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Of Means and Ends: Mind and Brain Science in the Twentieth Century - A special issue of Science in Context

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By Anna Zogas

In addition to the new articles listed in this month's [In the Journals post](#), I'd like to highlight the March 2015 issue of [Science in Context](#). The themed issue, edited by Stephen T. Casper, is entitled "[Of Means and Ends: Mind and Brain Science in the Twentieth Century](#)." See below for links to the issue's introduction, five articles, and epilogue.

[Of Means and Ends: Mind and Brain Science in the Twentieth Century](#)
Stephen T. Casper

What role does context play in the mind and brain sciences? This introductory article, "Of Means and Ends," explores that question through its focus on the ways scientists and physicians engaged with and constructed technology in the mind and brain sciences in the twentieth century. This topical issue addresses how scientists, physicians, and psychologists came to see the ends of technology as important in-and-of themselves. In so doing, the authors of these essays offer an interpretation of historian Paul Forman's revisionist and highly contextualist chronology of the twentieth century, which presents the comparatively recent tendency to aggrandize the ends of technology as evidence of a major, epochal transformation in the epistemic culture of twentieth-century American science. This collection of papers suggests that it was in the vanguard of such fields as psychology, psychiatry, and neurophysiology in North America and Europe that the ends and applications of technology became important in-and-of themselves.

[Dredging and Projecting the Depths of Personality: The Thematic Apperception Test and the Narratives of the Unconscious](#)

Jason Miller

The Thematic Apperception Test (TAT) was a projective psychological test created by Harvard psychologist Henry A. Murray and his lover Christina Morgan in the 1930s. The test

entered the nascent intelligence service of the United States (the OSS) during the Second World War due to its celebrated reputation for revealing the deepest aspects of an individual's unconscious. It subsequently spread as a scientifically objective research tool capable not only of dredging the unconscious depths, but also of determining the best candidate for a management position, the psychological complexes of human nature, and the unique characteristics of a culture. Two suppositions underlie the utility of the test. One is the power of narrative. The test entails a calculated abuse of the subjects tested, based on their inability to interpret their own narrative. The form of the test requires that a subject fail to decipher the coded, unconscious meaning their narrative reveals. Murray believed the interpretation of a subject's narrative and the projection contained therein depended exclusively on the psychologist. This view of interpretation stems from the seemingly more reasonable belief of nineteenth-century Romantic thinkers that a literary text serves as a proxy for an author's deepest self. The TAT also supposes that there is something beyond consciousness closely resembling a psychoanalytic unconscious, which also has clear precedents in nineteenth-century German thought. Murray's views on literary interpretation, his view of psychology as well as the continuing prevalence of the TAT, signals a nineteenth-century concept of self that insists "on relations of depth and surface, inner and outer life" (Galison 2007, 277). It is clear the hermeneutic practice of Freud's psychoanalysis, amplified in Jung, drew on literary conceptions of the unconscious wider than those of nineteenth-century psychology.

[The Birth of Information in the Brain: Edgar Adrian and the Vacuum Tube](#)

Justin Garson

As historian Henning Schmidgen notes, the scientific study of the nervous system would have been "unthinkable" without the industrialization of communication in the 1830s. Historians have investigated extensively the way nerve physiologists have borrowed concepts and tools from the field of communications, particularly regarding the nineteenth-century work of figures like Helmholtz and in the American Cold War Era. The following focuses specifically on the interwar research of the Cambridge physiologist Edgar Douglas Adrian, and on the technology that led to his Nobel-Prize-winning research, the thermionic vacuum tube. Many countries used the vacuum tube during the war for the purpose of amplifying and intercepting coded messages. These events provided a context for Adrian's evolving understanding of

the nerve fiber in the 1920s. In particular, they provide the background for Adrian's transition around 1926 to describing the nerve impulse in terms of "information," "messages," "signals," or even "codes," and for translating the basic principles of the nerve, such as the all-or-none principle and adaptation, into such an "informational" context. The following also places Adrian's research in the broader context of the changing relationship between science and technology, and between physics and physiology, in the first few decades of the twentieth century.

[Of Psychometric Means: Starke R. Hathaway and the Popularization of the Minnesota Multiphasic Personality Inventory](#)

Rebecca Schilling and Stephen T. Casper

The Minnesota Multiphasic Personality Inventory (MMPI) was developed at the University of Minnesota, Minneapolis, in the 1930s and 1940s. It became a highly successful and highly controversial psychometric tool. In professional terms, psychometric tools such as the MMPI transformed psychology and psychiatry. Psychometric instruments thus readily fit into the developmental history of psychology, psychiatry, and neurology; they were a significant part of the narrative of those fields' advances in understanding, intervening, and treating people with mental illnesses. At the same time, the advent of such tools also fits into a history of those disciplines that records the rise of obsessional observational and evaluative techniques and technologies in order to facilitate patterns of social control that became typical during the Progressive Era in the United States and after. It was those patterns that also nurtured the resistance to psychometrics that emerged during the Vietnam War and after.

[The Surgical Elimination of Violence? Conflicting Attitudes towards Technology and Science during the Psychosurgery Controversy of the 1970s](#)

Brian P. Casey

In the 1970s a public controversy erupted over the proposed use of brain operations to curtail violent behavior. Civil libertarians, civil rights and community activists, leaders of the anti-psychiatry movement, and some U.S. Congressmen charged psychosurgeons and the National Institute of Mental Health, with furthering a political project: the suppression of dissent. Several government-sponsored investigations into psychosurgery rebutted this charge and led to an official qualified endorsement of the

practice while calling attention to the need for more “scientific” understanding and better ethical safeguards. This paper argues that the psychosurgery debate of the 1970s was more than a power struggle between members of the public and the psychiatric establishment. The debate represented a clash between a postmodern skepticism about science and renewed focus on ultimate ends, on the one hand, and a modern faith in standards and procedures, a preoccupation with means, on the other. These diverging commitments made the dispute ultimately irresolvable.

[Contending Professions: Sciences of the Brain and Mind in the United States, 1850–2013](#)

Andrew Scull

This paper examines the intersecting histories of psychiatry and psychology (particularly in its clinical guise) in the United States from the second half of the nineteenth century to the present. It suggests that there have been three major shifts in the ideological and intellectual orientation of the “psy complex.” The first period sees the dominance of the asylum in the provision of mental health care, with psychology, once it emerges in the early twentieth century, remaining a small enterprise largely operating outside the clinical arena, save for the development of psychometric technology. It is followed, between 1945 and 1980, by the rise of psychoanalytic psychiatry and the emergence of clinical psychology. Finally, the re-emergence of biological psychiatry is closely associated with two major developments: an emphasis that emerges in the late 1970s on rendering the diagnosis of psychiatric illnesses mechanical and predictable; and the long-term effects of the psychopharmacological revolution that began in the early 1950s. This third period has seen a shift the orientation of mainstream psychiatry away from psychotherapy, the end of traditional mental hospitals, and a transformed environment within which clinical psychologists ply their trade.

[Epilogue: The Redux of Postmodernity](#)

Roderick D. Buchanan

The essays in this topical issue illustrate the changing cultural form and function of the biopsychic disciplines – disciplines that are both sciences and technologies of selfhood. To varying degrees, each essay actively engages Paul Forman’s thesis on modern and postmodern cultural valuations of science and technology. Forman invites those who read his work to view the cultural space framing

science and technology in new ways (Forman 2007; idem 2010).

AMA citation

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