next to individuals there were also entire mass organizations, from theater groups to worker-correspondents to photographer leagues, that kept reappropriating, if indirectly, Proletkult vocabulary and concepts and brought them to bear critically on the changing, and increasingly top-down, approaches to cultural revolution. What distinct concepts for not only mass-oriented, but also mass-based, culture might emerge if we followed these other, more circuitous but also more collective, paths of continued Proletkult reception – if we carried, in other words, the Proletkult impulse, taken up by Chehonadskih, to "decanonize" one step further?

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Structure and Form: The Morphology of Knowledge After the October Revolution

"Structures take to the streets!" is the motto of Maria Chehonadskih's *Alexander Bogdanov and the Politics of Knowledge After the October Revolution*, a seminal study reconstructing how knowledge was collectively organised, re-formed, and structured in the early Soviet Union.[11] Form and transformation are central themes in Chehonadskih's reading of Bolshevik polymath Alexander Bogdanov, whose universal systems science, or tektology, was concerned with the organising activities of structures. Bogdanov's tektology examines everything, from cellular structures to human societies, as it develops and changes. Modelled after Goethe and Haeckel's morphology, the study of forms and structures, tektology is a comprehensive theory of development and growth.[12] While Bogdanov is often seen as a precursor of cybernetics and systems science,[13] Chehonadskih emphasises the importance of a new conception of "structure", detecting an active and revolutionary structuralism at play in Bogdanov's work. Why structure and not system or organisation? Rather than perceiving structures as mere effects or

[11] See also Isabel Jacobs, "Proletarian Tectonics", *Radical Philosophy* 218, Spring 2025, pp. 85–92.

[12] On the early Soviet reception of morphological thinking, see Isabel Jacobs, "Morphological Materialism: A Time-Lapse of Soviet Plant Philosophy", in *Conjunctions: Humanatures Reproduction Disjunctions*, ed. Stella Sandford (London: CRMEP Publications, 2025), pp. 23–48.

[13] Ludwig von Bertalanffy is often credited as the father of general systems theory, but its foundations were laid by Bogdanov, whose *Tektology* was already translated into German in 1926–28, years before Bertalanffy published his work. For a recent reading of Bogdanov as systems theorist, see Rodrigo Nunes, "From the Organizational Point of View: Bogdanov and the Augustinian Left, Part 1", *e-flux Journal* 152 (March 2025).

elements of a system, immobile and passive, Bogdanov emphasises the structuring activity of inorganic and living matter.

This essay aims to examine what was at stake in Bogdanov's "structuralism" by identifying features that might distinguish it from systems theory, formalism, or dialectical materialism. One focus will be on conceptions of structure and form as activity, an aspect that is crucial to Chehonadskih's book and yet conceptually underdeveloped. She emphasises how tektology is less a cybernetic theory than a sort of structuralist environmentalism, viewing the ecosystem as an organised whole made up of interconnected series that act upon each other. At the heart of tektology, in such a reading, is a structuralist theory of the relation between organism and machine, analysing how living and artificial systems self-organise into a mode of production. In other words, structure is not a static thing but a process – a series of activities of structuring and restructuring. What then is a "structure" for Bogdanov? Broadly speaking, structure is any form of "organisedness",[14] from crystals, leaves, and star systems to human societies.

Structured reality is "an infinitely unfolding fabric of all types of forms and levels of organization" which, "in their interlacement and mutual struggle, in their constant changes, create the universal organizational process, infinitely split in its parts, but continuous and unbroken in its whole".[15] In *Tektology*, Bogdanov compares structure to the elastic and resilient surface of a living cell that processually preserves and renews itself, or to an atom that gains stability through "electrical activities".[16] Structure is thus not static but plastic, mobile, and active, articulating the interaction of parts and wholes. Just as an organism is defined through the relationship between organs and tissues, structures are formed through an "associative combination" emerging from the dialectical play between "activeness" and "resistance".[17] Rather than exploring crystallised forms, tektology is interested in forms-in-flux, including the restructuring of various fields of knowledge. With a focus on parallelism and seriality, tektology specifies the structures of self-organising systems and their interrelations. Reversing the anonymous graffiti on the walls of the Sorbonne in 1968 – *Structures don't take to the streets!* – Chehonadskih contrasts Bogdanov's active structuralism with modernist formalism and French structuralism, arguing that tektology intertwines structure with revolutionary transformation.[18]

[14] Alexander Bogdanov, *Bogdanov's Tektology. Book 1*, trans. Andrei Kartashov, Vladimir Kelle, Peter Bystrov, ed. Peter Dudley (Hull: Centre for Systems Studies, University of Hull, 1996), p. 5.

[15] Bogdanov cited in Rodrigo Nunes, "From the Organizational Point of View".

[16] Bogdanov, *Bogdanov's Tektology. Book I*, p. 5.

[17] Bogdanov, *Bogdanov's Tektology. Book I*, p. 74.

[18] Chehonadskih refers here to the slogan written on the blackboard in the room where Roland Barthes taught during May '68, "Structures don't march in the streets", to which another protester added "Barthes neither!" Patrice Maniglier, "May 68 in Theory (and in Practice)", *La Deleuziana* 8 (2018), pp. 53–74, here 54.

In "How Do We Recognize Structuralism?", Gilles Deleuze defines structure through *seriality*: each series is composed of symbolic elements. A series, however, never appears in isolation; it always refers to other series, for "singularities derive from the terms and relations of the first, but are not limited simply to reproducing or reflecting them".[19] In Bogdanov's tektological framework, structures are intertwined through seriality as well as their varying degrees and intensities. Tektology is embedded in "empiriomonism", Bogdanov's own fusion of Marx with Ernst Mach's radical empiricism, which was directed against Plekhanov and Lenin's materialism.[20] Bogdanov's "empiriomonist point of view", according to Chehonadskih, allows us "to see the infinitely lesser degrees of organisation in relation to the infinitely greater systems of the composite structure" (40).

But seriality in Bogdanov is less about mere relationality than about degrees of intensity. In a monist framework, alterity is not expressed through dualist oppositions but shades of difference. Empiriomonism transforms nature into a continuous construction site, offering a framework for understanding how matter is structured into series and systems. Where the Russian formalists, for instance, would ask how things were already formed, Bogdanov's active structuralism is less interested in form than in processes of formation and transformation. In that sense, empiriomonism draws on intensities and modulations, closer to Mulla Sadra's process metaphysics and Goethean morphology than formalism. All structures in a system relate to each other through reflexive processes – a totality of life forms in motion, organised in series and connected by parallelism. For instance, the series of labour connects the worker's hands, tools, materials and environment into a processual whole. In each series and across series, there are nodal points, densely connected zones of intensity.

Distinguishing structure and form, Deleuze argues that structures organise themselves into series capable of autonomous development. Unlike a Saussurean understanding of "system", and contrary to static notions of form, "true" structuralism – Deleuze explicitly names the Prague school – emphasises an active structuralism in which structure is subject. For Deleuze, an active structure "has nothing to do with a *form:* for structure is not at all defined by an autonomy of the whole, by a preeminence [*pregnance*] of the whole over its parts, by a *Gestalt*".[21] Where form is a crystallised whole, structure is a form in continuous flux, punctuated by rhythmic parallelism and seriality. In Deleuze's definition, structure is thus less form than active expression. While the protesters of

[19] Gilles Deleuze, "How Do We Recognize Structuralism?", in *Desert Islands and Other Texts, 1953–1974*, ed. David Lapoujade, transl. Michael Taormina (Los Angeles: Semiotext(e), 2004), pp. 170–192, here 182.

[20] Alexander Bogdanov, *Empiriomonism: Essays in Philosophy, Books 1–3*, ed. and transl. David G. Rowley (Leiden, Boston: Brill, 2020).

[21] Bogdanov, *Empiriomonism*, p. 173. On the problem of structure and form, see Claude Lévi-Strauss, "Structure and Form: Reflections on a Work by Vladimir Propp", in Vladimir Propp, *Theory and History of Folklore*, ed. Anatoly Liberman (Minneapolis: University of Minnesota Press, 1984), pp. 167–188.

May '68 denied structuralism the revolutionary potential to transform both knowledge and society (*Structures don't take to the streets!*), such an activist notion of structure resonates with Chehonadskih's reading of Bogdanov, centring around "the concept of active and rebellious structure, articulated at one point as expressive construction and at another point as the emancipated thing and a new proletarian sensibility" (169).

What is at stake in Bogdanov's universal science of transformation is a revolutionary and dynamic concept of structure, oscillating between empiricism and formalism – structures that do take to the streets:

> Construction needs to be understood as an active process of life-building that shapes the social environment. This would imply a new interventionist conception of structure that negates the formalist ideal of autonomy and the structuralist understanding of historical experience as the effect and manifestation of virtual structural possibilities. (135)

Bogdanov's structure is plastic and expressive – self-organizing, self-renewing, serial – reflecting materiality as a continuous flux of structuring activities. In Chapter 3 of the first volume of *Tektology*, "Basic Organizational Mechanisms", Bogdanov defines what he means by *plasticity*, which goes into the heart of his original structuralism. Defining water, one can connect a river and a water bottle, "the unity being created spontaneously in the form of a number of coincident elements".[22] What unites the complexes of a human being, a fish, and an insect? To extract a more generalised understanding of what each element is, one has to break the boundaries between them, in other words, "increase the plasticity of these complexes".[23] Plasticity is the ability of each structure to engage in a process of transformation or metamorphosis, where its form is mobilised and superimposed on other structures. Bogdanov's contemporary, Lev Vygotsky, the founder of cultural-historical activity theory, compared plasticity to "the trace made by a wheel on soft earth: a track forms, which bears the imprint of the changes made by the wheel and facilitates movement of the wheel along this track in the future".[24] The plastic form is the very activity in which form happens – not just the trace left by the wheel but the very activity of form unfolding and changing over time. Bogdanov's tektology is plastic and temporalised, opening up "a structural and topological perspective on development and decay" (93). In Chehonadskih's reading, life-building is described as a process of structuring and restructuring, operating with her conception of an activist structuralism.

[22] Bogdanov, *Bogdanov's Tektology. Book I*, p. 130.

[23] Bogdanov, *Bogdanov's Tektology. Book I*, p. 130.

[24] Myra Barrs and John Richmond, eds., *The Vygotsky Anthology: A Selection from His Key Writings* (London, New York: Routledge, 2024), pp. 117f.

Bogdanov's tectonics of knowledge analyses the "structural arrangement of elements" (140), evoking structures as the "skeletal forms" (141) of organisation. The term structure appears in his notions of "*stroenie* (structure, construction), po*stroenie* (building, built structure) and zhizne*stroenie* (life-building)" (124). In his structural tektology, processes of transformation emerge from "a metabolic exchange of matter and energy between a complex and its milieu" (84). Form transforms: a proto-cybernetic logic where raw matter is organised into social structures and, in turn, society materially constitutes and reorganises itself. Tektology describes the continuous transformation of life processes within dynamic systems that constantly renew their structure, similar to a waterfall:

> Just as the waterfall constantly changes its water, a system is capable of maintaining its form by renewing its structure. The reproduction of form, however, should not be understood as a repetition without difference. The waterfall could dry up due to water erosion caused by an earthquake or the construction of a hydroelectric plant. (84)

Emphasising the relationality of series, tektology favours the concept of process over that of dialectics. Unlike Friedrich Engels's *Dialectics of Nature*, which sees a grain of wheat negating itself in a plant, Bogdanov's structuralism examines relational processes and interactivities, such as the interactions between the grain with the activities of soil, the fusion between living and inorganic. Seeing organisms as just one element of a larger serially organised machinery, Bogdanov's material collectivism breaks down the boundaries between individual organisms and their environment. In that sense, Bogdanov's structuralism shares some ground with Goethean morphology and organicism, currents that prefigured systems theory in the twentieth century.[25] For Bertalanffy, for instance, form is not static but a process: "Living forms are not in being, they are happening", he wrote in *Problems of Life* (1951).[26] Forms are activity; they are "the expression of a perpetual stream of matter and energy which passes the organism and at the same time constitutes it".[27] The structures of an organism, according to Bertalanffy, are only the expressions of its life processes, maintained in and by this process. Both Bogdanov and Bertalanffy view life as a process of continuous transformation, as encapsulated in the image of the waterfall. Bogdanov's tektological structuralism explores life as it dynamically unfolds, resonating with contemporary process ontology in biology, which emphasises the processuality of life.[28]

[25] See Max Drewsow, "Re-forming Morphology: Two Attempts to Rehabilitate the Problem of Form in the First Half of the Twentieth Century", *Journal of the History of Biology* 53 (2020), pp. 231–248.

[26] Ludwig von Bertalanffy, *Problems of Life: An Evaluation of Modern Biological Thought* (London: Watts and Co, 1952), p. 124.

[27] von Bertalanffy, *Problems of Life*, p. 124.

[28] See Daniel J. Nicholson and John Dupré, eds., *Everything Flows: Towards a Processual Philosophy*

In Bogdanov's process ontology, different types of "connectivity" make up series and complexes, reflecting each other while intersecting in structural groupings. Drawing on Mach's materialist monism, Bogdanov views matter itself as relationality in varying intensity: "This physics of elementary relations or the problem of the structuration of elements into series, complexes and systems replaces the concept of solid matter" (30). Chehonadskih notes that Bogdanov's "structuralism" shares important ground with activity theory in Soviet Marxism, in particular Vygotsky's notion of activity (*deâtel'nost'*) which captures collective and embodied processes of mediation between humans, tools, and their social and natural milieu. For Bogdanov, too, activity was essential. "Activity" and "resistance" are two dialectical poles that form Bogdanov's concept of "activities-resistances" in his tektology.[29] Human activity, for Bogdanov, is primarily organisational, that is, production as the "*organization of external natural forces, organization of human forces and organization of experience*".[30] Every activity meets resistance, as a force opposed to it.[31] Why Chehonadskih's focus on structure then, and not activity? What is the role of labour in Bogdanov's structuralism?

"There are two ways to approach Bogdanov's concept of new labour causality", Chehonadskih claims, "a semi-Hegelian reading centred around the figure of labour" and "a proto-structuralist reading" (58). This seems a crucial moment in her reading of Bogdanov. Human labour and activity are subsumed under her conception of an active structure which somewhat neutralises the revolutionary political potential of Bogdanov's materialist theory of form. Ultimately, Chehonadskih decides to remain in the "safe" territory of post-structuralism rather than embracing the radical activity approach offered by Soviet Marxism. She argues that we should understand activity and labour in Bogdanov as operations in the environment, whereas structure, as organisation, is that which produces the very forms of social totality. Bogdanov's emphasis on structure – as interpreted by Chehonadskih – ultimately sets his tektology apart from Marx's focus on labour as the most elementary form of objectivity. Tektology offers "an interventionist understanding of structure as that which produces a form of objectivity and a view on the social totality" (159). By contrast, in Vygotsky's activity approach, drawing on Marx's concept of *Tätigkeit*, activity takes the place of structure.

Chehonadskih's book only hints at the possibility of aligning Bogdanov's process ontology with activity theory.[32] Where Chehonadskih identifies infrastructures and

of Biology (Oxford: Oxford University Press, 2018). For a recent account of the history of materialist process philosophy, see Thomas Nail, *Matter and Motion: A Brief History of Kinetic Materialism* (Edinburgh: Edinburgh University Press, 2023).

[29] See Bogdanov, *Bogdanov's Tektology. Book I*, p. 72ff.

[30] Bogdanov, *Bogdanov's Tektology. Book I*, p. 4. Bogdanov's italics.

[31] Bogdanov, *Bogdanov's Tektology. Book I*, p. 74.

[32] One affinity between Bogdanov and Vygotsky is their respective critique of Lenin's theory of reflection (*otraženie*). For Bogdanov, reflection is a chain of feedbacks and changes in the struc-

skeletal forms as the embryo of revolutionary knowledge, activity theory offers a dynamic framework in which cognition and agency are inseparable from collective activity rooted in a shared life-world. Activity theory might, ultimately, provide a more radical paradigm than structuralism, emphasising not only the systemic activities of skeletal structures but the radical responsibility and freedom that humans enact amidst structures.[33] After all, it is activity that reshapes structure, not the other way around. For Evald Ilyenkov, building on Vygotsky's activity approach, matter itself is active: matter thinks and thinking matters.[34] This opens new ways of conceptualising life in non-reductive and materialist terms, drawing together morphological systems thinking and Marx's theory of labour. Interpreting Bogdanov through the lens of activity rather than structure might be more suitable to a systems approach in which the environment is described as "a battlefield of collective labour, in which human activity is opposed to the elemental resistance of nature" (44). Nature is not inert matter but a field of self-organizing activity and resistance. The term structure, even if conceptualised as active, might be misleading to capture such a framework. As Bogdanov himself states, "the universe presents itself to us as an endless flow of organising activity" (cited in Chehonadskih, 40), where the activity of structuring becomes primal to structure itself. This is no longer structuralism but an enactive morphology of life.

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ture of life, while Vygotsky's model of reflection suggests that thinking reflects bodily affects through the interactivity between body, mind, and environment (see Barrs and Richmond 2024).

[33] On the problem of combining post-humanist ways of thinking with human-centred activity theory, see the excellent recent volume, Alex Levant, Kyoko Murakami, and Miriam McSweeney, eds., *Activity Theory: An Introduction* (Stuttgart: Ibidem Press, 2024).

[34] For a comprehensive study on Ilyenkov, activity theory, and materialist psychology, see David Bakhurst, *The Heart of the Matter: Ilyenkov, Vygotsky and the Courage of Thought* (Leiden, Boston: Brill, 2023).