



Margarete Vöhringer, *Avant-Garde and Psychotechnics: Science, Art and Technology in the Early Soviet Union*

London: Routledge, 2023. Pp. 254. ISBN 978-1-032-53264-6. £104.00 (hardback).

Roger Smith

Independent scholar

Much has been written on the relations between the arts and sciences. Margarete Vöhringer's ambitious book goes further and explores ways, at a particular time and place, in which there were not separable 'related' activities but a common experimental practice with material things, in which all was 'art'. The purpose is not to dissolve differences but to specify, in historical detail, the sharing and modification of material practices and instrumentation as they carry from one cultural setting to another. Vöhringer, professor for the materiality of knowledge (*Materialität des Wissens*) at the University of Göttingen, is concerned with the ways artists used psychotechnics for experimenting with the relationship between artist and viewer, production and reception, subject and object, thereby re-creating the human world. In the exceptional conditions of the new Bolshevik Russia, the art of work with scientific instruments, the art of the constructivist avant-garde and the sociopolitical art of creating 'the new man' ran together. The focus is the history of technical media. As Sergei Tretyakov stated, 'Together with the man of science, the worker-artist must become a psycho-engineer, a psycho-designer' (quoted on p. 9).

The author provides three richly researched historical studies: the work of the laboratory for architecture in Moscow, under Nicolai Ladovsky, related to the interest in the scientific organization of labour; Vsevolod Pudovkin's 1925–6 film popularizing but also exploring reflexology in psychophysiology, *Mechanics of the Brain*; and the work of Aleksandr Bogdanov (better known for his systems thinking and for early science fiction) on blood transfusion, bound up with hopes for regeneration from ageing. Vöhringer is acutely sensitive to material and linguistic metaphor, and the flow of meaning across practices, and artfully entitles the three chapters, 'Feed(ing) back', 'Networking' and 'Grafting', to convey three patterns connecting psyche and technology under the heading of psychotechnics. Vöhringer bookends this historical material with an introduction and a conclusion that both raise many questions, and provoke more, about the material embedding of human activity – movement in built spaces, responsiveness to the immediate environment mediated by the brain, and blood transfusion as social sharing. Her concern is not so much with the utopian ideas prevalent at the time, nor with the best-known names in the avant-garde, but with what was 'actually' – that is, materially – done, in an 'experimental culture', often enough in artistic spaces called 'laboratories', and with the implications of this for the feeling of reality.

The book is a translation from the German first published in 2007 (later published in Russian), when its push to examine material practices was less familiar to historians of science than it might be now. Though some references have been added, it has not been substantially updated or revised. It is richly and relevantly illustrated. The translation is in places awkward and the flow of argument is sometimes broken. But, throughout, a richly inquiring, vivacious voice matches the excitement and imagination of the time and place that is the book's subject.

An enormously rich body of work in art and media history addresses the work of constructivists, rationalists and filmmakers from the Soviet 1920s. This book's contribution is to discuss in historical detail the interweavings, and not just parallels, in practice mediated by psychotechnics, in the sciences of physiology and psychology and the new arts. Architects, for example, analysed spatial effects, in order to manipulate the movement of people crowding into the Moscow Metro. There was a search for shared scientific rules for the design process. In film, Pudovkin sought not just to understand the seeing eye but to put viewers 'into a condition of disorientation that ultimately made them conscious of all the processes that determine their perception' (p. 106). The artist understood that being "neutral" thus implied the unveiling of the active author and his manipulative methods, that is, his apparatuses' (pp. 128–9). He used film itself as stimulus to shape the world, the film describing reflexes itself experimenting with reflex processes. The film, with pioneering montage and scenes (e.g. of a syphilitic patient) subsequently judged disturbing, enacted a materialist view of the psyche rather than constructing a theory about it. 'Pudovkin used the film not only for experiments but also as an experiment in the public sphere – as an applied scientific experiment in cinemas' (p. 144). For example, he used the camera lens to imitate the opening and closing of the pupil. Experimentation took heroic, or foolish, form with Bogdanov's research on blood exchange (with himself as well as others as a subject, ultimately with fatal results), asking 'which scientific and artistic practices, experimental objects and techniques had to be inter-linked in order to be able to bring about the optimization of bodies, brains and genes under the name of human collectivism?' (p. 155). Bogdanov represents an extreme in experimentation on new forms of living together, seeking to change culture by experiments with physiological nature and not only seeking rejuvenation – a not inconsiderable concern of the Bolshevik leadership.

In the construction of 'the new man', the person realizing being human through the development of the collective, 'it was experimental technology that had to be researched most' (p. 208). This the book explores in lively and fascinating detail.

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Mark Thurner and Jorge Cañizares-Esguerra (eds), *The Invention of Humboldt: On the Geopolitics of Knowledge*

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Patrick Anthony

University College Dublin

The Invention of Humboldt, edited by Mark Thurner and Jorge Cañizares-Esguerra, critically exposes the anti-Hispanic assumptions that characterize popular and academic 'cults' surrounding the Prussian Alexander von Humboldt. The volume's titular focus 'on the geopolitics of knowledge' is meant in this sense: as a study of the apparent eclipse of Hispanic colonial sciences (p. 9), first by itinerant Europeans, like Humboldt, who obscured their enormous debt to the science of Hispanic Americans, then by the Creole