

Reading with Anni Albers:

The weave as a lively involution of scale, affect, and feminist precarity

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Introduction

This chapter examines the processes of scaling made visible within the words and work of the Weimer Bauhaus and, particularly, Anni Albers' careful accounts of weaving.¹ We explore whether threading a feminist precarity into her writing helps illuminate new ways of examining tensions between what we scale up and what we scale down. Moving first over and across, we examine Alber's discussions of different scales of weaving, from the hand loom to industrial machinery. Traversing then downward and below, we consider Alber's attention to the body, those fingers and hands interlacing threads along a pliable plane. Shifting around and through, we consider how an affect is present in Alber's reflections, and especially in how it pulls against the sturdy mechanistic logics visibly organizing her process. Across this writing, we hope to think with Albers, reading her prose somewhat against the grain² of conventional Bauhaus accounts by interweaving a feminist positioning.

For many, the Bauhaus conjures images of the sleek Wassily Chair or the sturdy Helvetica typeface—a minimal aesthetic that has had wide-reaching impacts on modernist design, making its way into all corners of contemporary life. On visiting the home Walter Gropius designed for himself in Massachusetts, for instance, one might find it striking not just how the aesthetics of The Modern have persisted, but how they have seeped into everyday surroundings over the last 100 years, even if unevenly.

Throughout the chapters in this book—detailing architecture, furniture, ceramics, etc.—we continue to see this Bauhaus vision of modernism for everyone.³ With this vision, unsurprisingly,

¹ To a large extent, we use Albers' book, *On Weaving*, first published in 1965, as a source for her words and thinking. However we all use a number of other short articles and documented conversations both in print and available online.

² We find inspiration for this reading “against the grain”, from the wonderful paper by Carla Hustak and Natasha Myers (2012), in which they use Darwin's evocative writings on orchids to *read against the grain* of the dominant paradigm of neo-darwinism in ecology. We will come to this work later in the chapter.

³ This universal vision for design was later taken up by cyberneticists like Buckminster Fuller as a form of comprehensive design (cite: Turner Rosner & Turner 2015), and subsequently by design strategists attending to user-centered principles for industrial production in the *Universal Traveller*. Rosner, Daniela K., and Fred Turner. "Theaters of alternative industry: hobbyist repair collectives and the legacy of the 1960s American counterculture." In *Design Thinking Research*, pp. 59-69. Springer

comes a tension between the arts and handwork, on the one hand, and between the arts and mass production, on the other. The founders of the Bauhaus caught themselves having to reconcile the artistic integrity each had for particular materials and processes with the requirements of large-scale production. Indeed, Albers herself writes of the shift in thinking demanded from her and her contemporaries at the Weimar Bauhaus. Citing Gropius' efforts to refashion the Marxist and Expressionist proclivities that were instrumental for the Bauhaus, she refers to "a new unity of art and technique," (Albers, et al. 2017 [1963], p.216) and the need for new "norms" enabling "the development of prototypes for industry" (ibid.). Her decrees speak to a prevailing narrative at the very center of conventional Bauhaus histories, one that has notably prioritised the project's scaling up, of shifting from small-scale artisanal practices to the processes and norms of mass production.

In this chapter, we explore work emerging from the Bauhaus through a prism of scaling—but not of scaling up, rather of scaling down and across. Perhaps because of the widespread prevalence of the modernist Bauhaus aesthetic (no matter how diluted), the bodily care invested in the work of design remains comparatively less visible. With an understandable fascination for the expansion of the project, we find it too easy to not *look down*, so to speak, to engage with the hands and materials and ask what might be learnt from the details of this different direction of scaling, from a counter-project of making scale, in Anna Tsing's terms (2000, p.120).

Feminist philosophers have long dealt with such limits to the archive, the text-based documentation often stripped not just of bodies, but also of the kinds of questions, narratives, and arguments those bodies make matter. Saidiya Hartman, in her vivid retracing of the Atlantic slave route through Ghana, refers to such threading-together of absences as a "non-history" (Schmidt 2007). Haunted by the untold and forgotten stories of her grandmother and other enslaved African women, stories missing from existing formal archives, Hartman visits present-day Ghana to recover aspects of this legacy. She scales down and across historical material, personal recollections, and contemporary bodies to weave something new in the unknown, "in the blank spaces of the story" (Hartman 2007, p.20).⁴

Threading this feminist idea of scaling into our understandings of design, we want to draw out a story of the Bauhaus that places the entanglements between bodies and matter center stage. We hope to show how the processes and attendant tensions of scaling up, that are so easily imagined as synonymous with the Bauhaus, weren't purely a matter of brute force—of scaling up by building bigger and more—but also something that stemmed from a sensitivity with bodies, materials, and machines, and how each made more of the other. In thinking towards Bauhaus futures, we see this reflection to be a lesson in accounting from multiple scales, and scalings up and down at the same time. And by scaling, we draw attention to not just the shift of small to large, or one to many (or vice-a-versa), but of flows and shifts of attitude, value, affect.

International Publishing, 2015. Turner, Fred. "R. Buckminster Fuller." *New Views on R. Buckminster Fuller* (2009): 146-159. Koberg, Don, and Jim Bagnall. *The Universal Traveller: A Soft-systems Guide to Creativity, Problem-solving, and the Process of Reaching Goals*. Kaufmann, 1976.

⁴ See Rosner (2018) for connections between Hartman and design practice.

Across Scales

In her various accounts of weaving and textiles, Albers conveys a deep sensitivity to the relations between materials and practice. She writes of the “interaction between medium and process that results in form”, and, in turn, weaving’s dependence on “the development of textile fibers, spinning and dyeing, each a part of the interplay resulting in a fabric.” (Albers, et al. 2017, p. 3 [1963]).

“The important fact implied is ‘the influence of one upon the other, the modulation each undergoes through the agency of the other, the tuning up or down of some inherent qualities, or their alteration. For instance, the traits of linen, a somewhat hard and very sturdy fiber, will be underlined in a plain weave, which tends to produce a somewhat stiff and very firm fabric. In fact, the two correspond so well that the plain weave is also called the linen weave.’” (ibid., p.49)

By looking down to the body and hands, and what they do to weave, Albers captures the swirls and eddies of materials and processes, and their connections to production. Her detailed descriptions of varying looms and the different configurations and manual interactions afforded by each shows weaving to be a true assemblage of bodies, movements, threads, tools, weight, torque, machines and so on. Critically, Albers’ accounts not only romanticize the hand’s role in making, they also recognize the back and forth, in her words, the ‘interplay’. Acknowledging the impact of “the modern age of power weaving” (ibid., p 17), she writes of the profound effects new textiles and synthetic fibres have on weaving.

In noticing these fibrous effects, we find an important intermingling of scales. With Albers’ invitation, we cast our eyes in and down, but at the same time we take in the manual actions that resonate across other scales: across fibres, threads and weaves; weaves, fabric and cloth; fabrics with tapestries and looms; and across both manual and powered machines to production and circulation. We see a multiplicity of scales altogether. “The thoughts,” Albers writes, “can, I believe, be traced back to the event of a thread” (Albers, et al 2017 [1963], p. xi)

Interwoven Bodies

By describing the advantages weaving exhibited, in the evolution of textiles and fabrics, Albers figures the body into and across the multiple scales. Although she aims to draw attention to the strengths and weaknesses of the woven fabric based on its early mode of production, we learn that the body matters in what it makes possible—in what it does and what it produces.

“The advantage of weaving becomes clear now. The weft, here a single thread, can be packed closely, resulting in a comparatively tight yet light fabric. On the other hand, it confines the resultant material to rectangularity; the width limited by the reach of the weaver’s hands in inserting the weft, the length limited only by the amount of warp

material that can be carried on the warp beam and of cloth that can be held by the cloth beam.” (ibid., p 38)

The hands (and presumably the weaver’s arms and body) reach across a loom’s beams. This reaching is done to thread the weft through and across the tautly strung warps, but at the same time it places a constraint on the fabric or textile. The weaving, the reach, the supported weight of thread and cloth—altogether they give the fabric its shape and lightness.

The interweaving relations are made more explicit when Albers elaborates on an emerging correspondence between person and material. She speaks and writes in a number of different forums about the language one builds up with a material. Language, for her, quite literally refers to an exchange, a process of communication:

"Accidentally." Something speaks to us, a sound, a touch, hardness or softness, it catches us and asks us to be formed. We are finding our language, and as we go along we learn to obey their rules and their limits. We have to obey, and adjust to those demands. Ideas flow from it to us and though we feel to be the creator we are involved in a dialogue with our medium. The more subtly we are tuned to our medium, the more inventive our actions will become. Not listening to it ends in failure. (Albers, 1982)

A tuning with the medium is a dialogue, an inventive becoming of actions. By tracing the history of the ways bodies entangle with the weave and with weaving machinery in this way, Albers is again shifting scales. Her accounts detail the technicalities and mechanics of various processes, but also draw us into other stories operating at very different registers of becoming. For instance, Albers describes a comb-like instrument, in writing about the process of compacting a weave, or weft, threaded through a loom’s taught, perpendicular warp. This allows the weft to be “compactly beaten into place while at the same time the position of the warp threads is adjusted. [...] The dents are pushed between the warp threads and pressed or beaten onto the wefts or the knots of a rug.” (Albers, et al., 2017 [1963], p.11). She goes on to describe the ubiquity of the instrument, writing:

“It is found in many places, among them India, Persia, Africa, Asia Minor, Egypt in Roman times, and America before the Conquest. It is also found today among the Indians of the Southwest. Surely, it was also used in Europe in the weaving of the great medieval tapestries.” (ibid.)

This account doesn’t suggest so much a scaling up—an expansion from small to large—as it does a shifting, a torque of relations always already forming and tracing their way through longer spans of time and distributed across colonially-marked geographies.

Such traces and shifts are evocative of Donna Haraway’s *string figures* (2016, p.9), those moving and merging images made by loops of string passed between fingers, a child’s game of cat’s cradle. As with string figures, a downward looking view, towards “twists and skeins that require passion and action, holding still and moving, anchoring and launching”, illuminates

stories-in-the-making, a knotting of “diverse people, geographies, other critters, technologies, and knowledges, [that] shape practices of living and dying in rich worldings.” (ibid., p.10).

Affect

Albers gives us much to reflect on in thinking about, as well as feeling, the embodied and material practices of weaving. As we’ve sought to foreground, her scalings—less familiar in typical accounts of the Bauhaus—invite us to attend to different qualities of scales. Still, tensions exist in her accounts. Though Albers speaks, writes, and, notably, *creates* evocatively as a form of affective noticing, she frequently resorts to a strikingly mechanistic language to describe weaving. Despite the potent exceptions we highlight above, she depicts the process of weaving in ways that more often than not elide the work of bodies and hands. Recognising the historical moment Albers is writing in, we might read this as an effort to work through the challenges raised in, to use her analogy, the pendulum’s swing “from art to industrial science” (Albers, et al. 2017[1963], p 45). Her descriptions, intentionally or not, amplify that scaling up of production that her work so carefully cuts across.

Our wish isn’t to resolve this tension, but to approach it perhaps along a different woven thread. We might read, with Albers, a precarious experiment in rescaling, of a move not merely up and down in scale, but hesitantly across. That is, while keeping the tensions in play, we could read her work as an engagement with different registers of scaling, ones intersecting with care and affect, and thus quite different values.

Let us look in a little more detail at the way the tensions play out in Albers’s text and what it is we might learn through them. With her notion of “tactile sensibility”, Albers shifts our attention to just the sort of scaled down focal point we have been discussing. She seems keen to acknowledge the tacit sensitivities at play in the processes of weaving (ibid., p.44). Describing the tactile quality or *matière* of a textile, for example, she writes “[i]t has to be approached, just like color, nonanalytically, receptively. It asks to be enjoyed and valued for no other reason than its intriguing performance of a play of surfaces” (ibid., p.45) However, virtually in the same breath, Albers wants to keep this joy and different sense of value separate from production: “We are here revitalizing our tactile sense and are not dealing with *real* weaving.” (ibid, p.44, emphasis added). “Our experiments in surface effects are therefore to be understood only as exercises to increase our awareness of surface activities, since the actual work of weaving is only in part concerned with the epidermis of the cloth” (ibid., p47).

Albers leaves us with something curious to work with. She asks us to notice “those conditions that will make of our surfaces textile surfaces” (ibid., p46) and indeed harkens back to a time when such “a faculty [...] was so naturally ours” (ibid., p.45). At the same time, however, she wants us to understand this sensitivity as separate to the mechanics and machinery of manufacture. One might inform the other, but they are to be kept apart.

To stay with this trouble is to discover something prescient in Albers' conundrum. Her tensions capture the troubles also encountered in contemporaneous studies of science and knowledge politics, and specifically feminist writings on the purification of science and technology, executed through narrow registers and logics. Feminist scholars such as Maria Puig de la Bellacasa, Natasha Myers and Vinciane Despret write vividly of technoscientific projects that "impoverish the range of explanations" (Despret 2004, p.117) and that "cannot admit pleasure, play or improvisation" (Hustak & Myers 2012, p.77). Warning against reductionism and the overwriting of care, specifically, Puig de la Bellacasa reminds, "the picture on the ground is always more fuzzy, and contemporary engagements with care in new terrains continue to show this. Ethnographies of care show how absurd it is to disentangle care from its messy worldliness" (de la Bellacasa 2011, p.10). In her terms, such reduction comes down to the question of what makes an entity, whether a hand, body, thread, or world (ibid, p.70).

Husak and Myers take up this question of affect and reduction by rereading Charles Darwin's "affectively charged" work with orchids and ask how such stories might speak more broadly to the ecological sciences (Hustak & Myers 2012). Set against Darwin's writings, contemporary ecology is seen to constrain—to "stultify" (ibid., p.79)—theories of evolution and interspecies relations, reducing the processes to highly deterministic models. What Hustak and Myers recommend instead is "reading with our senses attuned to stories told in otherwise muted registers" (ibid). Working, as they say, "athwart the reductive" frameworks that order such scientific worlds, they complement the evolutionary with the *involuntary*—a process of "turning inwards" so that new and fleeting possibilities might form. Through them, we find Darwin to be far less of the asymmetrically dominant, but still passive, objective observer, a perspective enforced by the methods of neo-darwinism. Instead, Darwin reads as a considerable and lively part of biology today. He "participated actively with his experimental subjects, to such an extent that he *moved with and was moved by them.*" (ibid., p.85, emphasis in original)

By finding inspiration in this generative mode, and by reading Albers' work in a similar vein, we come to see her turning down and inwards as a way to draw the muted back into the presumed and dominant registers. We begin to hear a voice that discovers different logics of value and seeks not to conquer but rather participate in and care for worlds that have a greater symmetry. Here, it is not the industrial science overcoming art, but the "affectively charged" (Hustak & Myers 2012) moments where one becomes attuned to other things, speaks to them, and learns from them. We find these logics, though hard to reconcile, come nonetheless together, already intertwined.

"In my case it was threads that caught me, really against my will. To work with threads seemed sissy to me. I wanted something to be conquered. But circumstances held me to threads and they won me over. I learned to listen to them and to speak their language. I learned the process of handling them" (Albers 1982).

Counter-History

With these involutions of bodies and thread in mind, how might we understand the modes of scaling we mentioned at the start? What of the scaling up and scaling down that produce different emphases between manual and mass production, and between the hand and the machine? How might rescaling design, what Hustak and Myers call “turning inwards” (2012, p.96), reveal different and, perhaps, uneven histories of material practice around the Bauhaus?

Returning to Hartman’s non-history, and drawing out what Stephen Monteiro (2017) has recently described as an “alternative narrative” of computing, we follow Albers’ threads to imagine a counter-history amid the Bauhaus. For Monteiro, textile’s origins in computing interfaces reveals how meanings and metaphors always entwine with otherwise hidden legacies of practice. When computers retrieve an image file from their server, for example, they use the microprocessor’s algorithms to convert binary code into a grid of pixels observable on a diode mesh that we call a display screen. From the jacquard loom to modern day touch screens, Monteiro traces computerized imagery like this eight-bit display to needlecraft histories such as the patterns produced by a threaded shuttle traveling over and under an eight-threaded warp. Two-hundred and fifty-six color combinations result from the mesh of overlapping thread (ibid, p.59). “[T]he imaginary of computing,” he writes, “is fashioned from the processes surrounding the making and assembling of cloth” (ibid, p.5).

Within the Weimer Bauhaus, such counter-histories reflect a greater impulse to notice shifts in affect around design. Albers opines, “[t]he more subtly we are tuned to our medium, the more inventive our actions will become. Not listening to it ends in failure” (Albers 1982). Refashioned by the work of knotting, netting, and looping, of the spinning of thread around the hand, design exists as a process of listening, one of tuning in and turning in that produces new ways of living in the present.

In this brief essay we have begun to read Bauhaus design imaginaries as processes of weaving that comprise scaling up and scaling down, but also across. “Increasingly,” Albers wrote in 1975, “industry is turning to hand weavers for new design ideas, worked out on hand looms, to be taken over for machine production” (Albers, et al. 2017 [1963], p.3).⁵ When the Weimer Bauhaus confronted the wider uptake of power-driven machines with renewed attention to weaving and its material histories, few expected the development of a pervasive modernist aesthetic. And, yet, the entanglement of hand and machine continued. Our counter-history conjures Albers’ prints titled *Enmeshed I and II* (1963) as such opportunities for intermingling. Both pieces display a knotted imagery that Albers created by dripping acid on a gray background, emphasizing the possibilities of interlacing an old medium with a new. History becomes enmeshed in the very workings of the substances Albers put to use and the methods she used to assemble them. Through this scaling and rescaling, moving the thread from hand to

⁵ For recent discussion of the stakes of human-machine collaboration across scales of artificial intelligence and automation, see Suchman, et al. 2017, 2018.

industrial production and back again, Bauhaus history continues to move. “Weaving is a particular method, like writing, that binds or connects historical movement,” writes T’ai Smith of Albers’ work in the newly release edition of her *On Weaving* (ibid., p.242). It is this movement, this rescaling, we seek again.

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