

INFORMATION TECHNOLOGY

Forgotten prophet of the Internet

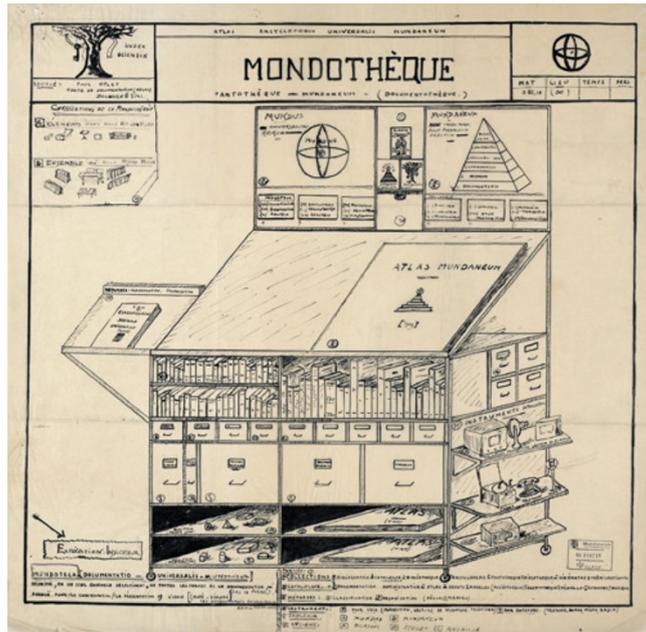
Philip Ball ponders the tale of a librarian who dreamed of networking information.

The Internet is considered a key achievement of the computer age. But as former *New York Times* staffer Alex Wright shows in the meticulously researched *Cataloging the World*, the concept predates digital technology. In the late nineteenth century, Belgian librarian Paul Otlet conceived schemes to collect, store, automatically retrieve and remotely distribute all human knowledge. His ideas have clear analogies with information archiving and networking on the web. Wright makes a persuasive case that Otlet — now largely forgotten — deserves to be ranked among the conceptual inventors of the Internet.

Wright locates Otlet's work in a broader narrative about collation and cataloguing of information. Compendia of knowledge date back at least to Pliny the Elder's *Natural History* (AD 77–79) and the collections of Renaissance scholars such as Swiss naturalist Conrad Gesner, although these were digests of typically uncited sources. Otlet sought to collect everything — newspapers, books, pamphlets, photographs — and to devise a method of categorization that would rival the Dewey decimal system. Wright tells a poignant story of the elderly, perhaps senile, Otlet stacking up jellyfish on a beach and then placing on top an index card bearing the number 59.33: the code for Coelenterata in his Universal Decimal Classification.

Otlet envisaged a 'Mundaneum', a repository of all knowledge. Central to the scheme was the Universal Bibliography, a card index with more than 15 million entries in filing cabinets. Realizing how much space and labour such a system demanded, Otlet advocated the miniaturization of documents (on microfilm) and planned automatic systems to locate information, like steampunk search engines. This knowledge, he thought, might be broadcast to users by radio, and stored in a workstation called a *Mondothèque*, equipped with microfilm reader, telephone, television and record player.

All this can be correlated with the software and hardware of today. But Wright recognizes that the comparison goes only so far. Otlet's vision was consistent with the social climate of his day: centralized, highly managed and hierarchical. It was quite unlike the distributed, self-organized peer-to-peer



Paul Otlet's *Mondothèque* workstation.

networks made possible by the personal-computer revolution that was shaped by the counterculture of the 1960s and 1970s.

The real focus of this story is not the antecedents of the Internet. It concerns dreams of a utopian world order, shared by many around the end of the nineteenth century and after the First World War. This was Otlet's grander vision, to which his collecting and cataloguing were merely instrumental. In 1919, with politician Henri La Fontaine — a committed internationalist awarded the 1913 Nobel Peace Prize — Otlet successfully petitioned the Belgian government to fund plans to house the collection in a wing of a grand building in Brussels. He dubbed this space the Palais Mondial. The two men imagined an 'intellectual parliament' for all humanity, in which the organization of knowledge would contribute towards philosopher Auguste Comte's vision of a rationally governed society. In part, their ideas paved the way for the League of Nations and the United Nations — although Otlet was distraught when the Paris Peace Conference of 1919 elected to

establish the league in Geneva, in neutral Switzerland, rather than Brussels. But their objective was much more grandiose, utopian and strange.

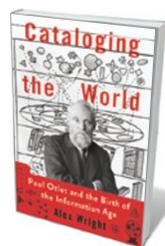
Progressive thinkers such as H. G. Wells (whom Otlet read) desired world government in the interwar period, but Otlet's plans often seemed detached from mundane realities. They veered into mystical notions of transcendence of the human spirit, influenced by theosophy, and Otlet seems to have imagined that learning could be transmitted not only by careful study of documents but by a symbolic visual language in posters and displays. In the late 1920s, he and architect Le Corbusier devised a plan to realize the Mundaneum as a building complex full of sacred symbolism, as much temple as library. Wright overlooks the real heritage of these ideas: Otlet's predecessor here was not Gesner but Italian philosopher Tommaso Campanella, who in 1602

described a "City of the Sun" in which citizens imbibed knowledge from great, complex wall paintings. This aspect of Otlet's dreams looks backwards to Neoplatonism and Gnosticism as much as it looks forward to the information age and the Internet. Perhaps unsurprisingly, politicians remained unconvinced, dooming Otlet to frustration and ultimate failure.

The modern ability to access Isaac Newton's *Principia* online would have delighted Otlet. That so much more network traffic involves cats and pornography would have devastated him. He was devastated enough: the actual Mundaneum never amounted to more than a corner of the building hosting the Palais Mondial, and the government edged him out of there in 1924 to make room for an exhibition on rubber. After losing funding for the cataloguing project in 1934, Otlet clung to a corner of the premises until the Nazis destroyed most of his collection in 1940.

The remainder mouldered for decades in various buildings in Brussels; what survived now sits modestly in the new Mundaneum in Mons, a former garage. But there is another Mundaneum in Brussels: a conference room given that name in Google's European office. It is a fitting tribute, and Wright has offered another. ■

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ALEX WRIGHT
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