

Culturing Bioscience: A Case Study in the Anthropology of Science by Udo Krautwurst.

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For those enamored of redescribing science and its institutions in terms of fluids (currents and eddies) and entanglements or relationalities, *Culturing Bioscience* is a delightful primer on science studies. Among the best, if fleeting, moments are explanations of Niels Bohr's complementarity (in contrast to Werner Heisenberg's uncertainty principle) as superimposition of possible outcomes, tipped when an additional eddy occurs. Seventeen textboxes with concepts associated with ten female and nine male authors in science studies and anthropology—with Karen Barad's "agential realism" as the guiding light (1999, 2000, 2007)—accompany a case study of the setting up of a neuroscience lab within an "open concept, multi-user facility" at the University of Prince Edward Island's Atlantic Center for Comparative Biomedical Research (ACCBR).

Some key names and concepts inevitably are missing. Among those I miss are the Canadian scholars Peter Keating and Alberto Cambrosio's (2006, 2011) notions of "biomedical platforms" (also a mode of shared core facilities) and protocols within distributed networks of collective science beyond the epistemological capacities of any individual. Such absences are tokens, perhaps, of a tendency toward a kind of epistemological absolutism beyond "good enough" pragmatism, as in the example of a thermometer at room temperature raising (ever so minutely) the temperature of a cold glass of water (if it mattered, the thermometer could be chilled first). Since everything is entangled in everything else, all that was "inter" becomes

“intra,” as in textual Intra-ludes (rather than Interludes), an Intra-duction (rather than Introduction), intra-vening (instead of intervening), intra-acting (rather than interacting), intra-secting (rather than intersecting). To counterbalance this weightlessness, the text moves in conventional scales from experiment, to lab, to university, to regional and national plans, and global political economies.

As one moves from the microtechniques of cell-patch-clamping and adjusting the apparatuses of high-pressure liquid chromatography to the setting up of, first, a Veterinary School for the four Canadian Atlantic provinces, then adding other innovation cluster components (a Nursing School, biotechnology-oriented MBA, bioscience technician programs, a bioscience incubator park, the ACCBR, and the wonderfully Orwellian-named Department of Innovation and Advanced Learning), no bioscientific or biotechnology narrative or strategy is identified (no more labs or bioscience after chapter 1). Instead, there is coping with neoliberal economic pressures, wrapped in the language of agential realism, currents, eddies, and diffractions and verbs of action (“doing a university”). The distinction between Modes 1 and 2 knowledge (Gibbons et al. 1994) gets muddled and reductive in the process: rather than being a difference in types of urgent problems that require action with too many unknowns, Mode 2 is recoded as merely applied science adapted to current economic pressures.

ACCBR and its open concept lab was a social experiment (p. 137) that in the end was virtualized, giving space to toxicology and to individual labs, returning to individualist rather than other kinds of incentive structures. One might say larger forces prevailed, but agential realism seems to insist that instead there were intra-acting evolutions, smaller eddies drowned in larger currents.

Whether or not “agential literacy” should replace scientific literacy, as is almost suggested (p. 138), is a query about the goal and intention of the book. While it is true that scientific literacy does not itself entail social responsibility (p. 138), social responsibility does entail some scientific literacy.

There are two books in one in *Culturing Bioscience*: one is on the philosophy of science couched as opposition to a presumptive mechanical (Newtonian) view of science, and one is on PEI’s experience trying to build a bioeconomy cluster with some light comparisons and contrasts to a lab in Wisconsin (described by Kleinman [2003]), biocapitalism in Andhra Pradesh (described by Sunder Rajan [2006]), Biopolis in Singapore (a fieldsite of mine [Fischer 2013]), Silicon Valley, and general theories of clustering for innovation. The former is dominant. We learn less about the neuroscience or other labs, or about the bioscientists’ own lives and imaginations of what they are about. The changing nature of the contemporary university is adduced (albeit missing the foundational accounts for Canada by Jean-François Lyotard [1979] and Bill Readings [1997], who sketched out the dynamics of the emerging information economy and the audit culture in the 1970s–80s).

Composting (to invoke Donna Haraway’s [2014] term) an introductory text in the anthropology of the life sciences is no easy task these days amidst the different currents and eddies of matters of concern, and this text manages admirably to cite many key names in its witty, possibly ironic, tour of the field. While I have no particular objection to the Heraclitean metaphors of currents and eddies, or quantum physics derived metaphors of entanglements, I find them less incisive and provocative to either scientists’ own views or those of presumptive general opinion than those enamored of these terms seems to think.

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