



Science's Last Romantics

by Courtney Fiske

John Tresch
The Romantic Machine:
Utopian Science and Technology after Napoleon
(University of Chicago Press, 2012)

Historian John Tresch's first book, *The Romantic Machine*, concerns itself with complicating the binary invoked by its title: the opposition, long entrenched in Western culture, between the romantic and the mechanical, and all of the ancillary antagonisms that this divide conjures—emotion versus reason, spirit versus matter, artists versus technocrats. Illuminating a spectrum of heterodox approaches grouped under the umbrella term “mechanical romanticism,” Tresch makes an insistent and compelling case for why the current cultural impasse between science- and creative-types is far from inevitable. In this vision, sound science need not transpire without a lyrical core, while efficiency need not obviate moments of effusive, ecstatic connection.

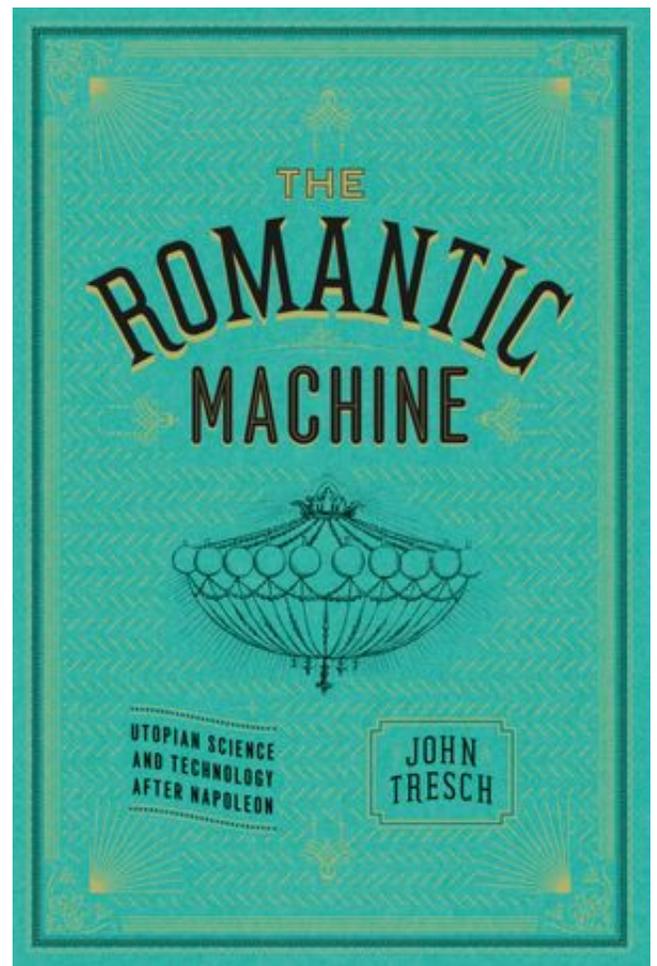
Tresch's inquiry converges on Paris in the clamorous interim between one Napoleon's fall and a second's rise. Bookended by Napoleon's routing at Waterloo in 1815 and Louis-Napoleon's ruthless coup d'état in 1851, this moment proves a heady site for study. Here, in this oblique, medieval version of today's Haussmannized Paris, the regnant mood was one of ebullient uncertainty, as upheavals in philosophy, labor, and politics unfolded in quick, messy succession. The book opens as the literature and philosophy of German Romanticism, no longer impeded by Napoleon's censors, coursed through Paris's intellectual scene, becoming an instant vogue in salon society. This “awakening of the romantic consciousness,” Tresch argues, occurred just as a “second scientific revolution” began to take root among thinkers unconvinced by Newton's theory of nature as rational, balanced, and determinist. At the same time, outside the academy, republicans plotted against the restored Bourbon monarchy, while workers confronted—often violently—the laborsaving technologies introduced by industrialization. Drawing conceptual parallels amongst these disparate convulsions, Tresch shows how Romantic themes of unity, holism, and conversion informed the period's most avant-garde technologies and politics.

Led by the astronomer François Arago, the period's dissident scientists strove to demystify what Balzac deemed the "imponderable fluids": those shifting, weightless substances discernable only through their effects, such as electricity, heat, light, and magnetism. The discovery of electromagnetism by Danish physicist Hans Christian Oersted in 1820 seemed to confirm the belief, prevalent at the time, that the imponderables arose through subtle distortions of an underlying medium, a "cosmic substance" linking the material to the ethereal. Tresch details how André-Marie Ampère, together with Arago, built on Oersted's findings, deducing the basic principles of electrodynamics in the process.

Attentive to interface between science and culture, Tresch aligns electrodynamics with the contemporary craze for animal magnetism—the belief, first articulated by physician Franz Anton Mesmer in the late 18th century, in a unified, universal fluid circulating through animate bodies and inanimate matter in an unbroken flow. Ampère and Arago's research, Tresch argues, found further resonance with German *Naturphilosophie*, the theoretical impetus for Romanticism, which posited mind and nature as an organic totality. For three, unstable decades, Tresch contends, Romanticism, more than a counter to Enlightenment-era disenchantment, was a force for technological progress.

If the classical machine is best represented by the clock, whose discrete, uniform ticks imply a universe of order and stability, the romantic machine found its epitome in the steam engine. Transforming water into mechanical motion, the apparatus furnished definitive proof, for those already of monist persuasion, that spirit and matter were interchangeable. Steam, like electricity, seemed to be a substance possessed of its own, self-sustaining logic. Harnessing diffuse, impalpable energies and converting them into speed, steam was matter made both atmospheric and animate. Far from a substance to be parsed and dissected with staid detachment, steam provoked an aesthetic response: one thinks, for example, of Monet's exuberant depiction of steam billowing under the glass ceiling of Paris's Gare Saint-Lazare, or Caspar David Friedrich's iconic précis of Romanticism, *Wanderer above the Mists*. Composed of the same stuff as clouds and fog, steam joined man, nature, and technology in a dynamic, sublime whole.

More than the fascination of scientists and artists, steam, as Tresch deftly details, inspired many of the period's political utopians. In his pamphlet *Système de la Méditerranée*, serialized in 1832,



Saint-Simonien Michel Chevalier upheld the railroad as “the most perfect symbol of universal association,” imagining a region made harmonious by crisscrossing trains. Steam’s entropy, Tresch shows, even shaped the understanding of history advanced by romantic socialists like Chevalier. History no longer appeared as an ever-restored equilibrium—a lever perpetually returning to its zero-point of balance—but as something propelled forward by alternating periods of combustion and creation.

Tresch’s writing is at its best when it reveals just how high the stakes behind this novel worldview were. The mechanical romantics’ understanding of the universe as a pervasive unity, animated by a progressive drive toward transformation, rested on the existence of a vital force inherent in matter. Adherents like Étienne Geoffroy Saint-Hilaire, a professor at the prestigious Muséum d’Histoire Naturelle, upheld Jean-Baptiste Lamarck’s materialist account of life’s origins in the spontaneous fusion of matter with electricity, light, and heat. Such views opposed the orthodox spiritualist belief in the soul’s separateness from, and sovereignty over, the body. In so doing, mechanical romanticism questioned both God’s command over nature and the king’s command over his subjects. Its rejection of received scientific wisdom magnified contemporary political disputes between Godless republicans and the Restoration’s royalist, Catholic creed. Tresch goes so far as to claim that mechanical romanticism precipitated the Revolution of 1848. So intimately tied to the ensuing effusion of leftist political schemes, the latter’s failure cemented the former’s intellectualemise. Louis-Napoleon’s reassertion of empire in 1851 put science back in the service of state power. The very technologies vaunted by Ampère, Arago, and others as liberating now became instruments of domination and control.

Tresch’s ability to navigate disparate technical, aesthetic, and political vocabularies, showing how each partook in the same conversation, is impressive. His historical claims consistently return to concrete examples, ranging from the immersive dioramas of Daguerre, inventor of the eponymous daguerreotype, to the *Soirées fantastiques* of Robert-Houdin, pioneer of modern stage magic and Houdini’s namesake. A cursory skim of Tresch’s bibliography, which numbers over 50 pages, betrays the genesis of his arguments in bravura feats of research. Generalist readers may be deterred by some of his more plodding theoretical discursions, such as a ten-page survey of the central texts of Kant and Schiller. Yet, the idiosyncrasies of the figures who populate his narrative, and its relevance to present-day stalemates, more than sustain attention. During these volatile three decades in Paris, scientists were artists, artists were scientists, and their endeavors had direct bearing on politics, which then conceived society as an ideal still to be realized. *The Romantic Machine* enables us to imagine what Tresch eloquently terms “alternative modernities”: visions of the present in which mind and body, humans and machines, poetry and industry need not straddle an impossible divide. His book leaves us hoping that such binaries might still be bridged.

CONTRIBUTOR**Courtney Fiske**

RECOMMENDED ARTICLES

LEARN TO READ ART: A Surviving History of Printed Matter

MAX SCHUMANN with Maya Harakawa

FEB 2015 | ART BOOKS

Printed Matter is an art world institution in the best sense of the word. Founded in 1976 to support the then-fledgling medium of artists' books, the organization has since become a mainstay of all things art and publishing. Historically linked to artistic figures such as Carl Andre, Sol LeWitt, and Lucy Lippard and now responsible for the ever-growing Art Book Fairs in New York and Los Angeles, Printed Matter has been symbiotically involved in the artistic, political, and social movements alongside which it has developed.



Parataxis and Ponzi Schemes

MARGARITA MEKLINA and SNEŽANA ŽABIC

with Andrea Scrima

JUL-AUG 2015 | BOOKS

Wreckage of Reason II: Back to the Drawing Board is an anthology of contemporary experimental women's writing. The anthology, as Leora Skolkin-Smith has written, "stands on its literary merits alone, but it also elicits questions that point far beyond its own physical presence in the publishing arena—questions primarily to do with the threatened future of experimental and literary writing itself, with the questionable health and well-being of our current literary culture and its openness or lack thereof to work that isn't consumerist in intent."

MANA CONTEMPORARY *All the Best Artists Are My Friends*

by Jeremy Butman

JUL-AUG 2014 | ARTSEEN

On May 10, Mana Contemporary inaugurated a new gallery with an exhibition curated by the artist Ray Smith. The title of the show, *All the Best Artists Are My Friends*, suggests a comic self-assuredness in the face of art world nepotism.



ON AND ON: Thoughts on Artists' Cinema

by Elle Burchill

JUL-AUG 2014 | CRITICS PAGE

The state of cinema is as fluid as its technology. Claims or concerns that artists' cinema (i.e. experimental, poetic, or personal cinema) is a dying art form tend to be provocation at best, nostalgia at worst, as they are when made in reference to painting, or photography, or whichever medium is the one under fire, but especially so in reference to an art form that is historically young.

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