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The sociological turn in information science

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Abstract.

This paper explores the history of ‘the social’ in information science. It traces the influence of social scientific thinking on the development of the field’s intellectual base. The continuing appropriation of both theoretical and methodological insights from domains such as social studies of science, science and technology studies, and socio-technical systems is discussed.

Keywords: history; information science; social science; sociology

1. Introduction: an inter-discipline?

I first published in the *Journal of Information Science (JIS)* in 1980 [1]. My gossamer paper – that was how I described it to the then editor – most certainly did not set the world alight, nor did it languish in the capacious dustbin of the uncited, though, truth be told, it probably deserved such a fate. ‘Some reflections on citation habits in psychology’ was a (very) brief communication containing three references, one of which was to Jack Meadows’ estimable book, *Communication in Science* [2]. The two other cited works were articles in *American Psychologist* and *Social Studies of Science*. It seems appropriate, this being the Ruby anniversary that never was, to take as my starting point that first foray into print with the official organ of the late lamented Institute of Information Scientists (IIS); doubly so, given that it was, in retrospect at least, an early indicator of my long-standing interest in the intersection of information science and social scientific thinking and practice.

For almost three decades I have been reading and drawing upon the literature of the social and behavioral sciences, specifically sociology of science, science and technology studies (STS) and, more recently, the somewhat amorphous domain of social informatics. By way of illustration, many of the references in both my earliest and most recent books, *The Citation Process* [3] and *The Hand of Science* [4], are to monographs and articles sourced from these and cognate fields. It strikes me as inconceivable that the issues which define the sub-fields of information science in which I primarily work – scholarly communication, citation analysis, scientometrics – could have evolved and matured to the extent they have without appropriating insights, both theoretical and methodological, from the social sciences, not least of which is sociology. That early paper in *JIS* is but one of many

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over the years in which I have tried, more or less systematically, to connect the literature of information science with the larger social scientific literature. To be sure, one aspiring boundary spanner does not a sociological spring make, but this anniversary does at least provide a convenient pretext to ask: ‘Has there been a sociological turn in information science?’

In raising the question, or indeed presuming the answer as the title of this paper does, I am not suggesting that our interest in matters sociological is either powerfully dominant or exclusionary of other disciplines that could shape the conduct of enquiry in information science. Far from it: in fact, information science both imports from and exports to a wide range of intellectual trading partners; and, it would appear, is doing so with increasing intensity, as a recent large-scale, diachronic study suggests [5]. That should hardly come as a surprise, given that Irene Farkas-Conn concluded her chronicle of the field in North America [6, p. 210] as follows:

The history of the American Society for Information Science follows the move from documentation to information science, an era of profound changes in the world, the development of information becoming a new body of knowledge, emerging from *several disciplines*. (Emphasis added.)

Information science, being as it is both relatively youthful and modest of size, routinely interacts with and draws liberally upon other subject fields for intellectual enrichment; it engages enthusiastically in, to use Julian Warner’s terminology, ‘exoteric and esoteric communication’ [7] in an effort to achieve theoretical maturity. That need not be problematic or viewed as a negative, since, as Gernot Wersig noted some years ago, ‘inter-conceptual work’ [8, p. 214] is arguably a defining feature of any ‘new/postmodern science’ [8, p. 209].

The chunky concepts which make up our field’s intellectual core (e.g. knowledge, information, communication, representation) are neither owned by information science nor likely to be assembled into an entirely credible canon without the judicious addition of perspectives and approaches taken from established disciplines such as computer science, linguistics, philosophy, psychology and sociology, as well as from newer fields such as cognitive science and human–computer interaction.

2. A short history of the social in information science

Of course, I am far from being the only one, or even one of the first, to see the relevance of ‘the social’ to information science; or for that matter to its disciplinary ancestors: documentation and librarianship. Here are a few brief illustrations of early awareness within the field.

Chapter 2 of Pierce Butler’s *An Introduction to Library Science* [9], first published in 1933, was entitled *The sociological problem*. In an essay reviewing the historical importance of Butler’s short book (astonishingly, 20,000 copies were sold in paperback) I both acknowledged the influence of the University of Chicago’s fabled school of sociology on his thinking and also suggested that we should see Butler’s ‘inchoate thoughts on societal knowledge, knowledge epistemology and social agency as a harbinger of social epistemology’ [10, p. 185]. The term ‘social epistemology’ – now also the title of a journal edited, until recently, by the sociologist Steve Fuller – was coined and introduced into the literature of the field by Margaret Egan and Jesse Shera in the early 1950s [11], revisited recently by Jonathan Furner in *Library Trends* [12] and, more recently still, reviewed by Don Fallis in the pages of the *Annual Review of Information Science and Technology (ARIST)* [13].

In the 1970s, Norman Roberts outlined a cogent case for utilizing the social scientific approach in information science [14], a case subsequently elaborated by his University of Sheffield colleague, Tom Wilson, who, in his paper ‘The sociological aspects of information science’, asserts confidently and correctly that ‘studies in this area range from all-embracing theories in the sociology of knowledge to small-scale studies of collaboration in the writing of scholarly papers’ [15]. In the 1990s, Rob Kling emerged as a forceful advocate for social informatics, which he defined as ‘the interdisciplinary study of the design, uses and consequences of information technologies that takes into account their interaction with institutional and cultural contexts’ [16]. He made considerable use of symbolic interactionism as a means of understanding ‘the social structure of the computing world’ [17]. The socio-cultural dimensions of knowledge and the socially embedded nature of information and com-

munication technologies (ICTs) are, and to some extent always have been, integral to the theory base of information science, an assertion that is easily confirmed by inspection of the published literature.

More generally, and over the course of several decades, information science has drawn upon the ample if scattered scholarly literature devoted to the so-called information society. Although the starting points and interpretative frameworks favored by different scholars and schools of thought in what is sometimes referred to as information society studies may vary, the common intent has been to turn the spotlight on the social dimensions and ramifications of informatization. It is not uncommon to see the work of sociologists such as Daniel Bell, Manuel Castells and Frank Webster cited in the pages of *JIS* and other leading information science journals, e.g. [18–20]. Large-scale social theorizing has enabled the field to better understand the complex interplay of technical factors and social forces that together drive developments in ICTs and also to avoid the pitfalls of parochialism and reductionism.

As so often, one is tempted to say that there is nothing new under the sun. The importance of socio-technical design was recognized more than half a century ago by the Tavistock Institute in London and the core precepts of Tavistock thinking were carried over into the realm of information systems design by the late Enid Mumford, whose pioneering work has continued to influence thinking in the fields of information systems, information science and social informatics [21]. Suffice it to say, ‘the social’ has long been part of our field, either implicitly or explicitly.

Talk of inter-concepts and interconnectivity is not mere words; the inter-dependence of disciplines can be demonstrated bibliometrically. Citation matrices and co-citation maps – techniques, it is worth noting in passing, that have been developed, refined and successfully exported by information science over the years – allow one to visualize the ideational interpenetration of fields; to see the intellectual trade routes that exist between discrete scholarly communities, e.g. [22–25].

3. The linguistic turn

Disciplinary interdependence is also suggested discursively. Only the Rip van Winkles of the academy cannot have noticed the increasing frequency with which disciplines, from geography to information science, are said to have exhibited a ‘turn’ of one kind or another. A few examples should clarify what I mean and also underscore the growing porosity of traditional disciplinary boundaries.

The original turn can probably be claimed by philosophy. The movement known as analytical philosophy – and here I am necessarily over-simplifying – broke with tradition by viewing philosophical problems as problems fundamentally and inherently to do with language. Meaning was constituted by language and thus the proper focus of philosophers should be ordinary language and everyday speech acts. The linguistic turn was inspired partly by Ludwig Wittgenstein’s later work [26] (by way of an aside, he is much quoted in some sections of the literature of information science) and promoted by Oxford philosophers such as J.L. Austin [27] and Gilbert Ryle [28]. This *bouleversement* was not greeted warmly by grandees such as Bertrand Russell [29].

The linguistic turn, dismissed memorably by Ernest Gellner as ‘Conspicuous Triviality’ [30, p. 273] and indirectly by Samuel Beckett with the pithy ‘Being is not syntactical’ [31, p. 129], morphed into heavily French-flavoured structuralism. In university literature departments this resulted in an intensified focus on texts, intertextuality, reader response and, ultimately, the much-ballyhooed ‘death of the author’ [32]. Theory worship and ideological absolutism in turn triggered the toxic culture wars and the eventual dismantling of the ancien regime in its transatlantic ivory towers.

This particular sequence of events has been chronicled in elegiac fashion by Alvin Kernan, and here I quote from his book [33, p. 192], *In Plato’s Cave*:

The authors of the great works of literature were stripped of their literary property and reduced to the status of ‘scriptors’ who did not create their works but merely exploited the stock of ideas common to their languages and cultures.

Post-structuralism, new historicism, feminism, post-colonialism and the rest came to rule the academic roost. Once again the grandees harrumphed, but for every Harold Bloom doughtily defending

aesthetic criticism and the Western canon (e.g. [34]) there was a congeries of theory fetishists promoting the latest 'ism'.

What happened in the humanities may not seem at first blush to be of great import for the world of classical Anglo-American information science, but critical theory – which I shall use as a portmanteau for all the 'isms' – has diffused in recent years from departments of literature and cultural studies to many other areas, including information studies. Though significantly social scientific in character, our field has a strong humanities tradition and not surprisingly the new thinking rapidly found adherents within those ranks. Even the intellectually conservative *Library Quarterly*, published by the prestigious University of Chicago Press, opened its pages to papers on postmodernity and post-positivist research methods in library and information science, e.g. [35]. I certainly do not mean to imply by any of the foregoing that postmodern theorizing and interpretative methods are incapable of sharpening our understanding of informational phenomena and discourses; well deployed they can promote much-needed analytic rigor and clarity of thought. Indeed, I commissioned a chapter for *ARIST* on post-structuralism, the first of its kind to appear in the venerable review since its inception almost four decades earlier [36], though I suspect its content and tenor remain anathema to the field's unreconstructed Popperians.

4. 'To every season, turn, turn, turn' – The Byrds

4.1. *Critical theory à la mode*

Since the linguistic turn in its various manifestations, we have witnessed the advent of the cognitive turn (further over-simplification), a paradigmatic shift from a focus on linguistic acts to individual thought processes; from observable utterances to unobservable cognitions. The so-called cognitive turn was followed – though not in any strict linear sense – by the 'cultural turn', the 'practice turn' and the 'pragmatic turn', to name but three. Not all disciplines embrace each and every turn with comparable enthusiasm or at the same pace; tolerances and timelines seem to vary. One might be forgiven for assuming that a relatively minor (and, one might have thought, uncomplicated) academic field such as theatre studies would have been oblivious if not immune to both the linguistic and cognitive turns, but the evidence suggests otherwise, e.g. [37].

Sometimes the effects are dispiriting. Roger Kimball has exposed the pernicious influence of willfully obscurantist postmodern criticism on art historical scholarship in his spirited book, *The Rape of the Masters* [38]. Few corners of the academy have not succumbed to the lure of theory, sometimes for 'behavioral and scholarly reasons' [39, p. 420], sometimes for just one or the other. For a number of academia's less fashionable areas – and one is reminded here of George Stigler's [40, p. 171] description of information economics as 'a slum dwelling in the town of economics' – theory is the engine of gentrification. Certainly, the importance of theory in the eyes of the academy's ruling elite has never been greater. Doctoral students and untenured faculty know all too well that theory fluency is a *conditio sine qua non* of career advancement. Nevertheless, there are occasional signs of jadedness; Tom Erickson's couplet, cited in Nardi [41, pp. 269–70], springs to mind:

Theory weary, theory leery,

Why can't I be theory cheery?'

Theory (and theory renewal) is important not only in the social sciences but also in the humanities, where, in the words of Louis Menand, the 'antifoundationalists were followed by the feminists and the postcolonialists and the multiculturalists' [42, p. 11]. The colorful parade to which he refers has, of course, included many other sects and splinter groups, all fiercely protective of their particular dogmas and distinctive dialects. The 'isms' may wax and wane, the disciplinary doxas may come and go, but for now the Age of Theory flourishes as never before in the academy – *pace* Terry Eagleton [43] and all those who would argue that we live in a post-theoretical world. Just as history did not end (see Fukuyama [44]), theory has not exhausted itself.

Information studies (a more expansive territory than information science) has proved to be an enthusiastic, if not always the most discriminating, adopter of vogue theoretical approaches, notably continental philosophy. The names of, for example, Baudrillard, Derrida, Foucault and Lacan, along with those of Hegel and Heidegger, are invoked as regularly as they are in the literatures of ostensibly unrelated fields. What Kingsley Amis [45, p. 377] called ‘gimcrack theorizing’ is at once the great elevator and great leveller.

The compendious *Theories of Information Behavior* [46], though cleverly conceived and well received, illustrates my general point. This multi-author compilation (in the interests of full disclosure, I should note that I supplied a pre-publication blurb) comes close to being *Information Theory for Dummies*. But there are many other options, many other publications in the now theory-rich literature of the field; for instance, Talja, Tuominen, and Savolainen [47] have produced a very thoughtful overview of some of the more fashionable ‘isms’ (collectivism, constructivism and constructionism) in information science. Their table (p. 82) depicting the main features, influences and representatives of these three Cs should be of considerable help to those unfamiliar with the ‘isms’ in question, confused as to the underlying differences, or simply curious to know where they are to be found in the literature of the field and with which authors they are typically associated. These are but two random examples of the growing body of work devoted to critical theory in information science and related areas.

4.2. Other turns

Howard Rosenbaum has spoken of the ‘user turn’ in information studies, a conceptual refocusing of the field dating from the 1980s that few would contest, even though this particular phrase seems to lack traction [48, p. 429]. Today, the qualifier ‘user-centered’ (or ‘user-centric’) has become a cliché. Gregory Downey [49, p. 685] for his part has expressed surprise that information studies has been slow to engage with what in the social sciences and humanities has been referred to as the ‘spatial turn’, which, for him, would entail the use of ‘both familiar interpretative methods, such as ethnographic interviewing and theory-building and analytical concepts such as ‘place’, ‘space’, and ‘scale’. Slow or not, parts of the information science community have in fact engaged with issues such as spatiality, hybrid space, physical presence and the social shaping of space, e.g. [50, 51]. More particularly, City University’s long-established Department of Information Science has in recent years become an important locus for research and teaching in geographical information science (e.g. [52]). There is even a renaissance of sorts in the area of documentation studies, as evidenced by the series of conferences organized by the Document Academy and the appearance of a self-consciously entitled monograph, *A Document (Re)turn* [53].

5. The physical paradigm and the cognitive turn

Taking the celebrated Cranfield experiments [54] of the 1960s as a starting point, David Ellis has shown how the ‘physical paradigm’ in information retrieval (IR) – with its emphasis on laboratory-based research into best match searching and weighted relevance feedback, an emphasis that was carried forward in the early 1990s with the launch of the highly successful Text REtrieval Conference (TREC) series [55] – firmly established itself in information science. Information retrieval is a core component of almost anyone’s definition of information science, yet as Stephen Robertson – a self-confessed theorist – concedes, the IR field ‘is not a very theoretical one’ and lacks ‘a capital-T Theory’ [56, pp. 1, 8].

The dominance of traditional IR was challenged by the emerging ‘cognitive paradigm’ [57, p. 180], which sought to develop an understanding of the user’s mental models and knowledge states with a view to constructing more effective retrieval systems, stressing agency, contexts and tasks as much as recall-precision ratios and other quantifiable performance measures. The jousting between the lab retrievalists and the cognitive camp had begun [58], though some optimistic souls maintain that ‘user-oriented research has started to have an increased impact on the systems-oriented IR research and vice versa’ [59, p. 956].

Among those most closely associated with the cognitive viewpoint were (and are) Nick Belkin, who coined the oft-quoted phrase ‘anomalous states of knowledge’ [60], and Peter Ingwersen who has argued in his aptly entitled book, *The Turn*, for a tighter coupling of research in IR and information seeking (IS); and also for greater attention to be paid to contextual understanding and situational awareness in systems development [61]. Although the Cranfield-TREC tradition (often associated with names such as Bookstein, Croft, Spärck Jones, Robertson and Willett) remains strong, the cognitive viewpoint has established itself within the information retrieval and seeking (IR&S) communities. It is not, however, without its detractors (e.g. [62]).

My potted account of IR is not inconsistent with the results of Howard White and Kate McCain’s [63, p. 342] meticulous co-citation analysis of information science for the period 1972–95. Although experimental IR remains important, the authors conclude that ‘the cognitive side of information science, which some retrievalists tend to ignore in favor of algorithms, has emerged during the 1980s and 1990s as a major enterprise’. The right-hand sides of Figures 2, 3 and 4 in their paper show the clustering of various sub-tribes of information retrievalists (experimental, practical, theoretical) over time. I have to say that their objective representation of the field matches my subjective sense.

6. The social side of information science

The cognitive viewpoint’s emphasis on the individual’s knowledge state can cause us to lose sight of the epistemological significance of social relations and social structures. As I have noted elsewhere ([50, p. 1]:

The texts we write and the texts we cite bear the marks of the epistemic cultures, socio-cognitive networks and physical places to which we belong at the different stages of our professional lives.

Cognition is not an exclusively individual phenomenon nor is it readily amenable to scrutiny either inside or outside the lab; rather, it is multi-componential and interactive in character. We are, after all, social animals. Edwin Hutchins’s book, *Cognition in the Wild* [64], is a good introduction to notions such as distributed and collective cognition and in that regard a welcome, in some respects commonsensical, antidote to the more extreme formulations of (cognitive) constructivism. There is, too, growing appreciation of the economic significance of distributed cognition; the revolutionary potential of ‘open distributed innovation’ [65, p. 238] is widely acknowledged in the business and innovation literatures.

Let me now illustrate the limitations of the cognitivist approach with reference to bibliometrics. Classical bibliometric/informetric studies (think of Bradford, Lotka, Zipf et al.) have described and analyzed a family of mathematical and statistical generalizations relating to the production, distribution and use of documents, words, etc. One might be forgiven for thinking that a Bradford distribution was a purely mathematical matter, untouched by ‘the social’ (on this subject, see Brookes [66]). That, though, would be to ignore the fact that individual authors select specific references, which are then aggregated and transformed into frequency distributions. It is reasonable to assume that these choices may have been influenced, to some measure, by extra-scientific factors such as collegial ties, collaborations, social networks or document availability issues. To what extent, then, to use Derek de Solla Price’s memorable words, are these cited authors ‘known to each other as warm bodies rather than labels on literature’ [67, p. 4]? To what extent does the social intrude on the cognitive?

The fact that pre-existent social ties can shape authors’ citation practices has given rise to the related notions of ‘socio-bibliometric mapping’ [68, p. 81] and ‘socio-scientometrics’ [50, p. 1]. As Alesia Zuccala has shown, invisible colleges have a social as well as a cognitive structure [69], a point that has received relatively little attention, historically, from bibliometricians and co-citationists. The potential for synergies between bibliometrics and the fast-growing field of social network analysis is clear, further evidence, I would argue, of the importance of social theory and related modelling techniques to the traditional concerns of quantitatively-inclined information science research. This kind of social constructivism highlights the interplay between knowledge structures and the wider environment, typically expressed as a continuous process of co-constitution. Knowledge is created in the

world, socially constructed to use an over-used phrase; it is not something that is only created and contained sub-cranially.

In the fields of sociology of science and STS, social constructivism in various guises and strengths proved to be very popular during the 1980s, and some of the associated acronyms, such as SCOT (Social Construction of Technology) and ANT (Actor-network Theory), continue to be widely used within those literatures and also within the research literatures of social informatics and information science. Indeed, many of these domains' intellectual vanguard (e.g. Bijker, Bloor, Collins, Knorr-Cetina, Latour, Law, MacKenzie, Pinch, Woolgar) are cited routinely in the leading information science journals; regrettably, there is little citation in the reverse direction: information science listens, but is either not heard or heard and largely ignored by the aforementioned prime movers.

7. From structural-functionalism to social constructivism

Social constructivists tend to take issue with grand narratives and the Great Man approach to history; they challenge the unquestioned authority of science and the automatic privileging of its truth claims. Instead, they focus on the contingent and socially negotiated nature of knowledge: relativism trumps absolutism; universalism cedes to localism. It need hardly be said that information scientists wedded to the scientific method have had little time for micro-sociology of the relativistic kind. Yet, it is not – or at least need not – be an either–or choice.

Perhaps the clearest and most thoughtful review of the topical connections between STS and information science is Nancy van House's compendious *ARIST* chapter [70] on the potential for symbiosis between the two fields. She makes the point that STS focuses on 'practice and the materiality of knowledge work' which provides 'an alternative to the mentalist approaches' prevalent in much of information science [70, p. 71]. This allusion to the 'practice turn', which I mentioned in passing above, is by no means an isolated example within the recent information science literature. Bernd Frohmann, for example, has written a fine book, *Deflating Information: From Science Studies to Documentation*, in which he argues for a 'shift of focus from cognitive to labour processes' in order to reveal scientific work as 'the construction of localized assemblages of things, persons, devices, and social relations' [71, p. 100] – a melange of the tangible and intangible, in other words.

Carole Palmer and Melissa Cragin's recent *ARIST* chapter is good on the practice turn in the social sciences generally and in information science in particular [72]. Coincidentally, the same volume of *ARIST* includes a useful chapter on activity theory and its potential relevance to information science by Tom Wilson [73] who quotes Bonnie Nardi [74, p. 7]:

Activity theorists argue that consciousness is not a set of discrete disembodied cognitive acts [...] rather, consciousness is located in everyday practice: you are what you do.

Knowledge, *tout court*, emerges from practice; it is grounded in the material world. This is a very different take on events from that favored by proponents of the cognitivist approach.

Returning to the three co-citation maps of information science's top 100 authors produced by White and McCain [63, Figs. 2, 3, 4], one can see that quite a few of the most influential names in the field are 'outsiders', that is to say scholars whose primary disciplinary home is (or was) somewhere other than information science/information studies. Prominent outsiders for the 24-year period in question included Derek de Solla Price (history of science), Thomas Kuhn (history and philosophy of science), and Michael Moravcsik (theoretical physics), whose main contributions were made in literatures other than information science, but some of whose ideas nonetheless had a formative influence on the nascent field of information science. On the left-hand side of the White/McCain maps there is a small cluster of notable social scientists that includes Thomas Allen (management and organizational psychology), William Garvey (psychology), and the polymathic Herbert Simon (political science, psychology, cognitive science, economics). In their different yet complementary ways, all of these individuals helped fashion the intellectual foundations that have allowed information science to move well beyond the physical paradigm; they also stimulated early interest in the socio-psychological and behavioral aspects of information creation, transfer and use.

An exemplary case in point was William Garvey and Belver Griffith's influential study of formal and informal modes of communication in psychology [75].

Also appearing on the left-hand side of the three White/McCain figures is a group of distinguished sociologists: Diana Crane, Daryl Chubin, Jonathan Cole, Stephen Cole, Robert Merton and Harriet Zuckerman. The Cole brothers and Zuckerman were once students of Merton at Columbia University and together this quartet made notable contributions to the (pre-constructivist) sociology of science. One thinks in particular of their writings on the reward system in science, the bases of individual and institutional prestige in academia, the stratification of scholarly journals, and the structural and normative dimensions of scholarly production and communication.

And where do I feature on the White/McCain maps? Not with any of the aforementioned retrievalists, nor with the mathematical bibliometricians, such as Leo Egghe, but alongside the sociologists of science, which if nothing else provides empirical validation of my opening autobiographical remarks. The structural-functionalist accounts of science crafted by Merton and his followers have fallen out of popularity in recent years; social constructivists are typically averse to large abstractions and skeptical of, for instance, claims that the behavior of scientists, including their writing and citation practices, is normatively governed. Merton and his fellow institutional (and neo-institutional) theorists view science as a largely self-regulating social system, whose structures and collectively sanctioned norms shape, impel and constrain social actors. Such sweeping analyses are very different from the richly descriptive case studies, with their close-ups of 'the materialities of experimentation' (e.g. Rheinberger [76, p. 309]) which are beloved of social constructivists. Yet, all things considered, I remain sympathetic to Merton's [77, p. 276] view that there exists 'a distinctive pattern of institutional control of a wide range of motives which characterizes the behavior of scientists' and I am happy to live with the 'noble fiction' – Plato's idea of the useful lie – since the alternative to accepting that there are commonly held imperatives which guide the actions of scientists and scholars is rampant relativism and, ultimately, epistemological anarchy.

One of the behaviors being alluded to above by Merton is citation. Do we assume that citation practices are essentially whimsical in character because individual citers' motivations differ; that citations cannot be aggregated because the contexts and conditions under which individual authors select and cite the works of others are particularistic (see Moed, [78, p. 213–14] on this issue)? Or, do we line up behind Howard White [79, p. 90]?:

Those who want to 'psychologize' citing as a way of undermining trust in the counts seem to over-rely on individual experience in a way typical of humanists, who tend to see universals in anecdotal particulars.

I think I know where I stand.

8. Conclusion

Robert Merton, as it happens, was one of the sociologists identified by Howard Rosenbaum and Inna Kouper in their preliminary analysis of major sociological influences on information science [80]. They conducted a content analysis of all chapters in volumes 36–40 of *ARIST* – whose founding editor, by the way, was a social/behavioral scientist: Carlos Cuadra held a PhD in clinical/experimental psychology from the University of California at Berkeley – to determine which sociologists, both classical and contemporary, and also which sociological theories, had been imported into information science within the recent past. Among the most frequently cited names were Pierre Bourdieu (social and cultural capital), Manuel Castells (networked society), Harold Garfinkel (ethnomethodology), Anthony Giddens (structuration), Bruno Latour (Actor-Network theory) and Robert Merton (Matthew effect). These names and others of that ilk are not only to be found in *ARIST* – and not only for the five years covered by Rosenbaum and Kouper's survey – but also appear regularly in the pages of *JIS*, *JASIST* and other core information science journals. In some cases, the theories, methods and terminology associated with these eminences, a few of which I have listed parenthetically above, have become standard elements of our field's scholarly apparatus and professional discourse.

Impressionistically, and speaking as someone who is reasonably familiar with the information science canon, I would say that our field has long been mindful of, and indeed receptive to, sociological thinking. That being the case, it is probably misleading to speak of a 'sociological turn' as such. It is not clear that there was in fact a particular historical moment at which the field became somehow sociologically enlightened, or shifted gears paradigmatically as a result of concentrated exposure to insights from mainstream sociology, though some might cite the establishment in 1980 of the *Journal of Social Science Information Studies* (edited by Tom Wilson and Norman Roberts) as a significant milestone. In any case, perhaps I should have used 'social' instead of 'sociological' in the title of this paper and/or appended a question mark.

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