

Christoph Schenker

**Transdisciplinarity and Condensed Knowledge
Response to Sabine Maasen**

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Summary

Everyone calls for it, but no one knows what the subject matter of this call really is—transdisciplinarity. After a period in which it went from an academic invitation to a demand urgently to be fulfilled, the concept has recently been losing its pull. High time to approach the concept anew and in a new form.

This volume collects prominent voices in the debate on transdisciplinarity in a transdisciplinary manner. Its coincidence of content and form in presenting main papers and critical replies to them from a different discipline allows for a vivid discussion and new insights. These stylistically and thematically divergent contributions are linked by reservations about transdisciplinarity as an allround intellectual weapon and the conviction that its programmatic weight could be regained by approaching the subject from the margins—transdisciplinarity where it breaks down, fails, comes to an end. Unravelling transdisciplinarity's contours by clarifying its limits.

Keywords

epistemology, interdisciplinarity, knowledge, history of science

Hartmut von Sass (ed.)

Between / Beyond / Hybrid
New Essays on Transdisciplinarity

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Response to Sabine Maasen

In the following I shall reply to several aspects addressed by Sabine Maasen in her paper and relate them to the field of the fine arts. In drawing attention to artists in this context, I am referring specifically to those who conduct research just as scientists do. There is not room here to elaborate on the conditions under which artistic activity constitutes research.

In an article on public art published in 1997, the French artist Daniel Buren argued that artists must abandon the isolation of their studios and work together with other competent people in order to realize their projects.¹ Buren consistently designed his projects in and for specific contexts. In art speak this approach is known as site-specific art; he himself uses the term *in situ*. The word “context” embraces not only topological, physical, and architectural contexts but also social, political, economic, institutional, and legal ones. The circumstances involved in situations of this kind entail dealing with issues that are too complex to be handled by a single artist. For Buren, involving the expertise of others in carrying out a project also means engaging in a dialogue with the public.

1 Here and in the following see Daniel Buren, “Kann die Kunst die Straße erobern?” in Klaus Bussmann, Kasper König and Florian Matzner (eds.), *Skulptur: Projekte in Münster 1997*, Ostfildern-Ruit: Gerd Hatje, 1997, pp. 482–507.

As students at the University of Zurich in the 1980s, we were sensitized by Paul Feyerabend's unorthodox, cross-disciplinary lecture series at the neighboring Federal Institute of Technology, which also made us receptive to Helga Nowotny's academic activities here in the second half of the 1990s. We were specifically interested in her analysis of what she calls "Mode-2 knowledge production"²—for obvious reasons, one would think, but we did not notice the congruence until years later. In the wake of the revival and growing significance of public art, Buren referred in his article to aspects earlier described by Nowotny as the underpinnings and characteristics of Mode-2: namely, the increasing complexity and growing pressure of relevant real-world problems even as knowledge production is ever more application-oriented and site-specific, and transdisciplinarity as a privileged form of knowledge production, involving cooperation among heterogeneous agents, scientists, practitioners, and stakeholders, as well as entering into a dialogue with the public.³ This leads to what Nowotny has described as knowledge that is reliable and socially robust.⁴ She also points out the non-hierarchical and temporary nature of such cooperation, and comes to the conclusion that the relationship between sciences and society must be revised. As applied to art, Buren argues that art *extra muros*, in other words outside of art institutions with their specialized audience, cannot survive without bringing about profound changes in entrenched modes of thinking and working.

- 2 Michael Gibbons, Camille Limoges, Helga Nowotny, Simon Schwartzman, Peter Scott and Martin Trow, *The New Production of Knowledge: The Dynamics of Science and Research in Contemporary Societies*, London: Sage, 1994.
- 3 Helga Nowotny, "Transdisziplinäre Wissensproduktion: Eine Antwort auf die Wissensexplosion?" in Friedrich Stadler (ed.), *Wissenschaft als Kultur: Österreichs Beitrag zur Moderne*, Vienna: Springer, 1997, pp. 177–195.
- 4 Helga Nowotny, Peter Scott and Michael Gibbons, *Re-Thinking Science: Knowledge and the Public in an Age of Uncertainty*, Cambridge: Polity, 2001, pp. 166–178.

It seems to me that Sabine Maasen basically shares Nowotny's understanding of the term "transdisciplinarity."⁵ Both scholars recognize that transdisciplinary practice includes not only the knowledge of different scientific disciplines but also extra-scientific knowledge and the negotiation of knowledge in public space. Their expanded understanding of the term distinguishes them from Jürgen Mittelstrass, for whom interdisciplinary and transdisciplinary practice are, if I interpret him correctly, the exclusive domain of science, even when addressing non-scientific issues.⁶ Moreover, Nowotny and Maasen equally refer to the role of "trading zones" and the "boundary objects" within them⁷ in describing the collaboration between actors in various disciplines and epistemic cultures. Zones of exchange and boundary objects are marked by the ambivalence of constituting the precondition for transdisciplinary processes and, conversely, of being generated by these processes to begin with. While Nowotny places Mode-2, and hence transdisciplinarity, in the context of a global explosion of knowledge, acceleration, expansion, differentiation, and the multiplication of knowledge generation,⁸ Maasen, whose field is the sociology of science, directs her attention to social and work-technical aspects as well as academic and political research factors in examining the development and significance of transdisciplinarity. Nowotny places transdisciplinary work in the framework of Mode-2 knowledge production; for Maasen, the framework for transdisciplinary practices is more concretely provided by collective practices, their organization, management, engineering, and governing. Transdisciplinarity is an extremely efficient but

- 5 Here and in the following see Sabine Maasen, "Collaborating In and Beyond Science," in this publication.
- 6 Jürgen Mittelstrass, "Methodische Transdisziplinarität," in *Technikfolgenabschätzung: Theorie und Praxis*, no. 2, vol. 14, June 2005, pp. 18–23.
- 7 Maasen, in this publication; Nowotny et al., *Re-Thinking Science*, pp. 143–165.
- 8 Nowotny, "Transdisziplinäre Wissensproduktion."

also exceptionally demanding form of collaborative practice. As such, in addition to the specialist expertise of participants from various disciplines, it requires another kind of expertise, which Maasen terms “interactional expertise”: the ability to be conversant in more than one discipline and to interact in the trading zones between the disciplines.

So where does art come in? I refer to art all the more emphatically inasmuch as Sabine Maasen does not mention the field as a form of knowledge when speaking of other, non-scientific disciplines within the framework of transdisciplinarity. For practicality's sake, I shall speak about our own practice: our first research project on public art, carried out in 2001/02 at the Zurich University of the Arts, was conducted by a small, interdisciplinary, largely scientific team, whose members worked in close cooperation with several artists to explore new forms of art.⁹ Daniel Buren's argument served as our benchmark. Our objective was to go beyond the new forms of art that we were exploring in order to determine new, locally relevant functions of public art; to address new, explicitly contemporary subject matters and issues, and to chart new, different contexts. Specialists and the public contributed local expertise and lay knowledge; the project was also the subject of public debate. In a subsequent, much more complex and demanding project, the public sector figured more prominently as stakeholder.¹⁰ In the third project, still underway, we are working with interdisciplinary collaboratives in nine major cities all over the world.¹¹ The project is an experiment in which the transdisciplinary collaboration within

9 Christoph Schenker (ed.), *Public Plaiv: Art contemporanea illa Plaiv*, Zurich: Hochschule für Gestaltung und Kunst Zürich, 2002.

10 Christoph Schenker and Michael Hiltbrunner (eds.), *Kunst und Öffentlichkeit: Kritische Praxis der Kunst im Stadtraum Zürich*, Zurich: JRP Ringier, 2007.

11 *Draft*, ongoing project since 2015, directed by Gitanjali Dang and Christoph Schenker, with collaboratives in Beijing, Cairo, Cape Town, Hamburg, Hong Kong, Mexico City, Mumbai, St. Petersburg and Zurich.

each of the teams and their respective publics has to be factored into the exchange among various cultures represented by the nine teams. To a certain extent, artists and scientists all over the world can rely on shared basic parameters. However, public art is intertwined with the political, social, and cultural environment, and impacted by local contingencies, particularities, and singularities. Whether planned and visible or accidental and veiled, trading zones or “transaction spaces”¹² emerge not only between specific disciplines but also between culturally divergent ways of life.

I refer to these examples because here in the field of public art a procedure that is self-evident though hidden in other areas of art—and not just since the end of the 20th century—has proven to be particularly fruitful. Collaborative practices in the field of the fine arts, which mean crossing the boundaries of art and the sciences, have become a widespread procedure, most especially in the field of artistic research. However, given the diversity and changing combinations of actors, who adapt to local and often short-term conditions and needs, it is often no easy task to recognize how the process of transdisciplinary collaboration is structured or organized as regards timing and communication, competencies, fields of knowledge, material realities, technologies, tools, infrastructures, and finally institutional contingencies. In addition there is a tendency to focus on the artwork itself and to mistake it for the boundary object. Actually, the work of art is a tool that the artist uses to create the—possibly immaterial—boundary object in collaboration with the other actors in the transdisciplinary process, who in turn make use of other tools. Even if the research project is conducted in the field of art, and even if a work of art is produced in the course of the project, the latter is not necessarily a boundary object or

12 Nowotny et al., *Re-Thinking Science*, pp. 143–147.

a “Mode-2 object”¹³ as defined by Maasen and Nowotny—nor is it an “epistemic thing” in the sense of Hans-Jörg Rheinberger.¹⁴

Boundary crossing activities, in which artistic work might be involved, can also be seen from another perspective. I am not speaking here of collaboration between actors in different disciplines (including art and the public) but rather of the interplay among various forms of knowledge within the field of artistic work itself. According to Jean-François Lyotard, knowledge and science are not identical, and knowledge [*savoir*] cannot be reduced to learning [*connaissance*].¹⁵ Lyotard juxtaposes scientific knowledge with knowledge as “training and culture,” the latter characterized by a dense fabric of various competencies. These refer to thinking, making and acting, motivated not only by the criterion of truth but also by the criteria of justice and happiness (ethical wisdom), aesthetic correctness (beauty, interestingness), and efficiency (technical qualification). Lyotard uses the terms “narrative knowledge” and “condensed knowledge” when speaking of knowledge that involves not only epistemic competence but also competence and good performance in such fields as aesthetics, technology, ethics, politics, and economics. Such knowledge comprises know-how, knowing how to live, how to speak, how to listen [*savoir-faire, savoir-vivre, savoir-dire, savoir-écouter*], etc.

Art can also be interpreted as condensed knowledge, as a generator and form of condensed knowledge. Empirically one can observe and therefore assert, though only as a generalization, that artistic work assembles and interrelates several competencies or forms of knowledge. Art does not refer exclusively

13 Ibid, pp. 147ff.

14 Hans-Jörg Rheinberger, *Toward a History of Epistemic Things: Synthesizing Proteins in the Test Tube*, Redwood City, CA: Stanford University Press, 1997, pp. 24–37.

15 Here and in the following see Jean-François Lyotard, *The Postmodern Condition: A Report on Knowledge*, Minneapolis: University of Minnesota Press, 1984 (French 1979), pp. 18–27.

to itself, and it is not its own exclusive (re)source; it makes an impact both inside and outside of its own territory. On the one hand the artist's experimental system addresses both aesthetics and the material and technical factors involved in the making of art. This refers to the tradition of understanding works of art as aesthetic things, as objects or as instruments. On the other hand, this system refers to the tradition of problems, issues, and subject matter that lie beyond the physical production of artifacts. Making new distinctions within sensual, emotional, and intellectual experiences of violence and placelessness in the context of global capital, post-politics, and post-colonialism could, for example, be a subject of artistic research. After all, artists' explorations incorporate the common-sense practices of daily life, as applied to their own personal life experiences. Comparable to the figure of the intellectual, artists thereby move beyond the specific knowledge and competences conventionally assigned to them as artists. Strictly speaking, an artist proves to be an artist through the very act of transgressing the bounds of aesthetics.

Although I would not claim that art as a whole is a zone of exchange, a space of transaction among knowledge cultures and lifeforms with the artist as "interactional expert," I would, nonetheless, venture to say that art has assimilated transgression. Does this also account for the distinction between condensed knowledge and transdisciplinarity? I would like to put a query up for debate: namely whether there is a comparable narrative, though latent knowledge in the sciences, linked to scientific knowledge. This has undoubtedly been suggested by Hannes Rickli's artistic research into videograms of experiments in behavioural biology, which might be seen as science studies or as laboratory studies using artistic means.¹⁶ Rickli

16 Hannes Rickli (ed.), *Videograms: The Pictorial Worlds of Biological Experimentations as an Object of Art and Theory*, Zurich: Scheidegger & Spiess, 2011.

shows scientists conducting experiments in the laboratory, in a practice and with competences that precede the scientific and are nonetheless inalienably part of it.¹⁷

17 Translation by Catherine Schelbert.