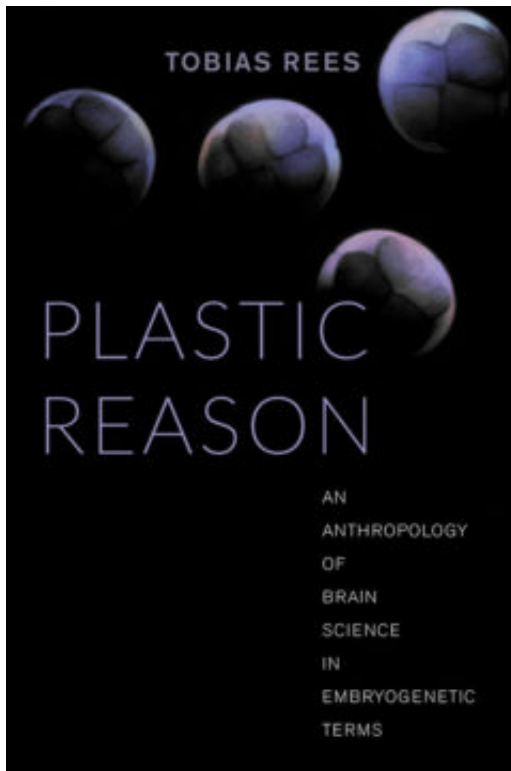


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On Plastic Reason by Tobias Rees

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By Eugene Raikhel



[Plastic Reason: An Anthropology of Brain Science in Embryogenetic Terms](#)

by [Tobias Rees](#)

University of California Press, 2016, 352 pages

Plastic Reason is an excellent occasion to reflect on the relationship between poetry and science.

One might feel the proverbial contrastive tension in naming together poetry and science, a tension one finds in certain intellectual habits that foreground a distinction between human and non-human sciences, or in postures that romantically juxtapose the supposed freedom and creativity of poetry with the hard realities of science (social sciences included). However, at closer scrutiny, this tension reveals itself as an exciting site of possible conversations, to the extent that one might even end up arguing

that there cannot be poetry without science, nor science without poetry. After all, the Italian philosopher Giambattista Vico (1668-1744) made a forceful case for the necessity of poetry in the “history of human nature,” conceptualizing poetic knowledge as the fundamental articulation of humans’ changing relationship with the world. Vico distinguished poetic knowledge from the sciences of nature, however this distinction was for him historical and relational, not absolute, with the understanding that, whatever humans might be, they could not be thought without both poetry and science.

Rees’s book is foremost an engagement with plastic conceptions of the brain, but as the author wrote me in a recent email exchange, it is also “concerned with a form of poetry.” So I began to read *Plastic Reason* asking myself what was this form of poetry, and whether the book could provide useful leads to think poetry and science together.

One can start by considering the sound/sense associations that the book brings to mind, for example *Plastique/Poétique*, a disjunctive pairing of sound and sense that foregrounds the malleability of language, and maybe therefore of reason, as implied in the title of the book, a title always present and never discussed. Reason, and thus Logos as malleable form, *in vivo*, and not, but it’s disjunctively implied, just *in vitro*, and definitely not logos as polymer, plastic, logos as fake. Therefore *Plastic Reason*, and not *Plastic People*, the 1967 song by Frank Zappa and the Mothers of Invention, itself a disjunctive associational segue to *Louie Louie*. And one could continue along this associational vein. But beyond the play of sound and sense, I found five more ways to approach *Plastic Reason* in relation to poetry.

First. Poetry as *poiesis*, as the coming into existence of form. All creation or passage of non-being into being is *poiesis* —[states](#) Diotima in Plato’s *Symposium*, debating with Socrates the question of Eros. In *Plastic Reason* the passage from non-being into being pertains to at least three parallel accounts. First, the account of the plastic brain, a brain constantly growing through embryogenesis, moving from nothing to form. Second, the account of how this idea of the plastic brain emerged in Paris between 1989 and the early years of the 21st century, how it grew out of an opposite conception of the brain that had dominated 20th century neuroscience, the idea of the brain as a fixed and stable structure, a machine. Third, the poetic account of Rees’ own research which, as he writes, parallels the growth of plasticity: “It was as if my fieldwork and plasticity literally coevolved” (p. 16) in the sense that fieldwork was “an aesthetic practice that allowed contingency to give rise to a form where before there was none” (p.10). This is being coming into existence, being in motion, Heraclitus, you never swim in the same river twice.

Second, *Plastic Reason* is concerned with poetry as epic, as epos. It is a story of heroic characters and deeds, the story of Alain Prochiantz, the French scientist who played a crucial role in developing the idea of the plastic brain, the scientist in whose laboratory Rees conducted his fieldwork, his main interlocutor. While this is not a book about Alain Prochiantz nor about Tobias Rees, it's a book about Alain's epos, and thus about the epic of the plastic brain, of how an idea deemed impossible, ridiculed by the neuroscientific community in the early nineties, took nevertheless form and became a reality. How, through trials and tribulations, Alain's group managed to succeed, and how Alain, from being a marginal figure went on to be elected to a chair at the Collège de France, and, more recently, I discovered, to become administrator and president of the assembly of professors of the Collège. In this sense, it is an epic of relations, a modality Rees considers specific to French academia, but it is foremost an epic of how a French scientist transcends these relations to plasm new forms, and, in so doing, transcends the very form of the heroic epic itself: Alain Prochiantz, Rees argues in Chapter 11 titled "Ethical," goes beyond the 19th century idea that humans as scientists have to heroically face the fact that the brain is a fixed machine. Poetry as epos also means that *Plastic Reason* is concerned with narrating the longer history of the idea of the plasticity of the brain across different disciplines and their attendant and often conflicting epistemologies. History of science in France, or history of French science, or history of French conceptual work on the sciences of the living (Bachelard, Canguilhem). Poetry as epos is also therefore a form of history or myth making, or more precisely a form of the history of the myth of science, or of the myth of the history of science.

Third, *Plastic Reason* is concerned with the difference between prose and poetry, that is to say the difference between on the one hand, what Rees describes as the daylight, diurnal operations, the habitual actions that delimit the contour of what is possible to think –logos as a simple instrument for getting through the day as a scientist– and on the other hand the "nocturnal," those moments when these habitual contours are transcended and poetry – a way to name the unnamable—takes shape. This is what Alain Prochiantz, and Rees, in conversations with him, call the "work of ideas": writing and reading, creating out of the impossible the possibility to be possessed by ideas and generate new, unexpected openings –Bergson's intuition Alain says. The ideas come from his ancestors, but also from elsewhere, the arts in particular, and they all contribute to the embryogenesis of other ideas, ideas that will define the plasticity of life. Through the juxtaposition of diurnal and nocturnal forms of knowing, Rees navigates one of the most perilous disjunctive pairings of the book, that between ideas and practices, intelligence and stupidity, repetition and difference, science as institution and science as growth. Prose and poetry.

Fourth *Plastic Reason* is concerned with poetry as craft, the patient, artisanal work of constituting the real at the bench, in the laboratory. This is a poetry of devotion to tools and procedures, a question of measures, precision and patience but a poetry that should not fetishize the lab, as science studies tend sometimes to do nowadays. Though Rees describes explicitly this experimental activity as “poetic” in conversations with Maria Luz Montesinos at the bench, and although he articulates its necessity, the experimental remains in the domain of the diurnal or the “largely already known,” and does not become real poetry *unless* it is supplemented by the work of ideas, conceived as a work of “actualization”: only ideas can establish the conditions of possibility for the technical to actualize them. Yes, after all there are some disjunctive echoes of Plato in some passages of the book. This distinction between the poetic and the technical, this notion that to make poetry you need something that goes beyond a finely executed exercise, also reminded me of the distinction in Persian literary traditions between a “verse-writer” (*she’rgu*) and poet (*shâ’er*), between those who know the rules of composition and can write verses, but whose verses are not poetic, and those instead who actually achieve the disjunctive pairing of sound and sense, the real poets. Poetry as supplement.

Fifth *Plastic Reason* is concerned with the relationship between poetry and life. Morphogenesis, the birth of forms of life—Eros, hence desire, described in the book in reference to the film *Le dernier Métro* that Prochiantz once brings up in conversation, but also life as the human. Plasticity brings logos under the sign of life, and works towards a convergence of the two terms: a plastic way of being, a poetic life, hence a scientific life (that of Alain) –hence a human life– this is what certain passages of *Plastic Reason*, especially those about “vital concepts” made me think of.

However, a form entirely subsumed into a vital brain, an entirely plastic/poetic logos, absolute motion, would resolutely resolve and thus dissolve the ambiguity between the possible and the impossible, between the known and the unknowable, immanence and transcendence. It would make logos, language, the site of being, the site of what it is, turning the instability and motion of the living into its opposite, sealing the destiny of the human. This is the work of theology, and its secularized forms, possibly science included. And it requires an act of conversion, or at least a call to conversion: leave everything behind, everything you held on to, let go and live the real poetic life, be different from what you are, and follow plasticity wherever it might take you. Eros again.

Such poetic calls however need not be absolute and one can think differently of poetry, and of the relationship between poetry and science (as *Plastic Reason* does in many passages). One can think that either as

association, or creation, epos, lyric, technology or even life, poetry is on the contrary the site of a disjuncture, an encounter between knowledge and non-knowledge, where the greyness of the everyday daylight is as necessary as the creative sparks of the nocturnal, and one cannot be thought without the other: poetry as *also* prose. Seen in this light, the venerable Persian distinction between verse-writers and poets is not one between mere technicians and inspired visionaries, but rather one of the many ways to highlight the necessary distinction and conjunction of two dimensions of experience. On the one hand, the repeated and sedimented practice of constructing poetic lines relying on previous verses, while experimenting with novel combinations of known materials, on the other hand, sudden moments of heightened perception that capture at a glance something of what seemed beyond grasp. What matters is the unstable but necessary combination of these two modalities, since each taken by itself, would not be sufficient to produce poetry.

In this view, desire, rather than eternal bliss or unbound epiphany, is the site of an intermittence: the will to know, the power of poetry, rests in the instability that it generates, in the play of frustrated and warranted expectations that defer closure, as linguist Roman Jakobson famously stated. It is on this terrain that the relationship between poetry and science can be conceptualized: not just poets writing about science, or scientists writing poems, rather an idea of knowledge as the site of a shifting, fragmented, set of passages from truth to beauty and viceversa: a pleasurable knowledge (see G. Agamben, *Taste*, Seagull Books, 2017).

As Rees shows in his exiting book, the pleasurable combination of poetry and science seems to be perfectly amenable to current visions of a plastic reason, and its attendant anthropological accounts, but chances are that when the idea of plastic reason will have been superseded by other ideas, the passages between poetry and science will still be able to provoke pleasures, this time for different reasons.

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