Radical Pedagogies. Beatriz Colomina, Ignacio G. Galán, Evangelos Kotsioris, and Anna-Maria Meister. MIT Press, 2022. 416 pages.

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What kind of repeatable practice can be modeled for a student to enable them to do something they couldn't have other than through prolonged and unsystematic attempts at solving a problem that can't be named, and that furthermore exhibits signs that they have indeed learned how to do it, and something, moreover, that is worth knowing how to do because it provides for control over a new field of activity? This, I would suggest, is precisely "the pedagogical question," which must address transformations produced in a relatively controlled space by purposeful intervention in the way a student does something, and something they can do because of what they have been asked to do in that controlled space. All teachers know, I think, how difficult it is to map out, much less to demonstrate, the effects of an intervention in a student's practices. It is therefore very tempting to take the easier route of announcing some ethical or political goal of one's pedagogy, such as "liberation," or to rely on rubric-tested buzzwords such as "critical thinking," "providing evidence for claims," and so on to vouch for, at least, the good intentions of one's pedagogy. At the same time, pedagogical innovations have histories, which invariably involve some kind of resistance against entrenched practices and, therefore, institutions and ideological assumptions. This resistance might also mean that a necessary effect of such innovations is the revelation that one's existing habits are, if not "ideological," perhaps grounded in decreasingly useful fictions. A history of radical pedagogies, then, would best be of service by showing how specific, iterable practices have been sustained against such resistance, as doing so would help us, as instructors, to think about the new spheres of activity into which we hope to prepare our own students to intervene.

Radical Pedagogies, edited by Beatriz Colomina, Ignacio G. Galán, Evangelos Kotsioris and Anna-Maria Meister, is a collection of short case studies of various events and institutions involving architecture pedagogies, mostly from the latter half of the 20th century. It addresses a range of issues regarding pedagogy and its embeddedness within broader social relations and historical struggles. The essays are particularly interested in the democratization and decolonization of educational institutions, disciplinary rearrangements and, perhaps especially, questioning the boundaries separating educational institutions from the rest of social life. A great many of the essays describe pedagogical practices that we could imagine not so much providing "skills" as enabling students to reach certain "thresholds" beyond which an entire field of practices would take on a new shape. In Aleksandra Kedziorek and Soledad Gutiérrez Rodriguez's discussion of the Polish architect Oskar Hansen's "pedagogy of open form," for example, they take us through descriptions of Hansen's "compositional exercises based on dichotomies . . . followed by exercises performed on didactic apparatuses . . . dedicated to studying the problems of 'rhythm,' 'legibility of complex form,' and 'legibility

of a large number of elements'" (pp. 110–112) to the revelation of the "full potential" of "Hansen's theory of Open Form" in subverting traditional and modernist "elements of artistic communication" (p. 113). It seems that isolating and rearticulating these elements of artistic communication led to "moving the discussion outdoors and replacing words with visual communication," creating a collaborative translation project that "eliminate[s]" "the traditional roles of author and audience" (p. 113). Involving his students in the redesign (albeit unrealized) of a building the Faculty of Sculpture was to move to applied this more "horizontal" form of communication to the space for housing the pedagogical practices themselves. The emphasis seems to be on what we now refer to as the "transferability" of practices, along with self-reflexivity regarding the relations between specific media.

Federica Soletta's analysis of a group of architects gathered at the University of Texas at Austin from 1951 to 1958 ("As They Were Teaching . . .") also connects a deep exploration of the materials of art in a program organized "around a series of problems that aimed to help students reason about the experience of architectural space through an analysis of its composition, elements and history" (p. 115) to a grounding of architectural pedagogy in the creative revision of historical models, viewed not "as a mimesis of past projects, but rather as the understanding of a principle, the geometry of which was visible in a plan or a façade, and as the possibility of building a historical vocabulary" (p. 116).

Here, too, the specific location of the school served as an inspiration and organizing principle of pedagogy, with Soletta noting that "the landscape would appear as a recursive theme in the group's work, somehow connecting the solitary vastness of postwar Texas with the European Renaissance and mannerism as well as modern architecture" (p. 116). Vladimir Kulic's chapter, "Architecture as Applied Anthropology," on "the Yugoslav architect, writer, educator, and politician Bogdan Bogdanovic" (p. 173) describes Bogdanovic's surrealist challenge to socialist Yugoslavia's "instrumental rationality" (p. 173) by, among other approaches, having students "work as a team to invent a fictitious civilization which would then serve as the basis for a design of a city" . . . where "the aim was to foster a form of collective creativity that would provide firsthand experience in the creation of culture" (p. 175). Drawing on anthropologists, such as Claude Levi-Strauss, and surrealist games as well as game theory, Bogdanovic further moved his teaching into the field of spectacle and carnival, ultimately confronting insuperable political limits with the rise of Slobodan Milosevic.

Mark Wigley's entry, "Parasitic Pedagogy: The Buckminister Fuller Teaching Machine" examines Fuller's attempt to remake institutions on an innovative pedagogical basis:

> Fuller's typical teaching pattern . . . was to give introductory lectures to the students, divide them into research teams to address different aspects of the stated problem and do physical tests before everyone finally collaboratively constructed a single one-to-one structure, usually a dome . . . . Students would prepare final detailed reports documenting the theory, calculations, test models and resulting structures that became the required reading of subsequent workshops, and often articles, booklets or books in their own right . . . . Fuller would be more absent than present but the empowered students would fully identify with the project and host schools would forgo the usual protocols to allow the temporary takeover of space, resources and emotions. The work usually attracted the media, putting schools on the map. After all, the

parasitic teacher was bigger than any of the hosts and vastly bigger in attaching himself to so many hosts redirecting flows of ideas between them. (pp. 219–221)

Fuller's celebrity was clearly a factor here, but Wigley is also suggesting that creation of mobile practices that promise results inducing schools to "forgo the usual protocols" might take on a "parasitic" momentum of its own. Anticipating (as he regularly did) the possibilities offered by electronic communications, Fuller went on to suggest "that the whole university should move into a dome without any internal divisions. His model was a circus tent, able to host multiple simultaneous events without barriers and to be dismantled at any moment" (p. 221). As indicated by many other contributions to *Radical Pedagogies*, pedagogy borders on performance.

Mark Wasiuta's "Educational Bombshell" also deals with Fuller, in this case his "World Game." Fuller, a well-known figure of the mid-century, closely related to the artistic avant-garde, seems to be largely forgotten today—partly, perhaps, because his disinterest in language made him irrelevant in the wake of the "theory" revolution, but also, I would say, because his thinking is thoroughly apolitical and even anti-political: "Fuller argued that nation-states—along with sovereign control of goods, populations and militarized economies—had to give way to an egalitarian allocation of resources guided by the impartial logic of computers" (p. 306). References to the "impartial logic of computers" sounds naïve at best and sinister at worst, but Fuller's World Game involved massive data collection, followed by mapping of resources and simulations of alternative modes of allocation, all of which would require, as the word "game" suggests, players, who could, in principle, include everyone (Fuller's intention, in fact), meaning collaboration, and no doubt debate would be intrinsic to the process. Insisting that a "political" proposal undergo the rigors of data identification, selection, collection and analysis, mapping, and simulation, might be a productive pedagogical principle, displacing existing and entrenched political commonplaces. Contemporary levels of computational power might make possible what for Fuller could only be a utopian projection. On a strictly pedagogical level, implementing the World Game would unite disciplines across the board, including the humanities, which Fuller tended to neglect.

Daniela Fabricus, in "A Spinner in His Web," discusses the pedagogy of Frei Otto, who combined rigor with playfulness in such a way as to make learning demanding and open-ended: student work was focused on making models, and "[t]heir models were of two types: measurement models that were used to simulate and document structural conditions in buildings; and more playful, form-finding models using materials including soap film, eggs, shaving cream, rubber and balloons" (pp. 318–319). Imagine asking writing students to strive for "unprecedented lightness" (p. 319) by having them construct sentences using fixed grammatical forms with words of varying degrees of connectedness to each other, mimicking and maybe parodying the composition of Large Language Models. Many of the contributions anticipate current challenges posed by AI and algorithmic governance more generally, as, for example, Diana Cristóbal Olave's "Algorithmic Creativity," a study of a project, from the late 60s into the mid-70s at the University of Madrid, which "equated the notion of algorithmic creativity with the capacity to produce an unlimited number of combinatorial arrangements through a limited number of well-defined and simple rules" (p. 323), an approach which seems readily available to us now and which might lead us to rethink creativity ("a human

activity that is not well-defined . . . and always comes surrounded by a mysterious halo" [p. 323]) in opposition to a focus on "optimization or economic efficiency." Who, exactly, is being "creative" as students push their own customized AIs to produce solutions to problems that are increasingly "unoptimized" and "inefficient," perhaps irrealities exposing the seams of more acceptable solutions? Finally, I'll mention Lydia Kallipoliti's contribution, "Soft Machines, Cellular Synthetic Environments," addressing Wolf Hilbertz and Charles Harker's work at the University of Texas at Austin. Hilbertz and Harker's project involved a mode of interaction with the environment in which new information derived from the environment fed directly back into the ongoing building in that environment, blurring the boundary between "architect and object" (p. 340). "Hilbertz was largely interested in navigating material evolution as a partially controlled design process to create patterns and forces that would eventually result in built form" (pp. 341–342). Imagine a way of having students study grammar that, rather than interrupting or distracting from their "real writing," would itself directly generate that writing.

Radical Pedagogies is an expansive and very rewarding volume, and for writing instructors it might be helpful to do the imaginative work of translating architectural pedagogy into composition. The connecting link seems to be *design*. We speak of course design and, perhaps even more importantly, assignment design. There is a kind of building going on here, a building out of the language, through an interference with students' commonplaces and their immersion in models of reading and writing that exemplify the social and dialogical nature of language. We are "positioning" students in relation to contending linguistic "structures" and hopefully helping them become more meta-linguistically aware designers of their own practices. We are dealing with technics, maps, blueprints, materials and environments, and we might borrow from architectural pedagogies to both defamiliarize the way students come into our classes speaking of writing and encourage them to build their own, perhaps idiosyncratic, vocabularies. ⌛