofar as many-valued aesthetics and materiality already provide a context. The writing employed by Bauermeister cannot be unreservedly interpreted as Concrete poetry either.[62] The words in Bauermeister's

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59   Kogge, "Erschriebene Denkräume" (see note 32), 145.

60   See Friedrich Kittler, "Memories are made of you," in *Schrift, Medien, Kognition: Über die Exteriorität des Geistes*, ed. Peter Koch and Sybille Krämer, 2nd ed. (Tübingen: Stauffenburg, 2009), 187–203, esp. 187; Thomas Strässle, "Von der Materialität der Sprache zur Intermaterialität der Zeichen," in *Das Zusammenspiel der Materialien in den Künsten: Theorien—Praktiken—Perspektive*, ed. Thomas Strässle, Christoph Kleinschmidt, and Johanne Mohs, (Bielefeld: transcript, 2013), 85–97, esp. 89. The concept of materiality I am using here is explained in chapter 4 and section 4.1.

61   Kotz, "Language Upside Down" (see note 16), 74.

62   See Skrobanek, "'Die Jacke Kunst weiter dehnen'" (see note 11), 106.

work are not formed into collages like found objects, appropriated as foreign material, employed exclusively optophonetically, or used to call the author-subject into question.[63] Rather, she had recourse to selected aspects of Concrete poetry in her works, for example, when a yes is composed of a small "no" repeated many times. Moreover, several of her work titles refer to it, such as the Lens Box *Poème Optique* of 1964.[64] References to poetry, its material, and its iconicity tend to occur in more distanced way from an ironic position or in small details.

5.2 Cooperative Iconicity

A small section of the work *Hommage à Brian O'Doherty* of 1964–65 can be seen as an example of a reference to poetry (fig. 46). In the middle of the lower edge, we read: "hommâge a Jackson Mac Low / this is influence from the poetry department." The deliberately misspelled French can already be seen as a reference to the "poetry department." Although it is clear that *hommage* is meant, it can also be read as *homme âgé* (old man). At the same time, right above this section a use of writing is seen that is perhaps the reference of the word "influence." The point of departure is the word "core," whereby each of the four letters is also the beginning of a new word. It cannot be said with certainty which exact section is intended; Bauermeister's use of writing is based precisely on these ambiguities. In the context of Bauermeister's use of writing in her works, this ironic reference to the poet of Concrete and visual poetry Jackson Mac Low should be interpreted as itself an homage. Mac Low was active in her New York circles, and her mentioning him in her work illustrates Bauermeister's interest in this artistic strategy.

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63   See Kotz, "Language Upside Down" (see note 16), 100–125; Hans G. Helms, "Von der Herrschaft des Materials bei der künstlerischen Avantgarde," in *Theoretische Positionen zur Konkreten Theorie*, ed. Thomas Kopfermann (Tübingen: Niemeyer, 1974), 120–25.

64   The whereabouts of the work are unknown; photographs show a structure of several layers of glass and wooden spheres covered with writing and drawing as well as round, written and drawn panes of glass that viewers can rotate to produce new contextualizations within the composition.

Fig. 46: Hommage à Brian O'Doherty, 1964–65, ink, offset print, wooden sphere, stones, sewing tools, badge, modeling compound on canvas mounted on wood, 120 x 120 x 5.5 cm, ArtNetBund, Bundesministerium für Bildung und Forschung, Bonn, Germany (BMBF 0742).

Hommage à Brian O'Doherty has an aesthetic of intricacy and is filled with references, not only to people from Bauermeister's circles like Mac Low but also to (historical) events and to reflections on art movements and exhibiting, to the process of making art, to her own completed and future works, and to many-valued networking between them. The work was probably begun in 1964 but was finished the following year. Bauermeister stretched a canvas on a wood support measuring 120 by 120 centimeters, wrote and drew on it, applied objects, and worked with modeling compound so that it has a height of 5.5 centimeters. *Hommage à Brian O'Doherty* is a work with collage-like sections; it is composed of writing, drawing, and objects; and as a hybrid it crosses the boundaries between genres. Among the objects applied are wooden spheres and photographic reproductions of her own works. The reproductions are integrated into the composition along with drawings and glued-on materials such as stones. These sections establish networks to other works, like those we have already described for example *Needless Needles Vol. 5*, *Integration* and *Four Quart-er-s*. A total of five details from the work *Progressions* can be identified as

well as nine from *Ordnungsschichten*. It should not be assumed that Bauermeister wanted to integrate other artworks into the composition unnoticed but rather to reflect on the connections to one another by means of the obviousness of the reproduction and their integration into the new work. This is an example of the identity of reflection of the many-valued aesthetic: Already executed works of art are incorporated in the new artwork, and they undergo a transformation in the process. The doubled self-reference is what produces an imaging of it. It is not the new artwork that first causes the changes to the earlier works, however: the changes were already equally valid components of them. Because this happens within one work, the events were already specified by the term "identity of reflection of the object."

Other elements that are incorporated and undergo many-valued changes are drawn sewing needles and sewing needles as physical objects; the same is true of glued-on and drawn stones. They not only establish networks to other works but also simultaneously negotiate their metaphysical status, since the drawn and physical objects are equally valuable forms of visualization. Bauermeister also introduced materials she had previously used for other works. In two places, for example, small white wooden disks, partially drawn with arrows, have been applied. They were originally intended to be wall elements for the work *Runde Gruppe* of 1959–60, an installation in Bauermeister's exhibition at the Stedelijk Museum in Amsterdam, consisting of a Honeycomb Picture and around fifty wooden elements distributed across the wall; then several of these elements were used for *Rechts Draussen* (To the Right Outside) in 1962. The arrows on the wood elements are placed mostly on the edge and point both outward and inward, as if symbolizing a transition from the material to the support and vice versa. There is also a drawn cast shadow that goes out from the wooden object but runs in several directions at the same time with different intensity—the material of an older work transitions into the newer one; the drawn shadows can thus be seen as an alternative form of visualization.

The (reproduced) works introduced by Bauermeister also refer to another level, one that is closely connected to the work's title. The impetus for creating the work was a review written by Brian O'Doherty, published in the Sunday edition of the *New York Times*, of Bauermeister's first participation in a group exhibition at the Galeria Bonino from December 1963 to January 1964.[65] *Progressions* and *Ordnungsschichten* were both represented in the exhibition that O'Doherty was reviewing. He opens with: "Mary Bauermeister is better than very good and I wish it could be left at that"; he answers his own question who the young woman is by saying she is "a whisper among museum directors."[66] Several lines later follows a sentence that is inscribed

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65   See O'Doherty, review of a group exhibition at the Galeria Bonino (see note 10). The newspaper review and the exhibition *2 Sculptors, 4 Painters* were mentioned above in connection with the first presentation of the *Needless Needles* light sheet.

66   Ibid.

in full in the artist's homage to him and which determines much of the work's composition: "It will be interesting to see if she has the intelligence and cunning to cope with the major success she is obviously going to have."[67] The depth of O'Doherty's statement made a lasting impression on Bauermeister: the success she will naturally have must go hand in hand with "intelligence" and a kind of "cunning" for the artist to "cope" with it. That she should receive recognition for her works went without saying for the art critic, but it was another question whether she was ready for it, since the New York art world requires more than just outstanding art. In her work the sentence begins at top left with a sepia-colored "It," followed by the darker "will be," and ends at bottom left with the words "going to have" formed with modeling compound.

Bauermeister took a sentence from an art review and produced ever-new semantic units by means of a spatial arrangement and the various techniques used to execute it. Each word from the sentence is designed differently. For example, the word "be" is composed of drawn hexagons that are reminiscent in form of Bauermeister's Honeycomb Pictures; the "will" consists of point structures, arrows, and a drawn seam. The final word, "have," is formed with modeling compound; in addition, two smaller letters are placed so that the word "heaven" results when they are added to it. The spatial distribution of the sentence and the use of modeling compound initially bring out features of the work's notational iconicity: in the middle of the composition "to see is intelligence" can be identified; the words are rendered relief-like and form a new statement from O'Doherty's words. One word is shifted in the process. The "if" of the complete sentence transforms into an "is" in the new arrangement. Bauermeister arranged the letters in a way that both readings are possible. This is supported by the sketches, photographic reproductions, and comments that together contribute to notational iconicity. Right next to the word "see," a photographic reproduction of Bauermeister's eyes is inserted, along with a hand shading them. This gesture of farsightedness shifts the word "see" in the horizon of its meaning closer to "perceive," so that the artist is once again referring to O'Doherty's sentence: she integrates her own person as someone self-confidently looking out of the picture with—underscored by the word "intelligence"—a perceptive gaze. Bauermeister turns the doubt O'Doherty formulated with the word "if" into an affirming "is" and connects it to herself.

Whereas the word "intelligence" is formed with modeling compound and protrudes from the painting, O'Doherty's "and cunning" is written with a pencil and is therefore distinctly more difficult to read. From the three words together—"intelligence and cunning"—extend drawn lines that connect a photographic reproduction of *Ordnungsschichten* on the round cutout. Whereas that work from 1962 that was integrated several others is easily identifiable on other cutouts, here it seems consid-

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67   Ibid.

erably more difficult to find the exact excerpt from the original. It is a detail in the background on which Bauermeister neither drew nor wrote; the canvas mounted on a board was treated with very diluted watercolor here. A "soak-stain" coloring technique with paint of varying dilution produces a (difficult-to-see) nonobjective pattern on the canvas. Because Bauermeister often worked with sequencing in her compositions—that is, working out several sections very intricately while leaving others almost in their original state—there are similar patterns that paraphrase in detail the paintings of artists such as Helen Frankenthaler, Morris Louis, and Kenneth Noland. On the reproduced detail from *Ordnungsschichten* Bauermeister later wrote "enlarged canvas." She was referring critically to the (New York) art world, in which critics such as Clement Greenberg championed Abstract Expressionism in particular. The complex history of female and male artists in Abstract Expressionism is also addressed, because Bauermeister wrote directly below this, in a semicircle next to the reproduced detail, "department for chauvinism."[68] Nonobjective compositions, sometimes in monumental formats; gestures of a masculinity that emphasizes combat in the creation of the works; and the connection to art critics are equated by Bauermeister with chauvinism, on the one hand, and "intelligence and cunning," on the other. The connection to other artists and the lobby of art critics are indispensable qualities of the necessary "intelligence" and "cunning." Bauermeister countered the large-format paintings of Abstract Expressionism with a richly detailed and in part microscopic aesthetic. In addition, with the work's title and the inserted sentence from art criticism in praise of her she referred to the support she was herself getting.

Appropriately, the catalog of the exhibition at the Galeria Bonino in 1965 mentions not only the title *Hommage à Brian O'Doherty* but also several subtitles, which are also found on the back of the painting.[69] They include, among others, "Fish-

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68   Whereas in his text "Louis und Noland" of 1960 Greenberg still identified Helen Frankenthaler as a crucial influence on Morris Louis's development in "After Abstract Expressionism" of 1962 he writes that Morris Louis and Kenneth Noland had not borrowed their "vision" from anyone; Clement Greenberg, "Louis and Noland" (1960), in Greenberg, *The Collected Essays and Criticism*, vol. 4, *Modernism with a Vengeance, 1957–1969*, ed. John O'Brian (Chicago: University of Chicago Press, 1995), 94–100; Clement Greenberg, "After Abstract Expressionism" (1962), in ibid., 121–34, esp. 134. This is just one of many examples of how women artists in particular experienced marginalization. See Isabelle Graw, *Die bessere Hälfte: Künstlerinnen des 20. und 21. Jahrhunderts* (Cologne: DuMont, 2003), 110–15; Mary Gabriel, *Ninth Street Women: Lee Krasner, Elaine de Kooning, Grace Hartigan, Joan Mitchell, and Helen Frankenthaler: Five Painters and the Movement That Changed Modern Art* (New York 2018), 5–15.

69   *Bauermeister: Paintings and Constructions*, exh. cat. (New York: Galeria Bonino, 1965), n.p. There is a second work from 1965 on this subject: *Hommage à Brian O' Doherty or Fishing for Compliments Part II*, which is also included in the catalog. In addition, the first work was taken up again in 2017 in five Lens Boxes, though Bauermeister wrote new comments on the situation at the time.

ing for Compliments" and "Eine Hand waescht die ANDERE" (One hand washes the OTHER). Bauermeister was directly addressing the connection between her as artist and O'Doherty as critic: first, there is the hope that the new work dedicated to him will be followed by another positive exhibition review; second, there is a gesture of showing appreciation. Bauermeister does both publicly, thus satirizing supposedly secret networks of artists and critics. Bauermeister did, however, produce another effect, namely, that attention was once again paid to the review of a group exhibition by important artists in which she was especially emphasized—that could certainly be called "cunning."

The work *Hommage à Brian O'Doherty* has a cooperative dimension. Both the basic theme in the form of a sentence from art criticism and the individual small details reflect on network-like connections created by the artist that are necessary to create a work of art. For these connections Howard Becker defined a concept for a sociology of art characterized by cooperation: "art worlds." No work of art can be traced back to just one person. A large number of actors are necessary to create, present, and preserve a work of art. The works reveal patterns of "collective activity"; all of the parties involved in the process can be described starting out from the object.[70] This leads to the formation of art worlds, which Becker deliberately expresses in the plural since every work of art has its own environment of materials, themes, supporting people, and reception—as an artist Bauermeister is not a sole authority but merely works at the "center of a network of cooperating people."[71] By turning his sentence into a Writing Painting, Bauermeister brought Brian O'Doherty, without his knowledge at first, into the cooperation; this demonstrates not only the vastness of "art worlds," since even past actions such as a review are central to creating a new "art world" specific to the work. For Becker, reputation, too, results "from the collective activity of art worlds," and he mentions art critics in particular, who create reputation with their criteria and explications.[72] Moreover, he emphasizes the universal connection between two fields, which is otherwise less openly admitted, namely, the written word of art critics has an effect on artists.

There are still diverse other elements and people who together constitute the specific "art world" of *Hommage à Brian O'Doherty*. Listing them would presumably end in an infinite regress, because Bauermeister's intricacy and commentary system creates more and more branches. It is therefore much more crucial to identify those themes that appear repeatedly in various works and include them in the cooperative network in order to gain insight into the genesis of Bauermeister's works. For example, the tools, utensils, and materials she employs are recurrent themes in that she illustrates or describes the process in the works themselves. In *Hommage à Brian*

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70   See Howard S. Becker, *Art Worlds* (Berkeley: University of California Press, 1984), 1–6.

71   See ibid., 25.

72   See ibid., 360.

O'Doherty, she inserted sewing needles that were presumably used to make the light sheets; the people who manufactured and sold these needles would have to be added to Bauermeister's art worlds. The same is true of the glue used by Bauermeister to attach objects such as wooden spheres and stones. It is not just used as a material but also aggressively addressed: Right above "to see," one sees a photograph of the artist's hand drawing a line with glue. This suggests that the scribbled strokes found through the composition were made with glue. In the lower right corner, some of the glue under the single stones glued together peeps out, and Bauermeister continues it with drawing on the ground. "Elmers Glue" is written next to this simulated spot, revealing the brand and integrating it into the cooperation.

Just as important as the utensils and materials of her work are sociopolitical events, which are only rarely the focus of a work for Bauermeister but can be observed frequently and likewise condition the cooperation; in *Hommage à Brian O'Doherty*, there is a reference to the civil rights movement: namely, the Congress of Racial Equality (CORE). Bauermeister integrates into the work a button that was connected to a protest of the World's Fair in New York in 1964. She includes this button in drawings and writing in a number of works, in which it serves as the point of departure for the commentary system—another example of this artistic strategy is the aforementioned integration in the section about the "poetry department," where "core" forms the initials of other words.

Bauermeister refers to the situation in which the work is exhibited with a self-confident gesture as well. Already when creating the work, she had anticipated that *Hommage à Brian O'Doherty* would someday hang in exhibition spaces because of its high artistic quality: the cast shadow of the materials of *Runde Gruppe* (Round Group) and also of two wooden spheres and a stone in the top center of the work can be seen as reactions to the lighting conditions. Then it would be not only a many-valued visualization of three-dimensional objects on a two-dimensional support but also a simultaneous picture of the shadows of gallery spotlights. The shadows, which vary in size and intensity and radiate out from the objects in all directions, have their equivalent in Bauermeister's eyes inserted next to "to see": she has to hold her hand up to her eyes because the light is blinding. These aspects seem to anticipate Brian O'Doherty's now iconic text *Inside the White Cube*, which he wrote as a series of articles for the journal *Artforum* in 1976 and 1981. In it he analyzes how in the modern era the context of the gallery space was connected to the subject matter of the works, and the ceiling serves only as a light source; viewers undergo an increasing disembodiment of their perception.[73] The "white wall's apparent neutrality" is, however, nothing but an "illusion."[74] Designing a work so that it is immediately anchored in

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73   See Brian O'Doherty, *Inside the White Cube* (Santa Monica: Lapis, 1986).

74   Ibid., 79.

its exhibition site recalls again the aforementioned "cunning." Reflection on the conditions of exhibition is crucial here: Because the spotlights produce new shadows of the object, it becomes necessary to identify which are drawn and which are "real," which can initiate the viewer's scrutiny of the conditions of presentation—it is the artist's subtle effort to undermine the supposed placelessness and timelessness of the white cube.

It is not just people, historical events, and the exhibition situation that belong to the art worlds of works but also cooperating objects such as other artworks. Art critics and materials or their makers also belong to the cooperation of the multiply integrated work *Progressions*. Becker's subject-centered approach must be expanded to cover Bauermeister's scale of cooperative networking. That will follow in chapter 7, which will increase the number the agents. The cooperative dimension will remain, however; it seems to complement much more clearly Bauermeister's combination principle and the parallelism of many-valuedness than an antagonistic or even autonomous determination.[75] It is also insufficient to fixate only on the person in the title of that work, Brian O'Doherty; in general, there is a networked complex of different levels that conditions her entire oeuvre.

The thematic field of notational iconicity in Bauermeister's work should also be viewed as a reciprocal connection: The description that writing can be removed from the surroundings of the notional medium and by being arranged spatially obtain an autonomous dimension of meaning that participates in the pictorial can to some extent be said of the reverse. In her works the parts that are predominately pictorial are usually created by drawing, but it can by no means be said that the terms "painting" and "drawing" should be understood to be synonymous: "Painting and drawing relate to each other in the same ambiguity as drawing and writing."[76] In her writing-image drawings Bauermeister by no means employed the individual modes in such

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75   The theory of the sociology of art of Pierre Bourdieu, who speaks of the "artistic field," is focused more on a dualism of antagonistic poles that on competition for recognition. Artists position themselves within this field of "force lines" and to all the other elements within it, which objectifies their art; Pierre Bourdieu, *The Rules of Art: Genesis and Structure of the Literary Field*, trans. Susan Emanuel (Stanford, CA: Stanford University Press, 1996). Bauermeister's reference to chauvinism in the context of the "enlarged canvas" can be interpreted as positioning within the "artistic field," since she is actively emphasizing a dualism; this means above all that the concepts from the sociology of art should not be regarded in isolation or as definitive. The sociologist Niklas Luhman, by contrast, coined the term "art system." He focused on how art could develop historically into an autopoetic, operative, closed, and autonomous system that exists independently of other systems. In the "art system" the demand for constant innovation can be pursued because it functions outside of other social systems; Niklas Luhmann, *Art as a Social System*, trans. Eva M. Knodt (Stanford, CA: Stanford University Pres, 2000).

76   Mersch, "Schrift/Bild" (see note 39), 310.

a way that they break each other down and fuse into one; rather, she made a convergence possible that represents a partial exchange of roles. This combination of writing, drawing, and image produces an epistemological dimension in the works that will be analyzed below.

5.3 The Epistemological Potentials of (Reflexive) Notational Iconicity

> As for the repetition of a single word, we must understand this as a "generalized rhyme," not rhyme as a restricted repetition. This generalization can proceed in two ways: either a word taken in two senses ensures a resemblance or a paradoxical identity between the two senses; or a word taken in one sense exercises an attractive force on its neighbours, communicating an extraordinary gravity to them until one of the neighbouring words takes up the baton and becomes in turn a centre of repetition.[77]
> *Gilles Deleuze, 1968*

Bauermeister carried out this "generalized rhyme" in Deleuze's sense. In her repetitions of words she often worked with shifts in meaning that presume "two senses": the variations on needles in the *Needless Needles* works would be an excellent example here, though one would have to presume not only the written variations but also the drawn ones in the context of the commentary system. The second method is, however, even more essential in her oeuvre, because it can be applied to the use of "yes, no, perhaps." Constantly repeating one of those three words subjects the neighboring one to "extraordinary gravity" until it becomes the new "centre of repetition"; as a result, both expressions are thought of in a "pronominal" sense, in the "Self of repetition."[78]

Both modes can be granted a reflexive dimension. Deleuze's study is not, however, primarily related to the use of words or their contextualization in relation to one another. For him it is about a far more general shift: the terms "difference" and "repetition" replace "identity" and "contradiction."[79] The latter were a crucial point

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77   Gilles Deleuze, *Difference and Repetition*, trans. Paul Patton (London: Continuum, 1997), 21–22.

78   Ibid., 23.

79   Ibid., xix.

of reference for Hegel in his logic and consequently also for Günther's definition of the identity of reflection in order to introduce many-valued logic. The two kinds of repetitions that Deleuze posits as fundamental include, first, the "repetition of the Same," which clings to a concept or a representation, while the second kind incorporates difference, the "alterity of the Idea."[80] From that follows for Deleuze that, although it is possible to initiate a dialectical process, to "pass over into the antithesis, combine the synthesis," the thesis persists in its original difference and does not follow this process, since "difference is the true content of the thesis."[81] So if one assumes that the terms identity and nonidentity are replaced, Bauermeister's construct of the many-valued aesthetic does not implode as a result. Her approach could be transferred equally well into Deleuze's statements. Then not only all future repetitions would be inherent in the repetition but also their respective difference and the possible of making one of the "neighbouring words" a new "centre of repetition." The use of "yes, no, perhaps" should always be interpreted in an expanded context, even if the artist explicitly developed her model based on Günther's propositions. Independently of whether Deleuzes (two-part) model of repetition is integrated or Günther's many-valuedness adopted, the constant repetitions of certain words as well as drawings and mediating comments results in a dimension in the works that generates knowledge.

Deleuze and Guattari interpret the division into signifier and signified and their conformity as a "regime of signs": the two terms exist in a "state of unstable equilibrium"; in each case they form "two constantly intersecting multiplicities."[82] This statement goes far beyond saying that the relationship between signifier and signified is arbitrary. Rather, the "form of expression" cannot be translated into one or more words; it is always at the same time a "regime of statements." By contrast, the "form of content" does not refer to a thing outside of its; it comprises "a complex state of things as a formation of power."[83] The two authors go so far in *Anti-Oedipus* that they associate a correspondence of signs in writing with despotism; it requires a "heterogeneity," in which the asymmetric situation between the "vocal" element and the "graphic" one must be "resolved" by the "visual element" as the third one.[84]

With the specific use of "yes, no, perhaps," this becomes evident in two places: First, Bauermeister does not just employ those three words but also the correspond

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80   Ibid., 24.

81   Ibid., 52.

82   Gilles Deleuze and Félix Guattari, *Thousand Plateaus: Capitalism and Schizophrenia*, trans. Brian Massumi (Minneapolis, MN: University of Minnesota Press, 1987), 74–76.

83   Ibid.

84   Gilles Deleuze and Félix Guattari, *Anti-Oedipus: Capitalism and Schizophrenia*, trans. Robert Hurley, Mark Seem, and Helen R. Lane (Minneapolis: University of Minnesota Press, 1983), 203–4.

terms in German and French (and sometimes Italian as well) as well as standardized drawing elements and the use of intermateriality, all of which enter into the complex of many-valuedness. Every "peut-être" in a Lens Box contains at the same time all of the other elements associated with many-valuedness. Second, the "state" cannot be definitively determined with words, since Bauermeister's works of art are experimental of a metaphysical convergence. The individual elements are connected to one another but they can in no way be seen as equivalent. It is rather the case that they can be interpreted with the philosophical concept of the assemblage and on the basis of their internal conflict many-valued networks occur. These networks exist within a work but also beyond it, for example, when the works in a group such as *Needless Needles* refer to one another and the drawn seams or glued-on needles turn up in works such as *Hommage à Brian O'Doherty*.

One essential point is the spatial arrangement of the written or drawn as well as its quantity. The dense tapestry of writing of the Lens Boxes and the constant repetition of individual elements can give the viewers impetus to intensify their reflection.[85] In Lens Box *308,975 Times No ... Since ...* of 1966, all the lines are composed of distorted variations on the word "no" (fig. 47). The number in the title is probably not the exact number of written negations in and on the work; the structures that create images or texts are too intricate and nested for a precise count. On the one hand, the repeated "no" makes it possible to create circular forms and abstract patterns—on the left side of the frame they are so distorted by the simulation of lenses that they condense into dark strokes. On the other hand, the other words in the Lens Box are also formed by the small, repeated "no," either by coming together into letters or by their arrangement leaving an unwritten area that in turn creates a word. The words formed from the repeated "no" are "yes," "ja," "oui," "si," "or," "perhaps," "vielleicht," and "peut-être" but also "no" and "nein." A negation does not therefore necessarily lead to an affirmation or mediating position.

For the most part, Bauermeister formed the words on the wooden hemispheres from the "no," which enables us to infer its role within the works. The convex form breaks through the regular repetition and allows the layer of many-valuedness to appear. The spheres ensure that the other words, which are contained in the "no" at every moment, break out. In addition to the words on the spheres, there are some framed within the (drawn) circular forms. They simulate lenses, to the left of the recession, for example. The repeated "no" is distorted to the point of unrecognizability, but it creates a "yes" within the circular form. Accordingly, the lenses, even if they are only drawn, were employed to cause uncertainty about simple certainties—a "no" does not mean merely "no" but also contains the "yes" and "perhaps." Even if the repeated "no" dominates visually in the composition, as the title already makes clear,

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85   See Joy Kristin Kalu, *Ästhetik der Wiederholung: Die US-amerikanische Neo-Avantgarde und ihre Performances* (Bielefeld: transcript, 2013), 80–83.

the single word should be interpreted as multilayered and contains the others at the same time.

Fig. 47: 308,975 Times No...Since..., 1966, ink, glass, glass lens, wooden sphere and painted wood construction, 63.2 x 63.2 x 16.5 cm, Hirshhorn Museum and Sculpture Garden, Smithsonian Institution, The Joseph H. Hirshhorn Bequest, 1981 (86.267).
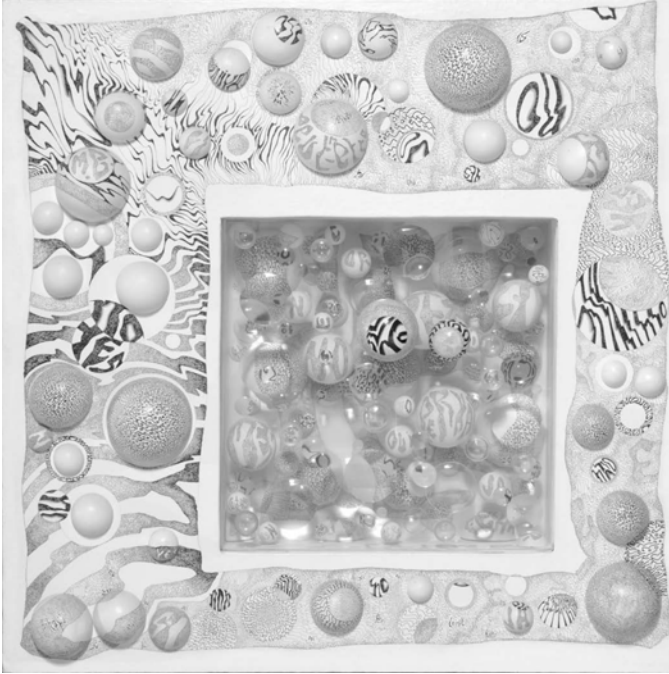
Notational Reflection(s)

Applying the formula "yes, no, perhaps" to a majority of Bauermeister's aesthetic program should not, however, cover up the other contexts in which her use of writing and drawing are embedded. It was already clear from the examples of notational iconicity and the (ironic) references to other artists and art movements, production processes, and social events. In contrast to many artists of her generation, Bauermeister referred only peripherally to the philosophy of Ludwig Wittgenstein. One reason for that may be that when developing her works she worked with the commentary system, which demands a continuous interaction of writing and drawing, whereas Wittgenstein was concerned with language more generally. Wittgenstein's

"multiplicity of language-games," which point to the activity of showing as a dimension, would have to be focused on writing and drawing to do justice to the processes in Bauermeister's works.[86] For the Austrian philosopher, language and its concepts are "instruments"; they "direct our interests," though only certain expressions lead to the "investigations" in the first place.[87] It cannot be assumed, however, that there is a rigid system of unchanging certainties with words and sentences, since they are dubious on principle.[88] In the art of the twentieth century, there were many attempts to integrate reflection on language. They varied greatly, but usually skepticism about language as an exclusive and unfalsified means of communication was an element that connected them.[89]

For Bauermeister, Duchamp was an important point of contact who with regard to language shared with Wittgenstein the metaphor of playing chess. Duchamp described his skepticism about language more than once: "The language and thinking in words are the great enemies of man."[90] They must be employed hand in hand with "poetry" and "play," because then it is possible to use them like a "color," like a positive enrichment of the senses.[91] In his statements on art theory he did not restrict himself to language in general but also addressed the use of writing. In Duchamp's opinion the inscription on the ready-made enriched and distinguished it from its "pals"; on the one hand, the artist developed a system of signs using square brackets that produced its own shifts in meaning; on the other hand, he explicitly incorporated the phonetic dimension.[92] There are reflexive dimensions in Bauermeister's

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86   Ludwig Wittgenstein, *Philosophical Investigations*, trans. G. E. M. Anscombe (New York: Macmillan, 1953), 26–27.

87   Ibid., 151.

88   See Ludwig Wittgenstein, *On Certainty*, trans. G. E. M. Anscombe (Oxford: Oxford University Press, 1969), 39–40 and 140–46. Assessments critical of language can be observed repeated in philosophy; Bauermeister's interest in Nietzsche can also be cited in this regard, since for him words and concepts represent a continual seduction to "think of things as being simpler than they are, separated from one another, indivisible, each one existing in and for itself"; Friedrich Nietzsche, *Human, All Too Human II*, in Nietzsche, *Human, All Too Human II and Unpublished Fragments from the Period of Human, All Too Human II (Spring 1878–Fall 1879)*, trans. Gary Handwerk (Stanford, CA: Stanford University Press, 2013), 157.

89   See Alexander Streitberger, *Ausdruck, Modell, Diskurs: Sprachreflexion in der Kunst des 20. Jahrhunderts* (Berlin: Reimer, 2004), 270. In his book Streitberger describes how artists combine their pictorial aesthetic with reflection on language in order to critique language. The possible self-referentiality makes it conceivable to him that art enters into a situation of metareflection; see ibid., 270–84.

90   William Seitz, "What's Happened to Art? An Interview with Marcel Duchamp on the Present Consequences of the 1913 Armory Show," *Vogue* (February 15, 1963), 110–13 and 128–31, esp. 113.

91   Georges Charbonnier, *Entretiens avec Marcel Duchamp* (Marseilles: A. Dimanche, 1994), 55.

92   Ibid., 68. On the system of signs for the ready-mades, especially the use of "crochets," see Lars Blunck, *Duchamps Readymade* (Munich: Silke Schreiber, 2017), 123–29. In the case of

oeuvre that are closely connected to epistemological potentials as they are described in the scholarship on notational iconicity. It is not the use of language in works of visual art that should be observed primarily: rather, it is the connections of language-based statements put into a spatial arrangement by handwriting and beyond that contextualized with drawings and permeated by scribbling.

Deleuze's "generalized rhyme," which is always already enriched by multiplicities, can be cited for reflecting on the epistemological writing-image drawing. First, every element in the works should be regarded in its expanded context and can serve as the point of departure for interpretation. Second, that very process leads to categorization being infiltrated, that is, that language, writing, and drawing as well as all the intermediate steps transition into a common fabric. In process of notating, knowledge is conveyed: thoughts must be brought into a linear order in a temporal sequence this requires formulating the desired statements in a way that can be understood, which makes them completely present in the first place.[93] Krämer calls this process "epistemic writing"; in addition to the aspect of ordering, she particularly emphasizes the acquisition of knowledge. It is already here in us but is made full present by writing it down: "Writing clarifies what remains dark, unordered, and confused in the flux of fluid mental activity."[94]

This is closely connected to externalization. The notated elements bring a store of statements with them and generate "extended memory systems"; in addition, they produce knowledge about one's own memory and thus function as "metamemory."[95] Bauermeister's works feature both the order of thoughts and their retrieval from storage. Every Lens Box seems like a cornucopia of ideas and not infrequently seems inscrutable (at first). The works result from the commentary system and enable their author to develop her own ideas into many-valuedness, to test them, reject them, drive them forward, and network beyond them via other artistic works. In this way experimental illustrations become dependent on the nature of the work's structure

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the letters L.H.O.O.Q. on the eponymous work, it is a game with words, writing, and pronunciation that provides the meaning; see Pierre Cabanne, *Dialogues with Marcel Duchamp* (London: Thames and Hudson, 1979), 63.

93   See Wolfgang Raible, *Kognitive Aspekte des Schreibens*, Schriften der Philosophisch-historischen Klasse der Heidelberger Akademie der Wissenschaften 14 (Heidelberg: Winter, 1999), 42–43.

94   Krämer, "Operationsraum Schrift" (see note 24), 42. Elsewhere Krämer has also emphasized the importance of the medium for this: "We think on paper, with paper"; Sybille Krämer, "Punkt, Strich, Fläche: Von der Schriftbildlichkeit zur Diagrammatik," in Cancik-Kirschbaum, Krämer, and Totzke, *Schriftbildlichkeit* (see note 28), 79–100, esp. 97.

95   See Wolfgang Schönpflug, "Eigenes und fremdes Gedächtnis: Zur Rolle von Medien in Erweiterten Gedächtnissystemen," in Koch and Krämer, *Schrift, Medien, Kognition* (see note 60), 169–85, esp. 171–82.

in which every element contributes a certain amount to the whole. It is a working with an "ordered copresence" that results from the "spatial arrangement."[96]

One can speak here of epistemic effect of notations, since the successive distribution of writing and drawing on the medium shifts statements made far apart in time from one another into a new context. In addition, externalization makes it possible to refer retrospectively to statements that have already been made and with a few twists completely alter their meaning. Thanks to the commentary system this strategy is ubiquitous in her works and is intended to constantly call supposed certainties into question. Bauermeister explicitly spoke of the temporal delay of statements via retrospective references in her works. In *Hommage à Brian O'Doherty* there is a section that can represent numerous other ones in her oeuvre and that contains alongside the temporal components and the commentary system as well: In the grayish areas of the work beneath the words "intelligence and cunning" two arrows can be seen pointing to each other that are connected by a dotted line. This drawn component is flanked by a written and drawn comment enriched with symbols from which one can extract: "the shortest communication between °° [two points] is = straight line." This sequence is followed by curved lines and directly below them the sentence "I'm a little bit against straight 'conventions,'*" and the asterisk is linked to the sentence: "*'stupid me' = commentary 1 year later …" The ellipsis at the end, which indicates the open or answered status of the statement, transitions into many small dots that in turn form a structure and transition into additional comments. The statement "1 year later" could be accurate, because Bauermeister often worked in parallel on several works over long periods. Perhaps she read the sentence a year later and felt obliged to intervene. It is, however, equally conceivable that she formulated the individual sections immediately in one phase of work.

This is not crucial for the interpretation of her works, however; what is important, rather, is that the dimension of temporality is ensured by the possibility of later reworking. This small passage shows that the epistemic effects of notational iconicity can play into metaphysical many-valuedness. (Self-)knowledge and the possibility of contextualization and reworking on a two-dimensional plane meet the general impossibility of completing an artistic process; all that in the mirror of an effort to carry out an aesthetic procedure based on networking via reciprocal reference and the possibility of avoiding dogmas by always including contradiction.

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96   Wolfgang Raible, "Über das Entstehen der Gedanken beim Schreiben," in *Performativität und Medialität*, ed. Sybille Krämer (Munich: Wilhelm Fink, 2004), 191–214, esp. 212.

Handwriting(s)

Such statements are also formulated in Bauermeister's handwriting(s). With a little practice, they can be deciphered relatively well. The artist does not, however, appear to have tried to make every passage equally accessible. Getting closer and deciphering individual sections are fundamental components of the reception of this intricate aesthetic. The curiosity to decipher individual sections and to connect them at will with other written characters, drawings, or materials such as straws, photographic reproductions, and stones or other natural materials seems essential. By viewing several individual passages, ideally the step to reflecting on higher-order levels is taken. It is equally possible that in a situation of reception "all possible mis- and wrong interpretations" can occur, but this too is just another productive element.[97] For Hegel, handwriting has a specific existence that dovetails with the subject in question; "the individual's *Being*—reflected out of its actuality is therefore observed."[98] In this view a subject manages by means of handwritten statements to insert his or her own essence into a work—a "*presumed* inner" is manifested by the specific sweep of the writing instrument.[99] In Günther's adaption of Hegel, it was "reflection in itself" that leads to the "double reflection in itself" and hence to many-valued logic. By constantly employing handwriting Bauermeister inserts herself as an artist into the work, concretizing with every letter her own identity of reflection. As the author of her works, she undermined with every stroke the proposition of identity.

In the same way Bauermeister reflected on the use of her handwriting in numerous places in her oeuvre. A section in the upper right corner of the Lens Box *Writing III* of 1967–68 (fig. 48) is typical of this. A wooden hemisphere is applied to the frame and completely covered with drawn geometrical patterns. Following its curve and immediately next to the hemisphere we read first this sentence in uppercase block letters: "THIS IS NOT MY HANDWRITING," followed in lowercase cursive by: "this will be my handwriting." It is all too obvious that the two sentences contradict each other; it goes without saying that both are Bauermeister's handwriting; the cursive is simply more closely connected to her. This example is also interesting in other ways: The passage seems like a conscious decision, because the formulation "will be" was chosen. To connect the works to her own person and make them unmistakably hers, she has to choose the less formal version of her writing. Every word functions as a signature; the constant repetition of the same expressions is the context of mu-

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97   Totzke, *Buchstaben-Folgen* (see note 27), 367.

98   Georg Wilhelm Friedrich Hegel, *Phenomenology of Spirit*, ed. and trans. Michael Inwood (Oxford: Oxford University Press, 2018), 127.

99   Ibid., 129.

tual attestation.[100] Her name, "Mary Bauermeister," or her initials, "M.B.," are often found on the recto of her works, not infrequently more than once. Identifying her in the jumble of writing is, however, interesting primarily to produce the data sheets for her catalogue raisonné. The performative act of writing as an indexical sign does not declare Bauermeister to be the author based on her signature but is generally expressed already by her handwriting.[101]

Fig. 48: Writing III, 1967–68, ink, glass, glass lens, wooden sphere, modeling compound, painting tools and painted wood construction, 84 x 84 x 20 cm, Private Collection USA.

The demonstrative pronoun "this" that begins both sentences refers to the writing style and the object described by Bauermeister. The Lens Box *Writing III* is enriched by the cursive that Bauermeister identifies as her own, but there are also sev-

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100   See Deborah Cherry, "Autorschaft und Signatur: Feministische Leseweisen der Handschrift von Frauen," in *Mythen von Autorschaft und Weiblichkeit im 20. Jahrhundert*, ed. Kathrin Hoffmann-Curtius and Silke Wenk (Marburg: Jonas, 1997), 44–57, esp. 50–54.
101   See Karin Gludovatz, "Malerische Worte: Die Künstlersignatur als Schrift-Bild," in Grube, Kogge, and Krämer, *Schrift* (see note 24), 313–28, esp. 314–18; Thomas Macho, "Handschrift—Schriftbild: Anmerkungen zu einer Geschichte der Unterschrift," in Grube, Kogge, and Krämer, *Schrift* (see note 24), 413–22, esp. 413ff.

eral passages in block letters, which the artist described as not hers. The paradox is not resolved, and the intended effect is an ironic desubjectifying. The individual connectedness that Bauermeister produces by employing handwriting offers no way out; she can merely clearly identify the situation in order to expose the structures: As an artist she will always be connected to the works she has created; an abstraction from her own person is impossible. Because this status was adopted by Bauermeister, it is explicitly incorporated. We have already pointed out subjective references such as childhood letters and gluing in a photograph of her own eyes. There are, however, in her works still other examples of self-reference that also include the objects necessary to produce them or that create a circular connection between the two.[102] Integrating her own person happens because the artist cannot exclude herself as a subject from the many-valued aesthetic. On the other hand, her maxim, repeatedly written on her works of art, was "include anything," which is applied here too. It thus includes both the self and the process of making the works, the materials, techniques, and thematic focuses already used for other works, and finished works.

The Association of Scribbling

Just as handwriting and drawing are employed in works of visual art and, as in Bauermeister's case, interwoven with one another in a tight symbiosis, the "in-between" is inevitably part of the result: the scribble.[103] This is different from the effects already described in which either writing in compound can produced something visual or Bauermeister developed pictorial conventions that at least approach writing. In handwritten notations a moment of transition results between writing and image, which includes both the hand holding the pen and the space on the notational medium.[104] The balanced state of this transition, the scribble, can be found in most of the works in which Bauermeister employed writing or drawing. Scribbles are initially just the "simple material presence of their lines," and hence "subsemiotic," but this accounts for their potential since precisely for that reason they contain "an essential aspect of experimentation and exploration of new forms."[105]

In *Don't Defend Your Freedom With Poisoned Mushrooms or Hommage à John Cage*, there are several passages in the upper area that cannot be clearly identified as

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102   See section 6.2.

103   Christian Driesen, "Die Kritzelei als Ereignis des Formlosen," in Driesen, *Über Kritzeln* (see note 50), 23–37, esp. 30.

104   See Bettine Menke, "Kritzel – (Lese-)Gänge," in Driesen, *Über Kritzeln* (see note 50), 189–213, esp. 189–91.

105   Schwerzmann, "Dimensionen des Graphismus" (see note 50), 42–43.

either writing or image. It appears like a "running hand," applying a nonobjective pattern to the surface of the picture and become an embodied mark.[106] The work has many more traces of scribbling on both the macro- and the microlevel. A nonobjective, curved pattern runs through the entire composition and subdivides the plane. Bauermeister must have started with these lines because the writing and drawing are oriented around them. In several places, however, the scribbling points to an uncertainty. The left side of the work is a fabric of drawn circular forms that emerge from spontaneously scribbled strokes and written words that breakdown to such an extent that they can only be identified in the context of the work's themes. The scribbling can be described with "lack of reference," "lack of edge," and "dissimilarity"; these three aspects together form metastable merge that is in a formative state.[107] It seems as the sections of the work have yet to establish a definitive direction; either the scribbled passages are completely integrated or even erased, so that only underdrawing remains. It is also conceivable that the tapestry of writing previously executed in a controlled way and drawing is about to collapse and transition into a dissolution.

The seemingly freely developed lines in the works initially cause restrictions, which at the same time start the process of the work's genesis.[108] Their uncontrolled appearance establishes a division around which Bauermeister orient herself continuously. As a result, however, these lines become the starting point for the commentary system, since, having been quickly gathered into circular form, several of them transition into delicately drawn circular structures or generate the repeated no that becomes the basis for arranging the notational iconicity. This can go so far that the spontaneous gesture determines the entire orientation of the work, as it does with the *No Faces* Lens Box of 1964. Here, too, the drawn ground is filled with scribbles from which comments emerge. Several of the elements in the center suggest round forms, and other spontaneous strokes admit of the possibility that in the process of perception the viewer can complete them into schematic faces. Once Bauermeister recognized this, she composed the entire work from round forms, with occasional

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106   Richard Shiff, "Charm," in *Cy Twombly: Cycles and Seasons*, ed. Nicholas Serota, exh. cat. (London: Tate Modern; Munich: Schirmer/Mosel, 2008), 10–31, esp. 28.

107   See Driesen, "Die Kritzelei als Ereignis des Formlosen" (see note 103), 24–29.

108   The art historical discourse on the *disegno*, in which the line translates visual thinking from the idea into the form is deliberately not included here, nor the definitions of the line in that context; see Sabine Mainberger and Wolfram Pichler, "Kunsttheorie und -geschichte," in *Linienwissen und Liniendenken*, ed. Sabine Mainberger and Esther Ramharter (Berlin: de Gruyter, 2017), 282–424. The same is true of the interpretation of the "line" in scholarship on notational iconicity; Krämer, *Figuration, Anschauung, Erkenntnis* (see note 57), 95–122. The reasons for this are identical: in Bauermeister's oeuvre there is an enduring in-between in which markings are at once writing and drawing. Employing the term "line" in a restricted sense could conceal that potential.

faces recognizable next to the abstract circular structures. In the lower area on one of the panes of glass, several stylized faces can also be made out. The title turns the entire work into a comment on Bauermeister's oeuvre; it can be read as an allusion to her own principles of her abstract or nonobjective early period. Only slowly and at first singly did she include figurative elements in her works, which would still have been unthinkable in the first years of her artistic career.

The scribble has an epistemological function: The spontaneous creation of semi-figurative sections brings with it a check on and transformation of her own dogmas. It communicates the self-imposed limitation that dominated for such a long time. That also makes it clear that the commentary system is employed not only within one work but also across works. Networks grow out of the design of individual works in the context of her oeuvre. On a microlevel, every curving stroke conveys the meeting of writing and drawing in the scribble. Initially, it still has the potential of uncertainty and adds new qualities of corporeal expression. The denser they become in a given area, the greater the likelihood that either something pictorial or written appears or a hybrid of the two results. It is a gray zone that contains a "neither-nor or not-only-but-also," which is a way of avoiding the dichotomy of the written and the pictorial.[109] The fusion of writing, drawing, and scribbling composed in the works results in something that can be called, following Rainer Totzke, an "associagram":

"Associagrams are artifacts of notational iconicity or diagrams in which words or groups of words for concepts are position opposite one another on a play and connected by graphic elements such as lines or encapsulations."[110]

They are "philosophical thought laboratories" that have "epistemic added value."[111] This only happens, however, if individual aspects can be linked to others, separated again, and grouped differently. Bauermeister worked with such associagrammatical division of the plane, and in the Lens Boxes or with relief-like elements she introduced the third dimension. Transformations via lenses must be considered as well; some of them produce unpredictable effects because they depend on the viewers' movements. Whereas some of the works grow exclusively out of writing and its

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109   See Sabine Mainberger, "Graphismus/Graphismen," in *Bonner Enzyklopädie der Globalität*, ed. Ludger Kühnhardt and Tilman Mayer (Wiesbaden: Springer, 2017), 419–31, esp. 419–20.

110   Rainer Totzke, "'Assoziationsgrammatik des Denkens': Zur Rolle nichttextueller Schriftspiele in philosophischen Manuskripten," in Cancik-Kirschbaum, Krämer, and Totzke, *Schriftbildlichkeit* (see note 28), 415–36, esp. 434.

111   See ibid., 417. Associagrams are the multidimensional extension of the concept of the diagram. According to Susanne Leeb, it can assume two essential directions: either "diagram" is understood to mean "aid to systematization" or the opposite view comes to the fore, then it is a "projective" concept of the diagram that opens "directions still to be explored" and a "field of action"; Susanne Leeb, "Einleitung," in *Materialität der Diagramme: Kunst und*

pictorial arrangement, others consist of symbols, arrows, numbers, mathematical symbols, musical notes, scribbling, and drawings. Associagrammatical notational iconicity thus empowered Bauermeister to try out new ideas that could result in new insights. It was also an invitation to viewers to choose a route through the work by moving their eyes or entire bodies in order to develop something meaningful from it. Associagrams make no "truth assertions" but "often function according to a logic other than the two-valued once of *yes* or *no*, *is* or *isn't*."[112] They symbolize the state that Bauermeister achieved to maximize the challenge to (alleged) certainties through works of visual art.

Bauermeister's use of writing and drawing is marked by an approach that generates an in-between. This is crucial to avoid producing dualisms, to "go beyond binary machines and do not let [oneself] be dichotomized."[113] It is the incorporation of all available elements so that ever-new dimensions that constitute the philosophical concept of the assemblage come together in a multiplicity.[114] The assemblage is, however, not a goal that has been achieved as soon as all of its parts are identified and assembled. On the contrast, it is the "minimum real unit" from which everything else emerges.[115] Only when the assemblage has been accepted as fundamental can attention be focused on the uncertainties, gradations, and the in-between. Writing and its iconicity is one of the multiplicities in Bauermeister's work. On the one hand, her use of it produces connections; on the other hand, they only result because they already emerge from networking with other multiplicities. Notational iconicity should not be seen as separate from the many-valued aesthetic, the combination principle, or the aesthetic of materials; they all condition one another and emerge from one another—it is a "not-only-but-also."

In the next chapter, new elements will be added to this assemblage that Bauermeister's work as a whole forms; this will permit new additional insights in the mi-

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Theorie, ed. Susanne Leeb (Berlin: B_Books, 2012), 7–32. For the second concept of the diagram, Leeb refers to the discussions of Deleuze in his books on Michel Foucault and Francis Bacon as well as to Deleuze and Guattari, who in *Thousand Plateaus* describe the diagram as an element within the assemblage that is responsible for connecting deterritorialized content; Deleuze and Guattari, *Thousand Plateaus* (see note 82), 141–43. The concept of the assemblage will be retained and further developed here to avoid double encodings with "diagram." The "diagrammatic" in relation to art and art history is discussed in Astrid Schmidt-Burkhardt, "Wissen als Bild: Zur diagrammatischen Kunstgeschichte," in Hessler and Mersch, *Logik des Bildlichen* (see note 53), 163–87.

112   Totzke, "'Assoziationsgrammatik des Denkens'" (see note 110), 434.
113   Gilles Deleuze and Claire Parnet, *Dialogues II*, trans. Hugh Tomlinson and Barbara Habberjam (New York: Continuum, 2002), 19.
114   See Deleuze and Guattari, *Thousand Plateaus* (see note 82), 8–23.
115   Deleuze and Parnet, *Dialogues* (see note 113), 38. Deleuze and Parnet describe this using the example of a writer: "The writer invents assemblages starting from assemblages which have invented him, he makes one multiplicity pass into another." Ibid., 39.

cro- and macrolevels. The object of study will be a work that is a hybrid of Lens Box and sculpture. Its title determines not only the reading of this one work but also the reading of Mary Bauermeister's oeuvre as a whole: *All Things Involved in All Other Things*.

6. Networking in and between Works

The work *All Things Involved in All Other Things* was created over a period of four years—from 1964 to 1968 (fig. 49). This is evident from the signature, which also specifies that Bauermeister began with the horizontal section in 1964, then added the vertical one in 1966, and finally completed it in May 1968. The first official presentation was planned for a gallery exhibition at Bonino in 1967; the work was not only listed in the exhibition catalog, but the announced exhibition title—"anything anywhere always anyway all things involved in all other things"—refers to the work and to Bauermeister's artistic strategy in general, because in sums up programmatic networking in a statement.[1] The title is, by Bauermeister's own account, an extension of a sentence by Marshall McLuhan: she has read the study *Understanding Media*, published in 1964, and expanded the technological and media extension of human beings to "things."[2] In Bauermeister's case, "things" means all the things or objects that the viewers can possibly imagine. The involvement of the things should be understood initially as immanent to her oeuvre with respect to the materials and techniques employed; it is necessary to include as well all aspects that serve their production, presentation, and distribution. *All Things Involved in All Other Things* was on view from December 1968 in the *Annual Exhibition Contemporary*

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1   It is included in the list of her works in the exhibition catalog and dated 1966; *Bauermeister: paintings and constructions*, exh. cat. (New York: Galeria Bonino, 1967), n.p. The work cannot be identified in the photographs of the exhibition. The title of the exhibition is noted in Bauermeister's sketchbook; see Mary Bauermeister, "Skizzenbuch, 1965–67 USA," unpublished source, paginated by the artist, p. 11. Because all the exhibition catalogs of the Galeria Bonino were called *Bauermeister paintings and constructions*, it cannot be determined conclusively whether the title was also communicated officially or whether Bauermeister wrote down for herself the title of the work and four supplemental words in order to make her own artistic approach clear; see section 2.3.

2   McLuhan writes: "In the electric age, when our central nervous system is technologically extended to involve us in the whole mankind and to incorporate the whole of mankind in us, we necessarily participate, in depth, in the consequences of our every action." Marshall McLuhan, *Understanding Media: The Extensions of Man* (New York: McGraw Hill, 1964), 4.

American Sculpture at the Whitney Museum of American Art.[3] It is less remarkable that Bauermeister's art was seen as American, since her first participation in the *Whitney Annual Exhibition* had been in 1964, as had the museum's first purchase. It is more interesting that the Lens Box was seen in the context of an expanded concept of sculpture in 1968, since the exhibition was explicitly dedicated to the genre of sculpture.

Fig. 49: All Things Involved in All Other Things, 1964–68, ink, offset print, glass, glass lens, wooden sphere, straws, wooden objects and painted wood construction with rotatable elements, 221 x 72.5 x 91 cm, LVR-LandesMuseum Bonn (2014.186,0-0).

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3   See *Annual Exhibition Contemporary American Sculpture*, exh. cat. (New York, Whitney Museum of American Art, 1968), n.p.

The work consists of various components assembled to form a unit measuring 221 by 72.5 by 91 centimeters. Bauermeister began with a horizontal Lens Box, corresponding to her first presentations of that group of works in 1963 and 1964. A square recess has been cut into the back of the Lens Box; into which another, slightly oval, ground for drawing has been inserted. A kind of roller is found inside the wooden base of the Lens Box. The roller is completely covered with writing and drawing and can be rotated by a circular wooden disk on the right side of the work, which is also decorated with comments and drawings. There is also a square cutout in the front of the base, so that the roller can also be seen from there. This results in two different reception experiences: Looking from above into the horizontal Lens Box is a smaller detail that is influenced von the layers of glass with lenses, stones, wooden spheres, and pencils as well as reproductions of other works and additional written or drawn comments, so that the composition changes continuously as the roller is turned. In addition, the section with the roller is also recontextualized. A different part of the roller is seen when looking at the front. It was Bauermeister's intention to allow the viewers to change the composition continuously by turning the wooden disk attached to the outside, which would, on the one hand, activate the disk and, on the other, constantly challenge their interpretation.[4] A number of hands are drawn on the rotatable wooden disk, representing a direct appeal to the viewers. In addition, four names can be identified as well as a "moi" for Bauermeister herself. Each of the names is written on one of the hands and they identify people who contributed to making the Lens Box.[5] In addition to the appeal to touch the disk in order to change the composition, the many other hands may also stand for a work of art always being dependent on numerous helping hands that are not clearly identifiable, as was shown earlier using the example of Becker's definition of "art worlds."

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4   Other works in which the viewers can actively determine the composition are *Magnetbilder* and *Hommage à Mar-bert Du Breer*, discussed above, but also *Poem Optique*; the two Lens Boxes have, in addition to layers of glass, panes that can be turned to change the composition. The Lens Boxes *Music Box* of 1966–68 and *Money Laundering Maschine or Fiat-Clean Money* of 1984–86 are constructed similarly to the lower part of *All Things Involved in All Other Things*; each has an integrated roller that can be altered by a construction on the side. A history of modern art work that encourage the viewer's physical intervention or for which it was at least intended when they were made, though it is no longer permitted today for conservation reasons, was presented in the exhibition *Spielobjekte: Die Kunst der Möglichkeiten* at the Museum Tinguely in Basel in 2014. In an interview in the accompanying exhibition catalog Bauermeister emphasizes the potential for activating when the viewers can change a composition; Frederik Schikowski, "Interview mit Mary Bauermeister: 'Was macht es mit euch, wenn ihr was ändert?,'" in *Spielobjekte: Die Kunst der Möglichkeiten*, exh. cat. Basel, Museum Tinguely, 2014 (Heidelberg: Kehrer, 2014), 34–43, esp. 39.

5   "Susi" and "Diter" were Bauermeister's sister and brother-in-law; both occasionally assisted her; "Albert" and "Carl" were the names of employees at that time.

The vertical section begun in 1966 brings together a number of elements that are central to Bauermeister's oeuvre. Stones, straws, glass, lenses, wooden pens and spheres, drawn needles, hands, and musical notes can be made out as well as studio materials such as small containers of paint—many of them are linked by comments. The concepts for the work can be found in her sketchbook for the years 1965 to 1967: they make it clear that Bauermeister originally wanted to include still other aspects, including fluorescent paint that would react to ultraviolet light and objects on the outside of the base like a large brush applying paint.[6] As with other works planned in the sketchbook, with *All Things Involved in All Other Things* the level of conception must be distinguished from the actual execution; in the process of realizing the work the artist makes adjustments, which presumably grow out of the commentary system.

Because Bauermeister worked on it over a long period, it represents a merger of various elements that had been employed previously. At the same time, it is also the starting point for new things and programmatic in particular for the overall connectedness of Bauermeister's artistic work. First efforts in this direction include the aforementioned reciprocal references in the *Needless Needles* series and the insertion of reproductions of it in new works, but this is just one characteristic of a broader approach: the networking of works to one another results in the formation of meta-levels as well as to a comprehensive assemblage, so that all the "things" in her oeuvre are networked to one another. Bauermeister referred to this reciprocal reference and development within her artistic works with a laconic comment directly below her signature. To the three years 1964, 1966, and 1968 she added "dead of the artist …" The omission points indicate where the year of her death can be entered. Although the work is said to have been "completed" in May 1968, Bauermeister is pointing out that it continues to develop with every work added to her oeuvre. A process that ends only when she passes away and no more works of art will follow. This should be understood to mean that the totality of motifs, techniques, and materials that had been developed up to the point of its completion will continue to be applied in the combination principle and commentary system in a general many-valuedness. This permanent recourse results in a constant refinement of the individual elements since they always contain (minimal) shifts and new contextualizations. Accordingly, future works will also have an effect on *All Things Involved in All Other Things*, since statements made in them change the overall orientation of the elements employed.

Pencil as Motif

An excellent example of this is the motif of a pencil, which is inserted into the work by drawing, with comments, and sculpturally as a wooden object. This can be traced back to the drawn and glued-on needles in *Needless Needles* works from 1963 to 1964,

6   See Bauermeister, "Skizzenbuch, 1965–67 USA" (see note 1), 19.

since that was the first time Bauermeister thematized the objects she uses in the production process. In the years that followed she introduced drawings of her own hands in the process of drawing with a pencil.[7] In 1966 she created the Lens Box *Peng-cil*, in which she reflected in drawing on the variations that writing instruments, and in this special case "pencils," can take, though here no physical objects are inserted yet. The wordplay in the title gives the motif first level of meaning with connotations of violence, though the comic-book-like "peng" seems like a parody.

Different wooden objects in the form of pencils can then be found on the frame and in the recession of the Lens Box *Pen-g-cil Introverted or Hommage à Robert Breer* of 1967. From this point, writing instruments turn up in all variations, as drawing and as sculptural objects that in Bauermeister's oeuvre are the equals of the wooden spheres that were already omnipresent several years earlier.[8] After completing *All Things Involved in All Other Things*, she made *Absolute Master Piece/Peace* in 1969, a Lens Box in which the writing instruments are attached to the frame so that their tips point to the viewers (fig. 50). Especially in connection with the title, this can lead to an aggressive reading: the word "peace" seems like a threat here, since it is intended to ensure an "absolute master"—the playful interruption of that interpretation is provided by the word "piece," which denotes the work a "masterpiece."

All of these levels now influence the pencil motifs in *All Things Involved in All Other Things*, whether or not they were produced before or after that work. This is an essential aspect of the networking between the works. *Don't Defend Your Freedom With Poisoned Mushrooms or Hommage à John Cage* already made it clear that sociopolitical events can also be incorporated. They too are elements of the networking and therefore should not be seen in a different context from that of the pencil motif: the motifs are appropriated artistically, repeatedly inserted into works, and varied in the process—the commentary system merely draws on heterogeneous sources.

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7   This motif and the tools or instruments of the production process are examined in more detail in section 6.2.

8   Bauermeister has pointed out that she decided to include pencils as objects because she heard from an art critic who equated the many round forms in her work with the female laying of "eggs," and in response she wanted to create a "male" counterweight. This lends the pencils an ironic and emancipatory dimension that is at the same time a feminist commentary; Hauke Ohls, "Interview to Mary Bauermeister by Hauke Ohls," in *Mary Bauermeister: 1+1=3*, exh. cat. (Milan: Galeria Gariboldi, 2017), 6–44, esp. 18.

Fig. 50: Absolute Master Piece/Peace, 1969, ink, glass, glass lens, wooden sphere, wooden object and painted wood construction, 80 x 80 x 45 cm, Studio Gariboldi, Milan.

Network-Like Networking

The title *All Things Involved in All Other Things* already refers explicitly to the status of comprehensive connectedness. Here we are working with the concept of networking in order to relate it to assemblage theories so that the connections within one work and between several can be grasped. The concept of the network, by contrast, should not be applied explicitly to the works of art. The minimal definition is simply a "number of points or nodes and their connections or edges."[9] This can, however, be further specified, so that, among other things, one had to "imagine an unhierarchical, acentric, modularly ordered, self-organizing, and communicatively densely coupled linking of individual elements" in order to obtain a more meaningful con-

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9   Arno Schubbach, "Was sich in Bildern alles zeigen kann: Überlegungen mit Blick auf die Visualisierung von Netzwerken," in *Zeigen: Die Rhetorik des Sichtbaren*, ed. Gottfried Boehm, Sebastian Egenhofer, and Christian Spies (Munich: Wilhelm Fink, 2010), 207–32, esp. 211.

cept of the network.[10] Beyond that, not only is a "heterogeneous, hybrid, temporalized circulation" necessary but the possibility of identifying net-creating and net-using entities collapses.[11] It would be conceivable to assume a "network metaphor" in order to juxtapose "metaphysics aimed at unity" with a fundamental "heterogeneity and connection."[12] These approaches, however, relate to Bauermeister's oeuvre in an ambiguous way, since, on the one hand, she repeated appears in her works as their author and makes herself a theme; on the other hand, the element integrated by her are transferred into a logical internal to the work that intrinsically functions with the identity of reflection of the object. It certainly appears at first as if all the possible themes, techniques, materials, and styles are appropriated without recognizable hierarchy and are granted a certain contingency. Behind every incorporation and subsequent development within the overall association of all the works, however, stands the decision to permit that circulation within the oeuvre. The networking is therefore more precise, since the connection of "identical elements" across different spatial and temporal contexts includes Bauermeister's approach in the combination principle and commentary system.[13] To avoid the risk of a double coding with the concept of the assemblage therefore, the term "networking" will be retained and further expanded in the epilogue.

Using Latour, however, it is possible to shift the focus in a fruitful way: For him, a network is "not a thing out there," but rather explicitly the specific way a text about a phenomenon is written.[14] The network judgment is thus by no means made about an object; on the contrary, everything can be described in a network-like way, since that is the way to activate (new) translations of something, for example, of a work of art or an entire oeuvre. It is simply about give an account of the "trace left behind by some moving agent," in all its facets.[15] Latour's understanding of the term "network"

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10   Julia Gelshorn and Tristan Weddigen, "Das Netzwerk: Zu einem Denkbild in Kunst und Wissenschaft," in *Grammatik der Kunstgeschichte: Sprachproblem und Regelwerk im Bild-Diskurs; Oskar Bätschmann zum 65. Geburtstag*, ed. Hubert Locher and Peter J. Schneemann (Emsdetten: Imorde, 2008), 54–77, esp. 58.

11   Sebastian Giessmann, *Die Verbundenheit der Dinge: Eine Kulturgeschichte der Netze und Netzwerke* (Berlin: Kadmos, 2016), 421.

12   Gelshorn and Weddigen, "Das Netzwerk" (see note 10), 58. In their text Gelshorn und Weddigen also speak of the problem of the ubiquitous use of the concept of network, which they call "network paradigms" this could be "exposed in the future as an 'ether' of the turn of the millennium that explained everything," but at the time the influence of the network on cultural theory was impossible to avoid; ibid., 73.

13   See Giessmann, *Die Verbundenheit der Dinge* (see note 11), 15.

14   Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network Theory* (Oxford: Oxford University Press, 2005), 131.

15   Ibid., 132. This trace can also be called a "trajectory." It is a more recent concept from Latour. See Bruno Latour, *An Inquiry into Modes of Existence: An Anthropology of the Moderns*, trans. Catherine Porter (Cambridge, MA: Harvard University Press, 2013), 38–42.

is thus better suited to the (descriptive) approach if we are trying to give an adequate account of Bauermeister's works.

Networking is omnipresent in her oeuvre, not only because she repeatedly takes up again materials, techniques, or styles or specific elements that refer only to one work but also and above all by means of picture-to-picture references, when already executed works are integrated into a new one. There is also the reverse case when Bauermeister refers in a current work to a future one by means of the commentary system.

6.1   Picture-to-Picture References

There are numerous examples in Bauermeister's oeuvre of her inserting photographic reproductions of her own works into new works. They are then commented on or altered with materials such as wooden spheres, pencils, lenses, writing, straws, and stones. Photographs of works are not an exclusive way of establishing connections; sometimes works are sketched or referred to in writing. One also finds individual motifs such as needled or a drawn seam as connecting elements.

In general, Bauermeister used picture-to-picture references to establish links between them that can then change to another level of connection, resulting in unities of several works. To approach this phenomenon, I select from the many concepts that have employed to describe visual connections the term "interpictoriality."[16] Although the term is recognizably close to "intertextuality" and emerged from that field of research, the theory of intertextuality cannot simply be transferred to visual artifacts because there is a risk of undermining their pictorial status.[17] "Interpicto-

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16   Guido Iskenmeier understands interpictoriality to be a concept with potential for international connectivity and a complementary partner to "intertextuality." In his view, the term "interpictoriality" should be preferred over such terms as ""Interikonizität," "Inter-bildlichkeit," and "Interpikturialität"," because it can be related to the English term "pictorial"; Guido Iskenmeier, "Zur Einführung," in *Interpiktorialität: Theorie und Geschichte der Bild-Bild-Bezüge*, ed. Guido Iskenmeier (Bielefeld: transcript, 2013), 7–10, esp. 7. "Interpikturialität" as described by Valeska von Rosen does, however, clearly overlap with Iskenmeier's understanding of his concept; Valeska von Rosen, "Interpikturialität," in *Metzler Lexikon Kunstwissenschaft: Ideen, Methoden, Begriffe*, ed. Ulrich Pfisterer, 2nd ed. (Stuttgart, Weimar 2011), 208–211.

17   Elisabeth-Christine Gamer offers a broader look at the debate on the "intertextuality of pictures" in her eponymous study. She analyzes intertextuality as well as the attempts to apply it to images along with a "terminological exploration" of the neologisms developed; Elisabeth-Christine Gamer, *Die Intertextualität der Bilder: Methodendiskussionen zwischen Kunstgeschichte und Literaturtheorie* (Berlin: Dietrich Reimer, 2018). For a critical assessment of the application of intertextuality to images, see Hanne Loreck, "Dem Vernehmen nach ...: Kritische Anmerkungen zu einer Theorie der Interpiktorialität," in *Interpiktorialität: Theorie*

rial" will be used to describe any connection between two images, regardless of their media context and how this connection established can be further refined: they can be purely formal or stylistic correspondences or nuances of subject matter that evoke a prior image.[18]

The special quality of Bauermeister's oeuvre is that she worked primarily with self-references, and they are not hidden hints that only an audience familiar with art can identify but rather photographic miniatures of her own works that are clearly recognizable in the composition. It was necessary for viewers to know Bauermeister's previous works; should that not be the case, she often included the title of the (reproduced) work or parts of it in the new one.

In *All Things Involved in All Other Things*, for example, the Lens Boxes *I'm a Pacifist But War Pictures Are Too Beautiful* of 1964–66 and *Some Nice Decorative Colours (... For Attraction)* of 1966 are included on the roller as color photographs, each in a round cutout. The first of the latter was also integrated into the overall composition as a drawing, continuing the color scheme of the Lens Box on the roller and placing a mesh of lines, circles, and letters next to the reproduction. In addition, the word "Pacifist" in uppercase letters can be read above the inserted detail. The part of *I'm a Pacifist But War Pictures Are Too Beautiful* that is reproduced already contains an inserted work, namely, *Trichterrelief* (Funnel Relief) of 1963. This represented another level of interpictoriality since the work that represents a second-order picture-to-picture reference is also integrated into *All Things Involved in All Other Things*. The numerous drawn circular forms on the roller next to the cutout refer to the round elements in *Trichterrelief*, a work based on Bauermeister's point structures and the round forms of modeling compound. In the reference to *Some Nice Decorative Colours (... For Attraction)*, Bauermeister was being even more explicit since she wrote not just a single word from the title around the cutout but rather the full title.

There are formal reasons why the reproduced works are usually inserted into the new works as round cutouts. They are thus integrated as another element into an overall composition in which round forms are frequent. A drawn hemisphere applied to the frame or the background of a Lens Box is usually integrated into a commentary system next to it that is also round. The older works inserted thus enter into a (homogeneous) compound that does not appear to be antithetical on principle. Nevertheless, because they differ in color the photographic reproductions can always be recognized as such. On the one hand, this emphasizes the networking of

      und Geschichte der Bild-Bild-Bezüge, ed. Guido Iskenmeier (Bielefeld: transcript, 2013), 87–106, esp. 93–94.

18   In order to do justice to processes of picture-to-picture reference, Iskenmeier described fourteen concepts, all of which represent a refinement of interpictoriality; Guido Iskenmeier, "In Richtung einer Theorie der Interpiktorialität," in Iskenmeier, *Interpiktorialität* (see note 17), 11–86, esp. 76.

the works—they are not foreign bodies in a new context; rather, there is a general connectedness of all the works; on the other hand, with this approach Bauermeister ensured that the Lens Boxes, stone pictures, and point-structure pictures remain exactly identifiable. The style of the reproduced cutout is in that respect congruent with its environment also in the way it is inserted so that it seems difficult to imagine that Bauermeister could have used someone else's artwork here. The recession of the horizontal Lens Box of *All Things Involved in All Other Things* can serve as an example here: in the background, which surrounds the roller in a square, small cutouts of *Some Nice Decorative Colours (... For Attraction), 308,975 Times No ... Since ...* and *In Memory of Your Feelings or Hommage à Jasper Johns* have been inserted. The specific works can probably be recognized only by an eye trained in Bauermeister's art. In general, however, the individual elements on the reduced cutouts conform more to the surroundings into which they have been inserted.

There are also picture-to-picture references that remain within one work, so that an artwork has an explicit reference to the same work. There is a modified miniature of *All Things Involved in All Other Things* drawn on the roller of *All Things Involved in All Other Things*. It is mirrored and has several additional elements that are not part of the final work. Among other things, there are clearly more wooden pencils sticking out of the side of the work—that is to say, materials that Bauermeister certainly could have attached. There are, however, other additions that could not have been implemented or only with difficulty: In the final work, a narrower and dense field of straws has been integrated on the right side of the vertical section, whereas on the left site the straws are spread out more and therefore take up more room. Accordingly, in the drawing on the roller the larger section of straws is on the right, and several straws extend beyond the termination of the work. It even seems as if they stick out of the side of the work and keeping getting larger as soon as they have left the frame of the Lens Box. At some distance from the work, the caricatured drawn straws are deformed, and at that point at the latest one has the impression that the straws are meandering through the room.

Bauermeister added written comments to this section, and one sequence can be decoded as "straws, bigger straws, bigger straws flyin ... took off." The drawing of the work and the addition of the "bigger straws flyin" clarifies in particular the aspect that Bauermeister intends for the picture-to-picture references as a way to develop her works further. The viewers perceive both "versions" of *All Things Involved in All Other Things* simultaneously; one need only shift focus from the drawn miniature to the Lens Box as a whole. But because the Lens Box is the support of the drawing, and it is in turn one component of the work as a whole, even if another section is seen, synchronicity has to be assumed: The visual presence of *All Things Involved in All Other Things* as it can be seen in the exhibition venue of the LVR-LandesMuseum in Bonn is not final in character, because as soon as one discovers the drawing on the roller,

the version with the flying straws is (also) valid according to Bauermeister's many-valued aesthetic.

The picture-to-picture references in Bauermeister's work establish networks to other works in her own oeuvre, which likewise initiates a constant reinterpretation, since the works are embedded in new, expanded context. With every reference that is added, the previous work also changes, much as with the element of the wooden pencils. That is only the case, however, because Bauermeister does not think of the components of her oeuvre as solitary—rather, all things are involved in all other things.

Repetitions and Their Differences

In connection with interpictoriality, one can speak of "pictorial memory": Bauermeister secured her own works in the new one and in the process performs a self-canonization; in addition, interpictorial references should be understood as "'machines' that generate meaning and produce difference."[19] A painted or photographed quotation can never be seen as a direct transfer because differences in the material, medium, and even format reign. This necessary deviation already triggers a process that is exponentially increased by Bauermeister's commentary system. The mass of picture-to-picture references, their different embedding in the works, and Bauermeister's specific aesthetic permit a permanent production of difference. Moreover, not only do the picture-to-picture references initiate a self-canonization but also, complementing that, the continuous repetitions also have other productive qualities: they are a "process that creates identity" by which Bauermeister affirms herself as an artist and in parallel with which a "larger aesthetic unity" is created.[20]

This "unity" results from the specific nature of the self-repetition which brings out differences between the works when an older work or a specific element (of writing, drawing, or material) is repeated in a current work. The networking works in both directions; it has a generally transformative influence:

> "Repetition is no longer a repetition of successive elements or external parts, but of totalities which coexist on different levels or degrees. Difference is no

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19   See ibid., 39–50.

20   Verena Krieger and Sophia Stang, "Wiederholungstäter: Die Selbstwiederholung als künstlerische Praxis in der Moderne," in *Wiederholungstäter: Die Selbstwiederholung als künstlerische Praxis in der Moderne*, ed. Verena Krieger and Sophia Stang (Cologne: Böhlau, 2017), 7–17, esp. 13ff. Michael Lüthy declares with regard to modern art that it fundamentally leads to "universal phenomena or repetition"; for him they structure the "art field"; Michael Lüthy, "Serialität als Selbstreflexion," in ibid., 19–28, esp. 22.

longer drawn *from* an elementary repetition but is *between* the levels or degrees of a repetition which is total and totalising every time."[21]

In order to understand what happens in works of art, an extended understanding of the term "repetition" has to be assumed, since difference as a productive element occurs in the space between the different repetitive movements. There is the literal repetition of a certain element, for example, of a drawn needle, a glued-on stone, or the reproduction of a Lens Box and the totality of repetitions that is connected with the specific repeated element in general—in the case of the latter, Deleuze also speaks of a "profound repetition of the internal totalities."[22] The recurrent repetition of the totality also leads to the unfinished past of Bauermeister's oeuvre, since at precisely that point, the understanding of difference begins: direct occurs in the interaction of two repetitions and then continuously changes the already finalized works. Using the combination principle and the commentary system Bauermeister produces a situation in which a repeated material, word, or entire work is not merely employed again but the difference movements result in an overall aesthetic unity of the oeuvre in which the works continuously affect one another. For that reason, the concept of the network is not employed here for the compound of works, since, on the one hand, that causes one to lose sight of the object itself, since it is substantially about the connections; on the other hand, it suggests a stability that is not possible but has to be renegotiated each time: "The things are present; they form arrangements, ensembles, or assemblages without for that reason also being networks in each case."[23]

Bauermeister made it clear that in her work she did not want past and present to be seen simply as intertwined with each other by addressing future works as well by means of the commentary system in her works: sometimes the exact reference to the three levels of past, present, and future cannot be distinguished, for example, in the comment "this is part of another painting," which occurs frequently in the notational iconicity of her works.[24] Bauermeister was referring to the section that

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21   Gilles Deleuze, *Difference and Repetition*, trans. Paul Patton (London: Continuum, 1997), 287.

22   Ibid.

23   Hans Peter Hahn, "Der Eigensinn der Dinge: Einleitung," in *Vom Eigensinn der Dinge: Für eine neue Perspektive auf die Welt des Materiellen*, ed. Hans Peter Hahn, (Berlin: Neofelis, 2015), 9–56, esp. 27–30. In arguing that a network metaphor loses sight of the objects themselves, Hahn refers to Graham Harman's object-oriented philosophy. Harman intends it primarily as a challenge to Bruno Latour's actor-network theory; Bruno Latour, Graham Harman, and Peter Erdélyi, eds., *The Prince and the Wolf: Latour and Harman at the LSE* (Winchester: ZERO, 2011). This debate is assessed in Hauke Ohls, *Objektorientierte Kunsttheorie: Graham Hamans spekulative Philosophie im Kontext einer (nicht-)relationalen Ästhetik* (Hamburg: AVINUS, 2019).

24   The transformation into "this is not this painting" seems to occur with the same frequency; there is also a Lens Box from 1966–67 with that title. The comment "this is part of another

contains this comment—but that is not part of the painting. In *All Things Involved in All Other Things*, "this is part of another painting" can be found several times. One example is placed on the roller, where the comment is written around an inserted reproduction of *Some Nice Decorative Colours (... For Attraction)*. The comment seems to be an obvious statement that is easily understood. "This is part of another painting" also occurs in the recession of the horizontal Lens Box, and here the sentence does not refer to an inserted work; rather, it is positioned in a mesh of "ja," "no," and circular structures. This section refers explicitly to another work, but it is not clear which one it is.

Based on the difference movements running through the oeuvre as a whole, a not-yet-executed work can be manifested, as is clear from other comments. In the Lens Box *Needless Needles Vol. 5*, two retrospective comments can be found written in the upper left corner: "idea from last painting" and "idea from before last painting"; with "and/or" Bauermeister connected the statement "idea for last painting." This section, which also has a drawn seam, is thus an idea that is supposed to have been established in the previous work; the statement also contains an ambiguity, since it could also be read as a reference to Bauermeister's final painting. That the word "idea" could refer to that small and arbitrary insight was already described in the chapter on notational iconicity. Accordingly, the statement need not refer to the theme of the needle that determines the work; in principle, every element should be considered. On the right side of the Lens Box, "idea from next painting" again refers to the future dimension. This time, however, it is a reference to a coming work not yet executed, and it is found in a section that was made in 1964. The section is separated by a line, and there are no written or drawn elements within it, just a seam with four stitches simulated on the upper edge. One should not conclude from that the next painting by Baumeister contains no idea or that an explicit void is expressed here; rather, the idea could already be manifested by networking. It could be contained in the section but it is not yet possible to perceive it, since the Lens Box was in the process of being executed—it is playing with levels of time.

Bauermeister does not seem to have intended for a future work to be actually "inscribed" materially into an already existing one. Rather, the possibility exists that the ideas that are manifested in other works will find expression precisely in this one section. That can happen if the totality of the oeuvre is conceived as a compound. The works still to come in which new repetitions are constantly being carried out permit a production of difference that permits a reference back in both directions that is also a reference in advance. When something in the future is addressed in Bauermeister's works, a section is deliberately left free for it, or it is identified as part of another work, it is a sign of the intended networking that is supposed to unfold.

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painting" occurs in every conceivable transformation in Bauermeister's works, often spelled "p-art" and "an-other," in order to activate additional levels of meaning within the words.

Any use of the combination principle and commentary system in essence has the potential to add something new to a particular element, which changes its overall orientation—and Bauermeister left room for these changes already when executing her works.

Square Tree Commentaries

The picture-to-picture references within a work can be nested between several others to such an extent that one has to assume an extension of a picture-to-picture schema; this can be observed in the Lens Box *Square Tree Commentaries* of 1966 (fig. 51). The work measures 76.8 by 76.5 by 16.2 centimeters, and its title should definitely be understood literally: it consists of comments on *Square Tree* of 1965, and the plural is important. A photographic reproduction of the Lens Box *Square Tree* is inserted in the background of the subsequent commentary work (fig. 52). The initiating work is a square Lens Box composed of (written and drawn) comments, wooden spheres, and glass lenses. Behind it stands a small wooden dolphin, or mooring spar, that has been sawn through lengthwise; it is an object from a harbor to which a ship would have been moored.[25] That also explains the title *Square Tree*, since it is a square Lens Box with a wooden dolphin that was originally a tree.

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25   Bauermeister also employed the other half of the dolphin in 1965 as material for the Lens Box *Half Tree*. She was able to take at least two dolphins from Staten Island to her studio in 1963. The second one was not sawn through and was used for the lens-box ensemble *Three Trees*; that dolphin has since been exhibited several times separately as a found object titled *Hafenklotz* (Harbor Spar).

Fig. 51: Square Tree Commentaries, 1966, ink, offset print, glass, glass lens, wooden sphere and painted wood construction, 76.8 x 76.5 x 16.2 cm, Hirshhorn Museum and Sculpture Garden, Smithsonian Institution, Washington, DC, The Joseph H. Hirshhorn Bequest, 1981 (86.268).

Inside the Lens Box we can make out not only the photographic reproduction but also a drawn "paraphrase," in which several sections of the pictoriality of the original work have been transferred by "formal transposition."[26] This paraphrase undergoes various transformations: For example, at top left Bauermeister has reproduced one part of *Square Tree* in a delicate drawing, which is then continued, distorted, on the wooden spheres or reproduced their again. There are additional distortions caused by the lens. Starting out from this section, fragmented details of *Square Tree* can be identified throughout the recession of *Square Tree Commentaries*. Some are elements from the Lens Box that served as a model, some are suggestions of the wood frays of the dolphin. Bauermeister composed both drawn and written comments on it, and even wrote the word "commentaries" in one place.

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26   Iskenmeier, "In Richtung einer Theorie der Interpiktorialität" (see note 18), 67.

Fig. 52: Square Tree, 1965, ink, glass, glass lens, wooden sphere, found harbor object and painted wood construction, 32 x 35 x 13 cm, Private Collection USA.

The word "me-mories," spelled thus with a hyphen, can be read on a sphere within the recession. With such small transformations Bauermeister achieved a minimal shift in meaning: they are explicitly her own memories illustrated in her own work. This wooden sphere is taken up again in a drawing on the left of the frame of *Square Tree Commentaries*, whereby the writing is permeated by other circles that transition into lines—simulating that these changes are being caused by the lenses. This is not the only example of the reference of sections within the recession that are taken up again on the frame. The drawn lines and the written "memories" are embedded in another mesh of lines that is a distorted reflection of the photographed frays of the wooden dolphin. The situation is different on the upper termination of the frame, where a negative form of the already painted outline of the dolphin is drawn in delicate lines.

This projection from inside the Lens Box onto the frame, on which there is then a second-order comment, is found most clearly in the work's lower section: the entire lower part of the work, from the bottom edge of the recession to the termination of

the frame, mirrors the area above it. Bauermeister chose the same scale for it and in part reversed the color scheme so that a positive-negative form results; in addition, comments on the upper section are worked into the lower one that are already comments on another work. For example, the two sections of the dolphin from *Square Tree* above them are reproduced in brownish paint to the left and right of the recession of *Square Tree Commentaries*; the reflection below is white on the left and on the right consists of fine lines, whereas everything outside of the reflection is rendered with brownish paint.

The delicate lines that are often seen in the Lens Box form the projection here, the taking up or developing of elements already inserted as references: in the initial work *Square Tree*, the upper section of the dolphin is a section that results from a found object. The photographic reproduction has already introduced the pictorial reference into the new work; the next level follows in the form of the painted copy next to the recession; the new reference in the reflection below introduces the element in delicately drawn lines into the section as a whole. This can be synchronized with a perspective of many-valued networking levels, since with this aesthetic approach by Bauermeister it is legitimate to assume that the delicately drawn lines are already contained equally on the found dolphin or emerge as a result of the identity of reflection of the object in the lower, mirrored section of the dolphin.

The picture-to-picture references cause yet another phenomenon in addition to many-valuedness: the repetitions and the associated production of difference create an "active reworking" within the oeuvre, as Mieke Bal has called it: "Hence, the work performed by later images obliterates the older images as they were before that intervention and creates new versions of the old images instead."[27] Whereas Bal is speaking of appropriations by others, in Bauermeister they are self-appropriations. *Square Tree Commentaries* does not merely paraphrase sections of *Square Tree*; rather, the adopted is transformed several times, resulting in a retroactive effect on the previous work. This too can be reconciled with Deleuze's view of movements of difference and repetition.

Subsequent developments make it clear that Bauermeister was constantly dovetailing the levels in order to reveal many-valuedness and encourage the production of difference. The reproduced passages in *Square Tree Commentaries* are by no means without variance of the originals; rather, they reflect on networking and different forms illustrating it: On the lower edge of the recession a quarter-sphere of wood has been attached to the frame. The upper left corner of *Square Tree* is paraphrased on it, whereby the elements within the box once again consist of fine lines and the frayed wood of the dolphin. Inside the drawn box we read "e.g.," that is, "for example." In the mirroring below it Bauermeister took this up again as a written com-

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27   Mieke Bal, *Quoting Caravaggio: Contemporary Art, Preposterous History* (Chicago: University of Chicago Press, 1999), 1.

ment; the spot where the wooden sphere had to be placed is marked; "repeat" also stands here, and she has indicated as fractions the transformation from a half- to a quarter-sphere—all framed in a mesh of lines. The "e.g" from the original work can be found a little further down; it appears to have sunk out of the written comment. On the right side of the recession and at the same height as the written and attached quarter-sphere, another "e.g." can be found; here it is modulated from delicately drawn lines and strives to break free across the edge of the Lens Box. If we assume it is to be read from left to right, this is the direction of something that follows, a networking with a coming work. In all three cases, the abbreviation "e.g." indicates that it must be assumed that we are being confronted with an (arbitrary) element from Bauermeister's standardized approach. The "e.g." has its starting point in the drawing of *Square Tree* on the wooden sphere seen on the frame of *Square Tree Commentaries*; this "example," however, is already standing in for a (drawn or written) comment that could also have been placed here; the networking occurs anyway: Bauermeister built her oeuvre from a standardized use, and in the end everything refers back to everything else. Which "example" is employed here is less crucial; the abbreviation "e.g." already suffices.

One last decisive aspect of *Square Tree Commentaries* is the theme of the work process, here in the form of time spent working. The mirroring below the recession has a darker section that in part repeats elements from above and in part contains new comments. Right next to his section stands "working time," with a border around it, and diagonally below it "5 hours," with an arrow pointing down to the right in the direction of the darker passage. Below that we read "5 minutes"; the arrow next to that points down to a schematic sketch whose position corresponds to the photographic reproduction of *Square Tree* in the Lens Box *Square Tree Commentaries*. The differences between the executions of the two sections are so striking that the indications of time seem appropriate, even if it is presumably a generalization based on the contrast employed. The time-saving executed part is filled with abbreviations such as "e.g.," "etc.," and "usw." (and so on); another example of how the written comment is employed but at the same time the other written and drawn themes and forms must be thought of as well.

By using picture-to-picture references in her oeuvre in this way, Bauermeister created an (inherent) iconic logic. She reproduced for that purpose works that have already been completed with a signature in order to provoke their finality. Beyond that, it is above all the individual materials, motifs, and thematic focuses that are continually cited to achieve networking, further development, and retroactive effect. Whereas Deleuze emphasizes that artists are not active "in order to reproduce an object on the canvas" but always paint "on images that are already there,"[28] Bauer-

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28   See Gilles Deleuze, *Francis Bacon: The Logic of Sensation*, trans. Daniel W. Smith (Minneapolis: University of Minnesota Press, 2004), 61.

meister's approach consisted of taking up what she has already completed herself; she painted on her own pictures. This corresponds to her reference to Günther's non-Aristotelean logic: the visual language personalized and reproduced by Bauermeister uses the media conditions of the support, since nondichotomous logics can be presented in simplified way in the iconic, since both sides of a mutual exclusion are present simultaneously in the showing; here two elements are initially only two positivities.[29] It is this circulation of self-introduced elements that can lead to reflection on the epistemological makeup of one's own depiction. Visual critique that questions and generates knowledge is understood here to be the analysis of "modes of iconic representation."[30] Bauermeister created not only a metaphysical approach via her aesthetic but also an epistemology that questions the pictorial elements in each case and their networking to one another as well as circling around their reciprocal influence. Both levels—the metaphysical and the epistemological—are irreducible to each other in detail, but they have points of contact in the overall assemblage that constitutes Bauermeister's oeuvre.[31] The connections result from the specific iconic logic. In addition to the many-valued aesthetic, therefore, one can also speak of an epistemological aesthetic that is crucially tied to a researching approach:

> "Works of art as we want to understand them for an epistemological aesthetic are, by contrast, not produced objects of use, but rather vehicles of reflection, media of communication, or catalysts of experience. Crystallization of engagement with the world that has become material."[32]

These engagements stand outside of unambiguous categorizations; rather, iconicity perhaps an "excess of the imaginary" with which a productive visual critique once

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29 See Martina Hessler and Dieter Mersch, "Bildlogik oder Was heißt visuelles Denken?," in Martina Hessler and Dieter Mersch, *Logik des Bildlichen: Zur Kritik der ikonischen Vernunft* (Bielefeld: transcript, 2009), 8–62, esp. 24–26. Uli Richtmeyer goes a step further in this respect; for him, the possibility of negation can only take the form of a not-showing and hence of a dissolution; this fundamentally rules out a contradiction in the visual; Uli Richtmeyer, "Logik und Aisthesis: Wittgenstein über Negation, Variablen und Hypothesen im Bild," in ibid., 139–62, esp. 159.

30 Gottfried Boehm, "Ikonische Differenz," in *Rheinsprung 11: Zeitschrift für Bildkritik* 11, no. 1 (March 2011): 170–78, esp. 173.

31 It is a process that can also be grasped as "linking" in the sense of "hyperimages," which are to be understood as "autonomous images" that can at the same time produce an "image complex"; Felix Thürlemann, *More than One Picture: An Art History of the Hyperimage*, trans. Elizabeth Tucker (Los Angeles, CA: Getty Research Institute, 2021), 1–19.

32 Anke Haarmann, *Artistic Research: Eine epistemologische Ästhetik* (Bielefeld: transcript, 2019), 65.

again emerges as a distinctive feature.[33] A work of visual art with a specific iconic logic manages through constant mutual references to annul supposedly simple certainties—for example, when Bauermeister writes, contrary to arithmetical conventions, "1+1=3."

6.2   Production Processes between Hand, Eye, and Tools

The interplay of hand, eye, and tools or instruments becomes an essential point of reference for Bauermeister in her works from 1966 onward. This interest could already be seen earlier in the repeated theme of needles, since they too were employed in the light sheets as objects of artistic work and then reflected on in the works. The term "tool" is usually avoided in an artistic context and "instrument" used instead. The reason for this is an idealistic separation that attributes a craft working of materials to the tool, whereas the instrument is associated with intellectual activities.[34] The reason that the term "tool" is primarily employed here, however, lies in Bauermeister's use of the term: in her Lens Boxes, drawings, and stone pictures from 1967 onward the writing word "tool" comes up frequently, usually in connection with the objects of her artistic work; "tool" also occurs repeatedly as part of a title, and there is a series called the *Tool Series*. Bauermeister seems to have deliberated chosen the term as opposed to instrument because she did not want to achieve disembodiment on an intellectual level.

Making herself a theme in her own works was fundamental for Bauermeister, but it was usually done in order to refer to the processes of production to which she is bound as an artist. She was the one who worked the material and needed hand, eye, and certain tools to do so. The explicitly employed self as theme also permits the aforementioned expansion of many-valuedness to her own subject. The (self-)interpictoriality she employed is thus a confirmation of and challenge to her own person. By means of self-reference she achieved a "self-empowerment as controlling and creative authority [that] potentially subjugates to itself the entire world as material."[35] It has repeatedly been pointed that the formation of modern subjectivity as

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33   Gottfried Boehm, "Ikonisches Wissen: Das Bild als Modell," in Boehm, *Wie Bilder Sinn erzeugen: Die Macht des Zeigens*, 4th ed. (Berlin: Berlin University Press, 2015), 114–40.

34   Philippe Cordez, "Werkzeuge und Instrumente in Kunstgeschichte und Technikanthropologie," in *Werkzeuge und Instrumente*, ed. Philippe Cordez and Matthias Krüger, Hamburger Forschungen zur Kunstgeschichte: Studien Theorien, Quellen 8 (Berlin: Akademie, 2012), 1–19. This difference is closely tied to efforts to separate the visual arts from the crafts and to distinguish among the arts; see Matthias Krüger, *Das Relief der Farbe: Pastose Malerei in der französischen Kunstkritik, 1850–1890* (Munich: Deutscher Kunstverlag, 2007), 206–8.

35   Verena Krieger, "Sieben Arten, an der Überwindung des Künstlersubjekts zu scheitern: Kritische Anmerkungen zum Mythos vom verschwundenen Autor," in *Was ist ein Künstler? Das*

prototypically productive was first achieved by creativity.[36] In Bauermeister's work, however, it is specifically a working subject who occurs repeatedly in self-referential fragments that condition and are nested in one another. It is crucial that she as creator of the works be a theme of the statement since it is her hands and eyes using the tools: Winfried Nöth calls this "enunciative self-reference," and it seems profitable to connect it to "iconic self-reference" as he defined it, which is characterized by "recursion," "recurrence," and "repetition" and also cases a "circular or loop-like return to an earlier point."[37] Bauermeister created new levels in this way that together construct a networked whole. The self-thematization she employed is not, however, completely reconcilable with a self-reflexivity in which art thematizes itself as artwork and self-referentiality seems crucial.[38] For that reason I employ here the term "self-reference" and further refine it as "metareference." Moreover, not only can self-repetition, that is, recourse to previously executed works, be seen as self-reference but also the renewed use of already employed elements, "because a repeating same results."[39] Every "no" formed from curved lines, even without the implications of the many-valued aesthetic, would thus have a self-reference.

Subjekt der modernen Kunst, ed. Martin Hellmold et al. (Munich: Wilhelm Fink, 2003), 117–48, esp. 119. Krieger describes in her text seven strategies that have been applied to undermine the connectedness of one's own subject with the production of art; for her, the twentieth century is a history of failed attempts to achieve this, which in the end only modernized and strengthened the artist-subject; ibid., 145–48.

36 See Josef Früchtl, "Die Unverschämtheit, Ich zu sagen—ein künstlerisches Projekt der Moderne," in *Subjekt und Medium in der Kunst der Moderne*, ed. Michael Lüthy and Christoph Menke (Zurich: Diaphanes, 2006), 37–48, esp. 43–44; Michael Lüthy, "Subjekt und Medium in der Kunst der Moderne: Delacroix, Fontana, Nauman," *Zeitschrift für Ästhetik und Allgemeine Kunstwissenschaft* 46, no. 2 (2001), 227–54, esp. 229.

37 Winfried Nöth, "Self-Reference in the Media: The Semiotic Framework," in *Self-Reference in the Media*, ed. Winfried Nöth and Nina Bishara (Berlin, New York 2007), 3–30, esp. 20–21.

38 Such processes of a paradigm shift of the representational system of art to a dominant self-referentiality characterize the theories of Niklas Luhmann and Jacques Rancière, among others, both of whom saw the upheaval as being introduced with the rise of Romanticism; see Niklas Luhmann, "Die Ausdifferenzierung des Kunstsystems" (1998), in Luhmann, *Schriften zu Kunst und Literatur* (Frankfurt am Main: Suhrkamp, 2008), 316–52, esp. 327–30; Jacques Rancière, *The Politics of Aesthetics: The Distribution of the Sensible*, trans. Gabriel Rockhill (London, UK: Bloomsbury Academic, 2013), 42–44. Birgit Mersmann describes this as an elevated standpoint of self-reflection that can be compared to idealistic transcendental philosophy; it attempts to reach a state of self-knowledge by continually engaging with itself; see Birgit Mersmann, *Bilderstreit und Büchersturm: Medienkritische Überlegungen zu Übermalung und Überschreibung im 20. Jahrhundert* (Würzburg: Königshausen & Neumann, 1999), 22ff.

39 Winfried Nöth, Nina Bishara, and Britta Neitzel, *Mediale Selbstreferenz: Grundlagen und Fallstudien zu Werbung, Computerspiel und den Comics* (Cologne: Herbert von Halem, 2008), 214.

Tools of *A's Touch*

In diverse works Bauermeister made it clear that the hands, eyes, and tools are those of the artist herself. One of these is the drawing *The A's Touch* of 1967, which measures 60 by 80 centimeters (fig. 53). The A in the title stands for "artist" and is an allusion to the work's subject, since it shows the artist's hands and eyes with her tools in the process of creating the drawing. With "artist's touch" Bauermeister was referring to the touches that must have occurred to create the works. In addition, she was commenting on the work of art and its marketing when the name and statue of the artist are cited as an argument for its sale or quality.[40] It is by no means the case that Bauermeister depicted herself painting in a "scenario of production," which was a common motif in the early modern era.[41] In Bauermeister's work, tools are used to produce what they and the hand that guides them or the eye that observes them are also made from. They are the same written and drawn elements of which the result and the reason for illustrating consist; usually the tools, hands, and eyes produce one another.

In the context of Bauermeister's oeuvre, therefore, the mesh of interwoven and fragmented ways of depicting the process is crucial. Multiple nesting results: For example, one hand is holding what appears to be a lens that is causing the distortions of the elements in the work, and in it another hand holding a lens can be made out. The larger hand consists of distorted lines and a small "no" repeated several times. Another hand in the same style can also be made out, holding a brush and about to draw the hand with the largest lens. They are joined by two other hands with tools: a hand with a needle above them, which is itself in part firmly sewn to the drawing's ground, so that the drawn seam on one end transforms into malformed needles, and on the other end threads fall down into the largest hand with the lens, forming several words such as "si" and "oui." Another hand is found below and to the right of the scene; it seems to emerge from delicately drawn, slightly wavy lines, and is holding a pair of scissors with which it is cutting into the lines of the largest hand. This collection of hands and tools is just one example of many, and often Bauermeister had the elements interact with one another, so that they can no longer be fully differentiated.

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40   Whereas this is a minor aspect in the drawing *The A's Touch* and the Lens Boxes with the same title, in the *Studio Fetish* series from 1967 to 1971 Bauermeister grappled in more depth with the phenomenon of the artist's personality and the possibility of fetishization by touching. For Hartmut Böhme it is, among other things, the reciprocity of touching and its prohibition in the status of art that in the interplay with the exhibition situation produce fetishes that shape our relationship to all objects, even those outside of art; see Hartmut Böhme, *Fetishism and Culture: A Different Theory of Modernity*, trans. Anna Galt (Berlin: de Gruyter, 2014), 279–95.

41   Victor I. Stoichita, *The Self-Aware Image: An Insight into Early Modern Metapainting*, trans. Anne-Marie Glasheen (London: Harvey Miller, 2015), 240.

Fig. 53: The A's Touch, 1967, pencil, graphite, ink on paper, 60x 80 cm, Mary Bauermeister Art Estate.
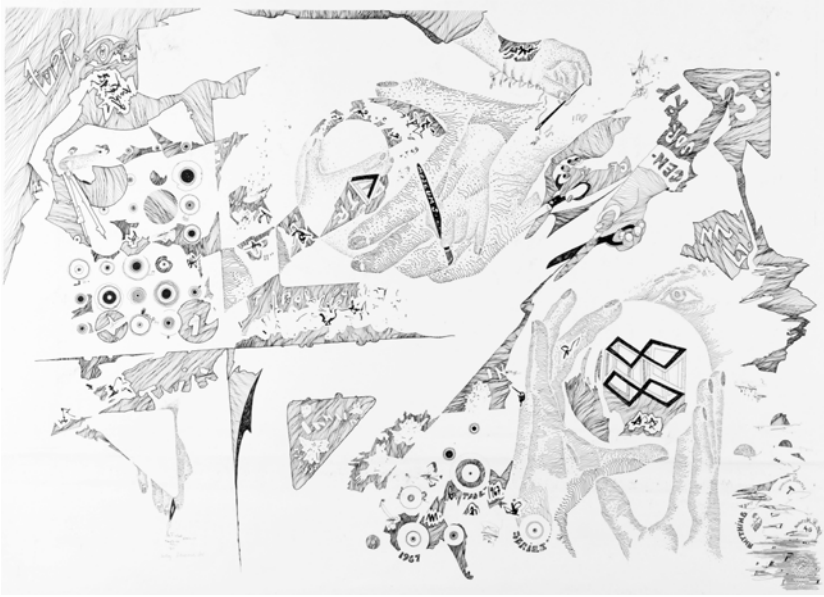
Of the (art) tools that she inserts into her works the most important are lenses, brushes, writing instruments, compasses, needles, glues, pliers, and maulsticks. The last of these make it easier to glue stones. Inserting here means as a drawing, photograph, object, or written word, with no corresponding hierarchy in the level of significance. The understanding of tools in Bauermeister's oeuvre is very broad. This is clear from the word "tool" itself, which is used to represent tools directly and is included several times in the drawing *The A's Touch*, for example, at top left in a mesh of lines and in the center at the bottom edge. There it is seen together with the addition "series," since the drawing is part of the *Tool Series*, was perhaps even its starting point.

From 1967 onward, lithographs of this drawing were repeatedly used as the background of Lens Boxes. This resulted in the series *The A's Touch (Artists Touch-Haha)*, which refers directly to the drawing in its title. The Lens Box *All Things Involved in All Other Things* also has a lithograph of this drawing that is further developed by comments. The vertical section of that Lens Box has *The A's Touch* as background; it was in part colored, and wooden spheres, straws, and lenses on layers of glass also enhance the composition. In addition to drawing instruments, which Bauermeister again labeled, there are also several wood imitations of pencils in this section, and the word "tool" is clearly legible on one of them.

Easels

Every object used to produce works was a tool for Bauermeister and accordingly was reflected on in her art. This process culminated in her thirty-part *Easel Series* from 1969 to 1973. Easels are removed from their ancillary, tool-like, functional context in the artistic process and elevated to works of art. The easels were, however, transformed by Bauermeister so that their dimensions, proportions, and forms deviate from the familiar values. On the one hand, there are miniaturizations; they are copies of common wooden easels in a handy format; on the other, there are enlargements, so that only the lower, left-hand side of an easel is executed, standing in for an oversized large easel. Several of the easels appear to have been modified based on a coordinate system and are correspondingly narrow, while others have been widened.[42]

Bauermeister showed a first realization of the *Easel Series* in her exhibition at the Galeria Bonino in 1970. Several of the works were created site-specifically for that exhibition space; these are the so-called *Corner Easels*; they adapt to the corners, edges, and pillars in the room. In addition to changing the usual proportions and fitting them into the dimensions of a space, one also observes variation in the basic form of the easel as with, for example, *Buckled Easel* of 1971 (fig. 54). At 182 by 81.5 by 81.5 centimeters, its measurements bring an ordinary easel to mind. But the vertical wood construction on which a canvas would normally lean is not consistently straight but rather buckled and bent forward, defeating its function and making it a (fully adequate) work of art in the exhibition space.

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42   The modification of a coordinate system to produce a "change in form" was described above in connection with Bauermeister's reading of Wolfgang Wieser; see section 2.1.

Fig. 54: Buckled Easle, 1971, wood, 182 x 81.5 x 81.5 cm, Mary Bauermeister Art Estate.

To help describe these processes, one can think of Martin Heidegger's "tool analysis" from *Sein und Zeit* (translated as *Being and Time*). Heidegger defines the difference between "readiness-to-hand" and "presence-at-hand," in which the former describes an object that is used, has a genuinely serving function, and therefore vanishes in a "referential totality."[43] This "equipment" escapes our everyday experience into a "totality of equipment" until a disruptive moment occurs and a (perhaps temporary) uselessness occurs, so that the object enters the mode of "presence-at-

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43   Martin Heidegger, *Being and Time*, trans. John Macquarrie and Edward Robinson (Oxford: Blackwell, 1962), 97–99.

hand."[44] What was not obtainable previously, because there was no process of conscious reflection on the object and hence no level of the visible, now reveals itself for the first time. The process in Bauermeister's works is considerably broader than this: For her, there was no reason why the tools—that is, everything used to produce the works—could not themselves become a statement. Moreover, their design is transformed as soon as they are inserted into artworks such as Lens Boxes or stand in the room as object as with the *Easel Series*. It follows from that not only that the individual elements of the combination principle are repeatedly integrated and commented on, but also those objects that Bauermeister needed for production. They are not ruled out but always have to be considered as well. That too results in their transformation, since they are another aspect of the many-valued aesthetic. Bauermeister was thus continuing her "include anything" method, which was discussed above. Those two words are found repeatedly in her works, as well as variations such as "anything included," on the frame of the Lens Box *Square Tree Commentaries*, for example, and in the drawing *The A's Touch*.

Pictionary's Checkered Pattern

The connection between that use of the word "tool" and the insertion of tools with the motifs of hands and eyes can be determined more exactly from the Lens Box *Pictionary* (fig. 55). Hands and eyes are also tools in the broadest sense in her oeuvre. *Pictionary* was made from 1966 to 1967 and measures 54 by 100.3 by 23.2 centimeters. The work consists of a back that has drawn and written on and objects attached; at its upper and its lower termination wooden guiderails with three groves are attached. Inserted into these grooves are three panes of glass with lenses; each is about half the width of the Lens Box and can be shoved left or right.

The title is a portmanteau of "picture" and "dictionary." This should be understood to mean that Bauermeister wanted to provide an overview of the procedure employed (physically) by her to create the picture. With this Lens Box she was creating a reference work for translations of the processes employed by the artist: translations of the actions executed that usually remain hidden into an illustration of these actions. *Pictionary* dovetails these individual levels in such an intricate way that it is difficult to get an overview.[45] The work contains aspects that were already described for *The A's Touch*; for example, the way in which tools are visualized in the process of making something but are themselves made is comparable. The composition is

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44   Ibid., 103.

45   *Pictionary II* is a continuation of the early work and was executed in 1967; its dimensions are nearly identical at 54.3 by 99.7 by 24.1 centimeters. Its composition is much more intricate and, in contrast to *Pictionary*, incorporates objects; because of its wealth of detail, an overview of its imaging processes is nearly impossible.

striking for its checkered pattern that suggests shirtsleeves from which are emerging hands formed with the small repeated "no" or with curved lines. Several of the drawn and drawing hands are also rendered in this pattern; in addition, the checkers on wooden spheres undergo illusion-like distortions. The checkered pattern goes back to a series of photographs taken by the photographer Peter Moore in 1964 while Bauermeister was preparing for her exhibition at the Galeria Bonino. It shows the artist dressed in a checked shirt while working on *Howevercall*. The photographic technique has captured an artistic process as Bauermeister is working on something with her hands and other tools. In *Pictionary*, very different work processes are illustrated; one essential component, however, is fragments of hands with tools, usually showing the wrist and part of the lower arm as well. From the checkered pattern it is possible to infer that Bauermeister was illustrating her own hands with drawings in her works.

Fig. 55: Pictionary, 1966–67, ink, glass, glass lens, wooden sphere and painted wood construction, 54 x 100.3 x 23.2 cm, Solomon R. Guggenheim Museum, New York.

Drawn and distorted checkers are common in her works, and they refer first and foremost to this series of photographs. In her Lens Boxes especially the checkered pattern occurs repeatedly; it stands for the work process. Even if viewers are not familiar with Moore's photographs, a transfer of the checkered pattern can be seen as representing working on a work: in *Hommage à Brian O'Doherty* of 1964–65, a (drawn) line is made by a hand; the attached lower arm is covered by a checked shirt. This section is a cutout photograph. It is easy to identify it as the artist because a little lower another cutout from a photograph is inserted that shows Bauermeister's eyes and parts of her face. The checkered pattern of the shirt is first continued in a draw-

ing in *Hommage à Brian O'Doherty*, then an arrow with a question mark next to it actively challenges the viewers to consider whose arm it presumably is. The checkered pattern then spreads to the right and left above the top edge of the work and is distorted by drawing. This is a first step in the introduction of checkers as a metaphor for her own work process. The shirt Bauermeister was wearing in the photographs is integrated by her as material into the Lens Box *What's Ahead for the FBI* in 1965 and commented on several times. The lower end of the sleeve even pushes its way out of the recession on the right side and extends over the edge of the Lens Box.

Hand

The hands of a human body belong to a line of interpretation in cultural theory in which they are, on the one hand, described as metatools and, on the other, associated with cognitive abilities.[46] Not only are the hands used to produce and use tools but they are also themselves tools; both make them a "figure of knowledge."[47] "For with the hand one can realize nearly all possibilities of emotional, social, psychological, intellectual, musical, and artistic expression of which human beings are capable."[48] Understanding the hand as a figure of knowledge that enables people to realize certain things is also a constant in the history of art in which Bauermeister took part by introducing her hands: based on "palpable operations," aspects of "working and influence the work of art" become evident.[49] As a "slave of the mind," the hand had to execute, but it is also responsible for the idea to become visible at all.[50] In addition, the hand can also be credited with "epistemic ability," so that it does not simply the "recipient of orders from the head" but also results in the "development of new ideas."[51]

Bauermeister did not, however, emphasize one drawing hand as a central motif; rather, there are a number of hands, all of which belong to her and use different tools. Moreover, the hands are composed of the elements that in general determine her artistic oeuvre, such as the formula "yes, no, perhaps," curved lines, and the checkered pattern. This initially links every single line, circle, or point back to

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46   See Richard Sennett, *The Craftsman* (New Haven, CT: Yale University Press, 2009), 149–78.

47   Benjamin Bühler, "Hand," in *Kultur: Ein Machinarium des Wissens*, ed. Benjamin Bühler and Stefan Rieger (Berlin 2014), 60–79.

48   Richard Michaeles, "Vom Greifen zum Begreifen?," in *Die Hand: Werkzeug des Geistes*, ed. Marco Wehr and Martin Weinmann (Heidelberg: Spektrum, 1999), 209–25, esp. 210.

49   Susanne Strätling, *Die Hand am Werk: Poetik der Poiesis in der russischen Avantgarde* (Paderborn: Wilhelm Fink, 2017), 479.

50   Maike Christadler, "Die Hand des Künstlers," in Wehr and Weinmann, *Die Hand* (see note 48), 325–38, esp. 327.

51   Monika Wagner, "Geliehene Hände: Antony Gormleys Field," in Cordez and Krüger, *Werkzeuge und Instrumente* (see note 34), 185–97, esp. 186–97.

Bauermeister as the person who executed it, but she too, the artist herself, is composed of elements that reveal a many-valuedness. Depicting hands that are emphatically her own as creating in her works is an effort to mediate between subject and medium.[52] Because it is the subject that advances the many-valued process by means of the identity of reflection, the various hands in *Pictionary* express the multiplicity of perspectives that have already been adopted. Because they grow out of the corresponding elements, this can be further developed with the identity of reflection of the object, since the motifs of hands result from products of many-valuedness. For that reason, too, categorizing the hand as another tool is important, since between the hand itself and the objects that Bauermeister needed to produce her works there is no qualitative difference; they are all contained in the drawings as if two viewers were reflecting on the composition at the same time. The components in the works of art have no hierarchy in terms of an active production and a passive being-produced but are rather all arranged on a horizontal plane.

Eye

Another aspect that Bauermeister often employed in her works is drawings of her eyes or parts of the face distorted by lenses. They can also be traced back to a photograph, in this case one taken by Hans Namuth in 1965: In the black-and-white photograph Bauermeister is seen with her head turned slightly to the side, while her gaze is fixed on the camera's lens. She is holding in both hands a convex lens that covers part of the left half of her face, with the lens extend down to her lower lid of her left eye. The position of Bauermeister's hands has been posed for the photograph; with the index, middle, and ring fingers of her right hand she is supporting the left, reflective side of the lens, while the thumb and middle finger of her left hand are holding the lens fast at the top and bottom. Aspects of this portrait photograph, which stylistically recalls photographs from the circles of the Bauhaus, are reproduced often in drawings in her works from 1965 onward, usually with a suggestion of a lens and one or more eyes.

In the drawing *The A's Touch*, the position of her hands is accurate in its details but has been drawn in mirror reverse; the eye looking out from just above the lens was also transferred to this work by Bauermeister. Several reminiscences of Namuth's photograph can also be detected in *Pictionary*: for example, a hand consisting of "no" written many times is holding a drawn lens in which four fragmented self-portraits of Bauermeister appear; her eyes and mouth can be made out several times. Three of these self-portraits are drawn by Bauermeister; the fourth results from a lens that is glued to one of the panes of glass above it. It is thus a fleeting impression that results

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52   See Michael Lüthy and Christoph Menke, "Einleitung," in Lüthy and Menke, *Subjekt und Medium* (see note 36), 7–11, esp. 8.

from the specific camera angle with reproducing the work. Very different possibilities result for viewers standing opposite the work at the Solomon R. Guggenheim Museum in New York, approaching the work, moving away from it again, experiencing the lenses distorting effect by moving one's own body, and viewing the individual elements from the left or the right.

Lenses and Bauermeister's eye(s) are, like her hands, one part of the artist's work process which at the same time includes her personal process of viewing her works. Every time a lens is placed, she considered which previously drawn, written, and glued-on components of the work could potentially be altered by it; every layer of glass that adds a new level with lenses also goes through this process. When Bauermeister inserted her drawn hands with a lens that is also drawn in which fragments of her eyes appear, it illustrates the entire production process. The eye appears as a tool in a generalized understanding and should be understood to be the equivalent of Bauermeister's hands; accordingly, usually their interplay is shown.

By introducing her own eyes, often as fragments, however, Bauermeister was also participating in another topos, which alternates between gaze, perception, and knowledge.[53] The varied discourse on theories of reception and its epistemological qualities is less crucial here; rather, by introducing the motif of her eyes the artist seems to accelerate the many-valuedness in her works. The idea, already addressed in the discussion of Serres, that the Lens Boxes can be seen as the starting point for producing multiple images has a close connection to the eyes depicted in them, since it is "still a box, but now an eye also."[54] The French philosopher is drawing a connection line here between the inside in which ever-new images are produced and a transitional aspect that ensures its permeability so that perception can take place at all. The motif of the eye should not be interpreted exclusively as a tool; rather, it too encourages the production of many-valuedness that is essential for an ever-new recombination of the individual elements within the artworks: "The eye is thus the representative of the eccentricity of vision in which a genuine power of insight is always inherent."[55] This "power of insight" can be related to the visualization of her eyes in Bauermeister's works.

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53   See Hans Belting, "The Gaze in the Image: A Contribution to an Iconology of the Gaze," in *Dynamics and Performativity of Imagination*, ed. Bernd Huppauf and Christoph Wulf (New York: Routledge, 2009), 93–115.

54   Michel Serres, *The Five Senses: A Philosophy of Mingled Bodies*, trans. Margaret Sankey and Peter Cowley (London: Bloomsbury Academic, 2018), 147; see also section 2.1.

55   Sabine Flach, "Das Auge: Motiv und Selbstthematisierung des Sehens in der Kunst der Moderne," in *Körperteile: Eine kulturelle Anatomie*, ed. Claudia Benthien and Christoph Wulf (Reinbek bei Hamburg: Rowohlt, 2001), 49–65, esp. 49.

This is closely related to theories of the reciprocal gaze, in which it is not just viewers who occupy the active position but artistic works, too, have agency.[56] In Jean-Paul Sartre's analysis of the gaze or look, it need not be a pair of human eyes for a differentiated reaction to occur in what is being looked at. He defines his "Being-seen-by-the-Other" as a situation in which something or someone else could potentially view the looked-at so that he or she is recognized as a subject, whereupon this "Other is by definition something that cannot be an object."[57] Eyes are not a "sensible organ of vision" but very generally "the look's support."[58] In this view the eyes' being-looked-at results in a situation in which, on the one hand, the viewers undergo a change; a process of becoming aware of their status as subject is initiated. This is reinforced by the structure of *Pictionary*, since the three panes of lenses can be shifted by the viewer, so that they are "explicitly" integrated into the work if its complete potentiality is to be realized.[59] On the other hand, it is even more crucial with reference to Bauermeister's works that a transformation of the object occurs. In the Lens Box *Pictionary* it is Bauermeister's eyes that strip the work of art of its status of a alleged passivity and evoke its own productivity.

This can be synchronized with the identity of reflection of the object, since the changed status and the "power of insight" in combination enable a situation in which the viewers in principle no longer need a doubled reflection: the work of art has the possibility of producing this itself. In general, "identity of reflection of the object" has been understood to mean the situation that an object or comment was integrated into the work of art and then commented on in turn; these are already the two levels of reflection. If Bauermeister's concept of the tool is considered, it becomes possible to refine this: Tools included not just the utensils with which she worked but also her hands and eyes and in principle everything necessary for the production of a work. Bauermeister used tools, illustrated their use, and in the process reflected on both at the same time. Her gaze, which is depicted in the artworks, is at the same time that of the person trying out the position of the lenses. Her hands, which are shown in the process of drawing, are drawn by her hands, or her (drawn in the work) hand is drawing a stylized element from her repertoire. It also happens, however, that nothing can be identified at the tip of the (drawn) pencil. Hence something is being created here, or the viewers cannot perceive the motif, or the pencil is responsible for creating the ground. It goes without saying that it is also

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56   See Horst Bredekamp, *Theorie des Bildakts: Frankfurter Adorno-Vorlesungen 2007*, 3rd ed. (Berlin: Suhrkamp, 2013), 237–41.

57   Jean-Paul Sartre, *Being and Nothingness: An Essay in Phenomenological Ontology*, trans. Sarah Richmond (New York: Routledge, 2020), 347, 367.

58   Ibid., 353.

59   Wolfgang Kemp, *Der explizite Betrachter: Zur Rezeption zeitgenössischer Kunst* (Konstanz: Konstanz University Press, 2015).

possible that the creating hand and the seeing eye separated from its specific activities are autonomous motifs. Even in that case, though, the motif is composed of the elements of many-valuedness such as "yes, no, perhaps," the circular forms, the checkered pattern, or the curved lines.

Setting out from her maxim to "include anything," Bauermeister integrated herself into the works of art and thereby constituted her own artist-subject as many-valued. This is made clear by fragmentation and also by the elements of which the self-drawings are composed. From that follows, on the one hand, that Bauermeister was integrating her own subject into the identity of reflection of the object, since they way she designed the self-references gives them their own potentiality within the works of art. That means they are no longer tied exclusively to her as subject but have the possibility of undergoing a transformation as a result of the commentary, just like the other motifs in her oeuvre. On the other hand, the tools are by no means isolated but rather simultaneously connected with all the elements of the artwork. This symbiosis creates a new many-valuedness, so that two contradictory motifs are contained in a larger motif.

The work of art results from a process in which everything is irreducibly connected to everything else. Bauermeister as author is also integrated into this, just like her other tools and elements from the combination principle, the aesthetics of materials, and the commentary system: all together, it is a constantly crisscrossing "chiasm."[60] Maurice Merleau-Ponty describes this figure as a "reciprocal insertion and intertwining of one in the other."[61] For Merleau-Ponty, one's own body is always the starting point since it establishes the "first coordinates."[62] But it should by no means be thought of as solitary; rather, it is integrated into its surroundings. Every gaze is already a "dehiscence" into the tissue around the person, into the "*flesh* of things."[63] At the same time, for Merleau-Ponty the hand is a "being of two leaves," that is, not only a tool to make something but also and equally one's own body—it is a being between the categories of subject and object.[64] The crucial thing here is that with Merleau-Ponty one can no longer assume an isolation of the individual levels. If all of the things depicted in the works can be a tool, then they were all produced and are at the same time in the mode of production. This clarifies, first, why Bauermeister uses the word "tool," defines it so broadly, and integrates these tools into her works. It becomes possible to assume that the (many-valued) "involvement"

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60   Ludger Schwarte, "Taktisches Sehen: Auge und Hand in der Bildtheorie," in *Auge und Hand*, ed. Johannes Bilstein and Guido Reuter (Oberhausen: Athena, 2011), 211–27, esp. 226.

61   Maurice Merleau-Ponty, *The Visible and the Invisible*, trans. Alphonso Lingis (Evanston, IL: Northwestern University Press, 1968), 138.

62   Maurice Merleau-Ponty, *Phenomenology of Perception*, trans. Colin Smith (London: Routledge & Kegan Paul, 1962), 100.

63   Merleau-Ponty, *The Visible and the Invisible* (see note 61), 132–33.

64   Ibid., 137.

of the individual elements is fundamental; this also makes connecting the motifs meaningful—for example, when her hand is composed of the checkered pattern of the shirt. Moreover, it is another reason for the omnipresent self-thematization in her works: the hand employed to create and the viewing eye belong to the artist, and hence the activity is also part of the work of art; both a caught in a chiastic inseparability. The constant self-reference in Bauermeister's oeuvre should be understood from this motivation; her own subject is another aspect of the (many-valued) connectedness.

Work Processes

This inseparability is additionally affirmed by Bauermeister's explicit thematization of the production process and a general processuality in her works. This results not only from the tools but also by means of questions about the works that she writes into them as comments. *Some Stones Missing* of 1967 is a work with stones measuring 101 by 101 by 10.2 centimeters; it also contains several wooden pencils and written or drawn passages (fig. 56). The central section of the work is largely determined by a progression of towers of stones, whereby the lower rows consist of individual small stones. This middle section is on a particle board covered with canvas, which is mounted on another sanded wooden support. The second sheet of particle board forms the background for the first and extends several centimeters above its upper termination so that the progression of stones looks centered. On the right side of the smaller board covered with stones, several rows have been left free; the ground is painted white. Here Bauermeister placed three towers of stones, which are also painted white. Attached to the two smaller towers of stones are two of three wooden pencils. Because they too are painted completely white, it looks as if these objects are responsible for the unnatural color of the three piles of stones. The third pencil is attached to the tower of stones in the upper right corner; here the oval stones still have their natural colors, but this too could soon change, since the work looks as if it were in a moment of transition, a process of change that has come to a stop at this instant.

Against the backdrop of her many-valued aesthetic, it must be assumed that the work continues in its process at all times. Individual towers of stones and individual stones are distributed on the larger board, which otherwise has no components but sand. It is suggested that these are stones missing from the small board as if they—also at this very moment—fallen down to the side. That this is a moment of disruption is clear from the title which refers directly to "missing" stones. On the white surface there are drawn and written comments that refer to the work process. They are, however, only visible because the stones have come off here. Otherwise, they remain covered by the found material. The comments are the substructure of

the work, and we can only speculate about which other aspects the work would expose if the other stones also fell down.

Fig. 56: Some Stones Missing, 1967, stones, paint, ink, wooden objects and sand mounted on linen panel and particle board, 101 x 101 x 10.2 cm, Courtesy of Michael Rosenfeld Gallery LLC, New York, NY.
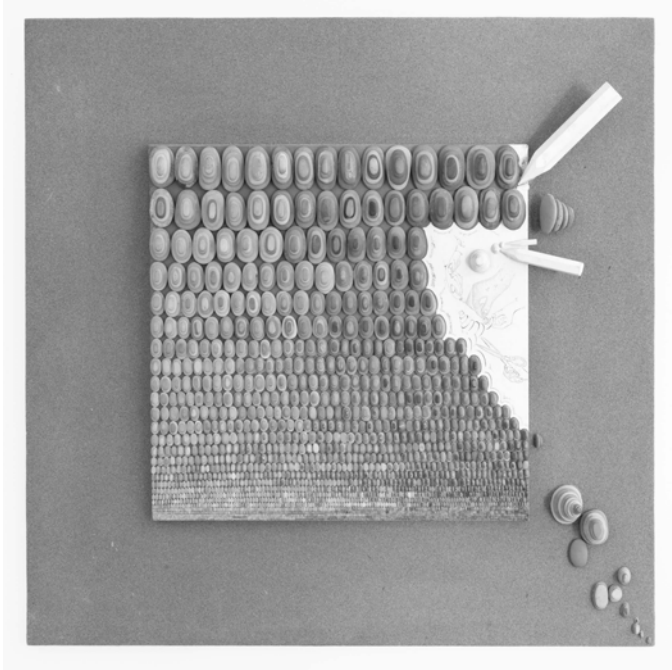
The drawn comments include hands formed from strokes, curved lines, and the small repeated "no" as well as a pair of scissors, towers of stones, and tubes of the glue that Bauermeister used to attach the stones. Among the written comments one can also make out interrogatives, for example, the three tubes seem to be writing "where ...?," "what ...?," and "how ...?" Most of the written comments, however, are near the adjoining towers of stones, and their arrangement imitates the oval outlines of the stones. Those comments consist largely of questions about the work, especially about the stones employed in it. It seems as if the artist has integrated into the work questions from viewers that she had already heard many times. Among other things, we read: "Where did you find them," "How did you glue them?," "Did you polish them? Do you." This makes it clear that Bauermeister's stone works were accompanied by these questions as they were being made, and they are contained in the works even

if they were not visible because of a hypothetically intact row of stones. The (drawn) processes of production have to be reflected on as well—gluing the stones or cutting the canvas—as questions from viewers that accompany the work. The work is constituted by the totality of this networking.

The suggestion of processes of change happening at that moment in which the viewers are standing opposite the work is supplemented by Bauermeister by referring to changes that occur with the passage of time: *All Things Involved in All Other Things* has a comment in the upper area of the Lens Box that reads: "this is natural dirt from 1967 on."[65] Bauermeister thus focused on an arbitrary place in the work where very probably dirt will collect on the bright background. Equivalent things are often characteristic of her works, in which a section that usually has not been drawn on will be given the comment that it is reserved for "future dirt." In the work *Hommage à Brian O'Doherty*, there is even a wood quarter-sphere with "dirt department" written on it that has been attached in a way that dust and other deposits will collect on its surface. Bauermeister explained her intentions here in her sketchbook: "The clearer, cleaner something gets, the more [it] attracts the uniqueness of dirt."[66] The sections are deliberately left free and demarcated with borders so that they look "cleaner," and it becomes possible to use the "uniqueness of dirt." It is a process that participates in change and chance, or at least she tries to delegate these small, specially marked sections to (future) randomness.

In *All Things Involved in All Other Things*, too, Bauermeister addresses another aspect of change. On a wooden cube in the upper area of the Lens Box the words "können be replaced by" are followed by two indications of size: "7 × 7 or 14 × 14." We can speculate that it was to be replaced by a Lens Box, since the object on which it is written has a drawing of a small Lens Box; moreover, it is included in a row in which two Lens Boxes were attached to the frame of *All Things Involved in All Other Things*. Bauermeister gives permission to change an element of the work later if the corresponding size is available.

In accordance with the leitmotif of this study in which all of the works are grasped as an assemblage, we can conclude that the objects of production would also have to be incorporated, which includes the hands and eyes that produce it. Moreover, the production process and the possibility of changing the work have to be included as well. For any assemblage, and accordingly an entire artistic oeuvre, is subject to a constant process of individuation in which differentiation occurs;

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65   Below this sentence one sees a line of graphite that curves into itself and seems uncontrolled. Bauermeister follows this with the comment "and this is painted dirt," which can be understood as an ironic statement about the art world; see section 5.2.

66   Mary Bauermeister, "Skizzenbuch/Quaderno, 1961–1963," unpublished source, paginated by the artist, p. T4.

every new element produces increased autonomy.[67] Bauermeister incorporates the production process and changeability into her aesthetic, and they have a status equal to the other omnipresent components such as the drawn circles and the words "yes, no, perhaps."

6.3 Reflections on Titles and Frames

Two other aspects have a mediating and autonomous dimension in equal measure: the titles and frames of the works. The two are closely related and their potential to expand reflection within the works should be incorporated as well. The titles of works have already been addressed several times, especially because they are often written on the work in question in ever-new variations. They also come up on other works of art in order to intensify the networking. The term "frame" is also used repeatedly to describe the border of the recession of a Lens Box. Although the term might seem to be a conservative one for describe the structure of a work, since the wooden elements on which she writes and draws do not correspond to a normal frame as the demarcation of the pictorial from the outside, it is nevertheless used here because Bauermeister herself works with the term. For example, on diverse Lens Boxes the word "frame" is found on the corresponding section. Title and frame can also be intertwined, since not only do the titles of several works contain the word "frame" but the title is also written on the frame.

Titles

We have already referred to the connotations for the subject matter of titles such as *Needless Needles*, *Hommage à Brian O'Doherty*, *The A's Touch*, and *Pictionary*. They all open up an additional level of the work. In Bauermeister's case, that should be understood to mean that they guide the reception: in the works containing writing, the title can usually be read directly; it is integrated into Bauermeister's specific notational iconicity. Additional statements and also additional titles (of other works) are always present as well. Because of her intricate aesthetic and networking, it would therefore be impossible to distill out the primary level of meaning that she would like to communicate as an artist. The commentary system would never end, even the material limitation of the individual works would be no obstacle, since the networks lead via individual works and groups of works into the oeuvre as a whole—since this process appears to be continually expandable, the work titles offer a way to demarcate the works from one another.

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67   See Manuel DeLanda, *Assemblage Theory* (Edinburgh: Edinburgh University Press, 2016), 140.

In order to categorize the different uses of titles better, John C. Welchman developed a three-part model: he speaks of a denotative, a connotative, and an untitled paradigm for titles; the model has been repeatedly refined, but the basic structure was not abandoned.[68] That works of art were conceived with titles that generate meaning that were, moreover, chosen by the artists themselves began comparatively late with the exhibition practice of the nineteenth century.[69] The title subsequently took on a dimension that no longer had only a denotative, descriptive level but also had the potential to expand and alter the meaning. Titles were employed as "frameworks of associations" in this context, especially with reference to the written word within a work of art; Duchamp's works are often mentioned.[70] For Welchman, it was condensed temporally between Impressionism and the end of Dada, for which the title was fundamentally redesigned on a connotative level and became a "hyper-supplement":

> "The title is thus a code of hyperspace of the image. It is a plateau that opens up a thousand interactive possibilities of reading, viewing, and socializing. We find the title as an identity or as an absence, as a poetic supplement and an institutional critique, and as a memorial or a detour into absurdity and non-referentiality."[71]

It is important to understand the title as a "plateau" of opening when it is tied to a connotative approach. In Bauermeister's case, this led in the direction of an "identity" of the work, since the title represents at least to some degree a constriction. It delimits the area in which the viewers can try to find their path to an interpretation. That this already includes "a thousand interactive possibilities of reading," as Welchman expresses it, results in Bauermeister's case from the permanent many-valuedness. In a group of work like *Needless Needles*, it is the incorporation of statements that are continually varied in small fragments, so that it no longer seems possible to determine which is the original starting point and how it is to be understood—with each new variation, the overall meaning expands, and the title opens the path to this broad field.

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68   See John C. Welchman, *Invisible Colors: A Visual History of Titles* (New Haven, CT: Yale University Press, 1997), 2–8 and 323–27.

69   See Natalie Bruch, *Der Bildtitel: Struktur, Bedeutung, Referenz, Wirkung und Funktion; eine Typologie* (Frankfurt am Main: Peter Lang, 2005), 10–14.

70   See Katrin Ströbel, *Wortreiche Bilder: Zum Verhältnis von Text und Bild in der Zeitgenössischen Kunst* (Bielefeld: transcript, 2013), 57–58; Alexander Streitberger, *Ausdruck, Modell, Diskurs: Sprachreflexion in der Kunst des 20. Jahrhunderts* (Berlin: Reimer, 2004), 53.

71   Welchman, *Invisible Colors* (see note 68), 43.

At the time Bauermeister was living in New York, "a rhetoric of titles expanded to include irony and quotation" sprang up in the city's art world.[72] This is also reflected in her works. Whereas in her early artistic phase she did not assign titles at all or did so pure denotatively, the years from 1960 to 1962 are marked by a hybrid of denotative titles with slight connotative qualities. Beginning in 1963 and more intensely from the following year, Bauermeister worked with all levels of connotation and used the title as an artistic element. That seems to be connected as well with switching her language from German to English, because she began working with literal translations such as *Howevercall* and double meaning resulting from hyphenation, as with the Lens Box *No More Pain-ting* of 1965. Moreover, in her sketchbooks from this period Bauermeister noted ideas for titles, several of which she used, such as *Some Nice Decorative Colours (... For Attraction)*, while others remained unused, like "only beautiful no idea."[73] It cannot be determined whether she was collecting ideas and then executing a work connected to the title or whether she had already begun these works and then after or during the process took a suitable title from the sketchbook; both approaches are conceivable. There are also works for which the title was not written down beforehand but was while working on it, such as *Needless Needles*. In that case there was a reference back to an already completed and exhibited light sheet: not only the title of *Linen Nähbild* (Linen Sewing Picture) was changed but the work was also reworked.[74]

The titles that seem to be more denotative In character should in Bauermeister's case be located in an in-between space in terms of subject matter: the Lens Box *Writing* consists of "writing" and a good part of its look was produced by "writing." In addition, the title can be read on the frame. On the one hand, this defuses "the conflict in the turning something visual into language" by "loosening" previously "unambiguous media categories."[75] On the other hand, a kind of expansion occurs, so that not only "the analysis of the text of the title but also of the look of the title" is equally important.[76] The title *Writing* is intertwined with the specific understanding of notational iconicity in Bauermeister's oeuvre. The reason a denotative dimension cannot be assumed even in the case of *Writing* was already clear when analyzing the work: the curved lines form the word "writing," but at the same time they are (only) lines of modeling compound.

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72   Tobias Vogt, *Untitled: Zur Karriere unbetitelter Kunst in der jüngsten Moderne* (Munich: Wilhelm Fink, 2006), 9.

73   See Bauermeister, "Skizzenbuch, 1965–67 USA" (see note 1), n.p.; Bauermeister, "Skizzenbuch Quaderno, 1961–1963" (see note 66), T18–19.

74   See section 2.1.

75   Vogt, *Untitled* (see note 72), 253.

76   See ibid., 254.

The combination of title, the notational iconicity in the work, and the levels of reflection initiated by them and even contain the combination principle becomes especially clear with the Lens Box *My Contribution to Light Art is Dead Serious Art* (fig. 57). It was produced in the years from 1966 to 1967, and its four parts in their prescribed arrangement measure 106.7 by 288.3 by 12.7 centimeters. The work's title is found in part on the lower curved wooden elements, where we can recognize the words "my contribution to light art" and "serious"; they are written from right to left, that is, in mirror writing. In the recession of the larger of the two Lens Boxes the whole title is seen, again handwritten and with an orangish-yellow border, but writing runs from left to right.

Fig. 57: My Contribution to Light Art is Dead Serious Art, 1966–67, ink, offset print, glass, glass lens, wooden sphere casein tempera, fluorescent color and painted wood construction, 106.7 x 288.3 x 12.7 cm, Courtesy of Michael Rosenfeld Gallery LLC, New York, NY.
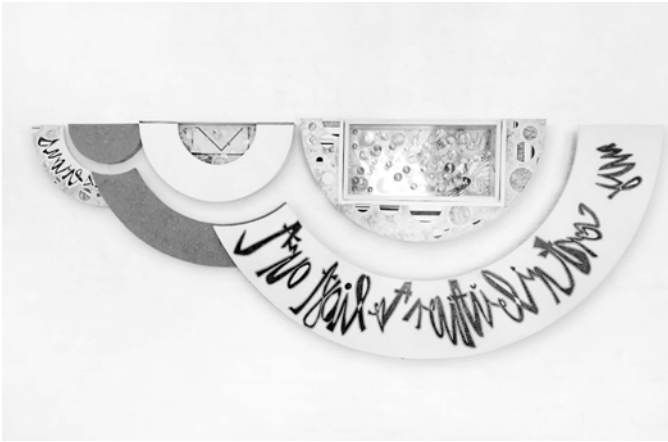
With the term "Light Art" Bauermeister was referring simultaneously to several trends in contemporaneous art because light's qualities were employed in very different contexts. First, it can be traced back to her intersections with the Zero movement, in which light as an artistic means was one of the primary sources of reference.[77] Second, it was, however, primarily the artist with whom Bauermeister was

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77   See Heike van den Valentyn, "Utopische, reale und lichtkinetische Räume der Zero-Zeit," in *Zero: Internationale Künstler-Avantgarde der 50er/60er Jahre*, exh. cat. Düsseldorf, Museum Kunstpalast (Ostfildern: Hatje Cantz, 2006), 56–67. The experiments with light art from the circles of the Bauhaus and Russian Constructivism may also have attracted her attention; in her sketchbook she herself recalls that she had to obtain information about those

being exhibited in the mid-1960s, such as Dan Flavin, Larry Bell, or even Thomas Tadlock, who worked with light's qualities and who are associated with terms such as "Light Art" or "Light and Space."[78] Bauermeister used the possible connotations of the word "light," both as a noun and an adjective, also in the senses of "light meal," "light weight," and "light work." Because she had to think in a foreign language and accordingly often had to search for an adequate translation, she took the approach of working with different contexts of meanings.

Her "contribution" to Light Art, as announced in the title, is "deadly serious art." This is, first, an ironic commentary on contemporaneous art using light. It is associated with a certain lack of content, whereas her "deadly serious" art works with metaphysical questions. The comment is ironic because she is inserting two set pieces of Light Art from her own oeuvre: she could also have integrated light sheets into this work but she chose two details from point structures designed with fluorescent paint. The red semicircle at top left and the red, curved wooden element below imitate Bauermeister's aforementioned Phosphorous Pictures from around 1960. By directly addressing the phenomenon "Light Art" in the work's title and referring at the same time to an existing group of works of her own, she was positioning herself, at least peripherally, as an (early) exponent of this art movement. This could also be related to the "cunning" that Brian O'Doherty said in his review would be needed in the art world. In addition, it is another example of how Bauermeister tries to take up her own oeuvre and its development in more recent works. By incorporating the Phosphorous Pictures into a Lens Box, Bauermeister

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artists; Bauermeister, "Skizzenbuch Quaderno, 1961–1963" (see note 66), 63. Because in her works and titles she often worked with immediate contemporaneous reference, however, it is more probable to assume it was the light art of the 1960s in her American environment.

78   Bauermeister was, for example, represented in the exhibition *Art in Process: The Visual Development of a Structure* at the Finch College Museum of Art in 1966, in which Flavin also participated; *Art in Process: The Visual Development of a Structure*, exh. cat. (New York: Finch College Museum of Art, 1966). Also in 1966 Bell was represented with a transparent cube of glass in the *Annual Exhibition 1966: Contemporary Sculpture and Prints* of the Whitney Museum, in which a Lens Box by Bauermeister was shown; see *Annual Exhibition 1966: Contemporary Sculpture and Prints*, exh. cat. (New York: Whitney Museum of American Art, 1966). The light object by Tadlock was shown a year earlier at the Whitney Museum in the exhibition *Young America 1965: Thirty American Artists under Thirty-Five*, in which four works by Bauermeister were also seen; see *Young America 1965: Thirty American Artists Under Thirty-Five*, exh. cat. (New York: Whitney Museum of American Art, 1965). On the history of the development and concept of Light Art, see Peter Weibel, "The Development of Light Art/Zur Entwicklung der Lichtkunst," in *Lichtkunst aus Kunstlicht: Licht als Medium der Kunst im 20. und 21. Jahrhundert/Light Art from Artificial Light: Light as a Medium in 20th and 21th Century Art*, exh. cat. Karlsruhe, ZKM, 2005–6 (Ostfildern: Hatje Cantz, 2006), 86–222. The usually marginalized history of women artists of Light Art is addressed in Elizabeth Marie Gollnick, *Diffusion: Women Light Artists in Postwar California* (New York: n.p., 2018).

has recourse to the combination principle: the fluorescent effect that was still the focus of the early group of works is now just one aspect with which to make a new statement.

Frames in Connection with Titles

Bauermeister integrated the frames of her Lens Boxes completely into the compositions, also by means of the title. On the 60 by 60 by 20-centimeter Lens Box *The Frame Should at Least Have Something to Do With the Unnecessary Detail (In the Middle)* of 1966, the title of the work is written on the frame in a spiral (fig. 58). Only the parenthetical addition is missing, which appears in the mesh of notational iconicity inside the Lens Box's recession. The frame is designed to correspond to the inside of the Lens Box. Wooden hemispheres with writing and drawing have been attached in both areas; there are also variations on the drawing elements, also arranged in circles. It is striking that the frame has been worked far less than the recession. The "unnecessary detail" is the center of the composition, or at least that is where it is located, and most of the time was spent on it. With the explicit contradiction that Bauermeister achieved with the title, she manages to open up a higher-order level within her oeuvre. Her emphasis that her usual approach of filling up the entire recession with the commentary system is "unnecessary" makes this approach explicit in the first place. The expression "unnecessary" should not be understood literally; rather, because on the frame and in the context of the word "frame" it refers to the actual main part of the composition, it is possible to recognize connections. The elements within the recession are networked with others on another plane. Bauermeister's aesthetic needs both the frame and the emphasis that it is a frame to produce demarcations from other works: "The frame as edge and border, as boundary and limit."[79] These demarcations are then explicitly integrated into order to transition to another work. This is closely related to the discussions of picture-to-picture references, since the references to other works in *Needless Needles Vol. 5* and the phrase "this is part of another painting" are (usually) found on the frames of the works. With regard to the mediations that can be initiated by the frames, two aspects are decisive: first, a frame has self-referential characteristics, especially when the written word "frame" refers to it; in addition, it has a "meta-referential function."[80]

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[79] Louis Marin, "The Frame of Representation and Some of Its Figures," in *The Rhetoric of the Frame: Essays on the Boundaries of the Artwork*, ed. Paul Duro (Cambridge: Cambridge University Press, 1996), 79–95, esp. 81.

[80] Werner Wolf, "Introduction: Frames, Framings and Framing Borders in Literature and Other Media," in *Framing Borders in Literature and Other Media*, ed. Walter Bernhart and Werner Wolf (Amsterdam, New York 2006), 1–40, esp. 31.

Fig. 58: The Frame Should at Least Have Something to Do With the Unnecessary Detail (In the Middle), 1966, ink, glass, glass lens, wooden sphere and painted wood construction, 60 x 60 x 20 cm, Private Collection USA.

The latter is clear from the way the word "unnecessary" is written in *The Frame Should at Least Have Something to Do With the Unnecessary Detail (In the Middle)*. The first part—"unnece"—is written from right to left and separates the lower left edge of the recession of the Lens Box from the second part. The "ssary" is then written to the left of the recession and from bottom to top. Bauermeister placed the entire word in quotation marks, as if she wanted to relativize the statement, because the main composition does not seem entirely "unnecessary" to her. This also draws attention to the center and encourages reflection on what characterizes this area. Connecting to the lower left corner of the recession, and as an element that hyphenates the word "unnecessary," is a painted square that is composed chromatically of individually drawn lines in dark red at the edge by way of orange to yellow in its interior. The lines frame a white square; Bauermeister is thus simulating a frame for a white painting with no elements whatsoever in its center. The colors from red to yellow can be made out inside the recession; several of the curved lines on the wooden spheres are bordered by them. Blue can also be found there; it refers to another color square in the upper right corner of the frame area. Together they establish another con-

nection from the frame to the "unnecessary detail," since both share one color, but whereas they are arranged geometrically on the frame, the colors in the recession unite with the lines that exemplify many-valuedness.

That the red-orange-yellow square is meant to be understood as a frame without a (finished) painting is made clear by the three letters Bauermeister has written directly under it: "V.I.P." The abbreviation "V.I.P." stands, in Bauermeister's case, for "very important picture," a series of works she began in 1966 or 1967, so after making the mark on *The Frame Should at Least Have Something to Do With the Unnecessary Detail (In the Middle)*. The wordplay with "V.I.P.," changing "person" to "picture," can be found earlier—written out and as an abbreviation—in the notational iconicity of Bauermeister's art. There are seven works in her oeuvre that can be assigned to the *V.I.P.* group.

One of these is the Lens Box *V.I.P. (Very Important Picture)* of 1967, which measures 162.6 by 162.6 by 20 centimeters (fig. 59). The center of the works, much like the "unnecessary detail," was left blank; a square cutout there shows the white gallery wall. Everything outside of that square is all the more richly detailed: Bauermeister applied four curved wooden elements whose outer corners result in a nearly square plane; they are loosely arranged in a checkered form. Because the edges of the (empty) recession are arranged either vertically or horizontally, the work as a whole appears to be slightly shifted. The four wooden elements that have been joined to make the frame have drawings, writing, photographic reproductions, and wooden spheres. Many of the motifs already discussed (repeatedly) can also be found here, such as circular structures, curved lines, drawings of "yes, no, perhaps," series of numbers, sections with fluorescent paint, the themes of tools and Bauermeister's hands and eyes. Two photographic reproductions of the works *Pst...Who Knows Wh...* of 1966 on the left and *Peng-cil* from the same year—both are reflected on in drawn and written comments. The chromatic gradation of red-orange-yellow that makes up the small drawing with "V.I.P." written below it in *The Frame Should at Least Have Something to Do With the Unnecessary Detail (In the Middle)* can be found again repeatedly. Here the colors are used in combination to color spheres, circles, and other drawn elements or to connect to them; the correspondence of colors is another level of networking. The work's frame, on which all the (executed) aspects of the composition are found, has two layers of lenses over it. The panes of glass to which the lenses are glued are also curved but they are different from each other; moreover, they did not terminate together with the edges of the four wooden parts. This reinforces the impression that the frame has been multiply shifted, while the center of the picture remains stable. The basic idea for the compositions can be dated to 1961. At the time Bauermeister made an entry in her sketchbook titled "Ausserbild" (Outer Image): the description and associated drawing reveal a pictorial idea that

contrasts a "blank" square center with a frame filled with details.[81] Here, too, the composed frame is square; with the *V.I.P.* works, Bauermeister refined the original concept and applied it to Lens Boxes.

Fig. 59: V.I.P. (Very Important Picture), 1967, ink, offset print, glass, glass lens, wooden sphere and painted wood construction, 162.6 x 162.6 x 20 cm, Private Collection USA.

The *V.I.P.* works belong to the period of the late 1960s in which the frames of works of are no longer (solely) part of the works but increasingly became their main statement.[82] In that context, however, not only can the picture frames be regarded as an emphasized termination of a work of art, but so are the frames of the supporting wall, of the room of the gallery space or museum, and the social framework of art.[83]

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81   Bauermeister, "Skizzenbuch Quaderno, 1961–1963" (see note 66), 10.

82   See John C. Welchman, "In and around the 'Second Frame,'" in Duro, *The Rhetoric of the Frame* (see note 79), 203–22, esp. 219–20.

83   See ibid., 206; Alexander Alberro, "Institutions, Critique, and Institutional Critique," in *Institutional Critique: An Anthology of Artists' Writings*, ed. Alexander Alberro and Blake Stimson (Cambridge Mass., London 2009), 2–19.

The work *V.I.P. (Very Important Picture)* participates in these developments with commentary that reflects on art: Bauermeister in general stuck to the elements of which her work is composed. The arrangement is simply reversed, so that the white wall, which is normally completely outside the work of art, moves to the center. The composed frame becomes denser, and this is further heightened with glass and lenses. This makes it clear that in general the frame is integrated into the composition. It is also a reference to the theme of the frame in contemporaneous art. Bauermeister could continue to execute all of the compositional unities of her aesthetic and at the same time reflect on the "esthetic potency" of the gallery wall by explicitly framing it.[84] This is not, however, an ongoing and exclusive reflection on or critique of the supporting system of art and its institutions, as could be found in the work of Daniel Buren and Michael Asher at this time.[85]

V.I.P. (Very Important Picture) and the other works of that series are logical continuations of the theme of the frame in her work. Bauermeister once again employed the title to that end: the common abbreviation is first given a perplexing aspect with the change to "picture." This shift in meaning is reinforced by leaving out the actual picture. This inevitably provokes the viewer to examine what can still be considered a "picture" and what the boundaries are, since even though Bauermeister declares everything outside of the recessions of the Lens Boxes to be the frame, this area is completely integrated into the composition or is even the only part of the work that is composed.[86]

Working with the commentary system encourages a networked genesis of works, and reflections on the frame are part of that. For example, on the left side and below the recession of the Lens Box *St. One's II*, which was made in the years 1965 and 1966, we read "frame wanted" (fig. 60). In addition to this thematization of the frame on the frame, there is another comment on the right side that is embedded in a structure of drawn lines: "frame for frame wanted." It is the next level of reflection, which grows out of the commentary system: whereas initially a frame is needed to make the status of the work of art, this is transgress by the new thematization, which de-

84   Brian O'Doherty, *Inside the White Cube* (Santa Monica: Lapis, 1986), 29.

85   See Daniel Buren, *Limites critiques* (Paris: Yvon Lambert, 1970); Michael Asher, *Writings, 1973–1983, on Works, 1969–1979, Written in Collaboration with Benjamin H. D. Buchloh*, ed. Benjamin H. D. Buchloh (Halifax: Press of the Nova Scotia College of Art and Design; The Museum of Contemporary Art Los Angeles, 1984).

86   Even among the Lens Boxes with no frame but only a small border of wood or stainless steel or whose recession has no back wall, there are examples in which the (absent) frame is nevertheless incorporated. The drawings of the Lens Boxes *Palette* and *Tiny Palette*, for example, extended beyond the termination of the reception; in the case of *Weeping Pen*, spheres with drawings are also glued to the frame.

mands another framing.[87] In Bauermeister's work, there are small references that offer components that are critical of the image or reflect on art and its institutions, and together they form the horizon of her oeuvre when they are added to the other aspects.

Fig. 60: St. One's II, 1965–66, ink, offset print, glass, glass lens, wooden sphere and painted wood construction, 42.2 x 41.9 x 16.8 cm, Charles Yassky, New York, USA.

This is a Museums-Piece/Peace of 1966 can serve as another example (fig. 61). The work consists of a frame for a Lens Box but it has no recession. It is instead placed on an ordinary commercially available easel painted white, which is incorporated into the work by means of drawings: the white pattern on the otherwise very intricately composed underground of drawing corresponds exactly to the structure of the easel, if the wood cutout that was actually conceived as a frame for a Lens Box had been placed on the lower, adjustable, bearing surface. The few centimeters that the frame has been shifted upward result in distortions.

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87   See Vera Beyer, *Rahmenbestimmungen: Funktionen von Rahmen bei Goya, Velázquez, van Eyck und Degas* (Munich: Wilhelm Fink, 2008), 235.

Fig. 61: *This is a Museums-Piece/Peace*, 1966, ink, wooden sphere, easel,
170 x 90 x 16 cm, Mary Bauermeister Art Estate.

This is a Museums-Piece/Peace is the work that led to the transformed easels of the *Easel Series* produced from 1969 to 1973. Once again, the tools used to create the works have been integrated into them. Not only a helpful utensil, like an easel, is integrated into the finished work of art; the work is also complemented by an object that was actually intended to be its frame and was at least used as such in other works. The structure of the work is at the same time a comment on the contemporaneous tendency to (over)emphasize the frame, on the one hand, and on the still dominant art of Abstract Expressionism and its art criticism, on the other.[88] The title both thema-

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88   With reference to the frame in Abstract Expressionism, Richard Phelan has written how
      it was repressed more and more to eliminate illusionism and at the same time make the
      viewer's presence possible; Richard Phelan, "The Picture Frame in Question: American Art,
      1945–2000," in *Framing Borders in Literature and Other Media*, ed. Walter Bernhart and Werner

tizes the museum as a frame for art and affirms the quality of the work itself. Finally, the wordplay of "Piece" and "Peace" need not be related literally to the museum; it is another shifting of a supposedly unambiguous reading.

Networks and Autonomies of Title and Frame

For Tobias Vogt, the title and frame belong in a shared context, because they both take on a "mediating function" between the work and its surroundings and each must be thought of in a specific interstice.[89] This is also true of Bauermeister, who also employs both title and frame with multiple functions. Both should certainly introduce a demarcation, to lend a work a certain degree of autonomy and at the same time mediate within the oeuvre in a way that brings things together. On the one hand, the title refers to the work in question, opens up various directions for interpretation, and generates an area of tension of more precise determination by the viewers. On the other hand, the same title also contains a level of networking, since it can be found as a comment in many other works, sometimes in modified form, and evokes a connection to the original work. In addition, Bauermeister has repeatedly worked in series, sometimes far apart in time, so that it cannot be assumed that a title was refined within a short span of time. It is to same degree equivalent with the frame: it forms the termination of a work and declares it to be an aesthetic unity. Bauermeister actively integrates this demarcation in that the frames represent an equally valid part of the composition; the elements in the recession refer to everything lying outside it, and vice versa. Moreover, the frame can be explicitly address or be the primary designed aspect of a work. The crucial thing is that the networks are repeatedly taken up on the frame of the works as well, in which small cutouts from a previous or subsequent work are identified as belonging to it.

Bauermeister's specific use of title and frame can be defined using Derrida's theoretical figure of the "parergon": "A parergon comes against, beside, and in addition to the *ergon*, the work done [*fait*], the fact [*le fait*], the work, but it does not fall to one side, it touches and cooperates within the operation, from a certain outside.

Wolf (Amsterdam, New York 2006), 159–75. Bauermeister's allusion to the art criticism on Abstract Expressionism should be reconciled with the oft-cited article "The Crisis of the Easel Picture." In it Greenberg describes how the easel painting "as a vehicle of ambitious art has become problematical," so that its destruction must inevitably come; Clement Greenberg, "The Crisis of the Easel Picture" (1948), in Greenberg, *The Collected Essays and Criticism*, vol. 2, *Arrogant Purpose, 1945–1949*, ed. John O'Brian (Chicago: University of Chicago Press, 198), 221–24, esp. 224. Bauermeister declares the easel itself and a picture that is actually a frame to be a museum work.

89   Vogt, *Untitled* (see note 72), 21.

Neither simply outside nor simply inside."[90] The "parergon" is a hybrid supplement, since, on the one hand, it belongs inevitably to the work of art and cannot be detached from it; on the other hand, it cannot be seen as one and the same as the artwork either. If one attempts one or the other—that is, complete identification or detachment—the "parergon" is closer to the other, in each case—"an ill-detachable detachment."[91] With this concept Derrida is referring to Kant, who in his *Kritik der Urteilskraft* (*Critique of Judgment*) writes of "ornaments" or "parerga," by which he means something external that does not become entirely the inside of the object and therefore should be judged to be negative.[92] Derrida expands the meaning of "parergon," since it is no longer regarded to be something decidedly negative. The "parergon" even becomes something necessary in order to provide a balance for the constantly occurring "internal lack"; this "parergonal" state of suspense is at once contrasting and disappearing.[93] Bauermeister's title and frame have a function in her oeuvre that can neither be detached from one another, since both persist in the same interstice, nor inseparably connected with the corresponding work, because then it would negate its own autonomy.

The synchronicity of amalgamation and autonomy is an essential feature that will be regarded as fundamental in the next and final section of this chapter. The different elements in Bauermeister's oeuvre, which she repeatedly recombined and commented on, form metalevels in combination for which the works strive together. The new unities that result have in turn implications for the individual works. To that end, the focus will turn to a drawn structure that can presumably be traced back to the checkered pattern and that seems paradigmatic for this aspect of Bauermeister's art.

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90   Jacques Derrida, *The Truth in Painting*, trans. Geoffrey Bennington and Ian McCleod (Chicago: University of Chicago Press, 1978), 54.

91   Ibid., 59.

92   Immanuel Kant, *Critique of the Power of Judgment*, ed. Paul Guyer, trans. Paul Guyer and Eric Matthews (Cambridge: Cambridge University Press, 2000), 110–11. Kant cites as examples frames of paintings, draperies on statues, and colonnades.

93   Derrida, *The Truth in Painting* (see note 90), 59.

6.4   The (Many-Valued) Metalevels

> Since metareference can also be used
> for comments on the aesthetics of one's
> own work, or on other works, or on
> aesthetics in general, authors may also
> employ it as a means of educating the
> recipients, or of providing
> interpretational clues and cognitive
> frames to their own works.[94]
> *Werner Wolf, 2009*

The constant incorporation of metareferences in her works is another aspect of networking in Bauermeister's oeuvre and at the same time crucial for unfurling the many-valued aesthetic. In order for many-valuedness to be accepted in the works of art and for two contradictory elements to be interpreted accurately as equivalent, the viewers' activity is necessary. The "meta-experience of the picture" is a "cognitive frame" that leads to a general "meta-awareness."[95] This "meta-awareness" results from the work reflecting on the elements of which it is composed or that are inserted into other artistic works.[96] In Bauermeister's case, a graduated system is recognizable: First, there is the singular object level of the work of art; it has all of the compositional elements that together produce the work. From several of these elements that participate in the metareferences, metalevels emerge, because they reflect on themselves or on the work. The metalevels can for their part be joined again, which then should still be worked out as a metaimage. Also embedded into the bringing together of levels of reflection that always form a large unity are the many-valued aesthetic and its possibility. It can at the same time be possible to identify them on the first level, that of the object, resulting in a circular reconnection of the system.

To form metalevels it is necessary to determine a generic metareference. A quantitative increase in metareferences in works of visual art since the 1950s and at the latest with the rise of Pop Art has been described.[97] Carla Taban, too, assumes an

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94   Werner Wolf, "Metareference across Media: The Concept, Its Transmedial Potentials and Problems, Main Forms and Functions," in *Metareference across Media: Theory and Case Studies*, ed. Werner Wolf with Katharina Bantleon and Jeff Thoss (Amsterdam: Rodopi, 2009), 1–85, esp. 66.

95   Bruno Trentini, "The Meta as an Aesthetic Category," *Journal of Aesthetics & Culture* 6, no. 1 (2014): 1–9, esp. 8; Wolf, "Metareference across Media" (see note 94), 27.

96   See Wolf, "Metareference across Media" (see note 94), 30–31.

97   See Katharina Bantleon, "From Readymade to 'Meta²': Metareference in Appropriation Art," in *The Metareferential Turn in Contemporary Arts and Media: Forms, Functions, Attempts at Explanation*, ed. Werner Wolf (Amsterdam: Rodopi, 2011), 305–37, esp. 307ff.

art-immanent development of metaphenomena in the period from 1950 to 1970, although they must be viewed as present since time immemorial, they were usually implicit processes that were underdeveloped for the work of art as a whole.[98] Taban describes metareferences as a "cluster of interactive dimensions which constitute the artwork as such."[99] This goes beyond the self-reference that exists, for example, when Bauermeister inserts her own hand or eyes into a work of art or writes the word "art" in a Lens Box. It is a step of reflection and network that leads further to metareference. It is crucially important that the viewers not linger in the internal events of a work; rather, they must take this step to a general level that opens things up. The metareference makes it possible to formulate statements about iconicity that address both the specific work and other works at once.[100] These include written or drawn elements or written comments on them and the placement of the specific elements that reflect on the makeup of the artwork itself, on the specific features of its medium or specifics of its genre, and on the system of art in general.[101] For Wolf, the different metareferences within a work inevitably constitute an overarching metalevel. This effect will be studied in relation to Bauermeister's oeuvre. Wolf also describes metareferences as a phenomenon of "transmediality"; this concentration on transgressions of the medium can only be pursued in a limited way here.[102] In Bauermeister's art, shifts in medium are omnipresent; her picture-to-picture references, for example, can be traced back to such processes. Nevertheless, the nesting of different media or the transfer of representation from one medium to another does not appear to be a primary factor behind the metareferences in her works.

Accordingly, her use of them can be understood more clearly using Mitchell's term "metapicture," if it is understood as structurally equivalent to metareference: If one artwork were to be inserted into another, even if it involves a transposition of media, it is initially (merely) a "picture-within-a-picture," that is, just as significant as any other object in a picture.[103] The metapicture, by contrast, needs a "nesting"

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98   See Carla Taban, "Meta- and Inter-Images in Contemporary Art and Culture," in *Meta- and Inter-Images in Contemporary Art and Culture*, ed. Carla Taban (Leuven: Leuven University Press, 2013), 11–40, esp. 24–25. René Michaelsen likewise observes in his study: "Where there is a metalevel, there is also modernity"; René Michaelsen, *Der komponierte Zweifel: Robert Schumann und die Selbstreflexion in der Musik* (Paderborn: Wilhelm Fink, 2015), 27.

99   Taban, "Meta- and Inter-Images" (see note 98), 25.

100   See Marina Grishakova, "Intermedial Metarepresentations," in *Intermediality and Storytelling*, ed. Marina Grishakova and Marie-Laure Ryan (Berlin: de Gruyter, 2010), 312–31, esp. 314.

101   See Wolf, "Metareference across Media" (see note 94), 43–44.

102   Ibid., 14 and 64.

103   W. J. T. Mitchell, "Metapictures," in Mitchell, *Picture Theory: Essays on Verbal and Visual Representation* (Chicago: University of Chicago Press, 1995), 35–82, esp. 42. So that the individual steps that lead to metalevels will not be ignored, I will continue to use the term "metareference." It permits more precise analysis of the individual aspects within a work than speaking directly of a "metapicture" would.

of references, thus dissolving "the boundary between inside and outside, first- and second-order representation, on which the metapictorial structure depends."[104] The *Needless Needles* works could be cited as a suitable example, in which every reference is commented on anew and the demarcations of one work from another are challenged. This is not an extreme case in Bauermeister's oeuvre: her anticipations and recourses are always present. Moreover, there are no mere adoptions from one work, a concept, or a drawing for a new one; it is always subject to commentary, which results in nesting. There is constant reflection on where a work begins, when it can be regarded as completed, and how it relates to other works, because the individual comments must be seen as freely mobile. At the same time, the works are objects that make a statement about art and aesthetics—all these references produce potentials that can be described here as metalevels. Bauermeister's repeated use of humorous comments or parodies must be understood in this context as well; their purpose is "destabilizing" the reception of the work through the "display of pictorial paradox and forms of nonsense."[105]

In Bauermeister's oeuvre there are numerous passages that could be called, following Winfried Nöth, "self-referential metapictures." He assumes that works with metareferences usually have self-referential aspects as well.[106] Examples that could be cited include Bauermeister's illustrations of her own hand in the process of creating, which are simultaneously being drawn by another drawn hand that is also intended to symbolize her own—the levels are composed of elements of many-valuedness. Such sections can be found, among other places, in *Some Stones Missing*; hands that are applying glue to attach stones draw other hands with that glue. *The A's Touch* and *Pictionary*, too, also have such nesting, so that the works represent their own creation, although representation is the reason for creating them in the first place.[107] This "act of meta-referential self-appropriation" can lead to a hypostasis that gives rise to "meta-meta-art," that is, when something metareferential is reintroduced into a metareference.[108]

The Checkered Pattern as Metareference

One metareferential element that occurs often in Bauermeister's works is the transformation of the checkered pattern into a nested structure. The Lens Box *Who Knows Why/What to Paint Anymore* of 1966 is characterized by this process (fig. 62). The work

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104   See ibid., 42 and 189.

105   See ibid., 57.

106   Winfried Nöth, "Metapictures and Self-Referential Pictures," in *Self-Reference in the Media* (see note 37), 61–78, esp. 76.

107   See ibid., 64.

108   Bantleon, "From Readymade to 'Meta²'" (see note 97), 326–27.

is structured in a way that a Lens Box that consists of a recession and a frame has another surface attached at bottom left that is in turn drawn on and has wooden spheres attached to it. This square place has the same dimensions as the original frame and increases the size of the frame that can be employed for the composition, resulting in an overall size of 123.2 by 124.5 by 17.8 centimeters. The overall look of the composition of *Who Knows Why/What to Paint Anymore* amplifies this reference to the frame because most of the written and drawn comments cover just one section of the work. It forms a semicircle around the recession of the Lens Box, extending downward and to the left; the adjoining plane is completely covered with the commentary system—it looks as if Bauermeister created an extension of the frame in order to continue the comments.

In several places there are asymmetrical borders containing the checkered pattern; it also extends across a drawn arm in the upper right corner of the work and on the wooden spheres in the recession. The checkered pattern runs through the work in different phases of distortion: Whereas at first the individual squares are warped, in several sections they transform into connected cubes that produce a new pattern. Bauermeister introduced the work's title here as another level that points to the modification of the checkered pattern. The question reflecting on art—"why" and "what" one is supposed to paint at all—is answered by the artist in this and other works from this period. For her they are transformations of the checkered pattern into structures that Bauermeister called "unsculptable sculptures."[109] The climax of the distortions of the checkered pattern as "unsculptable sculptures" can be found repeatedly in *Who Knows Why/What to Paint Anymore*: above all they cover the drawn section of the frame and the adjoining plane. For example, a pattern of cubes begins in the upper left corner of the added drawing surface. The distorted cubes initially look like produces of a non-Euclidian geometry and transition gradually into a new structure. They also recall cubes, but the twelve edges are emphasized because Bauermeister simulated by drawing the omission of the six squares as sides. The next step of development produces the "unsculptable sculptures"; they still have twelve edges but they are nested, so that there are multiple intersections of the edges. The formation of six congruent squares that together produce a cube is no longer possible. The idea that the "unsculptable sculptures" provide an answer to the question "why" and "what" should still be produced as art, specifically what can be "painted," had many consequences for Bauermeister's oeuvre.

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109   Hauke Ohls, "Interview to Mary Bauermeister by Hauke Ohls," in *Mary Bauermeister: 1+1=3*, exh. cat. (Milan: Galeria Gariboldi, 2017), 6–44, esp. 8. The question "why/what to paint?" is also written into the work *Poster (1967 Pittsburgh Exhibition of Painting and Sculpture, Museum of Art, Carnegie Institute)* and directly below it answered "paint some unsculptable sculptures."
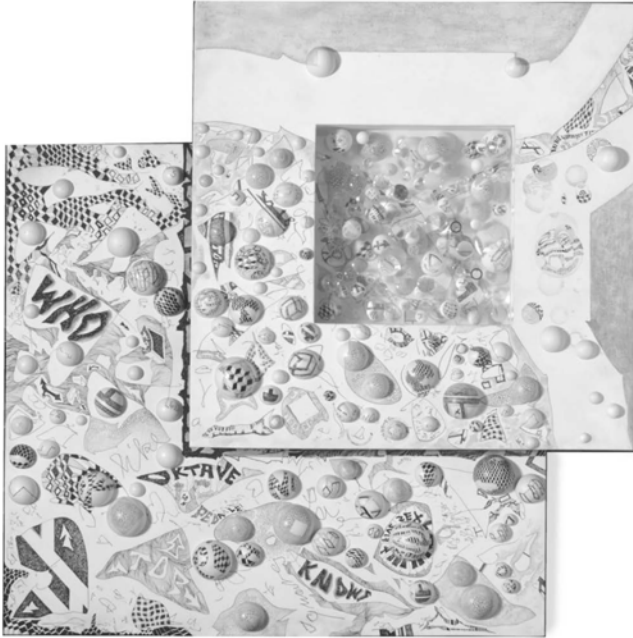
The snaking structures offer points of contact to the many-valued aesthetic. One work that can be regarded as exemplary in that respect, and which further clarifies the idea of "unsculptable sculptures," is *Put-Out (Escaping From the 4th Dimension)* of 1969 with the dimensions 142.9 by 102.9 by 17.8 centimeters (fig. 63). This Lens Box has an asymmetrical form and is constructed to simulate an "unsculptable sculpture." Three small Lens Boxes have been inserted into the dominant frame. The twelve edges of the "unsculptable sculpture" are arranged so that a hypothetical object results that could not exist in three dimensions. Bauermeister in part employed her point structure to simulate the form, to which end she had recourse to her combination principle. A drawn arm of curved lines snakes through the edges; the hand is holding a drawn sphere on which an "unsculptable sculpture" is depicted. Directly below that follow several three-dimensional wooden spheres that are attached to the frame of the Lens Box; each of them has an "unsculptable sculpture." The same is true of the two hemispheres attached to the gallery wall and the individual spheres distributed on a small white pedestal. The "unsculptable sculptures" seem to be "falling" out of the frame, and the work "produces" these forms. The spheres change size in

the process; first, there are very small ones, which are still attached to the Lens Box; then their size grows exponentially as soon as they leave the work, only to become gradually smaller again when they are more distant from it.

The subtitle of *Put-Out (Escaping From the 4th Dimension)* seems to refer to the origin of the "unsculptable sculptures": the work itself and the individual spheres have a geometrical form that, viewed speculatively, could be imagined present in a fourth dimension. The drawn arm ensures that several of these "unsculptable sculptures" also reveal in the three-dimensional world as if they have "escaped" from the work. It is suggested that the Lens Box is a four-dimensional figure in which corresponding geometries exist. Bauermeister thus formulates a comment that reflects on art on several levels. It can be connected to an aspect of the *paragone* debate, in which painting simulates the three-dimensionality that is inherent in sculpture, which led to reciprocal valorization and devalorization and became potent again in the twentieth century in altered form.[110] Bauermeister's Lens Box, by contrast, has one more dimension. It is also possible to see the fourth dimension as a challenge to statements made about Abstract Expressionism: among other things, interpretation of Abstract Expressionism emphasized "flatness" as a characteristic feature specific to the medium of painting and called for artists to concentrate on that quality.[111] Bauermeister took the opposite position here: not only is the third dimension integrated here but yet another one.

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110   See Andreas Schnitzler, *Der Wettstreit der Künste: Die Relevanz der Paragone-Frage im 20. Jahrhundert* Phil.Diss. Graz 2003. Berlin 2007.

111   Clement Greenberg, "Modernist Painting" (1960), in Greenberg, *The Collected Essays and Criticism*, vol. 4, *Modernism with a Vengeance, 1957–1969*, ed. John O'Brian (Chicago: University of Chicago Press, 1995), 85–93, esp. 90.

Fig. 63: Put-Out (Escaping From the 4th Dimension), 1969, ink, glass, glass lens, wooden sphere, casein tempera and painted wood construction, 142.9 x 102.9 x 17.8 cm, Collection Santa Barbara Museum of Art, Gift of Mr. Samuel Metzger 1977.251 (1977.251-jj).

The understanding of four-dimensionality that dominated in Bauermeister's oeuvre at the time of this work has not been precisely documented. It may be referring to time as an additional level, which would permit a connection to Bauer-

meister's reading of von Weizsäcker's writing, since he challenged the concept of time. For von Weizsäcker, time does not have a successive order but has to be determined proleptically: "It is the direction of the *gaze* that determines the direction of *time*—not vice versa."[112] He understands that to mean a "form of time," in which the form does not emerge within time but the other way around: time only on the basis of the form; these "forms" thus make time and knowledge possible.[113] Von Weizsäcker also attributes to perception the ability to "offer a clear account of geometric and mechanical laws," which anticipates a possible theory; he believes that artists are among those who can take over this task, that is, offer stimuli to perception to adopt a changed view of time in the first place.[114] In this view, works of art are not illustrations of theory but themselves the breeding ground for understanding phenomena and then formulating theories. If it is assumed that time is a freely available determinant in a fourth dimension, then it is not necessarily responsible in a successive order for creating a geometric object; rather, the "unsculptable sculpture" can develop completely separately from the influence of time. What results from this becomes fully understandable only from another publication to which Bauermeister repeatedly referred: it is the connection of changes in time with changes in form, in which a new complex unity is created, as described by Wieser; he too speaks of "forms of time" that grow out of it.[115] The "unsculptable sculptures" on the spheres and the overall look of the Lens Box *Put-Out (Escaping From the 4ᵗʰ Dimension)* are a form that makes it possible to imagine the challenged concept of time in an additional dimension.

Bauermeister's integration of the fourth dimension into her works is not an isolated case. Among others, Duchamp, to whom the artist has repeatedly referred, spoke of phenomena of a fourth dimension and integrated it into his work. For Duchamp, objects should be understood in their dimensionality as analogies to cast shadows. When a three-dimensional object cases a two two-dimensional shadow, then three-dimensionality is the projection of an object with another dimension.[116] It is conceivable that Bauermeister was familiar with Duchamp's statements or had

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112   Viktor von Weizsäcker, *Gestalt und Zeit* (Göttingen: Vandenhoeck & Ruprecht, 1960), 13.

113   See ibid., 42–48.

114   See ibid., 47–48.

115   Wolfgang Wieser, *Organismen, Strukturen, Maschinen: Zu einer Lehre vom Organismus* (Frankfurt am Main: Fischer, 1959), 149.

116   Marcel Duchamp, "À l'infinitif," *The Writings of Marcel Duchamp*, ed. Michel Sanouillet and Elmer Peterson (New York: Da Capo, 1989), 74–101, esp. 88–101; Herbert Molderings, *Marcel Duchamp: Parawissenschaft, das Ephemere und der Skeptizismus*, 3rd ed. (Düsseldorf: Richter, 1997), 34 and 46–49. Section 2.1 already cited the art critic Holland Cotter, who described the reception of Bauermeister's Lens Boxes as looking into the fourth dimension, which could also be cited here as a horizon.

exchanges with him about these speculations that influenced her approach to the fourth dimension in the "unsculptable sculptures."

Curved geometric forms are a constant in Bauermeister's oeuvre from 1966 onward. They can be understood, following Nöth, as part of an "ambiguous picture"; they are objects that cannot exist in space, so that they open up a metareferential level.[117] The "unsculptable sculptures" thus reflect on the (im)possibility of forms of artistic expression and on the epistemic power that can come from them. This "impossible border-crossing," according to which something paradoxical is expressed as a given, is a characteristic of metareference.[118]

Meta-Image

Bauermeister's works are permeated by these aspects of the metareferential: in addition to the nesting of picture-to-picture references, the circular properties of the producing and being produced of motifs such as hands and eyes, and the "unsculptable sculptures" and their reflection on the dimensionality of art, the elements of many-valuedness have to be reconciled with metareference: every "yes, no, perhaps" or circular structure that is dissolved produces a "thinking image," in that the work of art reflects on its conditional nature and also formulates statements about higher-order qualities.[119] These statements can concern groups of works or her own oeuvre but can also include genre- or art-specific questions. Parts of the commentary system and the combination principle can also have an effect on the metalevels if they connect all the works to one another and formulate statements about art in general.

One crucial reason for emphasizing the ubiquitous use of metareferential aspects in works of visual art since the mid-twentieth century is that metareference can be understood as a reaction to "binary opposition."[120] Wolf is speaking here of an ontological level that is transgressed in works of art such that paradoxical yet actual statements are made.[121] For Bauermeister's oeuvre, the term "metaphysical" is more apt, since Gotthard Günther wanted to establish his many-valuedness as a metaphysics without ontology. Leaving that aside, it seems to explain accurately Bauermeister's recurring use of metareferential elements: it is the questioning and transgression of binarity that leads to her many-valued aesthetic. The paradoxical should not be grasped as such in the works; there are, rather, many statements that

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117   Nöth, "Metapictures and Self-Referential Pictures" (see note 106), 63.

118   Wolf, "Metareference across Media" (see note 94), 52.

119   Vangelis Athanassopoulos, "The Image by Itself: Photography and Its Double," in Taban, *Meta- and Inter-Images* (see note 98), 133–48, esp. 135.

120   Werner Wolf, "Is There a Metareferential Turn, and If So, How Can It Be Explained?," in Wolf, *The Metareferential Turn in Contemporary Arts and Media* (see note 97), 1–47, esp. 36.

121   See Wolf, "Metareference across Media" (see note 94), 53.

exist side by side and are of equal value and can be brought together. This continuous taking up again of individual elements in her works produces the metalevels. Connections result not only within but also between works, which in turn leads to higher-order levels of reflection. Every metareferential element contributes to the constitution of metalevels. This reciprocal networking can also be found in Wieser's biologically oriented approach: "Elements combine with other elements into higher unities"; in the process, the "effects of the elements on one another" and "the properties of totalities" reach a higher-order position.[122]

The merger of individual levels can be expanded more and more so that not only explicit groups or works or, for example, all of the works that contain an "unsculptable sculpture," form a network, but also every Lens Box and, ultimately, the entire oeuvre. It is the concept of the "metaimage" in which this ultimate conflation results. The metaimage embraces not only the self- and metareferential elements and the resulting metalevels but also disciplines with the prefix "meta-."[123] The metaphysics in the works is enclosed in the metaimage. A majority of the processes in Mary Bauermeister's oeuvre can be related to the many-valued aesthetic and the metaimage; they are in turn a component of the totality of manifold networks—a more comprehensive assemblage.

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122 Wieser, *Organismen*, *Strukturen*, *Maschinen* (see note 115), 12.
123 Taban, "Meta- and Inter-Images" (see note 98), 20–21.

7. Epilogue
The Oeuvre as (Agential) Assemblage

The first epigraph to the prologue of this book was intended to establish a basic tenor for the study. In it Günther affirms that the "dichotomic distinctions of subject and object" and of other categories that have formed bivalent thinking are finally over.[1] As has been shown, for him many-valued logic first leads back to an additional perspective of reflection of another subject and then leads to an intensification of reflection within a subject. The rejection of "dichotomic distinctions" is for Günther still completely subject-centered; thus he does not challenge the principal distinction of subject and object as separated spheres. The crucial thing for him, rather, is a breaking up of a strict antithesis of identity and nonidentity that leads to logic-based extensions. From her specific appropriation of Günther's theory, Bauermeister formed her own approach, which we have described as many-valued aesthetics: reciprocal networking is fundamental to it; moreover, there is an extension relative to the subject-object separation in which processes are shifted to the objects or in their merger—both aspects were discussed based on identity of reflection of the object and theories of the assemblage. Challenging distinctions such as "true" and "false" also opened up a space in between in which image-based statements adopt a mediating position.

The epilogue will now aim to synthesize all of the theoretical sections as well as their characteristics within the corresponding works of art into a comprehensive understanding; this will achieve the overcoming of dichotomies already addressed by Günther. In addition, the connection of the theoretical sections will be supplemented by a speculative extension that will make the artistic processes in Bauermeister's creative work completely visible for the first time: the use of the philosophical concept of the assemblage was cited in various places in this study and these strands will be pulled together in what follows. The approaches of artistic research and of New Materialism are especially productive to that end, and within the latter the agential metaphysics of the philosopher Karen Barad is especially crucial.

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1   Gotthard Günther, *Idee und Grundriss einer nicht-Aristotelischen Logik: Die Idee und ihre philosophischen Voraussetzungen*, 3rd ed. (Hamburg: Fritz Meiner, 1991; orig. pub. 1959), 334.

In the effort to get as close as possible to Bauermeister's oeuvre from 1955 to 1975, the specifics of important groups of works were worked out in the chapters. Several works could be cited repeatedly as reference points for this study; the selection made could have been different, resulting from the different compositional, thematic, technical, and media elements that are continuously combined with one another—this is essential for the networking in her oeuvre. In the second epigraph of the prologue, Bergson explains how the partial already points to the "real whole," since every aspect bears within it the potential of the whole.[2] Bauermeister's art consists of a web of elements that relate to one another, which is why it also seems legitimate to pick out individual elements in order to open up overarching insights. Based on the networks that exist between works and all the conditions that make them possible, the present study also adopts a network-like form: the simple addition of different elements within the works and the levels they produce have to be constantly reconnected to make it possible to understand the events.

The integration of the identity of reflection of the object has already show that it was not enough to stick to Günther's notion of many-valuedness, since Bauermeister's artworks open up their own potentiality. Art cannot be roped in to illustrate theories and expand them by implementing them. Rather, the transformation of many-valued logic into many-valued aesthetics results a decided change in status: Bauermeister began in the early 1960s to integrate stimuli from many-valued logic into the composition of her artworks. This led to premises that she continued to bring along. The oeuvre that developed from this is, however, its own field and offers many more possibilities than Günther's written study. The many-valued aesthetic opens up a horizon that can only be partially described with words, since every artistic element integrated has the potential to condition an effect on another, and all of the resulting changes are equally important as the previous unchanged status and all of the contradictions. Based on the continual references between the elements employed as well as between entire works of the entire oeuvre, and based on the intricacy of the compositions, it is absolutely impossible to grasp all of the eventualities, especially since the choice of the viewers who observe given sections and corresponding have to be networked with one another possesses an unmanageably large number of potential variables. The works show without the (definitive) possibility of expressing in language a surplus of imaging that employs writing, drawing, scribbling, (artificial and natural) objects, photographic reproductions, and lenses.

By shifting reflection into the object, the works participate in an (epistemological) artistic research into the aesthetic: "Creative research deals in matter that signifies. It is a discourse of material signs […]. Matter that signifies is matter capa-

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2   Henri Bergson, *Creative Evolution*, trans. Arthur Mitchell (New York: Holt, 1911; orig. pub. Paris, 1907), 36 (italics original).

ble of transforming itself."[3] Because material and materiality are integrated into the meaning-generation practices of showing, they also have the opportunity to change that was described above for the identity of reflection of the object. It is thinking in aesthetic dimensions that leads to a linking of epistemology and metaphysics. In this context, epistemology can be described as an effort "to reflect the perceivable through perception, and the experiential through experience" and is accordingly necessary for the autonomy of an approach to artistic research.[4] The extension of strict dichotomies can also be derived from the understanding that comes from artistic research because it avoids strict separations of "subject and object, material and form, investigation and presentation, theory and practice."[5] The processes initiated within the works and their networks are a "constitution of forms of non-subjective reflexivity that operate exclusively in the realm of the senses."[6] They form an "interstice of knowledge" that can no longer be completely controlled by subjects and also not exhaustively described.[7] The only possibility to gain insight is thus to understand the implications within the work in their own horizon of meaning, since in them and their combination an expressive power develops: "The sculptural work-world seems like an action by means of which one can speak effectively."[8] The simplest element of this action is the obvious contradiction of "yes, no, perhaps," which results from all three words being equally apt. The metaphysical implications contained in this triad as a result of the many-valued aesthetic can also be supplemented by an epistemological level: in artistic research, the "as well as" and "also" dominate, so that antitheses do not become disjunctions but rather dominant conjunctions achieve in principle an equal "validity."[9]

The ubiquitous interconnections in her oeuvre were made accessible by concepts of the assemblage because they cannot be understood without a theoretical framework. The assemblage goes beyond the metalevels and the metaimage, or they are parts of a more comprehensive interconnection that constitutes an assemblage. As already demonstrated, the assemblage is just as active in the smallest unit as in the

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3   Paul Carter, *Material Thinking: The Theory and Practice of Creative Research* (Melbourne 2004), 182.

4   Dieter Mersch, *Epistemologies of Aesthetics*, trans. Laura Radosh (Zurich: Diaphanes, 2015), 46.

5   Elke Bippus, "Einleitung," in *Kunst des Forschens: Praxis eines ästhetischen Denkens*, ed. Elke Bippus, 2nd ed. (Zurich: Diaphanes, 2012), 7–23, esp. 16.

6   Mersch, *Epistemologies of Aesthetics* (see note 4), 169.

7   Kathrin Busch, "Wissenskünste: Künstlerische Forschung und Ästhetisches Denken," in Bippus, *Kunst des Forschens* (see note 5), 142–158, esp. 158.

8   Anke Haarmann, *Artistic Research: Eine epistemologische Ästhetik* (Bielefeld: transcript, 2019), 61.

9   Mersch, *Epistemologies of Aesthetics* (see note 4), 196–97.

largest possible one. According to Deleuze and Guattari, the multiplicity of an assemblage has to be actively produced, not by continuously adding new levels but the other way around: by freeing up and observing one level of all the available ones so that it always has multiplicity as origin, and every level analyzed in this way changes the totality again.[10] For that reason as well, none of the examined levels can be placed in the absolute center; even dominant tendencies, such as the integration of one's own subject or the many-valued aesthetic, should not be named here. Rather, it is about connections that together form an "acentered multiplicity."[11] In this merge without a hierarchy and center something results that can be described with processes of "territoriality": Every assemblage is based first on a territorial effect, that is to say, it begins by drawing a boundary with the outside. This "territorialization," however, soon draws "lines of deterritorialization"; they "cut across" the assemblage and in the process establish transitions to other assemblages, so that the next step can also result in a "reterritorialization," that is, a return to the starting point.[12] An assemblage must therefore be described as a "concrete historical individual."[13] De-Landa assumes that the individual aspects of an assemblage exist in the here and now, from which it follows, first, that in the next moment changes can occur and, second, it is possible that real components are assumed as given but have not yet been formed.

Understanding an artistic oeuvre as an assemblage focuses on the multiplicities of networking in its reception. It cannot be assumed, however, that these interconnections are grasped completely, since, on the one hand, a temporal or methodological restriction limits the totality of the assemblage; on the other hand, every assemblage has "dispositions, tendencies and capacities that are virtual," though most of the possible formations remain under the surface.[14] For example, an interpretative approach that makes neither many-valued logic nor Bauermeister's specific appropriation of it as many-valued aesthetics one of its main strands would gain entirely different insights. Nevertheless, the networking in the oeuvre—the references ahead and back and the resulting development—remain the decisive trends in Bauermeister's works; the continual integration of the artistic elements described produces constant change without hierarchy; within it every circular structure and every "no" is equally important for the totality. In this context, repetitions merely reinforce the assemblage. A tendency to territorialization certainly exists in Bauermeister's work, in that demarcations from other art movements are created with

10   See Gilles Deleuze and Félix Guattari, *Thousand Plateaus: Capitalism and Schizophrenia*, trans. Brian Massumi (Minneapolis, MN: University of Minnesota Press, 1987), 6–9.

11   Ibid., 17.

12   Ibid., 325 and 504.

13   Manuel DeLanda, *Assemblage Theory* (Edinburgh: Edinburgh University Press, 2016), 108.

14   Ibid., 108–10.

written comments references to other works within her own oeuvre. The territori-
alization as the starting point of any assemblage transitions in Bauermeister's case
into the potentials of deterritorialization, since the numerous aspects that consti-
tute her oeuvre cannot be exclusively interpreted for that: the integration of thematic
fields as different as art criticism, sewing, tools, or natural materials—to name just a
few—makes it possible to undertake a deterritorial expansion of the assemblage that
would theoretically permit a transition to another one. Bauermeister reconnects this
in a next comment back to her as an artist or to her work, a reterritorialization re-
sults that is just as decisive for the assemblage-like differentiation of an oeuvre. The
works should always be thought of in this alternating movement.

After the forgoing discussions of the assemblage in relation to Bauermeister's
oeuvre and the potentials of the identity of reflection of the object, it cannot be as-
sumed that the assemblage has to be made active as described by Deleuze and Guat-
tari. Jane Bennett offers an interpretation close to New Materialism when she writes:
"In this assemblage, *objects* appeared as *things*, that is, as vivid entities not entirely re-
ducible to the context in which (human) subjects set them."[15] She is thus referring
back to the ontological boundary between subject and object, since the later cannot
be understood as a passive and clearly outlined category. Rather, Bennett assumes
"humans" and "non-humans" that can gather in assemblages and tend to influence
one another.[16] In order to describe this "vibrant" quality of the material world she
emphatically introduces individual elements of an anthropomorphism that is in-
tended to challenge thinking in dichotomies, since the connections are meant to be
understood as "resonances and resemblances."[17] The result is an assemblage that can
be understood as a temporary merger. It can be related to material and material-
ity since both are described by New Materialism as "an excess, force, vitality, rela-
tionality, or difference that renders matter active, self-creative, productive, unpre-
dictable."[18] In Günther's theory of polycontextuality, there are repeated suggestions

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15   Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (Durham, NC: Duke University
      Press, 2010), 5. In this context Ian Buchanan criticizes Bennett for focusing exclusively on
      the substance of the assemblage and not considering the form and argues that it must
      always be ensured that both are taken into account; see Ian Buchanan, *Assemblage Theory
      and Method* (London: Bloomsbury Academic, 2021), 114–15.

16   Bennett, *Vibrant Matter* (see note 15), 115–16.

17   Ibid., 99.

18   Diana Coole and Samantha Frost, "Introducing the New Materialisms," in *New Materialisms:
      Ontology, Agency, and Politics*, ed. Diana Coole and Samantha Frost (Durham, NC: Duke Uni-
      versity Press, 2010), 1–43, esp. 9. A similar argument is also made by Susanne Witzgall, for
      whom the material is nothing passive but rather "possesses intrinsic self-transformative po-
      tentials and is in constant metamorphosis and morphogenesis." Susanne Witzgall, "Macht
      des Materials/Politik der Materialität – eine Einführung," in *Macht des Materials/Politik der
      Materialität*, ed. Kerstin Stakemeier and Susanne Witzgall (Zurich: Diaphanes, 2014), 13–27,
      esp. 14.

that describe an extended agency; in his case it is the context that has an essential influence: "It is quite legitimate to say that something may be alive relative to one environment and dead relative to another."[19] Nevertheless, he does not take the step of attributing a productive dimension to objects or matter.

Bauermeister's oeuvre is enriched with such processes; not only do the combination principle and the commentary system create a permanent development and retrospective connection, and sometimes even anticipations, but the intricacy also creates a continuity of altered references, since one element can occur again and again in a new grouping with others, so that a reciprocal influence inevitably occurs. Another intensification is the use of lenses, which make it possible to add another level of an actively influential material to the aforementioned aspects. Viewing Bauermeister's oeuvre as an assemblage is thus less about actively producing that assemblage by means of continual description but rather understanding the process of active production in order to gain insights.

In conclusion, Barad's "agential realism" will be used to describe how this special form of assemblage should be precisely categorized. She developed a posthumanist, performative approach in which matter possesses "agency"; the latter is "inexhaustible, exuberant, and prolific."[20] In addition to matter, she addresses discursive practices that limit statements and behavior patterns and become possible in the first place in that way. If both are taken together, what Barad calls "material-discursive phenomena," it results in the foundation to which every process and every entity can be traced back.[21] This merger of matter and discourse occurs by means of "intra-activity"; it is a central concept in her thinking since only through it can phenomena form and achieve effectiveness: "Agency is doing/being in its intra-activity."[22] In Barad's agential approach, continuous intra-actions are responsible for all causes and their effects. They are "nonarbitrary, nondeterministic causal enactments" whose fusion produces (material-discursive) phenomena and their qualities.[23] Neither exists before intra-action; the "universe is agential intra-activity in its becoming."[24]

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19   Gotthard Günther, "Life as Poly-Contexturality" (1973), in *Beiträge zur Grundlegung einer operationsfähigen Dialektik*, vol. 2 (Hamburg: Felix Meiner, 1979), 283–306, esp. 305.

20   See Karen Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (Durham, NC: Duke University Press, 2007), 132–85, esp. 170. The term "posthumanist" should be interpreted here as a critical question of subject-centered thinking that is intended to lead to its dissolution; Rosi Braidotti, *The Posthuman* (Cambridge: Polity, 2013), 50–54.

21   Karen Barad, "Verschränkungen und Politik: Karen Barad im Gespräch mit Jennifer Sophia Theodor," in Barad, *Verschränkungen* (Berlin: Merve, 2015), 174–212, esp. 181.

22   Barad, *Meeting the Universe Halfway* (see note 20), 235.

23   Ibid., 179.

24   Ibid., 141.

For these interpretations, Barad has recourse to quantum physics, especially "quantum entanglement" and the writings of the German physicist Nils Bohr.[25] In her agential realism, she draws conclusions that go back to her work on theoretical physics; this leads to a new metaphysics. The crucial thing is that phenomena are no longer separable; their mutual entanglements are comprehensive and exist on "all length, time, and mass scales."[26] Supposed constants such as space and time are not preexisting containers to which phenomena can relate and then differentiate; everything derives from entanglements: "Space, time, and matter are intra-actively produced in the ongoing differential articulation of the world."[27] Accordingly, the extension of metaphysics includes a rejection of the separation of the reflecting person and the reflected object, which for Günther existed at every time. Barad calls this an "alternative meta/physics that entails a reworking of the notions of causality and agency."[28] To achieve this "alternative meta/physics," its understanding of apparatuses is just as crucial as that of material-discursive intra-activity. Apparatuses should not be understood as technical devices that watch over an experiment without participating. They are "boundary-drawing practices" that iteratively rework material-discursive phenomena intra-actively.[29] As the *material conditions of possibility* of the boundaries of phenomena, they cause "agential cuts," with each cut being a temporary separation of an entangled material-discursive practice.[30] The apparatuses are themselves phenomena that can be constantly expanded without boundaries. A change to the apparatus would mean a new agential cut, changing in turn the phenomenon produced.

For Barad, the focus is not so much on the equal value of subject and object; rather, both terms belong generally to an (outdated) ontology that cannot be supported by agential realism. She repeatedly emphasizes that the material plays an active part in the overall assembly of meaning but primarily in order to affirm that point. Discursive practices and their possibility of prompting actions or behaviors are equally important. Both are constantly in an entangled intra-action of phenomena. The agential cuts of the apparatus now provide for a formulation of these phe-

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25   Barad has a PhD in theoretical particle physics and is Distinguished Professor of Feminist Studies, Philosophy, and History of Consciousness at the University of California, Santa Cruz. She describes quantum entanglement as an idea that exists since the mid-1930 but only recently became essential for quantum physics; see Barad, *Meeting the Universe Halfway* (see note 20), 386. Günther's brief reference to quantum physics is mentioned in section 2.2.

26   See Barad, "Verschränkungen und Politik" (see note 21), 189.

27   Barad, *Meeting the Universe Halfway* (see note 20), 234.

28   Ibid., 393.

29   Barad, "Verschränkungen und Politik" (see note 21), 185.

30   Barad, *Meeting the Universe Halfway* (see note 20), 148 (italics original).

nomena, which is why Barad sometimes also calls them "diffractive apparatuses."[31] Human beings need not be involved in the "causal intra-actions"; the phenomena already have "primitive relations" through intra-activity; in addition, subjects are also formed materially-discursively.[32] Because phenomena are constantly relating, any entity can get involved in potential (discursive-material) new formation that is produced by means of an apparatus. With every intra-action, the totality of manifold phenomena is reconfigured.[33] This now includes space and time as well, and Barad speaks of an "enfolding" in which the past, present, and future are no longer authorities of exclusion: "Neither the past nor the future is ever closed."[34]

Bauermeister's oeuvre as a whole can be understood as this agential assemblage: The individual artistic elements seem to float freely between the works, revealing the connectedness, on the one hand, and causing constant change in the development, on the other. The impression that her oeuvre is unfinished comes from passages that formulate references forward and backward or where a space is left free for an inscription that will only come from one of the next works. As already demonstrated with the pencil motif, a retrospective reference can decidedly cause changes. The ongoing connections within the artworks produce new meanings; they have a material level and a content level at the same time. As the study of materiality made clear, it is necessary to grant it a power of its own that causes it to generate meaning. The discursive aspects are just as critical, since every inserted element "constructs itself, only on the basis of a complex field of discourse."[35] The oeuvre as agential assemblage contains elements that expand its meaning by occurring repeatedly within the works. Intra-activity is crucial to this, since the material-discursive phenomena only convey meaning fully within the merger: for example, when the straws are contextualized with honeycomb and their round forms recall the dissolving (drawn) circular structures; or when the Fibonacci sequence is written in a work while at the same a composition principle provides the basis for a Stone Picture; much the same is true of the picture-to-picture references, which are not produced solely by inserting photographic reproductions but are also reworked with materials that are also employed in the original work and ensure subsequent integration into the next context.

The viewers can in a limited sense be regarded as the ones who carry out the agential cut and thus achieve a temporary separation of several entities. In a limited sense because they are not in the privileged situation to carry out such a procedure;

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31   Ibid., 384.

32   Ibid., 170 and 180.

33   Ibid., 393–94.

34   See ibid., 383.

35   See Michel Foucault, The Archaeology of Knowledge, in Foucault, *The Archaeology of Knowledge and The Discourse on Language*, trans. A. M. Sheridan Smith (New York: Pantheon, 1972), 1–211, esp. 23.

that would confirm again the asymmetry between subject and object. The agential cut is instead carried out in equal measure by the viewers and by the processes within the works. The processes provoke a reciprocal influence of the anticipations and recourses. For this entire process, Bennett's understanding of the assemblage must be cited, according to which an assemblage is produced by human and nonhuman connections that continuously affect one another reciprocally. When an aspect is singled out in a work of art by Bauermeister, for example, a seam integrated into a light sheet with needle and thread, and interpreted in the context of the work, then drawn seams, comments on the practice of sewing, and drawn needles or needles inserted as objects are soon also present as a result of agential networking. At the same time, the seam executed with a thread, the seam simulated by drawing, and the drawn line are also associated, so that their distortions, provoked by the many-valued aesthetic, become apparent.

Finally, it could be speculated that the complete agential cut is realized by a Lens Box. As an apparatus, it carries out an exclusion of several discursive-material phenomena, but it does so only for a limited time, since the next separation—in the form of a new work—changes the totality and consequentially also the individual parts. This is not by means saying that Bauermeister's oeuvre is a visualization of Barad's metaphysics; that would be as incorrect as the view that the works individually illustrate many-valued logic. It can be regarded as crucial that looking at her oeuvre as an assemblage already permits an extension of the many-valued aesthetic to higher-order interconnectedness and their processes that in the course of the study have repeatedly been identified as multiplicities. With the additional extension to an agential assemblage, these networks become discontinuous "manifolds of space-timematter relations."[36] The identity of reflection of the object and the many-valued aesthetic, as well as the metareferential elements and the metaimage, thus appear to be only an intermediate step. The movements of reflection are contained in the entire oeuvre, on every level and through all entities. They share, however, a tiny, common nucleus in which everything else is already inherent: "yes, no, perhaps."

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36   Barad, Meeting the Universe Halfway (see note 20), 178.

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