

In some ways it is and in some ways not. Goldberg is clearly attracted to the Stowe project because of his love for records, but, as noted above, the extra income also plays a part. When he learns that he is the target of a covert operation, it seems that self-preservation becomes his primary motive for seeking the information the conspirators are trying to hide. But his librarian skills clearly contribute to his climactic uncovering of the conspiracy. Although his role as a librarian is important, it is clearly not, in my opinion, the glue that holds the plot together.

Will academic librarians who read this book find any special insights into their profession? In my opinion, academic librarians will learn very little about their profession from reading this thriller, except that we have a long way to go to educate the general public on what academic librarianship is all about. I was especially disappointed in Beinhart's failure to mention, except in passing, the reference and instruction roles of today's academic librarians. At least Goldberg is characterized as proactive and even a bit heroic, which raises his character to a somewhat higher level than most other fictional librarians. But I believe it's likely that the unflattering stereotypes employed by Beinhart will bear greater weight in the public eye.

For academic librarians who like a good political thriller and are willing to put up with plenty of sex, violence, and profanity, Beinhart's novel will likely be an entertaining read. But they should be aware that the depiction of conservative Republicans is very negative. Also, they should not expect to gain any special insights into the nature of academic librarianship. —Wade Kotter, Weber State University.

Frohmann, Bernd Peter. *Deflating Information: From Science Studies to Documentation*. Toronto: Univ. of Toronto Pr., 2004. 311p. alk. paper, \$65 (ISBN 0802088392). LC 2004-276469.

Bernd Frohmann, an associate professor of information and media studies at the

University of Western Ontario, has written a number of articles and reviews leading up to this volume. In it, he tackles the "paradox of scientific documentation": the question of why science's "most important medium" —its written record— is somehow both "essential to science, indeed, thought itself to be 'a form of science,' [and simultaneously] marginal to work at the research front, ...pos[ing] grave threats to the effective communication of the very information required for scientific knowledge production" via the unwieldy mass of scientific documentation. This particular field is so important, he argues, because it is held up as the most important, most developed, and most effective of information systems. His response is to deconstruct and "deflate" the term *information* as it appears in the literature, and the result is a useful book in some respects, but one with a number of flaws.

In order to deflate information, Frohmann sets the stage with a précis of Wittgenstein's deconstruction of words and language, exposing the lack of concrete Aristotelian meaning (language is a "game" and words signifiers). He then rhetorically connects three other thinkers who have written about science: the seventeenth-century English philosopher Francis Bacon, the nineteenth- and early twentieth-century Belgian meta-bibliographer and documentalist Paul Otlet, and the distinguished twentieth-century American sociologist Robert Merton. From Bacon, he derives a socially organized system of scientific knowledge production, with documented advances at its core. From Otlet, he derives a focus on useful original content (information), as distinct from the surrounding dross in scientific writing, which is to be extracted and cumulated into a "universal book" of organized scientific knowledge. From Merton, he derives a set of mores and norms within modern science that increasingly rely on rhetorical reward systems of citation, recognition, and eponymy (a major discovery named af-

ter oneself). Frohmann then proceeds to identify the contradictory uses of "information" and the epistemological assumptions built on that basis in the study of scientific information systems. By "epistemological," Frohmann refers "solely to a conception of scientific knowledge as a theoretical representation of the world," and by "epistemic content" (a stand-in for information), the "abstract, immaterial, conceptual substance" of a work.

Thus theoretically and linguistically armed, Frohmann marches through the literature of information studies and systems (those in science and generally). Along the way, he teases out a priori assumptions, not surprisingly finding uncritical or already deconstructed notions of information at their core. Frohmann provides good guides through the various schools of information study (i.e., studies of communication channels, information-seeking behaviors, user studies, the social constructions of science, etc.). A word of caution: these *précis* are often so tightly interwoven with his theoretical deconstructions that they can be difficult to extract. To wit: "The analytical resources for understanding the documentary practices and circuits that have been extracted from this body of work emphasize their constitutive effects, rather than interpretations in terms of conduits for communication of epistemic content thought to be required by research science." Abstruse language often obscures core ideas.

Even so, the underlying guide to the relationships among the various information theories and the historical sociology of science are of value. The other reason to plow through it is because the book is "intended to challenge epistemological presuppositions of information studies generally, not simply assumptions guiding studies of scholarly communication among scientists." This seems to contradict the stated narrower focus on science documentation, information, systems, and their epistemological assumptions. Indeed, the book concludes with a Foucauldian analysis of "fantasia" wherein

"the library objectifies by fixing places for documents on library shelves, and through the operation and maintenance of a subject analysis system that maps decontextualized epistemic content to arrays of documents in a highly privileged and culturally respected institutional space." In other words, this book represents a broad new derivative theory about the field.

I will briefly review three of the flaws mentioned earlier. First, Frohmann's connecting the work of Merton with Otlet and Bacon is a stretch and not necessarily representative of his main contributions to the sociology of science. For instance, it is a textbook staple to report Merton's early investigations of economic factors in science and his method to measure the impact of economic needs and incentives on the content and amount of scientific research. Further, when he wrote about Bacon (he seemed not to refer to Otlet at all), Merton predominantly characterized him as a "propagandist" of science and did not focus primarily on his documentary or scientific production schemes (see *Science, Technology & Society in Seventeenth Century England* and *Sociology of Science*, which Frohmann utilizes). To the extent that Merton wrote on Bacon in *Sociology of Science* at any length, he tackled his question of whether geniuses drive science forward or whether scientific discoveries are accomplished by "multiples" (i.e., a community of scientists). Merton is a *sociologist* of science; his theory explains the social system of science in place, not *how scientific information should theoretically best be organized and produced* like Bacon and Otlet. This is a crucial difference, and the rhetorical-theoretical connections Frohmann forges to Merton to extrapolate the basis of the language game of scientific recognition are tenuous.

Second, in reading Frohmann's deconstructive account, one could easily forget that science and scientific information systems are intimately tied to economics and business concerns. That Western societies invest immense amounts in scientific

research to fuel their economies—and then want the results documented and a system to preserve and access it after that level of investment—should come as no surprise. The old story of the delayed introduction of fax machines has been well learned. The research information has been bought and paid for and should be at the ready in case it has an eventual economic benefit. This has as much explanatory power to address the paradox with which Frohmann begins the book as the shifting sands of epistemic content shot through scientific documentation and its retrieval systems and theories. The work of Frank Webster (e.g., “Information: A Skeptical Account,” *Advances in Librarianship*, vol. 24, 2000) demonstrates the power of an analysis that follows the money, noting the different uses of the word *information* and its connection to economic trends. It is an abiding irony that deconstructive theories take a linguistic turn to attack dominating universalisms and meta-narratives (in science, in social theory, etc.), bypassing the universal cultural and epistemological claims currently made on behalf of market economics.

Last, Frohmann’s characterization and comparison of information studies and theories skitters around. For instance, reviewing the study of science information systems and theories, he relies on the “best research” represented in the *Annual Review of Information Science and Technology* (*ARIST*). He doesn’t explain or

document why *ARIST* articles hold this status, and he found only eight such studies in nine years (1966–1974), then one more four years later. Later, he shifts to nonscientific information studies, noting that “little of the work reviewed in *ARIST* pertaining directly to science information systems is recent because ... interest in other kinds of information users caught the discipline’s attention from the mid-1980’s.” But the later studies reviewed were *not* published in *ARIST*, and it is unclear how they relate to problems in scientific information systems and documentation. Frohmann’s bibliography is rich with more recent books on the rhetoric, practice, and documentation of science, but often as not these are outside library and information science research, so they cannot be said to be typical of the field Frohmann seeks to redirect. Again, the connections seem primarily rhetorical. The authority of science information systems and studies is invoked to validate the importance of the task of deflating information, but the book shifts between general and scientific information studies to validate critiques from one arena to the other.

In sum, the book does have value in its pieces. To give another example, I think Frohmann’s explication of Otlet easily provides the basis to argue that Vannevar Bush doesn’t deserve the hallowed place he holds in our field. But the book is not likely to have the theoretical impact that was its main purpose. It is well indexed and edited. The combination of in-text citation, content notes at the back of the book with in-text citations, and a separate bibliography at the end serves to make that material difficult to track. —*John Buschman, Rider University.*

Shaw, W. David. *Babel and the Ivory Tower: The Scholar in the Age of Science.* Toronto: Univ. of Toronto Pr., 2005. 288p. \$60 (ISBN 0802079989).

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