

The 'universal library' returns in digital form

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Summary

This paper begins with two contemporary technological developments both of which present a serious challenge to the dominance in literature and learning of the book in its codex form. While their earlier manifestations were not commercially successful, the most recent e-book readers (portable technological contraptions that have the capacity to store thousands of books that can be read electronically) have been praised not only for their functionality but also for their aesthetic appeal. A related development has been the growth of large-scale digital libraries, the most prominent of which is the Google Books Library Project, launched in 2004 and now committed to the digitisation of around 15 million volumes or 4.5 billion pages in the following six years from some of the world's leading academic libraries.

The purpose of this paper is to explore these developments within the context of ancient and Enlightenment ideas about the 'universal library' which assert that the construction of such an institution is the most effective way of promoting universal knowledge. Rather than employing a kind of technological determinism that renders these technologies as merely points along an inexorable continuum of progress, it will be argued that they are the latest manifestation of an idea that long pre-dated digital technology. Over two millennia ago, the Ptolemies attempted to collect the entire corpus of literature in the Greek language as well as significant works in other languages. Many have argued that the institution that held these huge collections, the library at Alexandria, was effectively the world's first universal library. Even though this library was eventually destroyed, the idea of universalism survived and flourished again during the European Enlightenment, through Diderot's *Encyclopédie* project and the construction of national libraries and archives. Latterly, the creation of the World Wide Web is conceived of by some as the apotheosis of the universalism of knowledge.

Not everyone is convinced, though, that the attainment of universal knowledge is possible. And, ironically, the most powerful arguments against universalism emanate from a medium whose existential status is most threatened by this idea and its

accompanying technologies: the codex book. Despite our technological sophistication, it seems that literature is still able to give us much richer insights into the nature of contemporary society than other forms of media. This paper will illustrate this through the writings of Jorge Luis Borges, Jonathan Swift, Jean Paul Sartre, Washington Irving and Gustave Flaubert, who in their various ways demonstrate the epistemological impossibility of obtaining total knowledge in any intellectual discipline, parody the insane search for it and muse on the tension between canonicity and universalism. These issues are particularly pertinent in an age where the virtualization of text has seemingly rendered obsolete some of the practical obstacles to the universal library and offer a sophisticated rejoinder to those cyber-utopians who have heralded the imminent arrival of universal knowledge via the World Wide Web.

KEY WORDS: the Enlightenment, universal library, World Wide Web, universal knowledge, canonicity, archives, positivism.

A recent article in London's *Guardian* newspaper on Sony's e-book reader added to the encomiums in other media outlets. Though previously sceptical of these innovations, reporter Victor Keegan (2007) was impressed with the e-book's size, portability and the quality of the page images. And, with its capacity to store hundreds of different books, the gadget clearly can offer a serious alternative to the codex book. Parallel to this development has been the creation of huge digital libraries, many of which are available free at the point of access on the World Wide Web. This has intensified since Google's — swiftly followed by initiatives from MSN and Yahoo — announcement in December 2004 that it intended to digitise around 15 million volumes or 4.5 billion pages in the following six years' from five of the world's leading academic libraries: the libraries at Stanford University and the University of Michigan, the Widener Library at Harvard, New York Public Library and the Bodleian at Oxford University (Jeanneney 2007: 3-4). While there are sound technological reasons for the development of e-books and large-scale digital libraries, this paper will focus on the argument that they embody the Enlightenment ideal of the 'universal library', something which manifested itself in Europe in the eighteenth century in the construction of encyclopaedias, and national libraries and archives. But literature has much to say about the universal library too, and the central to this discussion will be a commentary on various relevant writings by Borges, Sartre, Flaubert, Swift and Irving. These writings show the epistemological impossibility of universal, or total, knowledge and in that sense, and as the paper will argue, give us more of an insight into contemporary culture than does much new media theory.

The pre-Enlightenment universal library

Though the focus of this paper will be on Enlightenment thinkers' conception of the universal library, the idea itself is over two millennia old. In the early centuries of the first millennium AD, the library at Alexandria sought to collect Greek language literature in its entirety, as well as the most significant works in other languages (Battles 2004: 30). It was the first attempt at a universal library, the Ptolemies collecting some seven hundred thousand scrolls, and even today it is evoked as a model to which those interested in the development of knowledge should aspire. The fate of Alexandria's library – it was burnt down in a series of fires – signifies another important element of the universal library concept, that is the constant fear that books will be destroyed, whether wilfully (as in many cases) or not, an aspect that will be explored later in this piece. Alexandria's demise, though, did not eradicate the *idea* of a universal library, which, as Chartier reports, motivated many in the following centuries:

It underlay the constitution of great princely, ecclesiastical, and private 'libraries'; it justified a tenacious search for rare books, lost editions, and texts that had disappeared; it commanded architectural projects to construct edifices capable of welcoming the world's memory (Chartier 1994: 62).

But this pre-Enlightenment belief in the efficacy of the universalism of the library was counter-posed by what Battles terms the "Parnassan" library:

Until fairly recently – that is to say in the last couple of hundred years, which is a short interval for the library – librarians could have counted themselves among the Stoic followers of Seneca, who, in his *Epistulae morales*, wrote that "it does not matter how many books you have, but how good they are." Seneca's library is a place of canons. I like to call this type of library the "Parnassan", for like Delphi it is a temple built on the flanks of Mount Parnassus, that hilltop holy to Apollo and the Muses. The works within it are a distillation, the essence of all that is Good and Beautiful (in the classical formulation) or Holy (in the medieval). It is meant as a model for the universe, a closely orchestrated collection of ideals (Battles 2004: 9).

Here, Battles describes the two opposing visions not only of librarianship but academia too. Though the very term 'university' implies 'universalism', higher education is wedded to 'canonicity', that is to say, like Seneca's library, it is selective in its collection and use of texts. Universities were, and to a large extent still are, divided into a number of clearly defined academic disciplines, each of which had a discrete number of texts and authors which dominated that discipline. Modern readers may argue that this mentality was shaped by practicality, namely the impossibility of each institution building its own huge collection because of the glut of titles and editions generated by the invention of printing (Chartier 1994: 63). Postman (1992: 62-63) argues that from the late sixteenth century onwards this resulted in a shift of

emphasis from striving towards universalism to information control; Postman links the massive expansion in the school system in the sixteenth and seventeenth centuries as one such attempt to control the enormous amounts of information awash in western Europe. Given that contemporary attempts to build the universal library are premised on the desire to banish information deprivation from our midst, Postman's point is a useful rejoinder, reminding us that for the past few centuries this has not really been a problem. Seidensticker (2006: 94) also challenges the view that we have habitually found it difficult to access sufficient amounts of information, pointing out that there were actually *more* not less American newspapers in the nineteenth century, peaking at around the year 1900 with 2,600 dailies and 14,000 weeklies.

However, as this paper will go on to illustrate, the idea of universalism has not gone away, with arguments against canonicity gathering pace since the 1960s with the advent of post-structuralist and post-modernist theories that challenge not only the notion that knowledge should be constructed with the aid of authoritative sources but also the very idea of individual authorship itself. This impulse, though, has been in existence for very much longer than that. Though himself a devout Catholic, Gutenberg's invention of the printing press undoubtedly undermined the authority of his own church and contributed to the rise of Protestantism, a more individualistic, less canonical religion (Postman 1992: 15). Indeed, the compilers of the first French *Encyclopedie* not only intended it to be the application of universalism in practice, they also saw it as a means of undermining organised religion, an Enlightenment project to which I will now turn (Wootton 2006).

Enlightenment idealism in practice: European encyclopedism, national libraries and archives

Diderot's *Encyclopedia* was based on Francis Bacon's belief that knowledge was like a circle, in other words it could form a closed totality (Warman 2006). Once a conception of total knowledge was in the public domain then it was inevitable that someone would try to put the idea into practice. The first volume was published in 1751 and its entries were arranged alphabetically as Diderot believed this seemingly arbitrary organisation had the effect of breaking down hierarchies of knowledge (Bragg 2006; Wootton 2006). But, while alphabetizing the entries produced discrete units, a complex system of cross-referencing was intended to unify to bring about unity of knowledge (Wootton 2006). With its random entries and system of linking, the *Encyclopedie* was eerily similar in construction to the World Wide Web.

But, elsewhere, the tension between the idea of universalism and the seeming impossibility in the age of print of collecting all texts, produced ventures that, rather than choosing between canonicity and universalism, preferred a hybrid solution. Diderot had recognised this himself, reconciling the contradiction by arguing that it

was not possible for one person to know everything but the *Encyclopedie* would at least make people aware of that which they did not know (Warman 2005). Writing in 1644, Gabriel Naudé would have liked a library containing an 'infinity of good, singular, and remarkable' works but knew that this was not simply possible and therefore that some sort of selection was unavoidable:

Still, in order not to leave this quantity infinite by not defining it, and also in order not to throw the curious out of all hope of being able to accomplish and come to the end of this handsome enterprise, it seems to me that it is appropriate to do as the Physicians do, who order the quantity of drugs according to their quality, and to say that one cannot lack gathering all those [books] that have the qualities and conditions required for being put in a Library (Naudé 1644, cited in Chartier 1994: 64–65).

In short, the spirit of universalism was retained, even if willing its manifestation proved ultimately frustrating:

The irreducible gap between ideally exhaustive inventories and necessarily incomplete collections was experienced with intense frustration. It led to extravagant ventures assembling — in spirit, if not in reality — all possible books, all discoverable titles, all works ever written (Chartier 1994: 88).

Another way of trying to square this particular circle was through the creation of *bibliothèques*, or catalogues, an increasingly common occurrence in the eighteenth century (Chartier 1994: 69–70). These were universal in coverage but were a pale imitation of more extravagant attempts to create universalism in content. They were, though, a fore-runner of the catalogues employed by national archives and libraries as universalism grew in the fertile ground of the bureaucratisation of nation-states later in the century.

As the modern European nation-state came into being, the imperative for national systems of record-keeping led to the creation of national archives. Rather than merely enabling the population to develop knowledge, information was now had an additional role in the service of the state. Also at its service was a less enlightened version of universalism, with Featherstone (2006: 591) noting that disciplinary mechanisms were created for the administration of the metropolitan state, both to analyse populations (statistics, demography, penology, criminology) and to control them (in prisons, schools, clinics, hospitals, asylums, barracks). These new disciplinary academic subjects come under the rubric of 'positivism', the belief that human life is governed by an immutable set of laws which can be identified using 'scientific' methodologies. In its belief that human beings are as much a part of the nature as any other living being and that there is an 'objective' truth that can be identified through the application of rigorous scientific methodologies, positivism echoes those who argue that an uncontestedly 'true' knowledge can be achieved through the gathering of all the texts

that humankind has ever produced. Thus, not only did the archive have a bureaucratic and disciplinary function, in its systematic collection of seemingly all national records it was universalism in practice. Therefore, in the nineteenth century, history as an academic discipline became more scientific and less humanistic, with, according to Tollebeek, the 'fantasy of the archive' seeming to offer the best alternative to the long dormant project of the universal library:

The anchor point of this scientific historiography was the idea that a true writing of history had to be based on a critical appraisal of authentic (textual) source material from the past. (...) But if history was made with documents, it was of vital importance that these documents be collected methodically and systematically, so that no document escaped the critical attention of the historian. All documents, it was argued, should therefore be concentrated at a single place: in an archive. This utopia formed an archive fantasy that was to inspire many (Tollebeek 2004: 242).

One of the most influential figures in the development of archival theory in the twentieth century was Hilary Jenkinson, a former Deputy Keeper [national archivist] of The National Archives in the UK, who took a similarly positivistic approach:

The perfect Archive is *ex hypothesi* an evidence which cannot lie to us: we may through laziness or other imperfection of our own misinterpret its statements or implications, but itself it makes no attempt to convince us of fact or error, to persuade or dissuade: it just tells us. That is, it does so *always provided that it has come to us in exactly the state in which its original creators left it*. Here then, is the supreme and most difficult task of the Archivist – to hand on the documents as nearly as possible in the state in which he received them, without adding or taking away, physically or morally, anything: to preserve unviolated, without the possibility of a suspicion of violation, every element in them, every quality they possessed when they came to him, while at the same time permitting and facilitating handling and use [emphasis in the original] (Jenkinson 1944, cited in Gilliland–Swetland 2000: 12).

But even this more positivistic form of universalism cannot avoid the drawbacks that more humanistic conceptions of the term suffer from. And that is because even though the collection of documents may be systematic it is certainly not total. In fact, only a very small proportion of official records are kept in perpetuity; for instance, in the United Kingdom only around 5 per cent of records are permanently retained (The National Archives 2005).

Librarianship too became more 'scientific' and less 'humanistic' during the nineteenth century; indeed, today librarianship is referred to as 'information science'. Melville Dewey's largely successful venture to standardise the classification of library holdings with his famous decimal system introduced a scientific element to librarianship

that was premised on being the most efficient means of delivering books to readers (Battles 2004: 139–141). And, as with archives, this scientification was coupled with the humanist ideal of a universal library. This was to be achieved through the creation of national libraries that would collect everything published in its jurisdiction. In the UK and Ireland, for instance, there are six legal deposit libraries – the British library, the national libraries of Wales and Scotland, the library at Trinity College Dublin, the Bodleian at Oxford University and the University of Cambridge Library – to which authors in the two states must send copies of their newly published works. This is reinforced by an inter-library loan system which enables users to order publications that are not held by their local institution.

The universal library in the arts

Another way in which the idea of the universal library was being kept alive during the eighteenth, nineteenth and twentieth centuries was through its representation in literature. Twentieth century Argentinian writer Jorge Luis Borges is probably the most famous exponent of this type of work, through two stories in particular, *The Library of Babel* and *The Book of Sand*. Importantly for this paper, Borges's ideas are often cited by cultural theorists as reflecting what has been realised in the World Wide Web. Thus his work forms part of what could be termed as a literary 'technological imaginary' and has been used by hypertext scholars as a demonstration of the type of experimental literature that has challenged traditional forms of literature, a genre that they believe the World Wide Web encourages (Lister, Dovey, Giddings, Grant and Kelly 2003: 27). But, as will be argued in this section, the work of Borges and others like Sartre, Swift, Irving and Flaubert actually subvert the idea of universalism insofar as it applies to libraries specifically and knowledge generally.

In *The Book of Sand* the narrator is given the eponymous book which has no beginning and end; in short, it is infinite (Borges 2001: 89–93). Those who saw prescience in Borges's words could content themselves that, much like the World Wide Web, not only did the book of sand have no beginning and end but that it was also difficult to retrace your steps: "I took note of the page, and then closed the book. Immediately I opened it again. In vain I searched for the figure of the anchor, page after page. To hide my discomfiture, I tried another tack" (Borges 2001: 90). Borges makes an interesting observation later about the way in which the narrator was further discomfited by his/her suspicion that the book might *not* be infinite. This developed into such an anxiety that it led to insomnia, a tortuous and ambitious attempt to prove that it was not infinite, his/her worries only ending when he/she disposed of the book (Borges 2001: 93).

In the *Library of Babel* an explicit reference is made between the story's subject and the universe:

The universe (which others call the Library) is composed of an indefinite and perhaps infinite number of hexagonal galleries, with vast air shafts between, surrounded by very low railings. (...) In the hallway there is a mirror which faithfully duplicates all appearances. Men usually infer from this mirror that the Library is not infinite (if it really were, why this illusory duplication?); I prefer to dream that its polished surfaces represent and promise the infinite (...) (Borges 2000: 78).

Borges also compellingly conveys the mystification that surrounds the universal library, the notion that universalism, like the positivism that national archives encourage, can deliver truths that metaphysics cannot:

At that time it was also hoped that a clarification of humanity's basic mysteries – the origin of the library and of time – might be found. It is verisimilar that these grave mysteries could be explained in words: *if the language of philosophers is not sufficient*, the multiform library will have produced the unprecedented language required, with its vocabularies and grammars [my emphasis] (Borges 2000: 82).

But, like the insomniac narrator in the *Library of Babel*, Borges's suggests that this is an ultimately fruitless endeavour, going on to explain that:

For four centuries now men have exhausted the hexagons [looking for the origin of the library and of time] (...) There are official searchers, *inquisitors*. I have seen them in the performance of their function: they always arrive extremely tired from their journeys; they speak of a broken stairway which almost killed them; they talk with the librarian of galleries and stairs; sometimes they pick up the nearest volume and leaf through it, looking for infamous words. Obviously, no one expects to find anything [emphasis in the original] (Borges 2000: 82–83).

Borges concludes by seeming to suggest that the pursuit of some sort of universal knowledge is ultimately futile and that we should turn back to canonicity:

Others, inversely, believed it was fundamental to eliminate useless works. They invaded the hexagons, showed credentials which were not always false, leafed through a volume with displeasure and condemned whole shelves: the hygienic, ascetic furor [*sic*] caused the senseless perdition of millions of books. Their name is execrated, but those who deplore the 'treasures' destroyed by this frenzy neglect two notable facts. One: the library is so enormous that any reduction of human origin is infinitesimal. The other: every copy is unique, irreplaceable but (since the Library is total) there are always several hundred thousand imperfect facsimiles: works which differ only in a letter or a comma (Borges 2000: 83).

Borges's works are not merely metaphysical speculation but inform us about the physical world as well. His stories in the mid-twentieth century were written in the knowledge that the universal library was not only a utopian dream but that this desire had been concretized in the construction of huge national libraries and archives. Borges's point appears to be that the physical manifestation of this dream has not satiated humankind's desire for the universal library; on the contrary, it has fuelled it, with the World Wide Web being its latest manifestation. If Borges was writing with hindsight, Irish satirist Jonathan Swift did not have that luxury. But, despite this, they had a shared scepticism about universalism, something which they both expressed with great eloquence and, in Swift's case, with great humour.

As a young secretary to the retired English politician and former famous diplomat Sir William Temple, Swift was keenly aware of his master's concern about the proliferation of pamphlets and other modern literature which threatened to submerge the 'wisdom of the ancients' (Battles 2004: 87-88). Temple was particularly critical of the scholarly work of his fellow classicist Richard Bentley – who eventually became the Keeper of the Royal Library in England in 1694 – and the latter's protégé William Wootton. This was not merely an academic disagreement, as Bentley drew up plans for his Library that would he hoped would emulate the Library of Alexandria (Battles 2004: 82-116). Swift turned his master's disdain for Bentley's plan into a rich satire entitled *A true and full account of the battle fought last Friday between the ancient and the modern books in St James's [the Royal] Library* (Swift 1909: 143-168). Here, the introduction of a spate of modern books, the inevitable consequence of the construction of a universal library, is heartily lampooned:

When these books were first admitted into the public libraries, I remember to have said, upon occasion, to several persons concerned, how I was sure they would create broils wherever they came, unless a world of care were taken: and therefore I advised that the champions of each side should be coupled together, or otherwise mixed, that, like the blending of contrary poisons, their malignity might be employed among themselves. And it seems I was neither an ill prophet nor an ill counsellor; for it was nothing else but the neglect of this caution which gave occasion to the terrible fight that happened on Friday last between the ancient and the modern books in the king's library (Swift 1909: 148-149).

Parnassus, mentioned by Battles earlier in the paper, is invoked by Swift and, not surprisingly, the ancients win the day.

Swift's thinly disguised disdain for the arguments of Bentley and Wootton is echoed in literature throughout the last three hundred years'. Written in the early nineteenth century, in addition to commentary on the generality of the universal library, Washington Irving's *The Mutability of Literature* raises issues that resonate for users of the World Wide Web. Finding himself in the library of Westminster Abbey in London, the narrator of the story is surprised when one of the books starts talking to him, lamenting that

it has not been opened by a reader for more than two centuries (Irving 1906: 122). It would be wrong to assume that this short story is solely about the swamping of ancient literature with the products of the modern printing press. Rather, it is about how we search for specific publications in this mass of literature. As the title suggests, the talking book suggests that it is the rapidly changing nature of the English language — many, of course, would argue that this is what gives the language its strength — that ensures that contemporary literature will always have a marginal advantage over older texts whose language is hard for the modern reader to comprehend. The narrator explains this to the opened book:

The purity and stability of language, too, on which you found your claims to perpetuity, have been the fallacious dependence of authors of every age, even back to the times of the worthy Robert of Gloucester, who wrote his history in rhymes of mongrel Saxon. Even now many talk of Spenser's 'well of pure English undefiled,' as if the language ever sprang from a well or fountain-head, and was not rather a mere confluence of various tongues, perpetually subject to changes and inter-mixtures. It is this which has made English literature so extremely mutable, and the reputation built upon it so fleeting. Unless thought can be committed to something more permanent and unchangeable than such a medium, even thought must share the fate of everything else, and fall into decay. This should serve as a check upon the vanity and exultation of the most popular writer. He finds the language in which he has embarked his fame gradually altering, and subject to the dilapidations of time and the caprice of fashion. He looks back and beholds the early authors of his country, once the favourites of their day, supplanted by modern writers. A few short ages have covered them with obscurity, and their merits can only be relished by the quaint taste of the bookworm. And such, he anticipates, will be the fate of his own work, which, however it may be admired in its day, and held up as a model of purity, will, in the course of years, grow antiquated and obsolete, until it shall become almost as unintelligible in its native land as an Egyptian obelisk, or one of those Runic inscriptions said to exist in the deserts of Tartary (Irving 1906: 124).

The suggestion here is that even if were possible to achieve universalism, such is the amount of material that we would be faced that we would have to create strategies for ordering and navigating this vast sea of texts. This already occurs when we are searching the vast inter-textual library that is the World Wide Web. Search engines privilege not only certain expressions, even whole languages are hierarchized. Jeanneney (2007) and Derrida (2005) have both highlighted the predominance of English language texts online. Of course, search engines are, more often than not, run by private corporations and, in a reprise of the positivism that pervades the archive, locate material with the use of mathematical algorithms. As novelist Pico Iyer has demonstrated, this ensures that serendipity is not as common on the World Wide Web as is sometimes imagined:

Then came Google, and a million listings (literally) ordered in terms of which are most important. Except that the ones that come up most readily are the ones that have come up most often before, and (in the absence of a recent scandal), those are the ones that have been posted longest. Since search engines entered the world — and replaced what formerly was known as research and enquiry — interviews have become a circular form in which almost every interviewer asks the same questions as every previous interviewer, so that the previous interview he's found online remains ever more on top of your Google listing, and every future interview is ever more in debt to it. And the interviewee (I write this from painful experience) either has to give the same answer as before (which causes his interlocutor to yawn as much as himself), or to come up with a new answer, which is almost inherently false (Iyer 2006).

It could be added that the Irving's narrator's concern that the language and terminology of many texts becomes archaic sooner than we would like means that contemporary users of the World Wide Web are not likely to stumble on valuable pre-modern texts.

But what really is at stake here is the indeterminacy of language. Umberto Eco, a writer heavily influenced by Borges, discusses his mentor's critique of John Wilkins's search for a perfect language in the latter's *Essay Towards a Real Character*, 1688 (Eco 2006: 113-114). There is, then, no way of establishing a unitary classification of the universe:

Borges, who delighted in other universal and secret languages, knew well that Wilkins's project was impossible, because it pre-supposed taking into account all the objects in the world, the ideas to which they referred, and a unitary criterion for ordering our atomised ideas. And it is a hurdle that defeats all utopians who aspire to a universal language. (...)

The conclusion Borges draws from the failure of classification is that we cannot know what the universe is. Furthermore, he says that "one can entertain the idea that there is no universe in the organic, unifying sense that this ambitious word possesses." But immediately afterwards he points out that "the impossibility of penetrating the divine design of the universe cannot, however, dissuade us from trying to trace human designs". (Eco 2006: 114-115).

Thus anyone who tries to achieve total knowledge through the systematic reading of all texts in his/her particular subject area is doomed to failure. Indeed, those that seek this quest have been subjected to obloquy in both modernist and post-modernist literature. Flaubert's characters *Bouvard* and *Pecuchet* are often cited by cultural theorists as epitomising the stupidity of anyone who tries to attain total knowledge (Poster 1990: 70; Zeldin 2006: 91). In Jean Paul Sartre's novel *Nausea*, the narrator describes how a character called 'The Self-Taught Man' spends all his spare time in the local library in an attempt to read every single book contained within it:

Suddenly the names of the authors he last read come back to my mind: Lambert, Langlois, Larbalétrier, Lastex, Lavergne. It is a revelation; I have understood the Self-Taught Man's method; he teaches himself alphabetically.

I study him with a sort of admiration. What will-power he must have to carry through, slowly, obstinately, a plan on such a vast scale. One day, seven years ago (he told me he had been a student for seven years) he came pompously into this reading-room. He scanned the innumerable books which lined the walls and he must have said, something like Rastignac, "Science! It is up to us." Then he went and took the first book from the first shelf on the far right; he opened to the first page, with a feeling of respect and fear mixed with an unshakable decision. Today he has reached "L"- "K" after "J", "L" after "K". He has passed brutally from the study of coleopterae to the quantum theory, from a work on Tamerlaine to a Catholic pamphlet against Darwinism, he has never been disconcerted for an instant. He has read everything; he has stored up in his head most of what anyone knows about parthenogenesis, and half the arguments against vivisection. There is a universe behind and before him. And the day is approaching when closing the last book on the last shelf on the far left: he will say to himself, "Now what?" (Sartre 1962: 44-45).

The last sentence signifies the sense that this endeavour can never be completed. That in itself would not be so bad, naivety can sometimes be a good thing if it enables us to stumble on something we would not have located by a more conventional route. However, in this novel the Self-Taught Man is treated as a pathetic character who has invested so much time and energy in learning for its own sake that he has not had been able to develop a more rounded knowledge, lacks the most basic social skills and has not fully developed emotionally:

I understand nothing about painting. Of course, I realize that Bordurin is a great painter, I can see he has a certain touch, a certain knack as they say. But pleasure, Monsieur, aesthetic pleasure is foreign to me.

What I regret is not so much being deprived of a certain taste, but rather that a whole branch of human activity is foreign to me. (...) Yet I am a man and *men* have painted these pictures. (...) [emphasis in the original] (Sartre 1962: 146-147).

It is no surprise that towards the end of the novel the Self-Taught Man is driven from the library in disgrace.

But, it is perhaps apposite to let Borges have the last word. In *Funes the Memorious* the subject of the story is a person with an ability to remember everything. But, like the Self-Taught Man, *Funes's* various projects (one of which was a proposal for a mental catalogue of all the images he had ever been exposed to) may have been useful as a

means of retaining information, but acquiring knowledge was a much more illusory concept:

With no effort, he had learned English, French, Portuguese and Latin. I suspect, however, that he was not very capable of thought. To think is to forget differences, generalize, make abstractions. In the teeming world of Funes, there were only details, almost immediate in their presence (Borges 2000: 94).

That the notion of the universal library has survived such literary opprobrium testifies to the strength of its appeal. Indeed, it could even be said to have reached its apotheosis in recent times, with the development of the World Wide Web. How, then, has this idea not only survived over two millennia but flourished in our supposedly postmodern epoch? The following sections will show how two phenomena in particular have kept alive the dream of the universal library.

Book burning and conflict in the twentieth century: universalism goes digital

One of the main reasons for the continued strength of the idea of universalism is as a form of symbolic resistance to the *actual* destruction of physical libraries and archives that are its purported manifestation. Whether or not the legend that Caliph Omar deliberately burned the books at Alexandria is apocryphal (Battles 2004: 22-23), what is crucial is that the story fits into a narrative about 'loss' or 'lack':

The dream of the universal library is the expression of the desire to seize and accumulate the totality of all texts ever written, of all knowledge ever built. But disappointment has always accompanied this expectation of universality since all collections, however rich, can only ever result in a partial, flawed version of the exhaustiveness required to fulfil this wish.

This tension can be understood in the context of the very long duration of attitudes toward writing. It is a tension founded on the fear of loss or lack. It has governed all actions geared at saving the written heritage of humanity: the quest for ancient texts, the copying of the most precious books, the printing of manuscripts, the construction of great libraries, the compilation of 'libraries without walls' that are encyclopaedias, the collection of texts and catalogues. Given that texts can always disappear, one has had to gather, fix and preserve them [emphasis in the original] (Chartier 2006: 8).

Like most fears, this is not entirely without foundation. Along with the obvious example of book burnings by the Nazi regime in inter-war Germany, there have been many instances throughout history of warring factions targeting archives and libraries as a means of demoralising their opponents. And while in previous centuries these attacks may have been concentrated on other embodiments of national and religious

authority, such as churches and artworks, the role of archives and libraries in the construction of modern nationhood has made them vulnerable to those that wish to threaten the nation-states of which they are an integral part. And, as Battles outlines, this destruction did not end with the Second World War:

The list of libraries destroyed in the twentieth century is long. When the People's Liberation Army invaded Tibet, it razed monasteries by the score; hundreds and thousands of books went up in flames. The distinctive form of the Tibetan printed book — long narrow codices printed from wood blocks, clad in saffron covers sewn with crimson thread, a format centuries older than Gutenberg's Bible — nearly ceased to exist. Monks and refugees brought whole libraries over the border to India by horse and mule, where they not only founded new libraries but started new presses, keeping the craft of the Tibetan book, like a lineage of lamas, alive. Elsewhere in China, books suffered terribly during the Cultural Revolution. But everywhere they are read, books burn: in 1981, Sinhalese nationalists torched the Tamil library of Jaffna in Sri Lanka. Home to thousands of manuscripts, palm leaf scrolls, and printed books, it was one of South Asia's greatest repositories of culture and history, a living testament to a multiethnic, ecumenical Sri Lankan society. And three years before the Taliban mined the Buddhas at Bamian, they announced their willingness to destroy culture by burning the 55,000 books of the Hakim Nasser Khosrow Balkhi Cultural Center, in northern Afghanistan, in front of the director's horrified eyes (Battles 2004: 179-180).

In many ways, the industrial and technological nature of war in the twentieth century has made it much easier to commit cultural genocide. This realisation has led many to conclude that the best way of protecting national culture in such an environment is to use the type of technological advances that make war machines more proficient to a different end: namely to provide a moving target through the virtualization of libraries and archives. While the relationship between war and the virtualization of the archive and library may seem tenuous, it is worth remembering that the Internet was originally developed by the US Defense Department as a means of creating decentralized communications networks that would be able to survive a nuclear attack (Poster 2001: 99). The virtualization of libraries and archives are, then, a valuable means of preserving our cultural heritage and can enable scholars to find myriad valuable texts without leaving the comfort of their home or office. Very few people would deny the desirability of these essential practical goals. But alongside this sits a more modern version of the universal library, the critique of which will form the final section of this paper.

The World Wide Web and the techno-utopians

While indulging in a book-buying spree in London earlier this year, I was struck by the marketing slogan on one of my shopping bags, the leading bookstore referring to itself as 'the knowledge retailer'. Having spent time earlier in the day in the British Library whose readers are supposedly 'researching the world's knowledge', this sort of marketing language was not unfamiliar to me. While it would be tempting to see this discussion as a diversion to the main themes in this paper, I think it emphasises the defensiveness of bibliophiles in the early twenty-first century in their unwillingness to use the term 'book'. A few years' earlier I remember a lecturer at a British university decrying the modern tendency of librarians to describe themselves as 'information scientists'. This modern tendency is perhaps because the book is viewed, wrongly in my view, as an anachronism.

Beginning in the late 1960s, post-structuralists such as Roland Barthes, Jacques Derrida and Michel Foucault argued that traditional forms of reading were far too restrictive, focusing as it does on the idea of language as merely the representation of an external reality. Advancing a non-representational line, Derrida and Barthes in particular argued that instead we should focus on individual texts and their relationship with other texts, rather than the authorship and individual authors' oeuvres (Burke 1998). The stance, along with the critique of established authority in all fields that these writers promoted, led hypertext theorists like Poster (1990) and Landow (1992) to assert that these post-structuralist ideas could be best realised on the Internet, where it is much easier to read non-sequentially than it is when you are reading books.

More ambitious, though, are those cyber-utopians who believe that the World Wide Web has resurrected the universal library. Writing in the *New York Times*, *Wired* magazine's Kevin Kelly (2006) explicitly invokes the universal library in his discussion of the Google Books Library Project. Indeed, Google itself describes its rationale for digitising 15 million volumes as a means to "organize the world's information and make it *universally* accessible and useful [my emphasis]" (cited in Appleyard 2007). The problem with this argument is that the books are already accessible in libraries. The suggestion here is that they can become accessible to people who would otherwise not be able to access them. However, the main obstacle to access is often an economic one, something which digitisation alone will not resolve. People will have to be wealthy enough to own their PCs or e-book readers to download these books. Jeanneney (2007: 30-33) also points out that though Google has stated that it will not charge for access to these books, it is nonetheless a profit-seeking corporation. This being the case, even if direct payments are not sought from users, it is surely the case that they will indirectly be affected by the influence that advertisers will have over the content of the Google Library. Indeed, often those that claim that e-books will improve user autonomy are doing no more than providing a Trojan Horse for the private sector.

There is another drawback with the e-book and that relates to the way in which we read. Earlier, hypertext theorists had championed the migration of printed texts to an online environment as a means of realising post-structuralism. However, as the Internet has mutated into the World Wide Web, these theorists have become disillusioned at the realisation that universalism online has led to a proliferation of useless information (Lister *et al*: 183-184). Also, Aarseth (1997) and Derrida (2005: 32) have argued that the book in its codex form is such a flexible media that online texts have sought to emulate its format rather than replace it. When Derrida announced the end of the book, he was not talking about it in its codex form:

In speaking of the ongoing "end of the book" [in *Of Grammatology* 1967] (...) mainly I meant the onto-encyclopedic or neo-Hegelian model of the great total book, the book of absolute knowledge linking its own infinite dispersion to itself, in a circle (Derrida 2005: 15).

This quotation also illustrates that the post-structuralists, on which the work of many hypertext theorists was based, were similar to Borges in their belief that the indeterminacy of language precluded the construction of a universal library.

Derrida goes on to allude to the spirituality of the universal library, ridiculed by Borges, but taken seriously by many cyber utopians like Kevin Kelly:

It re-creates the temptation that is figured by the World Wide Web as the ubiquitous Book finally reconstituted, the Book of God, the great book of Nature, or the World Book finally achieved in its onto-theological dream, even though what it does is to repeat the end of that book as to-come (Derrida 2005: 15).

As if to illustrate this, Kelly (2002) argues that the entire universe is digital, asserting that 'God [literally] is the machine'. In this environment, information becomes sanctified and knowledge become devalued, something that you can buy from a retailer as my shopping trip vividly highlighted, or, dare I say it, download onto your e-book reader. Information gathering becomes an end in itself as we become one of the *inquisitors* in Borges *Library of Babel*. And it is not only the cyber-utopians at *Wired* magazine like Kevin Kelly that hold this view. Another disturbing example of this intellectual drift is Kieron O'Hara's assertion that we must reject the Platonic idea of 'justified true belief' — the notion that to be regarded as 'knowledge', information must go through a process of justification. As an alternative, he offers a new definition of knowledge which he regards as more in tune with our more 'informationalised' society: "(...) Data are sets of symbols, while information is meaningful data. Knowledge is that information which is usable for the purpose of supporting or suggesting action; it is a stepping stone to some end" (O'Hara 2002: 48).

Conclusion

The humanist ideal of the universal library insofar as it provided a motivation to build some of the world's greatest libraries is a worthy endeavour. Similarly, the vandalism of archives and libraries in wartime should cause such concern that alternative means of storing our cultural heritage should be explored. But it would be perverse if an ideal created by bibliophiles was used to destroy the book in its codex form. It cannot be stressed strongly enough that attacks on canonical authority by profit-seeking corporations is not politically desirable, even if that criticism is couched in humanist ideals about the universal library. In a sense, if we are looking for arguments to mount against the increasing commercialisation of much of our literary heritage we should look for answers from within. The words of Borges, Sartre, Swift, Irving and Flaubert warn us of the dangers of chasing the impossible dream that is the universal library.

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Sažetak

Povratak „univerzalne knjižnice” u digitalnom obliku

Radnja počinje propitkivanjem dviju tehnoloških inovacija koje dovode u pitanje dominaciju knjige u obliku kodeksa kako u polju književnog stvaralaštva i nakladništva, tako i u procesu učenja. Iako počeci e-knjige nisu bili komercijalno uspješni i isplativi, najnoviji e-čitači (prijenosni uređaji s mogućnošću pohrane tisuća knjiga u digitalnom obliku) hvaljeni su ne tek poradi funkcionalnosti već i zbog svojih estetskih obilježja. Usporedno s tehnološkim razvojem čitača rasla je i brojnost naslova kojima se može pristupiti u digitalnim knjižnicama, od kojih je najpoznatija Google Books Library Project. Pokrenuta je 2004. godine, a cilj joj je digitalizirati otprilike 15 milijuna svezaka ili 4,5 bilijuna stranica u sljedećih šest godina, usredotočujući se i na građu pohranjenu u nekim od vodećih svjetskih sveučilišnih knjižnica.

Cilj je radnje propitati navedene inovacije u kontekstu antičkih i prosvjetiteljskih ideja o tzv. univerzalnoj knjižnici, koje pretpostavljaju da bi stvaranje takve knjižnice bila najučinkovitija promocija sveobuhvatnoga, univerzalnog znanja. Umjesto prihvaćanja svojevrsnoga tehnološkog determinizma, prema kojem bi se novije tehnološke inovacije u području knjige i čitanja mogle pojmiti tek kao razvojni korak u nezaustavljivom kontinuumu napretka, u ovoj se radnji e-knjige i digitalne knjižnice promatraju kao najnovije manifestacije davnašnje ideje, nastale u doba kada tehnološkog razvoja u suvremenom smislu riječi nije ni bilo. Prije više od dva tisućljeća, Ptolemejevići su željeli prikupiti cjeloviti korpus tekstova pisanih grčkim jezikom, kao i sva važnija djela

na drugim jezicima. Mnogi se autori slažu da je Aleksandrijska knjižnica, institucija u kojoj su bile pohranjene te goleme zbirke, bila prva svjetska univerzalna knjižnica. Aleksandrijska je knjižnica razorena, no ideja univerzalne knjižnice preživjela je i ponovno procvatila u razdoblju prosvjetiteljstva, kroz projekt Diderotove *Encyclopédie* i kroz otvaranje nacionalnih knjižnica i arhiva. Naposljetku, pojedinci su stvaranje *World Wide Weba* doživjeli kao apoteozu univerzalizma ljudskoga znanja.

Ipak nisu svi uvjereni da je moguće dosegnuti univerzalno znanje. Ironično, najsnažniji argumenti protiv univerzalizma znanja potječu iz medija koji je možda najugroženiji tehnološkim razvojem: iz knjige u obliku kodeksa. Usprkos sofisticiranoj tehnologiji, čini se da nam „klasična” literatura i dalje pruža mnogo dublji uvid u procese suvremenog društva negoli ostali mediji. U ovoj će radnji posljednja teza biti potkrijepljena navodima iz djela Jorgea Luisa Borgesa, Jonathana Swifta, Jeana Paula Sartrea, Washingtona Irvinga i Gustava Flauberta, autora koji na različite načine dokazuju epistemološku nemogućnost dosizanja „totalnog” znanja u bilo kojoj intelektualnoj disciplini te unekoliko i ismijavaju paranoičnu potragu za njim, i sami se nadahnjujući tenzijama između znanstvenog kanona s jedne i univerzalizma znanja s druge strane. Upravo su takve teme iznimno važne u dobu u kojemu se čini da je virtualizacijom teksta moguće prevladati neke praktične zapreke u stvaranju univerzalne knjižnice, a njihova analiza nudi i odgovor onim *cyber*-utopistima koji su najavljivali siguran nastup univerzalnoga znanja zajedno s razvojem *World Wide Weba*.

KLJUČNE RIJEČI: prosvjetiteljstvo, univerzalna knjižnica, *World Wide Web*, univerzalno (sveobuhvatno) znanje, znanstveni kanon, arhivi, pozitivizam.