

on this tradition to outline the way in which two sensory messages arriving simultaneously – for example through the eye and the ear – laid down associations that were then re-excited whenever just one of the elements reappeared. To use his favourite example, the sight and sound of a bleating lamb laid down association fibres connecting the visual image of a woolly quadruped with the auditory stimulus ‘baah’. Thereafter, just hearing the bleat would be sufficient to produce a visual image of a lamb in the mind.

The bridge from Meynert to the rest of the protagonists is a wonderful chapter on Meynert’s student Carl Wernicke. Wernicke was able to plant his name on the human neural map on the basis of just two observed cases of aphasia, which he theorised in terms of a dynamic network linking the sensory reception of heard language with the motor production of spoken words. Guenther then examines what happened to this model of brain function when Wernicke tried to apply it in the clinic. He would ask a patient a question, sending the inquiry into his or her brain ‘like a psychic sonar that could determine the seat of a lesion along the “mental reflex arc”’ (50). Wernicke conducted these interrogations of patients in a lecture hall in front of an audience. The exchanges would be recorded in transcripts that then became the objects of analysis. The complexity of the patients’ responses to the questions turned out to confound any neat physiological schema. As a result, Wernicke rejected the patho-anatomical approach in favour of a deep engagement with the language of these highly theatrical clinical performances, anticipating many of the developments in psychiatry in the century to follow.

In a series of dazzlingly concise case histories, Guenther then shows how variations on the Meynert–Wernicke model of the brain – sensory input, complex associations, motor output – informed the clinical practices of Carl Wernicke, Sigmund Freud, Otfried Foerster, Paul Schilder and Wilder Penfield. *Localization and its Discontents* shows how these practitioners’ divergent approaches to nervous system disorders – from talk therapy to neurosurgery – actually emerged from a common set of problems about the nature of the reflex arc and the possibilities of reflex therapy. The chapter on Freud was informed by Guenther’s discovery in the Library of Congress of a previously unknown manuscript by the father of psychoanalysis (73). Showing clearly how psychoanalysis emerged from Freud’s engagement with the problems of reflex therapy, it provides the reader with a richer sense of the shared scientific terrain than any previous account. By analytically uniting this cast of characters, Guenther has sharpened our understanding of the individual practitioners and deepened our sense of the context in which they worked. Along the way, the tensions, contradictions and potentials of contemporary neuroscience are supplied with a most illuminating prehistory.

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**Cathy Hannabach**, *Blood Cultures: Medicine, Media, and Militarisms* (New York: Palgrave Macmillan, 2015), pp. viii, 153, \$67.50, hardback, ISBN: 978-1-137-58158-7.

Blood has long been considered to possess a dual nature. For one, blood is regarded as both a bodily material that sustains functions necessary for human life and an object with metaphorical meanings associated with the circulation of identities, relationships, life and death. By following the rhetoric of blood banking, in which blood becomes an

currency-like object that can be deposited and withdrawn, Richard Titmuss's *The Gift Relationship: From Human Blood to Social Policy*, a fundamental work on blood since its publication in 1970,<sup>1</sup> conceptualises blood to be both a commodity and gift – that is, both a tradeable object and a token of the altruist behaviour of donating blood. By extension, situating the cultural politics of blood in relation to medicine, media and militarism, Cathy Hannabach's *Blood Cultures: Medicine, Media, and Militarisms* complicates multiple binaries to suggest that, given blood's mobility among different social registers, its meaning also encompasses the political. Hannabach resists the claim that metaphoric blood practices are fictive, ideological and cultural, while material blood practices are real, objective and scientific, as well as the claim that the two are independent of each other (6). Instead, in *Blood Cultures*, she complicates that alleged dual nature by opening up an intellectual space in which blood becomes a domain of inquiry: a way of conceiving relationships among bodies, illnesses, sexualities, desires, kinships, nationalities and the operations of biopolitics.

Although reflecting on the history of blood in the context of the US from the twentieth century to the first decade of the twenty-first, *Blood Cultures* neither offers a grand narrative or holistic historical perspective of blood, nor is it interested in tracing historical origins in order to give blood a full account. On the contrary, Hannabach contributes to current blood studies by engaging Foucault's biopolitics as an analytical framework for investigating how the technology of blood has become entangled with the development of medicine, media representations and American military endeavours. In doing so, *Blood Cultures* imbricates various topics by examining the racial and sexual politics of blood drive activism (Chapter 1) and of mapping American national boundaries (Chapter 2), by directing particular attention to Haitian refugees' blood as subject of international anxieties over issues related with legal, national and reproductive aspects of the United States (Chapter 3). Importantly, in considering blood's complexity by engaging eugenicist anxieties and medical practices, Hannabach conceptualises blood as 'a medico-military surveillance technology' used as a tool for constructing the American empire and in which 'technologies of law and medicine are intertwined with the desire to control which bodies can cross which border' (68). Consequently, blood played a significant role in shaping nationalism during the Cold War, in which people became subject to biopolitical logics that conceived bodies as possible targets of both medical and military technologies of sabotage (Chapter 4). In that light, blood could be understood as a technology of self in the Foucauldian sense: one that helps to invent, regulate and produce subjectivity.

In addition to complicating the binary between language and the real (or material), Hannabach articulates the relationship between blood and cartography, which links blood to land in ways that map it in bodies and identities across national borders. For example, when tracing the ways of understanding Patient Zero, the first HIV patient in the United States, Hannabach engages materials from science journals and novels to contend that the cross-national movement of Patient Zero represents an embodiment that unites bodies, blood and sex with infected land in ways that reflect a blood-based notion of American national identity. In that sense, the role of blood is similar to that of maps in constructing American national boundaries and tracing the ways in which land and blood have been mapped in American citizenship law, art, medicine and social justice activism (37).

Another of Hannabach's contributions emerges in her efforts to engage science, technology and society studies and feminist scholarship in such a way that, when

<sup>1</sup> Richard M. Titmuss, *The Gift Relationship: From Human Blood to Social Policy* (London: Allen & Unwin, 1970).

conceiving technologies of blood (Chapter 3), she insightfully examines how Haitian refugees' blood has become a site of international anxieties over legal sovereignty, biopolitics, citizenship and reproductive rights. Referring to blood tests, she explains that the state uses the HIV antibody test as a screening device, one that both detects and produces legitimate and illegitimate migrant bodies. Blood therefore becomes a key site for negotiating intersecting anxieties regarding citizenship, gender, sexuality and race, around which legal and medical technologies intertwine to produce potentially deceptive bodies that are scrutinised for deviance (85).

Toward her work's close, Hannabach turns to investigate how national anxieties over communism, queerness and nuclear warfare have been mobilised by analysing two films – the 1973 public health film *The Return of Count Spirochete* and Matt Reeves's 2010 film *Let Me In* – in an attempt to explore how queer possibilities lurk in the films, in which blood, sex, race and kinship are complicated (Chapter 4). Importantly, regarding how the films address the anxiety of blood purity, she suggests a critique that the boundaries of the American nation-state, the human body and categories of race, gender, sexuality, class and citizenship have proven that we have always been impure.

While *Blood Cultures* is not the first effort in theorising the nature of blood, Hannabach's approach to the substance – her endeavours to engage Foucault's biopolitical analysis of power, as well as feminist and queer scholarship, and to incorporate various materials from official archives, science journals and popular genres – nevertheless shows the ways in which blood operates to segregate qualified and disqualified populations at multiple scales of the truth regime. An important work contributing to current blood studies, *Blood Cultures* not only details how blood can be mobilised to hurt, marginalise and even kill, but more importantly allows readers to consider the configuration of biovalues and bioethics in the context of the US during the last two centuries. As Hannabach notes, since blood can be both power and resistance, it is therefore neither a fixed category nor a given, but a phenomenon that entangles as well as disentangles multiple social practices.

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**Mary Hunter**, *The Face of Medicine. Visualising Medical Masculinities in Late Nineteenth-Century Paris* (Manchester: Manchester University Press, 2016), pp. vi, 266, £75.00, hardback, ISBN: 978-0-7190-9757-7.

In recent years, increasing attention has been paid to medical imagery. While the medical humanities have proved to be a very productive field for interdisciplinary and visual analysis, most of the works on the topic come from historians of art. In this context, *The Face of Medicine* is an excellent book that sets a very good example for historians of both art and medicine. Hunter starts from three paintings exhibited at the Parisian Salons of 1886 and 1887 (Lucien Laurent-Gsell's *La vaccine contre la rage au laboratoire de M. Pasteur*; Henri Gervex's *Avant l'opération: le Docteur Péan enseignant à l'hôpital Saont-Louis sa découverte du pincement des vaisseaux*, and André Brouillet's *Une leçon clinique à la Salpêtrière*) to explore how images contributed to the construction of the scientific personae of Louis Pasteur, Jules-Émile Péan and Jean-Martin Charcot in *fin-de-siècle* France. Going well beyond the iconographic analysis, Hunter explores the politics of representation of medicine and medical men, focusing on the formation of new types of masculinities. At the crossroads of art history, visual culture and the cultural history of