ONLINE ARCHIVES AND VIRTUAL COLLECTIONS

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This issue of *Southern Review* brings together contributors from backgrounds in history, media and communications, information technology, museum studies and education. Each discusses the ways in which the digitisation of documents and the availability of online records, searchable and sent straight to the desktop, is changing research and teaching.

Archives and information retrieval might seem like a dusty topic. Some thrive on the hunt through the records, but most researchers struggle to contain their own archives, much less come to terms with the amount of material ready for them to read, retrievable from their desktop. Piles of paper mount up in the office, the home study or the shed. One reference system replaces another, until there are layers of database versions, hypercards, card indexes and shoeboxes of stuff. These collections are often unplanned; they might be idiosyncratic, but they are probably not private. We live in an archived present. Even the most digital communications—keystrokes, floods of email, the trails of web trawling—are mechanically archived many times over. Efforts to archive HTML pages on the World Wide Web continue, even as the copies of these pages cached on individual desktops multiply. Deletion often seems pointless, but there are new disciplines for managing the memory of machines.

While we are still learning to manage print paper, the digital sources to read and cross-reference are multiplying. Online access to full text bibliographic resources, electronic journals and digitised collections makes it easier to pursue curiosity and trace reference trails. It also makes it harder to work through the material. New search applications and software can help, but there is still some suspicion about how customised information search, selection and retrieval might start to affect scholarship. Most researchers and teachers still depend on professional habits when they locate and assess materials in their field: they use the selective and authenticating devices of the library, the academic
journals and citation indexes, the archive catalogue, book reviews or publishing. The comprehensiveness and reliability of these sources has been affected, however, by the growing cost of paper-based publishing, collection, storage and retrieval. As more collecting institutions put their resources online, and as online clearinghouses, portals and search engines offer more precision, spread and historical depth, it is possible to imagine being able to just reach for material from the desktop. Once outside familiar fields though, it is easy to lose the academic bearings that can help in checking whether the scan is comprehensive, the material is relevant or the information accurate.

There is some professional discussion of these issues, but much of it is focused on teaching and on speculation about how new digital information sources are affecting young people's critical skills. Is the new information architecture too open, leaving learners exposed to every source and influence? Or are younger people better able to sift and discard information, ideas and images than their elders imagine? Perhaps, as new media designers urge, we should be adapting to new and emergent human capacities, new patterns of cognitive association and memory systems, which have hybridised in the new information architecture.

As this discussion goes on, teachers, new media designers and curators are starting to speak the same professional language. Galleries and archives must open themselves up to schools and lifelong learners. Learning should be free and experiential, but it must also build critical skills and inculcate values. The design of the online learning resource or CD-ROM should guide and structure the experience. In place of the teacher, there should be questions that shape the learning experience without intruding, and that prompt critical thinking and ethical reflection, without preaching. There should be a structure, but the student should be aware of it and of its limitations. There must be a balance between (supervised) freedom and (unobtrusive) authority.

The convergence is not surprising, given how much historical overlap there is between popular schooling and the critical intellectual traditions associated with media studies and media production. Both professional fields continually reinvent concern about the tension
between the free experience and inquiry of the learner/reader and the discipline exerted by the structure of the lesson/text. In both fields, critical reflection is the way to work through this dialectical tension. Media studies draws on the vocabulary of concern about 'mediation': how and why does the producer or designer of the multimedia resource structure the experience of the user? Teachers and designers of educational resources, similarly, ask themselves how and why they should anticipate and shape the choices that learners make. Are readers and learners able to find their own way in and through the hyperlinks or do they need an intellectual and ethical thread to guide them?

These discussions can be expected to continue; they are a useful part of professional self-reflection. The interesting thing, for us, is what happens when these professional discussions turn to new technologies and applications that promise to open choice, while directing it. Can technological innovations offer flexible and time-effective ways to access information, archives and resources? Can they augment scholarly and teaching-learning skills, rather than undermine them?

The articles in this issue of *Southern Review* explore these questions with reference to some inventive new research and teaching initiatives using online archives of text, image or sound. To differing degrees, each of these experiments is designed to encourage unexpected uses of the tools. Each, in its way, promises that these new ways of finding and ordering information and ideas could be transformative. Improvisation and adaptation may, with time, change habits and augment abilities. Memory, search, classification, association, interpretation and argument may come to include new kinds of reflexes. But at this stage, each of the initiatives exists as a plan or design. Each has been discussed and designed in meeting rooms, design laboratories, classrooms and the corridors that link them to libraries, archives, museums and other collecting institutions.

Many of the articles report on the outcomes of federally funded research projects designed to encourage partnerships and shared resources between universities, collecting institutions, schools, and community organisations. Others are the product of arts or education funding. Most have been pitched in the vocabulary of impact, innovation,
creativity and capacity-building. Each is about the technical, intellectual and (sometimes) ethical problems of how to create open and navigable archives, expanding users' choices while helping them to concentrate and screen out distractions.

Paul Arthur discusses the ways in which interactive online and digital resources, such as CD-ROMs, websites or digitised archival documents or online databases, are changing the ways in which historians work. Narrative, he argues, has been central to teaching and research in the discipline of history. New interactive media forms, however, lend themselves to new ways of interrogating evidence and framing historical narratives. Search and analysis become less linear, less sequential and more flexible. Primary and secondary sources cannot be so easily distinguished. New patterns of using and seeking historical information start to emerge, which can tolerate more multiple perspectives. Arthur doubts, though, that we can expect a 'new and miraculous interface' that will transform historical inquiry into the fully critical, fully active negotiation of meaning. In designing multimedia resources, historians must learn to work with technicians. The historian's concern with text, context and interpretative precision meets its match in the multimedia producer's enthusiasm for openness and universal access. The danger is that the new, interactive digital resources now available may address users in much the same ways as a didactic historical documentary treats the audience: driving the narrative home, illustrating a point and closing the argument.

Taking up similar issues about history and multimedia, Ian McShane reviews the interactions between museums and education, as museums join libraries and archives in the enterprise of becoming a virtual learning institution, with a collection open at all hours to classrooms and lifelong learners. Describing the expansion of ambitions for the museum website and digitised educational products, he explores the technological, policy and administrative implications of the museum's entry into the educational marketplace and into public investment in an information infrastructure. He argues that, despite high expectations of open source protocols, the architecture of the museum still constrains the ways in which visitors move through the collections online. This restricts the pedagogic openness of museum created online learning environments. Again, this is treated as a
question of the extent to which the audience, user or learner is able to be active and self-directed. To what extent should the editor or designer of the virtual learning environment be allowed to select and lead?

Museums—whether actual or virtual—are expected to tell compelling stories, to interpret and to put public arguments about how the past may be understood, but does the past have to be made coherent? How much plurality and open-endedness is possible in hyperlinked historical exploration?

The theme is taken up even more forcefully in the two subsequent articles, which reflect in contrasting terms on a common research project. Vrroom is an online education resource developed by the National Archives of Australia (NAA) and Swinburne researchers, building on historian Klaus Neumann's archival research on the history of the White Australia policy. The aim has been to enable secondary students to access and use digitised Commonwealth records on immigration and political decision-making, pursuing open-ended and curiosity-driven research questions. The project was an extension of the work of the Archives' Public Programs activities; it continued the Archives' efforts to open the institution up to new users beyond public servants and historians. As well as being the custodian of the Commonwealth's written records, the NAA regards itself as a national cultural institution with an important civic education function.

Catherine Styles, of the NAA, describes how the Vrroom site aims to engage students, while giving teachers access to a wealth of archival documents in the classroom. Working on teacher-guided exercises, on an immigration case study, students will be able to work with a selection of digitised documents from official archives, finding out what happened to real people while learning about how government agencies have made or reversed decisions, how officials exercise discretion and how different levels of government interact. Offering a stimulating selection of text and context, Vrroom helps students find their way through 'complex, unwieldy and often only sketchily charted accumulations of records, comprising so many pages that one could never read them all'.
In his paper, however, Klaus Neumann argues that there are dangers in emphasising speed and access to material, and in selecting documents too prescriptively, at the risk of circumscribing curiosity driven investigation. He contrasts the learning resource that appeared as Vrroom with an earlier template called Probe!. While Vrroom connotes speedy access to information, Probe! would have encouraged patient scholarly labour. The initial idea, Neumann argues, was less about acceleration and more about the excitement of scholarly discovery. As with Vrroom, the website was to feature digitised archival documents dating from the late 1950s to the early 1970s, related to administrative decisions about the entry into Australia of mixed descent immigrants from Mauritius. Probe! would give students a number of sample research tasks and the tools and resources needed to pursue them, including a large variety of digitised historical sources archival files, photos, newspaper articles, parliamentary debates and oral history records—all searchable by database. Calling up documents by topic, students would be prompted to ask original, open-ended historical questions much as a professional historian might, and to pursue these questions with minimal mediation from the teacher.

As Styles explains, this design was simplified and streamlined after the NAA consulted teachers. From the teachers' point of view, she argues, what was really needed was easy, speedy access to online archival documents, which they could use in the classroom in a variety of ways. The Vrroom option, Styles explains, was less academic in focus, more oriented to teachers' professional concerns, and able to meet the NAA's goals of building wide public use of the collection. For Neumann, the result looks much like other websites, CD-ROMs and teaching kits, which use archival documents 'as illustrations of historical narratives taught by the teacher', leaving learners passive and unchallenged.

Again, the point at issue is openness and closure or concentration. The aspirations of multimedia producers and the professional imperatives of collecting institutions are only partly compatible with the critical intellectual's idea of the world that interactivity and hyperlinked knowledge resources might open up: a domain of critical reason, in which all readers become capable of the ethical labour and self-reflexivity once characteristic of an
academic elite. Information might be accessible, but understanding should be reflective, critical and painstakingly achieved.

Of course, the concern to make online archives into a tool of critique is not an exclusive one: it is shared by designers and information technology innovators. 'Unlocking Global Memory' takes up these professional concerns and aspirations, in an account of another research and development partnership with the National Archives. Researching the international financial networks involved in the historical deployment of indigenous labour by private companies, Jim Hagan, Andrew Wells, Gavan McCarthy and Bruce Smith found a way to access, search and collate archival sources that previously could only be found by travelling in person to inaccessible regional collections across the globe. The authors discuss the technical and conceptual challenges involved in locating, publishing, indexing and cross-referencing a mass of official records, linking them to contextual information about records and record creators. The achievement of finding a software solution, they argue, has implications not just for information architecture, but for comparative and historical studies. However they warn that the design parameters of the resource can set the conceptual framework of comparative and historical research, if researchers are unclear about their assumptions from the outset.

Such observations highlight the problems involved in the 'openness' associated with new media experimentation, especially the need for concentration, screening and selection in using sources. Studies of new media consistently encourage the expectation that, as technical innovation opens multiple pathways of inquiry and hyperlinked information, human thought and social communication will escape inhibition. The conventions of linear narratives and rational, conclusive argument will be overcome: multiple interpretation and open-ended critical inquiry will finally be possible. Thought will be liberated from authoritarian constraints of form and content. As it turns out, new media applications often adapt the conventions of existing media forms. This may be because the focus is on technical innovation rather than intellectual sophistication. Alternatively, it may be harder to escape selection, classification and criteria of credibility than some have thought.
Peter Hughes explores this theme in discussing the formal characteristics of digital documentaries. He offers a critical appraisal of three multimedia resources (the CD-ROMs *Mabo, the native title revolution* and *Yanardilyl*, and the website *Us Mob*), each of which offers a wealth of archival materials drawn from the collections of the National Film and Sound Archive or from national and state government archives. Writing from the perspective of media theory, Hughes asks whether such multimedia resources have escaped the constraints of the documentary form: its tendency to mediate the historical world, imposing coherence, purpose and sequence on text and image. In some ways, they are more like archives, making a mass of material available to the choice-making viewer. But Hughes warns against utopian expectations that these digital works will open up an 'unimagined plenitude' of meaning. Digital documentaries, however interactive, do have structure and do mediate and construct coherence. Their content is dictated by the limits of storage, delivery and access options, by cost and by content regulation. The form is set by the structuring device of the interface. They can offer viewers a more sophisticated range of interpretative options, as well as a wealth of text and archival material. Does interactivity make digital compilations more 'open'? What role does the designer, producer or editor play in selecting material and in guiding the user?

The final two papers take up this theme of the role of the editor. Julian Thomas's paper considers the relationship between archives and new forms of academic publication and distribution. It considers the role of the scholarly archive in a range of broader historical and institutional contexts. Far from being stable, academic editing and publishing have undergone substantial change in recent times. Of particular interest here is the relationship between two crucial institutions: the archive and the journal. In conventional terms, archives are systems of storage and journals are systems of publication and distribution. However, new technologies and new economic and policy dynamics appear to be transforming the relations between these systems, if not undermining them altogether. Online archives are beginning to function as forms of distribution and publication, and have developed editorial conventions for this purpose. The paper points to some interesting economic and practical consequences of these changes, especially for
academic editing. Scholarly journals have long relied on various forms of peer-reviewing to determine inclusion and publication; the emerging online research archives draw attention to the deficiencies of peer-reviewing, and the potential for clearer and more efficient processes.

Finally, in his paper, David Prater writes in the voice of the editor, making decisions about how to represent a journal—a poetry journal making the transition from print to digital form—in an online archive. Making the transition to an online environment meant making decisions based, in part, on the traditions of editorial practice that print culture had produced, including the traditions associated with selection, concentration and editorial judgement. Archived in a national collection of online journals, a version of an online journal issue can capture the moment when certain poems appeared online, as a collection. It can also transform the memory, using search tools to sift through a mass of material, cataloguing, referencing and indexing content, according to unpredictable future research interests. Editors, Prater argues, need to anticipate the future needs of public memory: as they create the labyrinth of text and context, they need to leave a thread behind them.

This edited collection, for its part, pinpoints a moment where alliances and conflicts are emerging between the classroom, the design laboratory and the archive or museum. The articles explore interesting overlaps between the journal, the archive, the documentary: collections and inquiries that cross the borders of official records and national histories. Some focus on the transformative potential of new technologies to reawaken the vast human struggle between liberty and 'constraint, the human and the technical. Others are more interested in the unplanned effects of partial solutions to technical, intellectual and institutional puzzles. In sum, there may be no single ethical lesson involved in these solutions. There might be some virtue, though, in a calmer approach to online learning, which could appreciate the invention entailed in new human-technical hybrids, while refraining from prophecy.