

## Book Reviews

**Tara H. Abraham**, *Rebel Genius: Warren S. McCulloch's Transdisciplinary Life in Science* (Cambridge, MA: MIT Press, 2016), pp. 320, \$40.00, hardback, ISBN: 9780262035095.

Tara H. Abraham's *Rebel Genius: Warren S. McCulloch's Transdisciplinary Life in Science* is a marvellous and provocative biographical study of a pioneer in cybernetics. Deeply grounded in archival and published sources, richly contextualised and graceful in its rigorous theoretical engagements, the volume offers a veritable feast for its readers through its deceptively simple narrative that renders practically invisible the many challenges it resolves in telling its maverick subject.

Warren S. McCulloch (1898–1969) was a renowned figure in the twentieth-century mind and brain sciences. Trained in philosophy, psychology and medicine at Yale and Columbia Universities, McCulloch also brought to his science a sophisticated understanding of applied mathematics and physics. He was widely read, imaginative in the extreme, politically liberal in his sensibilities and as handy with a hammer as he was with computational models. A teacher to many, a mentor to some and a sage for a few, McCulloch struck many as frustratingly imprecise, considerably obtuse and generous to a fault. His habits – perpetual whiskey drinking and ice-cream eating, sonnet writing, eccentric modes of dress, holding forth in his French salon style of a household, his conversation speckled with literary allusions likely lost on everyone and considerable intellectual generosity – at once charmed and overwhelmed his admirers and detractors. His major contributions, more easily summarised than readily understood, included landmark studies of the functional organisation of the cortex, the reduction of neuronal function to Boolean logic and numerous hypotheses about the psychological behaviours concomitant to neurophysiological states. He was also a highly successful scientific manager, most famously as a central organiser of the Macy Conferences on Cybernetics which included such renowned luminaries as Norbert Wiener and Margaret Mead. The latter, in an observation that might have applied as easily to McCulloch personally as to the proceedings generally, commented with acerbic wit on the incommensurability of them all. Such is the McCulloch that ably emerges in Abraham's hands: a highly admirable if completely enigmatic experimentalist in epistemology.

To handle such a life as a historian is to recognise the inadequacy of easy occupational categories or seemingly settled biographical divisions. McCulloch, Abraham details, was more than a clinician, scientist or poet. Her narrative visits him self-fashioning his identity chapter by chapter, from neurophysiologist to engineer. His private and public lives make little sense disentangled – with the revolving door of guests that defined the McCulloch's household particularly breaking down any useful domestic distinction. His self-fashioning – conscious and unselfconscious – thus results in a life more revealing and understandable historically in fragmented shards than artificially compromised by being forced into a seamless whole. Abraham therefore casts away the biographical conceit that we might understand McCulloch's identity and instead turns the question around and asks readers to ponder why we insist upon the appearance of historical continuity across something as long as a lifespan. Even more provocatively, Abraham's narrative challenges readers to consider whether McCulloch experienced his identity as a seamless whole, or, whether, alternatively, his past selves became strangers to later versions of himself.

Abraham's biography achieves success in still further ways. She opens, for example, substantive new ground on the varieties of intellectual dualism that existed in the twentieth century. Study of McCulloch's life makes clear the eclectic natures of idealism, psycho-physical parallelism, psychosomatic medicine and psychoanalysis in America mid-century. It also makes clear that these forms of dualism exerted something of a structuring effect on figures like McCulloch, who sought (unsuccessfully it seems) to overcome them in mathematical formulation, model or physiological theory.

Similarly, Abraham's volume also engages with the broader question of how ideological commitments and scientific theory are knit together. McCulloch's neurophysiology drew upon an assemblage of scientific ideas – multiple generations in the making – that cast the nervous system's function in terms of integrative action. The languages of integration, she describes, permitted substantial rhetorical artifice, allowing figures like McCulloch to translate their languages of the nervous system into, for instance, theories in the human sciences. In turn, that rhetoric of integration may have easily transposed onto the ideologies seeking unity in science, which became commonplace in the post-war period and with which McCulloch actively engaged. Indeed, McCulloch's life perhaps makes visible a cultural chronology of the mind and brain sciences. The Victorian naturalism of his youth gave way to a similarly styled desire for integration in his middle years, which in turn gave way to an analogous pursuit of scientific unity in the closing decades of his career. In its own way, each cultural style was transdisciplinary. Each also aimed for transcendence. Accordingly, they reveal their own internal contradictions and limitations. They were necessarily predicated on trust, expertise and language. They were held together by social convention, performances of cosmopolitanism and paternalistic understandings of merit and democracy. Of course, as Abraham's biography shows so clearly such adhesive is poor at glueing scientific communities and theories together. In part, the reason why appears foregrounded in the title of her study: a genius is hard to understand. A rebel has no interest in being understood.

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**Pablo F. Gómez**, *The Experiential Caribbean: Creating Knowledge and Healing in the Early Modern Atlantic* (Chapel Hill, NC: University of North Carolina Press, 2017), pp. xxii+314, \$85.00, hardback, ISBN: 978-1-4696-3086-1.

Over the last two decades, medicine, health and healing have become increasingly prominent subjects in histories of the Atlantic world. The result has been a proliferation of new approaches. Some studies have grown from the tradition of Atlantic environmental history, influentially pioneered by Alfred Crosby, and link environmental and epidemiological shifts to the expansion of European settlement. Teams of historians and paleopathologists have capitalised on the emerging body of DNA evidence to chart with new precision the ever-shifting disease ecologies of the pre- and post-Columbian Americas. Histories of Atlantic slavery have drawn increasing attention to the cultural and intellectual dynamism of healers of African and Native American ancestry who, it now seems, were the healers of first resort for most colonial inhabitants. Studies of the relationship between science and empire have explored the colonial bioprospecting campaigns that emerged in part to deal with the new epidemiological realities. Some