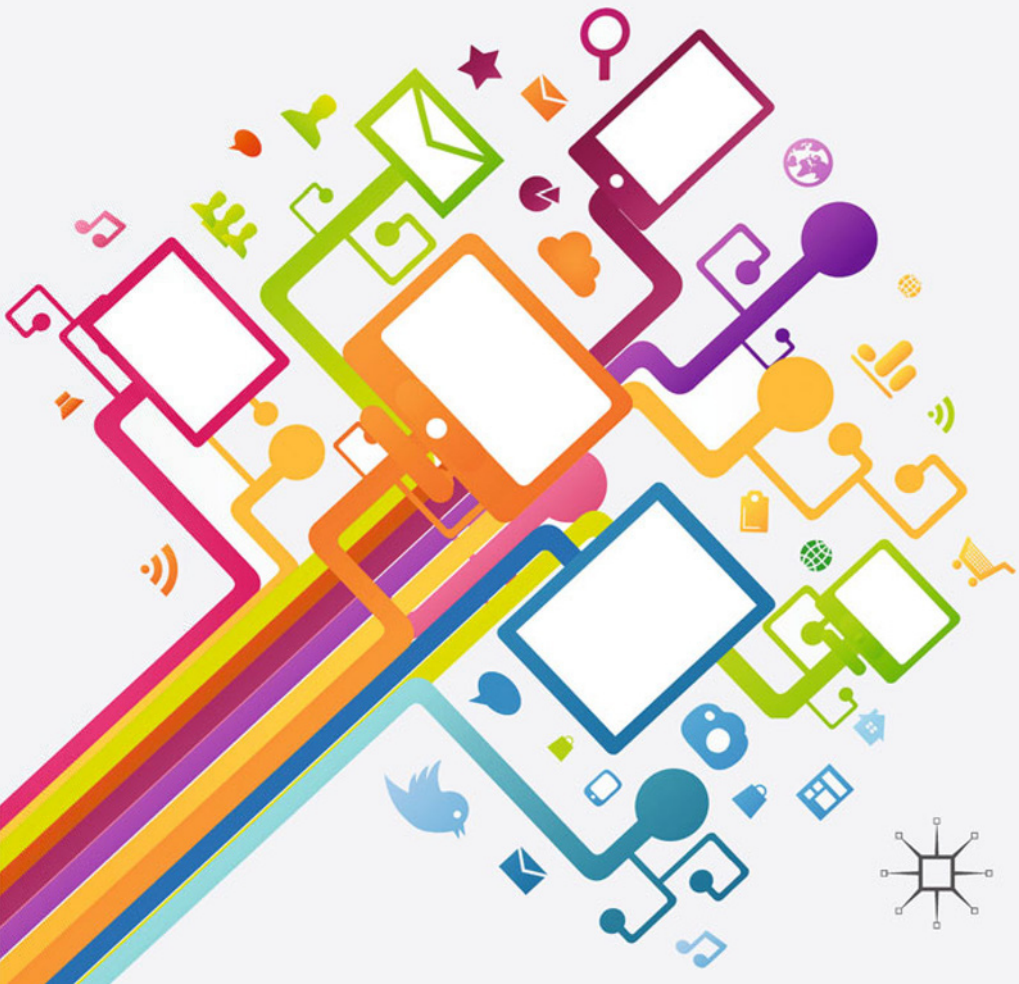
DIGITAL MEDIA AND SOCIETY

TRANSFORMING ECONOMICS, POLITICS AND SOCIAL PRACTICES

ANDREW WHITE



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Transforming Economics, Politics and Social Practices

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For Shasha & Jiajia

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Preface and Acknowledgments

This book has long been in gestation, encompassing my research in digital media from almost a decade in academia as well as ideas that I picked up in various digitization projects that I worked on before that, the first of which began almost 15 years ago! This knowledge has become more structured in my own mind over the past two years during my teaching of a final year undergraduate module, *The New Media World*, at the University of Nottingham's China campus at Ningbo (UNNC). Originally developed with Rena Bivens for the first cohort of graduates at the university in 2007–2008, this module has also been taught jointly or solely by Ned Rossiter and Stephen Quinn. Being the sole convenor of this module since February 2012 has enabled me to develop its themes in ways in which will become familiar to those of you who continue reading past this point. While the content in this book is solely my own, the input of the aforementioned teachers, as well as all the students I have had the pleasure to teach on this module, has no doubt provided greater clarity to my thinking on these complex issues. I would also like to thank Chris Penfold and Felicity Plester at Palgrave Macmillan, both of whom showed great diligence and patience in supporting this project and answering my many queries. The reviewers and copy-editors, as well as those who generously provided endorsements, deserve my gratitude too.

Like the module, the book's structure is based on digital media's impact in three main areas: politics, the economy and social practices. Part I uses the 'public sphere' as a normative in order to explore the way in which digital media challenges existing conceptual models of the 'public' and the 'private' through analyses of the digitization of scholarly materials and of online identity. The final (third) chapter of Part I considers the effect of this shifting boundary between the public and the private spheres through the development of a theoretical framework for a digital-media-inflected politics in the liberal democratic state.

Part II comprises two chapters on the global digital economy, the first of which emphasizes the benefits that have resulted from the incorporation of digital media technologies in the general economy, as well as the growth of the 'creative industries'. The second chapter of Part II is more critical in tone, identifying the existing and potential problems,

like the volatility of computer-based financial markets and the threat to job security that digital automation poses, which are consequences of the increasing digitization of the world economy.

Part III reflects upon the importance of the user in contemporary digital media research. The opening chapter of Part III attempts to construct a theory of user interaction with digital media, which moves beyond the simplistic instrumentalism/technological determinism binary. The complexity of theorizing this use is demonstrated in this chapter with a discussion of online reading practices. Chapters 7, 8 and 9 continue to develop the theme of 'use' through the analysis of new social movements, discussion of the practice of surveillance and an account of the various inventive ways in which citizens in developing nations engage with digital media.

Save for the acknowledgements above, the fear of inadvertently omitting someone important means that I will not list every single person from whom I have drawn inspiration in my almost 15 years of working and researching in the field of digital media! I would, however, like to thank the School of International Communications for giving me research leave to finish this book, and the librarians at UNNC who speedily procured reading material for me. I would like to thank all my family, especially Mum, Dad, Fi, Tegan and Callum for their love and support, and the Xu family for providing a home during the period when the bulk of this book was written. My greatest appreciation goes to Jiajia, who has had to bear my frequent absences during the writing of this book, even if I was often only in the next room! My absences have become particularly troublesome in the three-and-a-bit months since Jiajia brought our wonderful baby girl into this world. I feel great relief that I can now spend much more time with Jiajia and Shasha, both of whom I dedicate this book to.

Abbreviations and Acronyms

AP	Associated Press
ARC	Augmentation Research Group (Stanford Research Institute)
ARPA	Advanced Research Projects Agency (US Department of Defense)
ARPANET	Advanced Research Projects Agency Network (US Department of Defense)
CAT	Computerised Axial Tomography
CCTLD/S	Country Code Top-Level Domain/s
CEO	Chief Executive Officer
CIA	Central Intelligence Agency
DARPA	Defense [US Department of] Advanced Projects Agency
DCMS	Department for Culture, Media and Sport (UK)
DDoS	Distributed Denial of Service-attacks
DNS	Domain Name System
EU	European Union
Fortune 500	Annual list of top 500 US companies
G8	Group of Eight (France, USA, UK, Russia, Germany, Japan, Italy, Canada)
G20	Group of 20 (Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, UK, USA, European Union)
GCHQ	Government Communications Headquarters (UK)
GM	General Motors
ICANN	Internet Corporation for Assigned Names and Numbers
ICTs	Information and Communication Technologies
IGF	Internet Governance Forum

ISP	Internet Service Provider
IT	Information Technology
ITU	International Telecommunication Union
JISC	Joint Information Systems Committee
MacBride Report	International Commission for the Study of Communication Problems (1980)
MAI	Multi-Lateral Agreement on Investment
MIT	Massachusetts Institute of Technology
MP	Member of Parliament (UK)
M-PESA	Mobile-Money (Swahili)
NASDAQ	An American stock exchange
NGOs	Non-Governmental Organizations
NHS	(UK) National Health Service
NIESR	National (UK) Institute of Economic and Social Research
NSA	(US) National Security Agency
NWICO	New World Information and Communication Order
OCLC	Online Computer Center
OCR	Optical Character Recognition
OECD	The Organisation for Economic Co-Operation and Development
PageRank	Google's algorithm for ranking websites in its search engine
PDA	Personal Digital Assistant
PRISM	Planning tool for Resource Integration, Synchronization, and Management
RFID	Radio Frequency Identification (Microchips)
SMN	Social Media Network
S&P	Standard & Poor's
TCP/IP	Transmission Control Protocol/Internet Protocol
TIA	Total Information Awareness
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
USA PATRIOT Act	Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act 2001

WELL/Well	Whole Earth 'Lectronic Link
WIP	World Internet Project
WIPO	World Information Property Organization
WorldCat	OCLC (Online Computer Center)'s global library catalogue
WSIS	World Summit on the Information Society
WTO	World Trade Organization

Part I

Politics and Digital Media: The Impact of Digital Media on the Public and Private Spheres

Introduction to Part I

This part focuses on the impact of the growth of digital media on the political structures of modern societies. While most societies make a general distinction between public and private affairs, the countries in which the concepts of public and private spheres assume most importance are those which are fully democratic. Those countries with the longest democratic traditions – mainly, but not exclusively, in North America and Western Europe – have conceptualized their politics in relation to identifiably separate public and private spheres. In these countries, the public sphere sits between the state and the private sphere as a space in which people can discuss without hindrance the important social issues of the day. Theorists of the public sphere like Jurgen Habermas (1991/1962) have stressed the importance of the mass media as the primary form of communication within this public sphere. This section agrees with Habermas, to the extent that it focuses on the implications of the latest developments in media (or, more precisely, digital media) for the sense of the public and the private in modern societies.

But this part also highlights a flaw in the work of Habermas and other theorists of the public sphere, namely, the tendency largely to exclude discussions of institutions other than the mass media that shape the public sphere. These institutions include libraries, archives, museums and universities. If the media's central position in the theory of many public sphere scholars is due to its influence on political debate, then should not the role of the so-called memory institutions (libraries, archives, museums) and universities in constructing knowledge on the great issues of the day also be addressed? This section does this by considering the contemporary confluence of the media and these

institutions, namely, the migration of content from the latter to the Internet.

Chapter 1 will consider the impact of this shift on the construction of knowledge in contemporary societies. It theorizes this in terms of information-gathering regimes, models which highlight the core methodologies we use when we are seeking knowledge. The implications of the shift of scholarly information from mainly publicly owned memory institutions and universities to mainly privately owned digital platforms are addressed here.

Chapter 2 focuses on identity through an exploration of the impact of digital media on the type of rational, civic-minded individual that is a crucial constituent of the democratic public sphere. The chapter outlines the various debates about online identity that have taken place since the 1990s and emphasizes the relationship between identity and knowledge construction.

The third chapter of the section theorizes the relationship between the public and private spheres in modern society in light of the changes described in the first two chapters. With a strong focus on the work of Habermas, as well as theorists of the online public sphere like Papacharissi (2010), the chapter will analyse to what extent our traditional conceptions of the public and private spheres have been challenged and whether or not this calls for a new form of politics.

1
From the Public to the Private: The Digitization of Scholarship

Introduction

Depending on your perspective, digital media threatens to either destroy or revolutionize millennia-old scholarly practices. The way in which we seek information online as a means of helping us to construct knowledge differs significantly from tried and trusted academic methods. This would not be significant if we did not use the Internet so much for this specific purpose, but, as will be outlined in more detail throughout this chapter, even those of us who carry out academic research are increasingly reliant on the Internet. For this reason, we need to understand both how we search for information online and the extent to which our online practices help or hinder us in our quest for knowledge.

Traditional forms of knowledge creation are based on structures and processes designed to lead the reader carefully along the path from the gathering of raw information to the development of understanding. These structures and processes have involved the categorizing of information (*classification*), testing its authenticity (*provenance*) and exposing us (*access*) to a plurality of it (*universality*). These core principles have underpinned scholarship and its attendant institutions like universities, libraries and archives for centuries. As this chapter will go on to illustrate, the rapid growth of digital media to its present pre-eminence as platform *par excellence* for the dissemination of information has called into question the validity of these long-held principles.

To some, that is to be celebrated. After all, in many ways, scholarship has become easier as we do not have to physically situate ourselves in the archive or the library. It is also easier to search for sources without using cumbersome catalogues. But as more educational resources

have moved from public institutions to online platforms, largely in the private sector, how does this impact on the ways in which we develop our knowledge about the world around us? This chapter will attempt to provide answers to these questions, beginning at the place where modern institutional forms of knowledge building began.

The library at Alexandria

Private libraries had been in existence for centuries, even millennia, before Greek antiquity. Battles (2003: 25) reports that the first libraries of clay tablets appeared in Mesopotamia around 5,000 years ago and, by the seventh century BC, a library at Nineveh not only contained an impressive 25,000 tablets, but also was organized in a semi-systematic way. But it was the Greeks who, under Alexander the Great, built in Alexandria just over two millennia ago what is commonly believed to be the first attempt to construct an institution that could properly be regarded as a research library. Alexandria represented the first serious institutional attempt to put into practice the principles that govern academic research to this day. While, for various reasons ranging from elitism to low levels of literacy, one of those principles, access, was not at the forefront of the librarian's priorities, Alexandria did develop rudimentary forms of classification, provenance and universality. As Simon Goldhill elaborates:

> Without the practices of the library, we wouldn't have the university in the form we have it today, we wouldn't have the organization of knowledge we have today, we wouldn't have the whole institutions of scholarship that we recognize. And that seems to me to be the sort of legacy that is really profound.
>
> (Bragg *et al*. 2009)

For these reasons, Alexandria is as good a place as any to begin a discussion on traditional forms of scholarship.

The library at Alexandria and universality

In its attempt to secure as much Greek literature as it possibly could, as well as substantial collections in other languages, Alexandria can be regarded as the first viable attempt to establish a 'universal' library (Bragg *et al*. 2009; Cavallo and Chartier 1991: 10; Manguel 2008: 22,

24).[1] There has long been a strong association between the concept of universality and knowledge, which has provided the inspiration for the construction of libraries, archives and museums that attempt to collect 'everything' (White 2008). In the case of Alexandria, this was manifest in the library's housing of a community of scholars in its *Museon*, thus making a concrete link between universality of collection and knowledge creation. Despite – or perhaps because of – being destroyed after a few centuries, the idea that it encapsulated lived on in projects like the eighteenth-century *Encyclopedie*, Dewey's nineteenth-century decimal library classification system and, of course, contemporary national libraries and archives; all these projects and institutions are predicated on the Alexandrian concept of an inter-relationship between knowledge creation and universal access to documents. This inter-relationship will be explored further in a later discussion on digital media, before which there will be a discussion on other scholarly values which Alexandria popularized.

Classification/cataloguing

Gathering together under one roof as much information as possible is futile if it cannot be made accessible in a way that is convenient for those who seek to access it. This requires that the incoherent mass of information that users can access is given a structure or, to use terms germane to libraries and archives, classified or catalogued. It is believed that one of the librarians at Alexandria, Callimachus, created the world's first alphabetical catalogue, a 120-volume set which provided references of the library's most important Greek authors (Manguel 2008: 50; Polastron 2007: 15). As well as utilizing the alphabetic system which had been invented by Alexandria's first librarian, Callimachus also created tables based on different categories of knowledge (McNeely and Wolverton 2008: 20). This created not only the classification of different forms of knowledge, but also a canon of important authors and texts. While the lack of historical sources makes any judgement necessarily provisional in nature, the very fact that the Museon (museum) attached to the library attracted the region's finest scholars suggests that there must have been some way for them easily to retrieve written material.[2] This theory is bolstered by our knowledge that the catalogue was alphabetical within the categories, a system which McNeely and Wolverton (2008: 21) argue was successful in making 'books readily and rapidly accessible to roaming encyclopedic intellects [the scholars *in situ* at Alexandria]'.

Provenance

Another important element of the Alexandrian library which retains its significance to this day is provenance, the need both to identify the creator/author of an individual record and to establish that it is the original version. The seeming desire for the Ptolemies to possess original texts rather than copies appears to support Derrida's (1996: 91) contention that there has always been an obsession in western culture with 'origin', best illustrated in the archive. Both Manguel (2008: 24–25) and Battles (2003: 31) report that the Ptolemies often did not return the scrolls that they 'borrowed' for copying. This might have been unintentional, but it is certainly plausible to suggest that their desperation to retain the original documents was precisely because of the importance they attached to provenance. Supporting evidence for this stance comes from Simon Goldhill's (Bragg *et al*. 2009) reporting of the lengths to which the Ptolemies would go to secure original texts, sometimes to the extent of paying huge sums of money for 'borrowing' them – as above, he states that once secured, these texts often were not returned to their original owners; this is in addition to their practice of impounding books from ships that docked at Alexandria. And there was certainly an important practical reason for this: copies almost always contained many textual inaccuracies (McNeely and Wolverton 2008: 17).

The core elements of information-gathering at Alexandria

What emerges from this short discussion on the Alexandrian library is a general formula for information-gathering, much of which survives to the present day. These are:

1. Order/classification – cataloguing.
2. Provenance – collected original documents.
3. Access – limited to a small number of scholars.
4. Universal – tried to collect everything.
5. Public institutions hold and control most information.
6. Nation-building – Alexander the Great was able to spread Greek culture throughout the Middle East.

The last of these elements, nation-building, constitutes the modern imposition of a term on a historical epoch that did not have the same political construct, or at least not in the form that we understand it today. Nonetheless, its inclusion is useful in illustrating the extent to

which libraries have also played a wider political role. In relation to this chapter, that political role is associated with the relationship between memory institutions and the state, particularly during the emergence of the European nation-state in the eighteenth century, to which we will now turn.

Francis Bacon, evidential scholarship and the emerging nation-state

In the modern era, the idea that there was an inter-relationship between scholarship, universality, classification and provenance received intellectual ballast from Enlightenment philosophies on knowledge construction. An acceptance of the supposition that there was a connection between universality and the attainment of knowledge led to great Enlightenment projects like Diderot's eighteenth-century *Encyclopédie* and the increasing proliferation in that same century of *bibliothèques*, or catalogues (White 2008: 114–115). This demonstrates not only the enduring legacy of the Alexandrian library, but also the influence of one of the most prominent philosophers of this or any other age, Francis Bacon.

Bacon is famous primarily for his invention of 'induction', the idea that scientific theories should be based on the observation of large amounts of data or of experiments. A fundamental requirement of Bacon's philosophy is that a 'great storehouse of facts should be accumulated' (Sargent 1999: xx). Thus can be discerned a link between Bacon's scientific method and the universal library:

> Once gathered, this experience had to be compiled into organized national histories, that could be printed and distributed throughout the learned world and thus could foster communication and the free exchange of ideas and information. As early as his advice to Elizabeth I in the 1590s, he had been urging the establishment of institutions that would advance this goal, such as '*a most perfect and general library,' containing all 'books of worth' whether "ancient or modern, printed or manuscript, European or of other parts"; a botanical and zoological garden for the collection of all plants as well as rare beasts and birds; a museum collection of all things that had been produced 'by exquisite art or engine'; and a laboratory 'furnished with mills, instruments, furnaces and vessels' (vol. 8., pp. 334–335)* [my emphasis].
>
> (Taken from Bacon's Book One, aphorisms, and cited in Sargent 1999: xx)

Universalist projects became *de rigueur* for the emerging European powers, as demonstrated by the archives which were constructed during this period: the House of Savoy archive in Turin in the early eighteenth century; Peter the Great's 1720 St. Petersburg archive; Maria Theresa of Vienna's 1749 archive; the establishment of princely and civic archives in Warsaw, Venice and Florence in the 1760s and 1770s; the creation of the French national archives in 1790; and the establishment of the UK Public Record Office (PRO) in 1838 (Steedman 2001: 69). And the methods of the historians working within these institutions were remarkably similar to Bacon's notion of induction, where the evidence was believed to speak for itself. We see this in the figure of influential twentieth-century British archivist Hilary Jenkinson who, like Bacon, believed that the hypothesis should follow, rather than precede, the evidence (Gilliland-Swetland 2000: 12).

This type of evidential scholarship was based on principles that have altered little since Alexandria: namely universality, provenance and classification. The same could be said for librarianship as well, which, in the nineteenth century became more systematic in its acquisition and storing of books, especially after Melville Dewey's invention of a standardized decimal form of classification. Universality was promoted, like it was at Alexandria, through trying to collect virtually everything – in the UK and Ireland, for instance, there are six legal deposit libraries to which all publishers and/or authors in those territories must send two copies of their books.

As people became more literate throughout the nineteenth century and libraries and archives became, in theory at least, more accessible, these institutions had growing political influence. This role has been identified by McNeely and Wolverton (2008: 165) in the use, by nineteenth-century nationalists, of public education in an attempt to unify European societies which were riven with ethnic, religious and class tensions. Similarly, the UK's Public Library Bill of 1850 was underpinned by a utilitarian philosophy which supposed that giving people greater access to information would make them more disposed to 'reason' (Battles 2003: 137).

The core elements of information-gathering in the modern, democratic nation-state

Let us remind ourselves of the earlier general formula for information-gathering at Alexandria and compare it to that in the modern, democratic nation-state.

Alexandria

1. Order/classification – cataloguing.
2. Provenance – collected original documents.
3. *Access – limited to a small number of scholars.*
4. Universal – tried to collect everything.
5. Public institutions hold and control most information.
6. Nation-building – Alexander the Great was able to spread Greek culture throughout the Middle East.

Modern, democratic nation-state

1. Order/classification – cataloguing.
2. Provenance – collected original documents.
3. *Access – public libraries, museums and archives widened access.*
4. Universal – tried to collect everything.
5. Public institutions hold and control most information.
6. Nation-building – information-gathering institutions linked to power and the nation-state.

The only major difference between the two is that of access, which, as a result of greater levels of literacy, better modes of transport and a democratic impulse to share knowledge as widely as possible, gave citizens of nineteenth-century Europe much better opportunities than those in Egypt two millennia ago. That this is the only key difference illustrates the enduring legacy of Alexandria's values. Similarly, the nineteenth-century typology above also accurately represents the contemporary situation today, or at least until the recent exponential growth of digital media. This last point alludes to the argument of many that these information-gathering principles are no longer relevant to our modern informational environment, a debate to which this chapter will now turn.

The existential threat to the library and the archive

Those who first visit the impressive-looking building in downtown Washington, DC which houses the USA's national archives and records might be surprised when they discover that the National Archives and Records Administration (NARA) is dwarfed by its over-spill building in Maryland. Similar tales can be told about national archives and libraries in other countries, and are an enduring reminder of the capacity of the universal library to confound those who try to build it. The lack

of affordable space in many of the world's capital cities, a problem made more acute by the strain on the public purse engendered by the global financial crisis, imperils the continued, seemingly unlimited, growth of national libraries and archives.

There is another threat to the national library and archive which is more existential in nature. These national institutions have been so successful in developing civic consciousness among their citizens that they are seen to embody the values of their nation. The logic of this is that their destruction will not only result in physical loss but will also threaten those very values that they are seen to embody. And such is the identification of the nation-state with these values – national archives and libraries help to shape public consciousness which both reflect and propagate their own nation's values – that in war-time the destruction of archives and libraries can cause considerable loss of morale among the citizens of the nations to which they belong. While the wilful destruction of archives and libraries can be traced all the way back to ancient Alexandria and perhaps beyond, the sophisticated technologies that modern armies have at their disposal means that this can be carried out in a much more efficient and systematic manner. During the Bosnian conflict in the 1990s, for instance, the Serbs targeted a number of cultural institutions, reaching an apotheosis with the destruction of most of the 1.5 million volumes in the National and University Library of Bosnia (Battles 2003: 188). According to András Riedlmayer, there was an, albeit twisted, rationale to this destruction:

> Throughout Bosnia, libraries, archives, museums and cultural institutions have been targeted for destruction, in an attempt to eliminate the material evidence – books, documents and works of art – that could remind future generations that people of different ethnic and religious traditions once shared a common heritage . . . .
>
> (Riedlmayer, A. [full reference not given by Battles] cited in Battles 2003: 188)

And, in a further twist, the person who signed the directive ordering General Ratko Mladic to shell the Vijecnica neighbourhood within which the National and University Library of Bosnia stood was Nikola Koljecvic, a former Shakespearian scholar who had often patronized the institution during the cosmopolitan tranquillity of pre-war Sarajevo (Battles 2003: 186–187). As in other such incidents throughout history, this was not merely a by-product of war: perhaps better than anyone else in Bosnia, Koljevic realized the importance of the role of