

Paul Otlet (1868-1944), Belgian attorney and early information-society visionary, and like-minded Belgian attorney and statesman Henri La Fontaine (1854-1943) co-founded the International Institute of Bibliography (IIB), an organization that in 1937 would be renamed the Federation Internationale de Documentation (FID) (International Federation for Documentation) in Brussels in 1895 (Buckland, n.d. a; Keenan, 1995, p. 402; Rayward, 1994, p. 238; Rayward, 1997, pp. 290-91). The IIB's ambitious goal was to assemble a "truly universal catalog of all knowledge" (Rayward, 1997, p. 291). Yet after promising early activity and international cooperation, the IIB's progress toward its goal was stalled first by the cataclysm of World War I (Gilliland, 2014, p. 65), then by the Great Depression. In 1934, the Belgian government, which had long subsidized the IIB's vast, hard-copy collection, conceived as a global master database of information and known originally as the Palais Mondial and later as the Mundaneum, withdrew funding and closed and locked the building where the collection was stored (Rayward, 1975, pp. 350-51). Before the Mundaneum could reopen, the Second World War began, and in May 1940, Belgium and France fell victim to the then seemingly invincible armies of Nazi Germany's Third Reich. Nazi authorities later commandeered the building housing the Mundaneum and destroyed 63 tons of collected materials before the collection could be relocated (Rayward, 1997, p. 361). Otlet, his lifelong dreams dashed, died in December 1944 in a war-torn Europe still not yet fully liberated from Nazi tyranny (Rayward, 1975, p. 361; Wright, 2008).

Thus, the IIB, the Mundaneum, and much of the whole vision of Otlet and La Fontaine, however ambitious, ultimately failed. As such, it is entirely too easy to write off their entire project as irrelevant.

The FID continued after the death of Otlet, but it, too, is now entirely part of history, having finally closed its doors altogether in 2002 (Buckland, n.d. a). America in particular, but also the modern world generally, often shows an adolescent-like tendency to imagine that history may be freely ignored and left behind as we march bravely toward the bright, technology-laden future—a tendency showcased in Henry Ford's (in)famous comment in 1916, "History is bunk" (Mencken, 1948, p. 539).<sup>1</sup> By that rubric, not only historical failures, but even historical successes, are irrelevant just for being part of history. If nothing in history is relevant, then by that reasoning, the postwar FID, too, is consigned to irrelevance. Ford, for all his talents, was neither a philosopher nor an intellectual,

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<sup>1</sup> Mencken gives the short version of the quote that has become best remembered in history. The full quote, from an interview Ford gave to the *Chicago Tribune* in 1916, allegedly reads, "History is more or less bunk. It's tradition. We don't want tradition. We want to live in the present, and the only history that is worth a tinker's damn is the history that we make today" (Martin, 2014).

but many people since his time, even including some scholars and intellectuals, tend to share the same general attitude that history, like other humanistic disciplines only perhaps more so, is over, done with, and inevitably irrelevant. The “slow but unmistakable marginalization of the humanities” (Hohendahl, 2006, p. 99) at American universities since the 1970s, and the decades-long disastrous state of the academic job market in the humanities, perhaps bear witness to the overall triumph of what might be called intellectual Fordism (Hutner & Mohamed, 2013; Lewin, 2013).<sup>2</sup>

This paper, however, will reject Ford’s reasoning, adopt an unabashedly historical and humanistic methodology, and contend that notwithstanding the frustration or non-attainment of so many of the IIB/FID’s lofty goals, the movement that Otlet and La Fontaine’s IIB/FID did so much to set in motion—the documentation movement—nevertheless remains relevant almost 120 years later. Specifically, this paper will trace IIB/FID’s and the documentation movement’s past and present impact upon various matters that many people today would agree are indeed relevant, including the theoretical and practical understanding of information, information management, and the information society in general, and of key components of the modern information society such as hypertext and other information technology in particular; internationalization and international scholarly cooperation and standardization; and United States domestic archival practice. Moreover, although some accounts tend to drop the whole story with the death of Otlet and the shuttering of the Mundaneum (Rayward, 1975, p. 361; Wright, 2008), this paper will trace the continuation of the FID and the documentation movement through the postwar period up to recent times.

### **Paul Otlet, the IIB/FID, and the Prewar Documentation Movement**

The 1895 inauguration of the IIB/FID is widely recognized as the start of the documentation movement. The documentation movement, in turn, is credited with exploring and grappling with the meaning of information and offering new understandings of information in the newly information-rich, information-intensive cultural environment that has increasingly characterized the modern

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<sup>2</sup> Although sources discussing the marginalization of history and of the humanities are legion, as simple Google searches for “marginalization of history” or “marginalization of the humanities” attest, these statements were viscerally triggered by the experience of observing a law professor with background in a social science challenge a visiting lecturer, a historian, by asking pointedly how her historical research on the Civil War and Reconstruction could ever possibly be relevant.

world since the late 1800s and in 1955 was first labeled “the information society” (Rayward, 1997, p. 289). Thus, inasmuch as information, the information society, and efforts to understand these concepts are relevant, the IIB/FID and the documentation movement also remain relevant.

Scholar W. Boyd Rayward (1997), a lifelong expert on the history of Otlet and the IIB/FID, contends that the concept of documentation, to which Otlet was one of the prime early contributors, provided a “framework involv[ing] new ways of looking and speaking about aspects of the world of knowledge, books, and libraries, and the social infrastructure of which they were part,” and, as such, a Foucauldian “new ‘discursive formation’” for thinking about information and society (p. 289). Rayward notes that this new discursive formation in turn generated entirely new institutional manifestations and professional apparatus, including the IIB/FID itself and its various federated sub-organizations in various nations as well as new terminology, new tools and techniques of information management, and new professional publications applying and expounding those new terms, tools, and techniques (pp. 289-90). As such, he concludes, “[I]mportant aspects of the origins [of] information science as we now know it were contained within or became an extension of the discursive formation that we have designated ‘documentation’” (p. 290).

In the course of developing the discursive formation of documentation and exploring and expanding the definition of *document* far beyond the traditional bibliographic fixation on traditional books, the mostly European so-called *documentalists* of the mid-20<sup>th</sup> century notably came to include various objects within the definition of meaningful “documents” (Buckland, 1997). Yet in their efforts to provide precise definitions and delineations of what could or could not constitute a document, these later documentalists sometimes narrowed the field as well as expanding it (Buckland, 1997, pp. 806-7). Rayward (1997), however, emphasizes that Otlet meant “something far broader” than these other documentalists in referring to documents or documentation, and that this more expansive definition is crucial for thinking about how modern concepts of information science grew out of the documentation movement (p. 290).<sup>3</sup> Thus, according to Rayward, Otlet’s broad vision of objects as documents converges with scholar Michael Buckland’s more recent discussion of “information-as-thing” and his conclusion that almost any object can have informational content and thus constitute “information-as-thing” (Buckland, 1991, p. 351). Notably, Buckland also concludes that informative objects—“information-as-thing[s]”—represent the

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<sup>3</sup> In emphasizing here the centrality of Otlet’s thoughts to the later evolution of information science, I do not, however, wish to imply that either I, or Buckland or Rayward, do not also value the contributions of later members of the European documentalist tradition, which will be addressed later.

“only form of information with which information systems can deal directly” (pp. 358-59) (i.e., the only form that is retrievable). Thus Rayward and Buckland both would appear to find Otlet’s expansive vision of objects as documents central to the development of modern information systems and information science. From a broader, cultural-historical perspective, scholar Ronald E. Day (2001) notes the “visionary” (p. 11) quality of Otlet’s ambitious dream of using documentation as a master science of sciences to collect, organize, and make accessible all useful human knowledge in the service of humanity and human progress—which remains, implicitly, the agenda of information science (pp. 9-21). In short, we are all still living in Otlet’s (perhaps grandiose) mental universe.

Rayward (1997) traces how Otlet and the IIB/FID developed precursor techniques and strategies for addressing core problems and challenges of the modern information society in various areas, including systems and organizational arrangements, databases and collections, image databases, database management ‘software’ standardized information technology, search services and strategies, hypertext, and standardization of authoritative information (pp. 290-99). Rayward acknowledges that in each category, of course Otlet’s and the IIB/FID’s effort to solve the problem was not the same as the solutions offered by modern information science and technology, and that Otlet’s “unique contributions” (p. 290) to information science and theory must be understood “within the different context of his time” (p. 290). For example, Otlet’s Universal Decimal Classification (UDC) system was not the same as modern database management software; the extensive card catalog of both substantive and bibliographic information used in conjunction with the Mundaneum obviously was not a modern digital database stored in a high-performance, high-capacity server. Yet the UDC *was* “a highly complex database management system” (p. 293) that recognized the need for such a system—and, moreover, was the first to introduce a faceted structure of the sort that is still being experimented with and gradually improved today—while the IIB card (and single-sheet) catalog was a system using standardized technology and storage formats and allowing the creation of “collaboratively continuously expanding databases” (p. 293) that recognized the need for such a system (Broughton, 2006; Buckland, n.d. a; Rayward, 1997, p. 293). In each case, Otlet and the IIB started asking the questions that needed to be asked about the particular problem and began the process of thinking about finding answers—a process in which information scholars are still engaged. Recognition of the problems, and the questions to be asked, in turn gradually helped to drive the process of developing newer and improved technology offering superior solutions to those available to the IIB/FID.

Although Otlet and the IIB did not have access to the sophisticated information technology of today, they did actively embrace and apply the best technology of their day in the service of information management and retrieval. In

addition to the IIB's complex catalog system, this is especially apparent in Otlet's enthusiastic embrace of the possibilities of microfilm as early as 1905-1906, and then more systematically in the 1920s as microfilm technology became more functional and available (Buckland, n.d. a; Rayward, 1997, pp. 293, 297). Moreover, Otlet, like the American Vannevar Bush, envisioned still more revolutionary technology and new media to overcome the limitations of what was available—bold visions that presaged modern multimedia and the Internet (Bush, 1945; Rayward, 1994, pp. 244-46; Rayward, 1997, pp. 296, 298). Notably, Bush, writing in 1945, still relied heavily on the notion of improved microfilm technology for his information-technology dream machines, and microfilm remained standard, up-to-date library and information technology all the way up to the 1990s and remains in use in a diminished role even today.

Otlet's greatest claim to fame and relevance in the present, however, must be his early exploration of the use of hypertext techniques in organizing information and linking documents by meaning and content. As Rayward (1994) recounts, Otlet and his IIB/FID, in seeking to apply the "monographic principle" (p. 240) to distill accurate, concise statements of fact on every conceivable topic, were early in exploring the concepts of nodes and chunks that remain fundamental to hypertext design (pp. 237, 240-43; AlAgha, 2012; AlAgha, 2013; Day, 2001, pp. 9, 16),<sup>4</sup> while the UDC, with its early faceted structure, sought to allow cross-reference and linking of related documents, chunks, and nodes through a kind of sophisticated abstract symbolic logical language analogous to mathematics—like an early-day computer code (Rayward, 1997, p. 292). Some present-day scholars also credit Otlet with foreseeing the Semantic Web, a more sophisticated system than our present-day Internet for tracing conceptual relationships between facts and ideas that still exists partly only in theory (Rayward, 1994, pp. 236, 247; Rayward, 1997, pp. 294-95; Wright, 2008).

If Otlet and his IIB/FID remain relevant today for first posing questions that we are still answering, they also arguably remain relevant precisely for some of their failings. Rayward (1994) notes that Otlet, the IIB/FID, and their dreams of final, objective, authoritative knowledge of every subject were victims of their outmoded nineteenth-century positivist paradigm: Otlet's "view of knowledge was authoritarian, reductionist, positivist, simplistic—and optimistic!" (p. 247-

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<sup>4</sup> The two cited articles by Iyad AlAgha are just two of many possible examples that may be found to prove the point that Otlean notions of chunks and nodes remain central to existing hypertext design and the Semantic Web; many other examples from the late 1980s through the present may be found by searching for *hypertext chunks*, *hypertext nodes*, *hypermedia chunks*, or *hypermedia nodes* in article search databases such as Google Scholar, Web of Science, or EBSCO's Academic Search Complete.

48). Day (2001) similarly characterizes Otlet as a “theologian of a unified, positive science” (p. 9). In particular, Otlet’s enthusiastic embrace of the possibilities of science and his conceptual attachment of documentalism to science (Day, 2001, pp. 9-21), so characteristic of the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, arguably led him toward some of the same sort of scientism or pseudo-science—assuming the fundamental objectivity and apoliticality of a subjective human belief system that labeled itself a science—that was reflected in so many subjective and mostly unscientific contemporary movements, from Christian Science to scientific Marxism or scientific racism. Yet these shortcomings stand as a highly relevant warning to the present and the future, for Otlet was hardly alone in those faults either then or now. Otlet, moreover, cannot be blamed for not sharing the awareness of later postmodern theorists such as Michel Foucault, Jacques Derrida, and their many academic followers who explored and unveiled the fundamental human incapacity for perfect (or perhaps even partial) objectivity—as concisely stated in the classic postmodernist observation that “we are always already situated” (see, e.g., Kerr, 1989, p. 26)—or in other words, we are always already in a subjective relationship to whatever we perceive and interact with, such that we are incapable of attaining the disinterested, god-like objective vantage point that philosopher Thomas Nagel (1989) once labeled “The View from Nowhere.”

There were already warnings about the impossibility of positivist assumptions of human objectivity, perfectability, and steady moral progress together with technological advance even before Otlet’s time. Eighteenth-century philosopher David Hume struggled but failed to identify any objective rational grounding for morality—the problem sometimes referred to as “Hume’s Guillotine” (Cohon, 2010). Nineteenth-century philosopher Friedrich Nietzsche, roughly a century later, considered the same problem, cheerfully discarded morality and embraced moral relativism, then went insane (Wicks, 2013; Wilkerson, 2009). The intensely philosophical and psychological Russian novelist Fyodor Dostoyevsky (1864) skewered 19<sup>th</sup>-century positivist plans for a world of perfect rationality and explored the willfully irrational, even anti-rational corners of the human mind in Part I of his brilliant short novel *Notes from Underground* (pp. 3-63). Otlet can perhaps be blamed for ignoring such warnings—but if so, so can almost everybody else of his times. World War I, the Great Depression, and World War II landed savage blows against 19<sup>th</sup>-century-vintage positivist faith in human rationality, objectivity, and progress, but after each of them, people generally returned to the same old positivist project.

Even today, the anti-positivist message of the post-modernists has mostly only been received by academicians in certain corners of the humanities and social sciences, and it is already far less visible and trendy than it was in the 1980s and 1990s. Certain favored social sciences, such as economics and perhaps

psychology, seemingly never got the message about their own lack of objectivity at all, and most disciplines, outside of conferences where post-modernist topics may be discussed then tucked neatly away, mostly go about their traditional business as if their disciplines were indeed objective and authoritative. For example, Buckland (2006) has noted “the scientific, positivist view that has so dominated information science and which is increasingly questioned” (p. 2). Most of the rest of society, including the realms of politics, business, banking, and especially engineering and high technology, continue on as if there never had been a post-modernist wave or warning. Perhaps that is how humans must live—with a misplaced faith in our own objectivity as well as in a brighter future ahead. Yet such neo-positivist optimism may be fraught with danger, as with the current assumption of people like Bill Gates that the threat of global warming, itself a product of fundamental human irrationality, will be solved neatly, rationally, and technologically through geoengineering techniques such as pumping sulfur oxides into the upper atmosphere to reflect solar radiation (Madrigal, 2010).<sup>5</sup> At any rate, the positivist failings of Otlet’s and the IIB’s project stand as a highly relevant warning to the present and future against the positivist fallacy, both regarding information science and generally—even if that may be a warning that, Cassandra-like, is bound to be ignored.

To return from the debit to the credit side of the balance, perhaps Otlet, La Fontaine, and the IIB/FID retain relevance today primarily because of the sheer grandness and audacity of their vision. As archivist and scholar Anne Gilliland (2014) has observed, regarding archivists but also applicable to others in the world of information science and management, we should never “lose sight of the importance of identifying and pursuing a grand vision” (p. 75). In that sense, even if the FID’s early history and Otlet’s vision of one great, universal, objective and authoritative library ultimately led down the road to failure, it was a grand failure—an inspirational, aspirational, visionary failure that nevertheless pointed the way toward the future and set worthy goals that we hopefully are now somewhat closer to attaining even if perhaps they ultimately never can be entirely attained. If bold vision, and examples of bold vision in the past, are relevant, then Otlet and the IIB/FID remain relevant.

### **Otlet, La Fontaine, the IIB/FID, and Internationalism**

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<sup>5</sup> In fairness, the article notes that Gates does not view controversial geoengineering techniques for “altering the Earth’s climate on a global scale” as a total solution, but one technique among other engineering approaches placing (classically positivist) faith in innovation and technology to overcome the effects of longstanding human irrationality.

As noted above, the IIB/FID was also a relatively early pioneer of international scholarly cooperation and standardization in a world of nations that still remained mostly insulated and isolated behind their national borders. As such, the IIB/FID's efforts to stimulate international cooperation and standardization, and to stimulate the development of like-minded associated organizations in other nations, was and is relevant not only for the development of international cooperation on information science and management, but also for the more general history of international cooperation as it developed over the twentieth century.

Already in 1893, Otlet and La Fontaine's activities reflected an internationalist vision with their formation of the International Office of Sociological Bibliography and their comparative study and analysis of different bibliographic tools and systems of the day in hopes of developing an optimum, standardized international system (Rayward, 1997, p. 291)—a path that more recent bibliographical developments such as MARC and FRBR continue to march along. Otlet's whole system of classification, the UDC, was itself born out of a process of international sharing as well as improvement upon the American Dewey Decimal System after Otlet's discovery of that expandable and non-language-dependent system in 1895 (Rayward, 1994, p. 238; Rayward, 1997, p. 291). Also in 1895, La Fontaine and Otlet organized the first International Conference of Bibliography, and would host an additional five such meetings during the years before World War I (Rayward, 1997, p. 291). Notably, this was all at a time when international scholarly cooperation, or even awareness, was still only in its infancy. The Belgian government's grant of funding and semi-official status to the IIB in 1895 gave the new organization a higher profile for its international activities (Rayward, 1997, p. 291). After the 1910 Brussels World Fair, La Fontaine and Otlet also co-founded the Union of International Associations (UIA), a new organization not exclusively focused on bibliographic or information science issues but concerned with collecting information and conducting research to facilitate cooperative approaches and develop policies for confronting international problems; unlike the IIB/FID, the UIA is still active today (Rayward, 1997, p. 291; Union of International Associations, 2014). Otlet's lifelong colleague, Henri La Fontaine, had a distinguished career as an early internationalist in his own right, becoming involved with the International Peace Bureau in 1882 and serving as the organization's president from 1907 until his death in 1943; with somewhat tragic irony, La Fontaine received the Nobel Peace Prize in 1913, shortly before World War I (Henri-Marie La Fontaine, 2003; Rayward, 1997, p. 291). At any rate, Otlet and La Fontaine's dreams of comprehensive collection and distilling of all human knowledge and of international standardization of tools and techniques to access that knowledge and make it widely available were part of a bold, forward-thinking wider

internationalist vision of worldwide peace and harmony. Their efforts also doubtlessly helped to bolster the somewhat surprising position of leadership that little Belgium assumed on the internationalist world stage and has occupied ever since (History of the UIA, 2014; Belgium, 2014).<sup>6</sup>

After the First World War, the IIB returned to its efforts at stimulating international cooperation. The IIB, still known as that, in 1924 was reorganized as an international federation of documentation organizations, mostly in Europe, but Otlet also communicated and worked with both Melvil Dewey and his internationalist-minded son, Godfrey Dewey, among other Americans, to try to stimulate greater cooperation from the rising new power across the Atlantic (Buckland, n.d. a; Gilliland, 2014, p. 64; Rayward, 1975, pp. 215-16, 284-88). Further international conferences were held, including an important one at Copenhagen in 1935 that particularly addressed information technology (Buckland, n.d. a). Otlet also attended the first World Congress of Universal Documentation in Paris in August 1937, where H. G. Wells famously spoke about his vision of the “World Brain”—a vision Otlet had been articulating and actually attempting to construct for decades (Gilliland, 2014, pp. 68-69; Wells, 1938).

The Paris World Congress, and Wells’s address, took place under the already looming shadow of what would soon come to be known as the Second World War. As with Otlet and La Fontaine’s earnest efforts to promote internationalization and world peace before the First World War, their efforts to relight that torch during the 1920s and 1930s also were doomed to frustration. Yet as with the failings of their dreams of a master world library and database of all information, the ultimate failure of the efforts of Otlet, La Fontaine, and their followers toward international peace and cooperation does not necessarily make those efforts irrelevant. The League of Nations, assembled with difficulty in the wake of World War I, also failed and is often cavalierly dismissed as an institution about as relevant as the Maginot Line; but it, like all early efforts at promoting international peace and cooperation before or between the two world wars, was still a valiant attempt and worthy effort, an experiment that both served to deepen international ties—even if they never became deep enough to prevent the global cataclysm from 1939 to 1945—as well as both a lesson and a warning for the future regarding the institution’s mistakes and shortcomings. In this way, the rubble of the crumbled edifices of pre- or inter-war internationalism became

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<sup>6</sup> According to the website of the Union of International Associations, Belgium was “the main host country of the international movement,” welcoming up to one third of all international organizations during the years before 1914. Today, although perhaps eclipsed by New York, Geneva, and The Hague, Belgium still hosts various important international organizations, including the European Commission and the Council of the European Union.

the foundation for the revamped world order of the postwar period, which, although also experiencing troubles and flaws, has perhaps had a greater overall success rate with various sorts and levels of international cooperation. So the early internationalist experiments, even if ultimately doomed to failure, were not therefore entirely without meaning or relevance; and that applies also to the early internationalism of Otlet, La Fontaine, and their IIB/FID as well as their UIA. In particular, the “transnational advocacy network” (Pyenson & Verbruggen, 2009, p. 63) built by La Fontaine and Otlet before World War I has been credited with laying the foundations for the post-World War II Committee on Intellectual Cooperation, a precursor organization that later evolved into the United Nations Educational, Scientific and Cultural Organization (UNESCO) (Pyenson & Verbruggen, 2009, p. 63).

### **The Postwar Contributions of the FID and the Documentation Movement**

Thus far, this paper has concentrated on the arguable relevance of events before the Second World War. Yet neither the FID nor the documentation movement it spawned came to an end in 1939 or in 1945. Otlet and La Fontaine’s organization and the wider movement thus continued to have an impact on the development of modern information science during much more recent decades.

The FID itself continued to exist until 2002, most actively up through 1994 (Buckland, n.d. a; Day, 2001, p. 7). The organization held a total of 55 International Bibliography Conferences between 1895 and 1994, many of them after 1945 (Buckland, n.d. a). The organization also reestablished its international publication efforts after the war, particularly from the late 1940s through the mid-1970s, with numerous titles regarding document reproduction, classification, information theory, informatics, and other topics relevant to information science and standardization that remain very much live issues today (Buckland, n.d. a; Buckland, n.d. b). This publishing was itself done internationally and in German as well as English, showing a continuation of the organization’s internationalist spirit and mission. It is perhaps a somewhat interesting example of internationalism that even during the middle of the Cold War between the United States and the former Soviet Union, Rayward’s book-length biography of Paul Otlet and history of the IIB/FID through 1944, which grew out of dissertation research at the University of Chicago, was published under the auspices of the FID, in English, by a Moscow-based publisher in 1975 (Rayward, 1975, pp. 1-2).

While the FID persisted in the postwar years, the documentation movement continued to grow and evolve, sometimes in rather different directions from the course set earlier by Otlet, and to provide concepts and theories important to the development of modern information science and theory. Some crucial documentalists/information theorists from the immediate prewar and early

postwar period include Suzanne Briet (1894-1989), S. R. Ranganathan (1892-1972), and Frits Donker Duyvis (1894-1961) (Buckland, 1997, pp. 806-7).

Briet in particular has been rediscovered by information scholars since her death in 1989 and has been credited with helping to lay the foundation for frameworks and methodologies of contemporary information science through her work fifty years earlier; scholar Michael Buckland (1995) calls Briet “a significant pioneer of information science in the days when it was called documentation” (p. 235). Briet participated and was well-known in various international organizations, including UNESCO and the International Federation of Library Associations and Institutions (IFLA) as well as the FID, in which she served as vice president after the war, winning her the nickname “Madame Documentation” (Buckland, 2013; Day, 2001, p. 21). She was not only an important figure in the modernization of library science theory and practice in France, but also an early, remarkable, national and international “rare woman pioneer of information science” (Buckland, 2013), which long remained a mostly male-dominated field like other professions and academic disciplines (Maack, 2004). Briet became one of the first women librarians at France’s national library in 1924 (Day, 2001, p. 21; Maack, 2004). Notwithstanding her gender disadvantage, Briet was one of the most crucial, if not initially among the highest-ranking, co-founders of the principal documentation organization of France, the Union Francaise des Organismes de Documentation (UFOD), in 1931, and later rose to be its secretary general, “which placed her in a key position in the French world of documentation and made her the most visible woman in the field” (Maack, 2004, p. 728). A “feminist and an effective organizer” (Buckland, 1995, p. 236) and an internationalist like Otlet and La Fontaine, Briet also founded a women’s rotary society that grew to 8,000 members and served as president of the Union of European Women (Buckland, 1995, p. 236). Briet’s pathbreaking 1951 manifesto, *What is Documentation?*, followed Otlet in further exploring the conditions under which objects are informational objects, famously using the example of an antelope as a “document” (Buckland, 1997, p. 806). Briet’s manifesto, which effectively envisioned documentation as information science and boldly called for the integration of documentation with the other sciences into a forward-looking, overarching culture of science, with documentation serving as a “metascience of science” (Day, 2001, p. 24) far removed from the traditional backward-looking, preservationist mindset of traditional librarians and archivists, shared the positivist ambition and shortcomings of Otlet—as well as of most of information science and most of the other sciences to this day (Day, 2001, pp. 21-35).<sup>7</sup>

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<sup>7</sup> Notably, in contrast to Day’s depiction of Briet’s manifesto as predominantly positivist in conception, Buckland finds that Briet’s scholarship, by incorporating

Mathematician and librarian Ranganathan, remembered internationally for his “revolutionary theories on bibliographical classification” (Foskett, 1991) as well as his oft-cited Five Laws of Library Science, explored faceted information structures and developed the Colon Classification system in an effort to improve the faceted search and retrieval capacities of the Dewey decimal system and the UDC (Broughton, 2006, p. 56; Foskett, 1991; S. R. Ranganathan, 1978). Ranganathan not only added to information theory and science globally, but also made such monumental contributions to the library system of his home nation that he is still known as “the father of library sciences in India” (Devanathan, 2013), his birthday is celebrated as Librarians Day there, and scholar D. J. Foskett (1991) has stated, “It is safe to say that no [other] single individual has made quite such a wide-ranging contribution to the development of library and information services in his own country as S. R. Ranganathan.” In addition to his service as university librarian and professor of library science at various Indian universities from 1924 to 1959, Ranganathan founded and directed the Documentation Research and Training Centre in Bangalore in 1962, where he remained until his death in 1972, shaping the minds and careers of many members of the next generation of Indian librarians and information scientists; his efforts won him the official title of National Research Professor in Library Science in 1965 (Shiyali Ramamrita Ranganathan, 2014). As a mathematician librarian, Ranganathan first developed the concept of *Librametry*, applying statistical analysis to library science, helping to fill a conceptual gap in the documentalist approaches of Otlet and Briet, and perhaps helping to pave the way for the present-day mania for bibliometrics (Day, 2001, pp. 35-36; De Bellis, 2009; Devanathan, 2013). Ranganathan, an active participant in the FID as well as the IFLA, helped to carry the torch of documentalism deep into the postwar era and left especially lasting footprints on the information culture of India as it began its trajectory toward becoming a world power (Foskett, 1991).

Donker Duyvis was a former chemical engineer and patent official who favored scientific management and the application of efficient scientific- or engineering-style techniques to information. Like other documentalists, he “saw documentation, standards, machines, and the pursuit of efficiency as a coherent and significant combination” (Buckland, 1998, p. 161) and hoped that efficiency achieved through documentation and standardization would allow the creation of the sort of seamless culture of science that Briet also envisioned (Buckland, 1998, p. 161). He sought to apply such efficient techniques not only to libraries and bibliography, but also to records management. With his technical background and

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elements of a humanistic approach to understanding information and weaving in semiotics, also appropriately challenged certain scientific, positivist notions that long have tended to dominate information science (Buckland, 2006, p. 2).

interest in information machines, Donker Duyvis also recognized that punched-card tabulating machines would never allow complex, faceted, Boolean bibliographic searching, and he was early in predicting that the new digital technology that was in its infancy in the early postwar years held more promise for information accessibility. He became the central figure in the FID after Otlet (Buckland, 1998, p. 161).

Thus, although the pre-World War I and interwar work of Otlet, La Fontaine, and the FID/IIB might seem much more remote in time, the continuation of the documentalist tradition in the hands of postwar scholars carried that tradition forward right to the frontiers of the emergence of modern, computer-intensive information science, which started to develop gradually in the 1950s and later leaped forward following the personal computer revolution of the 1980s. In particular, Buckland (1998) notes that the “present-day repositioning of ‘library schools’ to include, even emphasize, ‘information management’ can reasonably be seen as also being a continuation (witting or otherwise) of the orientation of . . . Donker Duyvis, Otlet, and Briet” (p. 161).

### **The FID and American Archival Practice**

Anne Gilliland has traced the history of the relatively little-known interaction between early European documentalists such as Otlet and early American professional archivists. This interaction is little-known precisely because it never left a clear, lasting institutional footprint and was somewhat sporadic from being repeatedly interrupted by the crises of the first half of the 20<sup>th</sup> century, including the two World Wars, the Great Depression, and the onset of the Cold War (Gilliland, 2014, p. 56). Nevertheless, significant figures from the American archival community communicated with European documentalists and the IIB/FID and in some cases attended international conferences at which Otletean ideas figured prominently, such as the 1910 International Congress of Libraries and Archives and the 1937 World Congress of Universal Documentation in Paris (Gilliland, 2014, pp. 59-66). For instance, a young Waldo G. Leland, one of the most important early leaders in the American archival movement and an advocate of the importation of European archival techniques (Gilliland, 2014, pp. 56-57; Waldo Gifford Leland, 2014, was among four American attendees at the 1910 International Congress, spoke there about the lagging state of archival development in the United States, and noted later that “he had ‘got a great many ideas’ at the congress” (Gilliland, 2014, p. 60). Gilliland (2014) makes clear that the 1910 Congress was suffused with documentalist ideas and adds, “The scope of the documentalist perspective on administrative documentation in many ways presaged ideas about the integration of record-keeping functions, activities, and practices not fully expressed within the archival community until the development

of the records continuum in the 1990s” (pp. 63-64). J. Franklin Jameson, co-founder of the American Historical Association and director of the Carnegie Institution’s Bureau of Historical Research in which Leland worked, supported Leland’s study of European archival practices from 1903 onward and first personally introduced Leland to significant Belgian archivists in 1909 (Gilliland, 2014, pp. 57-58, 59; J. Franklin Jameson, 2014). Otlet himself visited America in early 1914 to try to stimulate greater American interest and participation in international bibliographic and archival cooperation (Gilliland, 2014, p. 64). Later, in 1937, Watson Davis, the prime moving force behind the founding of the American Documentation Institute that later evolved into the Association for Information Science and Technology, attended the 1937 World Congress of Universal Documentation in Paris, along with Otlet, Briet, H. G. Wells, and fellow American Lodewyk Bendikson of the Huntington Library (Day, 2001, p. 21; Gilliland, 2014, p. 68; Watson Davis, 2014).

Even after the Second World War, as the new American Documentation Institute was taking root and developing in a manner mostly determined by America’s domestic priorities and assumptions, significant American figures still were exposed to, and impressed by, European documentalist ideas (Gilliland, 2014, pp. 69-71). Leland attended the FID’s first postwar conference in Paris in 1946 (Gilliland, 2014, p. 66), and Solon J. Buck, the second Archivist of the United States, a co-founder of the American Documentation Institute in 1937, and like Leland a proponent of an archival role for UNESCO (Gilliland, 2014, pp. 65-68), recounted Leland’s statement that the 1910 International Congress ““permanently influenced archival conceptions and practices in the United States”” (Gilliland, 2014, p. 79 n. 26). Gilliland thus shows how even limited contact and exposure to the different ideas and understandings of one information culture could have subtle but significant impacts on another information culture by changing the overall swirl of ideas in circulation and by impacting particular key individuals—even in the absence of more obvious formal cooperation, institutional footprints, or cause-and-effect relationships.<sup>8</sup>

And that record in the American archival community, in turn, also applies to the efforts of Otlet, La Fontaine, the IIB/FID, and other documentalists more generally and offers another basis for contending that their efforts may have had further relevant, if perhaps sometimes subtle and hard to measure, impacts on the worldwide understanding of information to this day. In fact, it might be precisely

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<sup>8</sup> Suzanne Briet, “Madame Documentation,” also visited the United States with Fulbright support in 1951-52 (Buckland, 1995, p. 236). Whether or not this had any impact on the American archival community, it did constitute additional significant cultural contact with one of the most important European documentalists.

the nature of a new Foucauldian discursive formation (or Kuhnian paradigm), which can change the intellectual air members of a scholarly community breathe and the assumptions they hold subtly, gradually, and sometimes without their even being consciously aware of it, that some significant long-term impacts may be gradual, subtle, and indirect.

### **Conclusion**

Paul Otlet and Henri La Fontaine ultimately were not able to assemble and make available a master collection of all human knowledge. Their grand project was hampered by both inadequate technology and impossibly positivist conceptual underpinnings. The organization they started, first known as the International Institute for Bibliography and later as the International Federation for Documentation, survived the shocks of the two world wars but closed its doors in 2002.

Nevertheless, Otlet, La Fontaine, and the IIB/FID remain relevant today for various reasons. They, together with later scholars in the same documentalist tradition such as Briet, Donker Duyvis, and Ranganathan, helped to set the agenda for modern information science and to ask some of the key questions that students of information still are trying to answer. Both in the boldness of their vision and in the shortcomings of their approach, they serve a dual role, setting both an aspirational and a cautionary example. In addition to their pioneering explorations of information science and management, Otlet, La Fontaine, and their followers also were significant pioneers of international communication and cooperation, both in the scholarly arena and more generally. The FID helped to maintain the two traditions of information research and international cooperation all the way into the 21<sup>st</sup> century, overlapping with the rise of the new field of information science and the digital information revolution. Through their century of activity, Otlet, La Fontaine, the FID, and the wider documentation movement left various imprints, both direct and indirect, both more obvious and more subtle, that shaped, and still shape, our modern information society.

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