

## **Advancing the Revolution in the Science of Sexual Identity Development**

Phillip L. Hammack

University of Chicago, Chicago, Ill., USA

*Discovery commences with the awareness of anomaly, i.e., with the recognition that nature has somehow violated the paradigm-induced expectations that govern normal science. It then continues with a more or less extended exploration of the area of anomaly. And it closes only when the paradigm theory has been adjusted so that the anomalous has become the expected.*

Thomas S. Kuhn (1962), *The Structure of Scientific Revolutions*, pp. 52f.

Whenever one attempts to articulate a new paradigm for research, as I do somewhat ambitiously in the paper which produced gratifying and thoughtful commentaries by Dan McAdams and Lisa Diamond, it is both instructive and inspiring to revisit Thomas S. Kuhn's [1962] classic essay. It is instructive in the way in which revisiting and rediscovering such a formidable and influential text must be over time. It is inspiring in the same way that the very impetus for writing my original paper – a thorough dissatisfaction with the status quo in research on the development of sexual orientation – reminds me of the risk and possibility of arguing for a paradigm shift and, hence, a 'revolution' in how a group of scholars approaches a particular research problem.

In this reply to the commentaries of my paper, I will employ the terms *paradigm* and *revolution* in the sense in which Kuhn viewed science as 'progressing,' not in any teleological sense (to which he was opposed) but in the sense of shifts in scientific approach: '(...) The successive transition from one paradigm to another via revolution is the usual developmental pattern of mature science' [Kuhn, 1962, p. 12]. I will also use the term *science* somewhat liberally to refer to the pursuit of knowledge irrespective of method or epistemological orientation. I believe the relevance of my original paper lies precisely in its audacious ambitions to both contribute to and expedite the 'quiet revolution' in the science of sexual development currently underway. The unique contribution of my paper, I believe, lies in my audac-

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Phillip L. Hammack  
Department of Comparative Human Development  
University of Chicago, 5730 South Woodlawn Avenue  
Chicago, IL 60637 (USA), Tel. +1 773 256 6350  
Fax +1 773 702 0320, E-Mail [phammack@uchicago.edu](mailto:phammack@uchicago.edu)

ity to argue for a new paradigm that can transcend not only disciplines but also epistemological and metatheoretical schisms which have stifled 'progress' in the field for decades.

The science of sexual identity development has, perhaps because of the lack of a broad unifying paradigm, failed to keep up with the anomalies readily apparent in 'nature.' In fact, during the preparation of my original paper, it occurred to me that much about the development of sexual 'orientation' or sexual 'identity' was anomalous: the process differed quite markedly along the lines of gender, generation, history, and culture. New identities such as 'trans,' 'queer,' and 'down-low' continue to emerge as individuals defy the sexual categories produced by scientists of sexuality and reified through the discourse of culture. The kinds of anomalies which intrigued me most were those which suggested both a culturally and historically differentiated process of sexual identity formation and sexual experience more generally.

My paper was written precisely in response to the lack of any broad paradigm within which our knowledge of human sexual orientation could be placed. My aim was to emphasize the ways in which the historical perspective supplied by life course theory could illuminate new potential discoveries and help to make sense of the epistemologically disparate and polarizing muddle of sexual orientation research. Life course theory – better described as a 'paradigm' than a 'theory' – is quite unique in its ability to span the conceptual worlds of the social and behavioral sciences, the biological sciences, and the humanities in a way that does not threaten the particularism of any disciplinary approach.

Though my approach may be unique in its explicit incorporation of the life course paradigm, it is only part of a larger revolution in the science of sexual development. Situated within this larger intellectual endeavor, my paper is one of many attempts to provide the revolution with some fresh motivational force. Such a revolution is necessary in order to unify the broad range of scholarship that now exists on sexual identity, and it can only be maintained by cultivating a new, transdisciplinary approach. Though I would never be so bold as to claim that the integrative paradigm I have articulated fully satisfies the need for such an approach, I believe my effort constitutes an initial attempt with such a deliberate intention. It is my hope that, with further specification and application, a life course paradigm can guide an increasing number of scholars from diverse fields in collaborative efforts to make greater sense of the anomalies of human sexuality. But, as I will also argue, a new generation of scholars interested in the problem of human sexuality generally, and the development of sexual orientation in particular, will need to adopt a transdisciplinary approach that can fuse multiple levels of analysis and thus offer a greater depth of knowledge and relevance. To this end, investigators would do well to explore and embrace the 'Chicago' approach to the study of human development, with its emphasis on problem-centered (rather than discipline-centered) research that focuses on the inherent person-society dialectic [e.g., Neugarten, 1996; Stigler, Shweder, & Herdt, 1990].

## A Revolution under Way

As Lisa Diamond rightly notes, mine is certainly not the first attempt to eradicate the essentialist-constructionist debate from the discourse on sexuality research. Mine is also not the first attempt at synthesis driven by an interdisciplinary perspective. A number of scholars have been collectively working on such attempts – a revolution ‘brewing’ all the while. Diamond herself has recently initiated several revolutions in research on sexual development – from the need to reconceptualize research on sexual minority youth [Diamond, 2003a] to her elucidation of the important distinction between sexual desire and romantic love [Diamond, 2003b, 2004]. In her work, Diamond has adopted a decidedly critical and interdisciplinary approach to the study of same-sex sexuality which will no doubt influence a new generation of scholarship in these important areas.

Other prominent scholars have contributed to a revolution in sexual science, such as philosopher of science Edward Stein [1999], whose pathbreaking book called the very nature of sexual orientation into question and certainly helped to inspire the development of the paradigm I have advocated. The list of scholars whose work at synthesis and paradigmatic integration of late has contributed to this ‘quiet revolution’ in sexual science is extensive and has typically involved interdisciplinary collaboration, particularly at the interface of culture and biology [e.g., Herdt & McClintock, 2000; McClintock & Herdt, 1996; Tolman & Diamond, 2001]. The work of Peplau and colleagues on the articulation of a gender-specific paradigm for understanding women’s sexuality has provided a formidable contribution to such a revolution [e.g., Peplau, 2001; Peplau & Garnets, 2000]. The broader revolution, consisting of several ‘mini’ revolutions, is characterized by a multiplicity of attempts to develop a paradigmatic approach that can accommodate the various anomalies which researchers of sexual development uncover.

Attempts at paradigmatic revision are united in their desire to explain the anomalies that cannot be explained by the paradigms of a previous generation of sexual science. What makes my synthesis perhaps more unique is its audacity, its lofty integrative ambition, and its breadth and generality. Unlike others who have politely advocated for an essentialist-constructionist compromise either explicitly or implicitly, I argue very directly for a paradigm shift that can change the way in which research on sexual orientation is conducted, interpreted, and disseminated. The change, I believe, will transform the discourse from a contentious defense of disciplinary identities, insulated from real-life sexual phenomena, to a collaborative recognition of multiple levels of analysis. With this recognition will come a kind of ‘maturation’ in sexual science in which the complexity of human sexual lives is more fully acknowledged and explored. Such a maturational process has already occurred in the science of personality, as Dan McAdams details comprehensively in his commentary, and the knowledge of individual lives that personality research can now produce has been greatly enhanced.

In addition to its explicit rejection of the essentialist-constructionist binary, the paradigm I propose is also unique in its breadth and ambition. In surveying prior integrative attempts, none were completely satisfying to me in their ability to offer a broad integrative framework. Perhaps a controversial statement to make for its seeming betrayal to some of the premises of science, the existing paradigms possessed too much specificity in my mind. No single perspective, it seemed to me,

could equally offend essentialism and constructionism and hence potentially transcend their equally narrow premises. What I sought for my own research was a broad paradigm which could explain the development of sexual orientation and sexual identity – both as acknowledged culture-specific categories of social organization – in a way that considered history, biology, culture, and intraindividual processes of dynamic engagement within a particular social ecology. The decision for breadth over specificity was thus intentional. Though the ultimate aim of research is to get increasingly specific about a problem or a topic, specificity tends to lack meaning in the absence of a general interpretive paradigm.

Diamond suggests that it is precisely lack of specificity that has hindered the absorption of prior integrative attempts into the research enterprise, and she suggests that lack of specificity in my paradigm might cause it to suffer a similar fate. In defense of my intentional lack of specificity, I would argue, as Kuhn did, that a *paradigm* is quite distinct from a *theory*. Paradigms provide researchers with worldviews for their work; they provide the metacontext for our attempts at elaboration and explanation. They do not necessarily provide testable hypotheses in the way that a theory might. I would argue that paradigms ought to be broad in order to accommodate a complete range of anomalies. The failure for these types of integrative paradigms to be widely adopted has more to do, I suspect, with the process of how researchers of sexuality are educated, an issue to which I now turn.

### **Getting 'Undisciplined' about the Science of Sexual Identity Development**

Researchers of same-sex sexuality emerge from a number of disciplines, and the field is enhanced by the multidisciplinary character of the literature. Yet, all too often, the 'tribalism' of an investigator's particular discipline pervades his or her work. This tribalism, inherent in the disciplinary structure of the academy [Becher, 1989], rears its ugly head in sexual orientation research that fails to acknowledge the legitimate contributions of other fields, as if to invalidate alternative epistemologies. It is precisely disciplinary insularity that contributes to the inherent conservatism of the academic disciplines [Bird, 2001]. A good example can be found in Rahman and Wilson's [2003] exceptional review of the biological literature on homosexuality, in which they immediately dismiss the contributions of a constructionist approach:

Social constructionism is a somewhat incoherent body of postmodernist concepts emphasizing the subjectivity of scientific inquiry and method, and the relative nature and equal validity of conflicting epistemologies. (...) The general intellectual position of such postmodernist philosophies has been well criticized (...). Researchers within the field of sex research have also rebuffed social constructionism as a poor intellectual framework for understanding sexual orientation (...). (p. 1338)

Social constructionism, a significant and well-respected approach in the social sciences and humanities (with its proponents and opponents, of course), deserves a more complete consideration than this. In fact, I would argue that a review of the social constructionist literature on sexual orientation would readily refer to the bio-

logical literature as equally ‘incoherent’ and ‘a poor intellectual framework for understanding sexual orientation.’

The problem with this epistemological polarization, of course, lies in the disciplinary training of investigators. Biologists and biopsychologists are simply not trained in metatheories like social constructionism. In fact, they are socialized to see such approaches as ‘non-scientific’ and hence somehow irrelevant to the discovery of knowledge. They, like scholars in the humanities and social sciences who are also socialized to view biology as inappropriately reductionistic, create this unnecessary polarization and bifurcation of epistemologies through such discourse. What is needed, and what I believe my paradigm ambitiously aims to cultivate, is a transdisciplinary approach to the study of sexual lives.

As virtually all research problems of human development, the question of sexual identity development is complex and broad, not comfortably situated in a single disciplinary approach. Sexuality is not just in the genes, as behavioral genetics research strongly confirms, nor is it solely in the mind, the culture, or the society. As a feature of human experience and development, sexuality itself transcends the multiplicity of intra- and interindividual contexts that comprise a life course. A transdisciplinary research approach may, therefore, represent the best epistemological strategy for inquiry. The concept of *transdisciplinarity*, with its emphasis on unifying disparate perspectives and enhancing the social utility of knowledge [Aram, 2004], is quite applicable to research on sexual orientation. In order to increase the salience and impact of research on sexual orientation, investigators must increasingly be trained to assume a transdisciplinary approach which recognizes the unique and valid contributions of multiple epistemological perspectives. The application of a problem-centered, rather than discipline-centered, approach will surely liberate investigators to discover new knowledge and explain the anomalous by cultivating a research culture defined by methodological and epistemological pluralism.

The life course paradigm provides a transdisciplinary discourse to consider the complexity of sexual development. By emphasizing the historical and cultural relativity of sexual development, while simultaneously arguing for biosocial interactionism, a life course paradigm of sexual orientation development fosters a reconciliation of disparate epistemological discourses through conceptual unification and mutual accommodation. Such an endeavor, unquestionably audacious and ambitious, sacrifices specificity for breadth and generality. By providing a new paradigmatic approach – a new ‘worldview’ for the scientist of sexual development – I hope that a new generation of investigators will be stimulated to ask questions that strive to anticipate the anomalous in human sexual lives. I express these aims with sincere humility and an exciting sense of uncertainty at the direction this and other paradigm shifts in sexual science will assume. To end as I began, Kuhn’s insight must finally be evoked once more:

A new theory (...) is seldom or never just an increment to what is already known. Its assimilation requires the reconstruction of prior theory and the re-evaluation of prior fact, an intrinsically revolutionary process that is seldom completed by a single man and never overnight. (p. 7)

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