The Thinking Body

‘Spatiality may be the projection of the extension of the psychological apparatus. No other derivation probable. Instead of Kant’s a priori conditions of our psychological apparatus. Psyche is extended, does not know thereof’.¹

‘Essentia mentis in hoc consistit ... quod sui corporis actualem existentiam affirmat [The essence of the mind consists in this ... that it affirms the actual existence of its body]’.²

In radical constructivism, the mind (culture) is reduced to the physical body (biology). Thus, as Ernst von Glasersfeld points out, ‘[Humberto] Maturana set out to describe and explain all the phenomena that are called “cognitive” from a biological foundation’.³ Similarly, the German radical constructivist philosopher and biologist Gerhard Roth, in his country often discussed together with Maturana, reduces the mind (‘Geist’) and consciousness to physical states of the body generally and to the brain and its neuronal circuitry specifically.⁴ However, Vygotsky already realized that saying something like ‘consciousness is a function of the brain’ actually ‘points to the theory of parallelism’, whereas the focus on physiology of the brain constitutes a materialist (biological) foundation.⁵ Spinozist-Marxian philosophers completely reject the reduction of consciousness to the brain, while

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¹ Sigmund Freud, Gesammelte Werke XVII (Frankfurt/M: Fischer, 1999), 152.
showing that such a reduction never could sufficiently take into account the double
nature of human relations to one another and the material world. Parallelism, the
idea that there are two different lines of foundation and development of mind and
body, is a form of dualism. In contrast, Sigmund Freud, the author of the introd-
ductory quotation, aphoristically noted on his deathbed that the psyche is extended and
that there is no other explanation. Most importantly perhaps, psyche does not know
about its extension. Here, then, at the end of his productive scholarly life, Freud
comes to a conclusion in which there no longer is a chasm between the mind — the
modern version of Aristotle’s ψυχή [psyche] and the Roman’s anima — and body
(extension). Psyche is extended body, and the extended body is thinking. In this
chapter, I present the notion of the thinking body in the way it has arisen from a
Marxian reading of Spinoza in the way that Vygotsky had envisioned it.

**Historical Philosophical Context**

The currently reigning, classical approaches to theorize mathematical thinking fo-
cus either on the individual mind (sometimes constructing for itself what was con-
structed in the group) or on the individual body (enactivism, embodiment). In both
type of approaches, the result of mathematical activity are structures that then de-
termines what the individual does. This includes concepts (conceptions), schemas,
mental structures, and the likes. In the Spinozist approach, when read through a
Marxian lens, mathematical actions are understood in terms of the thinking body,
which does not require ‘any ready-made schemes of actions within it’ to perform
knowledgeably in the world. Moreover, thought is understood in a systemic man-
ner, that is, as a [thinking body | nature] manifold. This point is developed using
classical examples from Spinoza to Il'enkov and a 21st century mathematics class-
room.

To make an argument against subjective psychology Vygotsky quotes Feuer-
bach: ‘what for me [or subjectively] is a spiritual, immaterial, supersensual act is in
itself [or objectively] material, sensuous’. This is a central point of Marx’s anal-
ysis of commodity, which has both a sensuous, practical aspect as apparent in its
use-value, and supersensible aspect, as apparent in its exchange-value (or simply
value). In a Marxian approach, these two aspects are but manifestations of the dou-
ble nature of sensible–supersensible nature of commodity.

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7 Il'enkov, *Dialectical Logic*, 51.

8 See Vygotsky, ‘Crisis’, 324. He omitted the words in square brackets. See Ludwig Feuerbach, *Sämt-