

Helen E Longino: Studying Human Behavior: How Scientists Investigate Aggression and Sexuality. University of Chicago Press: Chicago & London. 2013. 249 pages.

Review 1

Helen Longino's *Studying Human Behavior: How Scientists Investigate Aggression and Sexuality* demonstrates the relevance and validity of scientific pluralism as a mode of understanding scientific study of human behavior. Previously, in her *The Fate of Knowledge* (Princeton University Press, 2002), the author demarcated her stance on social epistemology as the epistemic framework in which her version of a philosophical scientific pluralism fits well. The present book clearly puts these principles to work. The result is a fascinating yet easy read, reporting empirical research on how various sciences study and explain human behavior. Throughout, the book is well written and well thought. Based on exhaustive observation and careful analysis of scientific practices and discourses, it offers insights on five distinct scientific approaches to the study of sexuality and aggression.

The book restores, defends, and maintains openness to pluralism (p.2). Its author's aim is not to engage the nature/nurture debate, nor judge which one of the scientific approaches is best in explaining the phenomena they study. Instead, the focus is on what each approach contributes within the limits of its strengths and weak points. In addition she considers the interplay of politics and popular mass media in influencing advancement and directions in scientific discourse.

The book has two parts: one devoted to the analysis of specific scientific approaches to studying sexual behavior and aggressive behavior; the second to the epistemic, ontological, and social life of behavioral science in general. The five scientific approaches to the chosen behavioral phenomena (sexuality and aggression) studied are: quantitative behavioral genetics, social-environmental approaches, molecular behavioral genetics, neurobiological approaches, and integrative or systems theoretical approaches. These entail explanations that the author characterizes (in line with Ernst Mayr) as proximate. Approaches based on ultimate explanations, such as sociobiology and evolutionary psychology, are omitted from the study.

The method of the book is to review both empirical studies and theoretical polemical writings on the chosen behavioral phenomena. Quantitative scientometrics is applied to demonstrate difference in citation structures of distinct approaches. Epistemic, ontological, and social life of behavioral science is re-contextualized into a larger frame, in the latter part of the book. The book ends in discussing the interrelation of scientific explanations and the social outcomes of politics based on these explanations. Referring to the not so rare counter-factuality of science based policies, the author recommends the pluralist approach to the assessment of the import of behavioral sciences. On basis

of the evidence presented in her book, this recommendation is clearly justified.

At crux, scientific explanations rely on the theory dependence of causality. The empirical data studied by Longino offer a chance to describe causal spaces of different approaches. Longino shows brilliantly how the chosen approaches, be they on the nature or on the nurture side, have their Achilles' heel in the justification of their choice of theory. The integrative or systems theoretical approach illustrates, perhaps, the most intriguing phenomenon of all: the less detailed the model, the firmer its conclusions, the more detailed the model or the system description, the less explanatory power will be assigned to any single factor.

The book is clearly and concisely written, an easy read for beginners of STS, social epistemology, or scientific pluralism studies, but also interesting and thought provoking to learned people, and not without aesthetic qualities in its prose. Helpfully there is an exhaustive name index as well as a precise subject index of the approaches studied and the relevant public debate. Warmly recommended as basic literature to STS classes as well as a good read for professionals of STS!

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Review 2

Contrary to the trend in mainstream of philosophy of science Helen E. Longino's book *Studying Human Behavior* analyses a popular field of science. For this, she proposes a pluralist approach implying that a "[g]enuine understanding of human behaviour requires not a new

comprehensive paradigm so much as an understanding of the scope and limitations of the various approaches employed in its investigations" (p.206).

In my reading, the book presents two different and contrasting messages. I try to convey these by offering two perspectives on Longino's book. First, I present the scope and limitations of the book in a disinterested style similar to Longino's own. After this, I provide a pluralist-pragmatist reading following her proposition in the eighth chapter of the book.

Scope and limitations

The book first presents an impressive overview of five 'families' of scientific approaches to human aggression and sexuality. This overview is complemented by philosophical reflections on how to deal with scientific knowledge of human behaviour, once we realize that the various traditions do not add up.

Each of the two parts of this well-written book is around a hundred pages. The first part presents five named approaches: Quantitative Behavioural Genetics; Social-Environmental Approaches (mainly quantitative psychological and sociological approaches); Molecular Behavioural Genetics; Neurobiological approaches; and approaches that seek to combine these approaches to so-called integrated views of aggression and sexuality. These chapters are each organised in four corresponding sections: an overview section; a section on methods adopted in the approach; its scope and assumptions; and a conclusion. This composition provides a useful grid for orientation within the enormous range of scientific research that each chapter displays. It will be particularly helpful for students and scientists of neighbouring fields.

However, the book fails to explain why exactly its five (largely quantitative) approaches were selected, and not others. Because it presents such vast amounts of research, the book conveys the impression of being comprehensive, of covering any important literature that investigates aggression and sexuality. However, works that are highly influential in the social sciences are missing, such as Judith Butler's (1990) theory of sexuality, and Randall Collins' (2008) approach to violence – to name just a single work in each of the areas of human behaviour concerned. Such work is not even mentioned on the few pages in which Longino briefly sketches "human ecology/ethology approaches" (p.117-121). This is a pity as these could indeed counter Longino's complaints of studies of human behaviour, such as that their "focus on homo- and heterosexuality obscures the range of erotic phenomena that constitute human sexuality" (p.208).

The question of 'the best' approach is attended to several times throughout the first part, although part one concludes by noting that this is probably the wrong question to ask. Longino emphasises that all approaches are limited in some ways.

Part two carries the title "Epistemological, Ontological, and Social Analysis". It begins by showing the incommensurability of the five families of approaches covered in part one. In a revealing chapter Longino analyses the 'spaces of causality' of each approach. She shows that what counts as behaviour, what is measured, and accordingly what can possibly be identified as causes of behaviour varies across the approaches. Defining behaviour is extremely difficult, the book emphasises. Most of the approaches analysed understand behaviour as a property of individuals. Even analyses on population-level tend to take populations to be an aggregation of individuals. Yet, as an object of research, aggression "splinters

into different measurable indices," that "are held together [only] by a folk understanding of aggression" (p.177, my insertion).

Through citation analysis Longino inquires what happens to knowledge of human behaviour once published. Some areas of research (the GxExN model) were cited in scientific journals, in popularising media and even in philosophy. References to other research (such as Gottlieb's developmental systems approach) mainly appeared in scientific journals, and in a four-to-one ratio of theoretical to empirical content. With few exceptions little cross-approach citation was found within the scientific literature. In the general press, scientific knowledge of behaviour gets reshaped. It is "subject to interpretation and selective reading as it moves from the laboratory and field to policy deliberation, mass media and public hearts and minds" (p.192).

In the book's "Brief Conclusion" Longino attends to the "three major points" of her study, concerning the partial interrelations of approaches to human behaviour, the difficulties in defining behaviour and the communication of research findings.

A pluralist-pragmatist reading

Another way of reviewing *Studying Human Behaviour* is by reporting the disconcertment (Verran, 2001) I experienced while reading. It happened in chapter eight. Well into chapter four or five, I came to find the first part becoming a rather tedious read: approach after approach portrayed as consensual areas of knowledge; study after study, presented in a sort of distanced style. Longino's approach seemed to mirror the approach scientists would themselves take in accounting for their results to an outsider. Focussing on limits, the discussions of the approaches almost exclusively followed an additive logic, emphasising which areas each approach would fail to cover.

And then chapter eight! The analysis of causal spaces that I found so revealing is followed by a discussion of monist, pluralist and pragmatist approaches to accounts of scientific knowledge. Monist approaches contend that proper scientific knowledge of a phenomenon is complete and comprehensive. They share the view with moderate pluralists that diverging scientific accounts are a sign of a scientific area that has not yet been fully developed. By contrast, substantial pluralists take some phenomena to be characterised by an “ineliminable plurality of theories” (p.137). Third, pragmatists hold that knowledge varies with the practices in which it is embedded.

I had unequivocally read the part of the book as conveying a monist or moderate pluralist perspective, based on the recurring emphasis of the partiality of each approach, and their failures in covering this or that aspect of behaviour. However, after a longer discussion of different versions of pluralism, Longino claims that hers is a pluralist approach “supplemented by a form of pragmatism” (p.149). According to this way of accounting scientific knowledge, only “a flawed model of scientific knowledge... separates pure knowledge from its application and supposes that “pure” (a.k.a. “basic”) research can provide comprehensive knowledge of a phenomenon that can then be applied to or drawn on for the solution to practical problems.” Scientific knowledge, Longino continues, “cannot be separated from the conceptions of what we want the resulting knowledge for” (p.149). Yet it is apparent that the rule Longino is proposing here, does not apply to the first part of the book, in which Longino succeeds very well in presenting scientific knowledge absolutely disembedded from reflections on what we want the resulting overview over approaches for. After she meticulously examines how

behavioural scientists’ choices in developing their approaches limit their analyses, she is less attentive to exactly those issues when it comes to her own approach.

Being sympathetic to Longino’s pluralist-pragmatist ideas I had accepted the need to reinterpret my response to the first part of her book: Probably, I thought, the five approaches were accounted for in a disinterested, distanced style due to Longino’s (implicit) conceptions of what she wanted the resulting knowledge for, i.e. to convince scientists of human behaviour, and probably also philosophers of science, of her approach to scientific knowledge. Such a rhetorical ‘trick’ may indeed be necessary if one seeks to convince such scholars to lend an ear to a pluralist-pragmatist. It was with deep admiration for Longino’s paradoxical and, thus, consistent application of her pluralist-pragmatist stance that I turned the page to continue reading chapter nine. This was when the second surprise hit me. Chapter nine starts out by stating that ‘ordinary concepts’ of behaviour are vague and value laden, and thus not suited for scientific investigation. Accordingly, the challenge is to develop “clear and unambiguous behavioural categories and criteria” (p.152).

The book continues with this apparent amnesia of chapter eight until its end. In the conclusion Longino points to the ‘illusion’ that “a discrete phenomenon is being identified, but the variety of operationalizations and the instability across measurement methods gives the lie to such hopes” (p.206). I fail to recognize how a diagnosis of scientific approaches as ‘illusions’ can be compatible with a pluralist-pragmatist stance that departs from the idea that ““pure”.. research can provide comprehensive knowledge of a phenomenon”.

The disconcerting experience around chapter eight that I felt when reading derived

from the tension between the phenomenon behaviour and the representation of behaviour. In my understanding the reconsideration of the relationship between phenomenon and representation is a necessary consequence of Longino's pluralist-pragmatist stance as explained in chapter eight. Without it, we end up in an endless regress of seeking for the universally best representation, ignorant of the fact that also our own knowledge production is situated and attempts to solve practical problems. We might stare ourselves blind focusing on what from a 'view from nowhere' is missing in each approach, or we may end up as this character in Lewis Carroll's *Sylvie and Bruno* from 1894:

That's another thing we've learned from your Nation," said Mein Herr, "map-making. But we've carried it much further than you. What do you consider the largest map that would be really useful?" "About six inches to a mile." "Only six inches!" exclaimed Mein Herr. "We very soon got to six yards to the mile. Then we tried a hundred yards to the mile. And then came the grandest idea of all! We actually made a map of the country, on the scale of a mile to the mile!" "Have you used it much?" I enquired. "It has never been spread out, yet," said Mein Herr: "the farmers objected: They said it would cover the whole country, and shut out the sunlight! So we now use the country itself, as its own map, and I assure you it does nearly as well. (Carroll, 1894: 524, ref. Smith, 2003: 75)

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