

In an episode of the 1980s BBC comedy *Yes, Minister* (2003) called “Big Brother,” the Minister for Administrative Affairs, the Right Honourable James Hacker MP is responsible for the “National Database.” In the episode the minister is interviewed on a current affairs program, and in his introductory remarks the interviewer describes the “National Database” as a “powerful, even totalitarian weapon that the computer revolution has put into the Government’s hand” and follows up this statement by asking, “Are you laying the foundations for the police state?” The befuddled minister responds, awkwardly, that he is glad that he was asked the question because (and at this point we know he is winging it) “a lot of people want to know the answer to it.”

The interviewer presses on: “Supposing I annoy you in this interview; how do I know that you won’t go back to your office, press a button and call up my tax records, my hospital records, my police records?” to which the minister replies, “No, no, Bob, you know as well as I do that’s not the way we do things in this country.” Bob follows up with “Then, what’s the database for if it’s not to check up on people?” The Minister responds, “You know, that’s a very interesting question ... it’s for storing information to speed up government business so that we need not take on an enormous influx of clerical staff—computers are big business and are good news.” The minister is quizzed further: “But Minister, if you put information into the machine, you eventually have to take information out of the machine.” The minister says drolly, “Not necessarily” (his body language acknowledging that this response has an even chance of being both factually correct and defeating his antagonist’s line of questioning).

The interviewer asks, sensing blood in the water, “So you’re going to spend 25 million pounds accumulating information and never use it?” The minister replies, “Well, no, yes, there ... will be safeguards.” “Such as?” “We will be looking at a whole range of possibilities, and of course, it is a complex and highly technical matter—and Rome wasn’t built in a day—it’s under review...and of course these things take time.” “Minister, am I talking to the former editor of Reform or to a civil service spokesperson?” “Well we haven’t yet talked about the safeguards I have already introduced ... there’s my bureaucratic watch dog.” “Well, Minister, it sounds like we will need a whole pack of watch dogs before long. Thank you very much.” The interview finished, the repartee ends with the minister saying “I thought I waffled a bit.” The interviewer replies, “No, you stonewalled superbly, Minister. Time for a drink?” The Minister, relieved, agrees ... “Just a little one.”

I drag readers through this dialogue preparatory to my review of Seth Rudy’s *Literature and Encyclopedia in Enlightenment Britain: The Pursuit of Complete Knowledge* (2014) and Colin B. Burke’s *Information and Intrigue: From Index Cards to Dewey Decimals to Alger Hiss* (2014) because, not only is it prescient in its anticipation of the information-industrial complex (with which these books—and all knowledge organization—have some association), but the comedy also raises the notion of what it is for states (and individuals) to hold some form of complete knowledge: “high and low, ephemeral and eternal, useful and useless” (1), topics which are at the heart of Rudy’s and Burke’s books. There is also a well-honed relationship between the literary form and attempts to explain complete knowledge, knowledge which might reasonably purport to be the “collection, organization, distinction, and abridgement” in response to a need to “alleviate” perceived “overabundance” (3). Rudy’s work reveals how, before and following the scientific revolution, literature (the epic poem and the novel) had a significant role in helping readers understand an extensive range of knowledge. Such knowledge was presented in an adumbrated form but envisioned a type of completeness. Without Rudy’s work I would not have been able to see how Yes, Minister, albeit in a minor way, mirrors Richardson, Fielding and Sterne’s projects two centuries earlier. Burke’s work reveals a deeply competitive world for dominance in scientific information systems, both within the professional
and governmental realms. Yes, Minister alludes to this as well.

On the face of it there is little that links the Rudy and Burke works, separated as they are by subject matter that spans two centuries. Yet, this would be a too artificial distinction of the topics they cover. Rudy's work is an erudite, cross-disciplinary and tightly written book that while focusing on the Enlightenment, is inclusive in its span of both Classical civilization and the digital age. Burke's work is the product of a cognoscente, who asks us to indulge him in the refinements of age, with the idiosyncrasies that time and culture bring. Burke's work is the more unusual of the two.

It traverses, saga-like, the family history of the patrician Fields, a Quaker family from New York and covers the intellectual adventures of Herbert Haviland Field, a crusader for quality science information systems. A work which might have ended with the preternatural death of its protagonist is extended, somewhat artificially, by telling the story of his son Noel, a committed communist and Soviet agent. Tony Sharp's Stalin's American Spy: Noel Field, Allen Dulles and the East European Show-Trials was published in 2014 contemporaneously with Burke's work and is a full length treatment of the material which forms a coda to Burke's main story.

Rudy's work is the easier to unpack, but before so doing, it is worth looking at what these works (neither of which is by an information scientist, but both of which are valuable to the information science community) do have in common. Rudy, a literature professor, translates an interest in the search for encyclopedic knowledge or what he quite reasonably terms in an ancillary sense complete knowledge, into a fascinating diorama of how a range of motivating forces, which include the search for comprehensiveness and, at least the implication of cohesion, helped to make sense of the popular growth of knowledge (or access to information) between 1600 and 1800. With this drive toward knowledge as more secular and more quotidian, there developed a set of expectations about what counts for knowledge and how we measure it which differed in quality and scale from what had gone before.

Rudy's achievement in this work is not so much in how he relates the details of the complex inter-relations between the various players and various generations of encyclopaedists, novelists and litterateurs, it is more so that he provides a significant contextualisation that is both historically-based and focused on providing a sociological context to the knowledge concept, how it changes, how it is considered and constructed to be important. Rudy's work reminded me, in a sense, of an extended exercise in domain analysis—the domain, of course, being the notion of complete or core knowledge or what I have called elsewhere “civil society knowledge” (Kelly 2014).

Rudy opens his discussion, fittingly, with reference to Bacon's Great Instauration, a part of which is devoted to the type of broad experience and natural history which can underpin philosophy. Bacon's plan for an inductive means by which human knowledge could be “brought to a state of completion,” however so conceived, would be only realized with “a new or foundational text or texts generated by modern methods of knowledge production” (20). Rudy points out that completeness (in the sense of the epic genre such as that evinced in Homer) was not given a sympathetic ear by Bacon. For Bacon, it was the “collective effort” which pointed to a greater, more modern approach, sympathetic to “progressive and self-revising” learning that was better said to be characteristic of restoring science to its pre-Aristotelian stage. Stephen Gaukroger, in his magisterial The Emergence of a Scientific Culture (2006, 11), points out that we need to be prepared to give an account of how the emergence of a scientific culture can largely be seen as “the gradual assimilation of all cognitive values to scientific ones” and that such a practice moves beyond scientific practice to become a “distinctive feature of Western modernity.” Gaukroger points out, and it is relevant here to Burke's broader treatment of Field's Quakerism, “the West's sense of what its superiority consisted in shifted seamlessly, in the early decades of the nineteenth century, from its religion to its science” (11). Civilization no longer really belonged to religious quasi-ethical systems; it belonged to knowledge. Gaukroger highlights how while today we may no longer play along with such pantomimes, our society remains constitutionally unable to separate “scientific understanding” from the “process of modernization” (11).

Rudy's discussion of how epic poetry fulfilled the role of complete knowledge (albeit not as we might entertain the term) will, in all likelihood, surprise most readers for whom this will be new territory. Where the tides of literature and scientific discourse mix is an exceedingly rare place, but Rudy has teased out this brackish zone, and it proves fascinating, indeed. Rudy traces the trope of unity back to Aristotle in whom the Poetics asks poets to aspire to it so that they might achieve a type of completeness. This emerges from “discernment rather than inclusivity” and “selectivity and narrative fictionalization” rather than some injudicious broad brush attempt at historiography (37). One of the pertinent parts of the Poetics (§XXIII) outlines the narrative form and its relationship with providing historical accounts:

It will thus resemble a living organism in all its unity, and produce the pleasure proper to it. It will differ in structure from historical compositions, which of necessity present not a single action, but a single period, and all that happened within that pe-
period to one person or to many, little connected together as the events may be. For as the sea-fight at Salamis and the battle with the Carthaginians in Sicily took place at the same time, but did not tend to any one result, so in the sequence of events, one thing sometimes follows another, and yet no single result is thereby produced. Such is the practice, we may say, of most poets. Here again, then, as has been already observed, the transcendent excellence of Homer is manifest. He never attempts to make the whole war of Troy the subject of his poem, though that war had a beginning and an end. It would have been too vast a theme, and not easily embraced in a single view.

The Classical epic form broke down in the latter seventeenth century. *Paradise Lost* in using “the genre system it comprehends (“epic as compendium”) in order to change that system and alert readers to the cultural and moral values embedded within it” (Rudy, 44) transforms—according to Rudy—a series of knowledge paradigms. In the act of redeeming the epic form, the form of the redemption actually meant its death knell. Shumaker in a paen to Milton, *Unpremeditated Verse: Feeling and Perception in *Paradise Lost*" (1967/2015, 6), makes the related point (albeit poorly phrased) that *Paradise Lost* is “an enormous ‘tell-me-why’ story infinitely more complex than those told by children or savages but similar in basic nature.”

Rudy’s work really gains traction when it begins to discuss the Augustan Age, the period which covers the very end of the seventeenth century and continues until the 1740s. The dynamic that emerged was between rationalist organizers of knowledge such as Harris, Chambers, Diderot and D’Alembert (who, according to Rudy, “deconstructed nature in order to make the connection of all the parts of knowledge comprehensible to the human mind”—their tactics being “alphabetical arrangement, genealogical trees, and extensive cross-referencing”), and sundry poets who would not follow but allowed nature’s information to flow along a course which encompassed “the immensity of an already organized world about which knowledge could only ever be incomplete” (81). What may appear humorous to us today when we look to this craze for complete literary works, dictionaries of this, or that, and encyclopedia of various forms, should in fact be seen as part and parcel of the search for increasing order in a world afush with literary expression, mercantilism and empiricism (which only compounded in Field’s time, nearly two centuries later). Universal and encyclopedic completeness began to take shape as did, as Rudy highlights, the contested sense of what makes for such completeness. Perhaps a good example is The *General Magazine of Arts and Sciences* which crossed the boundary between encyclopedia and “variety and ornament of a periodical magazine.” Rudy points to how such hybrids sought for their scholarly part “connectivity and scope” (83). Yes, *Minister* is, of course, just one of a multitude of modern equivalents.

The encyclopedic project that Rudy traces is a history of false starts, changing fads in how knowledge was organized and, in fine detail, for what purpose. What may be difficult for us to understand today is just how these projects contributed to the disengagement of literary and non-literary works. Just as the epic’s connective role declined, so eventually would newer formats such as “the complete novel” (think Richardson’s *Clarissa*), eventually became unexceptional (and without pretense to achieving more than art). While the non-literary, scientific attempts to map universal knowledge had their inspiration in poetic genres, Rudy also traces how the growth of the novel in the eighteenth century was intimately linked with the growth of reference texts, Fielding’s *Joseph Andrews* being a case in point. As Hawley (1999, 2) points out:

First-time readers of *Joseph Andrews* expecting to find a light-hearted novel unencumbered by serious intent, a bawdy romp through the English countryside peopled by hearty vicars, lusty lads and buxom wenches may well be surprised by what confronts them in the opening pages: not a jolly jape, but a serious treatise invoking Homer and Aristotle in support of the author’s theories about the relationships between comedy, tragedy and epic. That Fielding should open his “novel” with a disquisition on the aesthetics of the “comic-Epic-Poem-in-Prose” is both surprising and fitting. It is entirely characteristic of Fielding’s manner and his energies that he should cut both ways at once, combining classical learning and comic vitality.

Rudy reveals how these problems of “comprehensiveness and total connectivity” had emerged more than a century prior to Field’s delineation. The now venerable and ancient *Encyclopedia Britannica* was not always so, and in its early incarnations was just one of many competing attempts to map the universe of knowledge for a public hungry for contemporary and complete information. It is notable for its break with the then convention; it was not designed to mimic the cross-referencing system of Chambers nor had the Enlightenment prejudices of Diderot or D’Alembert yet defined its direction in a didactic sort of way. Rudy notes it did extend treatment on system and subject and, in fact, took a different tack to Bacon on these matters. The *Encyclopedia Britannica* 1.0 (that is, the grouping of Smellie, Macfarquhar and Bell) sought to take a stand on sensible navigation. Rudy points out that cross-references could not aid in

https://doi.org/10.5771/0943-7444-2016-4-301
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readers coming to the promised land of “complete systems of knowledge.” Loquacity and terminological scattering in prior encyclopedic incarnations equated to search difficulties which compromised the hope of “a distinct view of any subject” (124).

Usefully, Rudy draws on Passannante’s (2011) arguments associated with the notion of spargere (scattering) in Bacon to contrast how approaches to knowledge organization see-saw over time. From Bacon’s time, where the post-Aristotelian impetus toward empiricism was much in vogue and had led to scattering of categories to be lauded as a “generative phenomena” (Rudy 2014, 124), the situation had changed once the matured scientific revolution and the nascent social enlightenment had called in other priorities. For our purposes here it is particularly revealing to come to grips with—as Rudy makes clear—how the scattering of categories was at this time (in this context) an indication of loss rather than order.

Passannante’s (The Lucretian Renaissance: Philology and the Afterlife of Tradition, 2011) description of structural change in the appreciation of knowledge is a useful chronological aid to elements of Rudy’s work and the two works are, in many ways, complementary and useful in appreciating the influence of Epicureanism and Christian Humanism on the intellectual milieu of the Renaissance, which of course precedes Rudy’s focus by two centuries. The commonality of the Lucretian-Epicurean-Baconian commitment through these centuries of a system which allowed for the explanation of nature without recourse to a metaphysical ontology is both detailed and fascinating, and intrinsically connected to what we might call the arts and letters. But despite the threat that Bacon identified with the completeness “myth,” and which Rudy points out is associated with the fear that things become all too neat or solved to be really subsumable within any system, the Britannica team and their ilk, took on the small victories first. Cohesiveness was possible as long as completeness was conceptualized as a thousand small battles (or a million!), in pursuit of the larger goal. Rudy claims that “By adding this stage of delimited completeness to the advancement of knowledge, Smellie’s systems set the stage for the long standing (but nevertheless temporary) elevation of general and textual comprehensiveness over total connectivity” (Rudy 2014, 124).

Regrettably, Burke’s book is peppered with a variety of psychologicist inference that, no matter the depth of source material, can only reasonably be said to be the work of an unfulfilled storyteller. Throughout, we are belaboured with apparent insights into people’s character and motivation, the likely feelings of those who came across them and myriad existential possibilities that significantly detract from the academic character of the work. These shortcomings ensure that parts of the work are only of peripheral historical interest. Readers are advised to persevere with Burke’s human interest story which accompanies the core social and scientific focus of Field’s institution, the Concilium Bibliographicum (Field, 1898). It may be a generational thing, but I find references to “England” in place of “the United Kingdom” to be the type of parochial mistake that most American scholars ceased to make in the 1950s or 1960s. The MIT Press editors might have offered more guidance to the author in this regard.

Like Rudy, Burke’s knowledge of information science concepts, as they relate to his subject matter, is first class. Burke’s work is a tour de force in research (if not in style) and the years of research and dedication in uncovering the nitty-gritty detail to a largely forgotten chapter in information science’s history is significant. That Burke, a historian with a historian’s penchant for detail, should have dedicated so much time to this work (he is also the author of Information and Secrecy: Vannevar Bush, Ultra, and the Other Memex [1994] which, by way of recommendation, was introduced by Michael Buckland) is testimony to the ongoing importance that a range of scholarly communities assign to documenting the history and practice of the information disciplines. Burke, the historian, has been “inside the information science tent” so to speak for a number of decades now and his familiarity with the relevant issues certainly shows. One wonders whether the archives for Burke’s work on Field and W. Boyd Rayward’s on Otlet ought to find the same home one day.

Burke identifies the social setting (“ministers turned professors... gentlemen of means” on the one hand and “scientific and technical specialists who could apply their learning to practical problems” on the other (26)) which helped to contribute to the development of, firstly, the classification imperative and then the second wave information overload. These two problems demanded, and perhaps created, the need for a bibliographic answer. Field’s attempt to solve these conundrums were largely addressed as indexing and abstracting solutions, and reflect a “dedication to the rational transformation of science information systems” (Burke 2014, 30)—which is not dissimilar, in intent, to the encyclopedic project Rudy describes.

Field, a zoologist by training, embarked upon bibliograpy/librarianship in the early 1890s as a result, according to Burke, of the anxiety which accompanied the all too real possibility of missing a paper that would be seminal to a doctoral research program. Missing a single paper could result in anomalous claims or results which would lead to ignominy and failure. National bibliographies of the time were, according to Burke, parochial, incomplete, book-focused and tardy (in terms of timeliness). These were the motivating factors which, along with the prohibitive cost in time and money required to ensure that a scholarly inquiry could be reliably said to be complete, gave rise to Field’s
glorious obsession with helping scientists to gain visibility of the scholarly articles that were (in all likelihood) invisible to them given the state of information science systems in the late nineteenth century.

Field’s independent means allowed him the freedom to travel Europe and to assay the degree to which bibliographic coverage in science was progressing. Burke outlines the heart of the problem Field attempted to grapple with; while progress in science as an “international and multilingual” endeavor was progressing (Burke 2014, 32), there was not the corresponding method to allow such practitioners to remain current in their research. Field’s innovation to “classify not just a document or a book, but major ideas within them” received the blessing of Darwin’s correspondent Julius Victor Carus—Burke describes him as the nineteenth century’s “king of zoological classification.” The innovation, according to Burke, was the movement from indexing “the traditional units,” neither style nor specialization in science, according to Burke, led to a narrowing of ideas or facts that required recognition in the way that information was organized. It was quite the opposite. Burke identifies what the “primitive full text” approach meant—multiple index cards for a single publication (rather than Dewey’s much simpler system). It was a straightforward “dedication to ideas” which, concomitantly, would result in both greater expenses in classification and a need to maintain more sizable files that would underpin the knowledge organization endeavor (51).

It seems that we find that we are back to square one in some senses today. Despite an exponential growth in information we have only ourselves to blame when we refuse to employ subject specialists “not general librarians or low-paid clerks” to assist in the business of classification. The reticence to employ (that is, to afford or to designate the role important to society in general) people who might reasonably understand “technical terms and concepts in the literature” (Burke 2014, 51) and for whom the responsibility to engage in expert judgments is, it seems, little changed from 120 years ago. As Burke (52) quite rightly says:

Experts attuned to the latest scholarship were needed, for example, to bridge the subject matter divisions in Dewey’s system. Only a working zoologist could know when to merge a fact or idea from a biology journal’s article on embryology or ecology into a zoology classification.

When looking at how Rudy’s and Burke’s works intersect and overlap one finds the petty personal jealousies and well-trod paths of competitiveness (both intellectual and commercial) in both scientific bibliography and encyclopedism. What comes through as well when we look at the personalities involved is the often deeply self-effacing results of the labor-intensive (and, quite possibly, exceedingly mundane) work associated with the cross-referencing, tabulation and classifying that was common to both projects. When we look at the attempts to standardize coding that might well be applied to, for instance, geographic or political entities—despite well-intentioned discussions—rarely is agreement possible. In the context of an elaboration of relevance theory in the broad field of human communication, Sperber and Wilson (1997, 147) point to how “No approach is so holistic that it can really take in the full range of interconnected facts, without abstracting away from whole dimensions of the reality being studied” and this certainly has a level of warrant when assessing these innovative, yet obsessive, projects (Beghtol, Feinberg, Mai, Hjørland and Olson have all investigated this in various ways). Beghtol (1986, 122) has pointed to how:

Writers have generally concentrated on the syntactic aspects of classification systems, the semantic axis of classification systems exists in the various semantic warrants that have been used to justify their utility. A semantic warrant inevitably governs syntactic techniques and devices, just as in natural language the intended meaning of a sentence must be understood before an appropriate syntax can be chosen. The semantic elements of both natural language and of classification systems, however, are not as easy to isolate and to examine as are the syntactic elements.

Arguably, these issues have cropped up in the worlds described by Rudy and by Burke over the past 250 years without real consolation being found between them. Field’s Concilium Bibliographicum was abstract averse for reasons that align with the varied trajectories which syntactic and semantic tendencies trace in classification. As Burke highlights, Field had learnt from experience that “no one abstract of an article could satisfy all users” (75).

Burke’s Information and Intrigue, while holding some fascinating social history that many within the information sciences will find of interest, is a difficult work with which many will not persevere. The endless biographical detail of minor characters and bit players seriously detracts from the work’s overall appeal. Likewise, the detail about Field’s bibliographic card system (albeit central to his mission) and the financial organization (which both launched and sunk the project) asks a lot of the reader who has not got specific research interests in either of these areas. The depth of coverage that Burke brings to making linkages between science information systems and internationalist-oriented and liberal-progressivist organizations (along with artfully outlining the patrician philanthropic environments which sponsored them) are strong parts of the research, however. As Burke relates, the lesson we might learn today; if such
lessons are of value, is how the Concilium Bibliographicum in the post-World War II dynamic science environment was simply unready for the researcher who demanded simplicity rather than a full-developed system with intellectual rigor built in to it. Burke's research background in intelligence and geopolitics ensures that his linkage of informational change to the science underpinning Realpolitik is astutely made; he describes how the declines of the old "elegant systems" (UDC for instance) occurred and what prompted the rise of newer systems to meet applied needs (such as bibliometrics or scientometrics). These new methods better suited defense research and the larger research universities, both of which had explicit, definable, and potentially intractable information needs that would have been difficult for the likes of Field, Otlet, and La Fontaine to meet.

Ultimately, it was the compradors of science information that were able to fill the gaps in knowledge organization methodology that governments, philanthropists and professional associations could not (or would not) define. While the encyclopedic project, which had long responded to the need for a popular commercial model to sustain its activities now seems moribund, the knowledge organization project which did not and for decades was engaged in recondite inquiry, now has it seems, unlimited potential.

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Note
1. In the Notes Rudy refers to the increasing inadequacy of the Poetics as a sole guide to the laws of epic in the Renaissance. But Aristotle's influence was not entirely spent; Dryden's Essay of Dramatick Poesie (1668) relates how a play ought to be "A just and lively Image of Humane Nature, representing its Passions and Humours, and the Changes of Fortune to which it is subject; for the Delight and Instruction of Mankind" (§11) and that the French tendency to follow the advice in the Poetics (unity of action, time and place) allowed for regularity in dramatic construction. This pleased Dryden: "He so interweaves Truth with probable Fiction, that he puts a pleasing Fallacy upon us; mends the intrigues of Fate, and dispenses with the severity of History, to reward that virtue which has been rendered to us there unfortunate" (§56).

References


