The Commercialization of Digital Information: Implications for the Public Role of Museums

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Declaration

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ABSTRACT

In recent decades, Canadian, British and American museums have faced a number of significant challenges to their traditional role. One of the major challenges has been the reduction of government funding and the incipient pressure to find new sources of revenue. A second has been the introduction of digital technologies that provide new opportunities for museums to communicate with their public, but that require significant investments of both time and money. This thesis explores the impact of both on the public role of museums.

Drawing on the work of Jürgen Habermas and, in particular, his belief in the importance of cultural institutions and democratic communication in maintaining a healthy public sphere, this thesis argues that universality remains an important objective for museums. The commitment to serving a universal public, although imperfectly realized, was gradually recognized as an important principle in nineteenth-century Britain. Under the financial pressures of recent decades, however, notions of equality and access have been overshadowed as Anglo-American museums have increasingly looked to a paying public to generate revenue. This trend can also be seen in museums' approach to digital information, where early expectations of financial returns through the licensing of museum content, coupled with the high costs of creating and maintaining digital resources, have resulted in a tendency to view information as a commodity rather than as a public good.

By means of two case studies, this thesis argues that digital information does not represent an important new source of revenue for museums. The first case study examines the commercialization of information at the Canadian Museum of Civilization, long a proponent of new technologies, while the second looks more broadly at the experience of stock agencies, museums and consortia in licensing digital content. Together, they throw into doubt the belief that the Internet and other forms of technology will unleash pent-up public demand for museum images and result in significant new revenues flowing into institutional coffers. Given the centrality of the dissemination of information to institutional missions, this thesis argues on behalf of open and equitable access. Museums would be better served by a more critical view of technology that balances benefits with costs, experimentation with evaluation, and short-term goals with strategic, long term institution-wide planning. Renewed government support for education would allow museums to re-establish a balance between market and mission both in the physical and virtual environments.

Chapter 1 - Introduction

Mr. Edison says
That the radio will supplant the teacher.
Already one may learn languages by means of Victrola records.
The moving picture will visualize
What the radio fails to get across.
Teachers will be relegated to the backwoods,
With fire-horses,
And long-haired women;
Or, perhaps shown in museums.
Education will become a matter
Of pressing a button.
Perhaps I can get a position at the switchboard.

By a teacher (anonymous), circa 1920s.

The last decade of the twentieth century saw the escalation of two major trends within British and North American museums. The first was the prevalence of a new market-oriented ideology that stressed the importance of revenue generation. This pressure to generate increased revenue was the result, at least in Canada and the UK, of significant cuts to government funding that originated in the 1980s, but peaked, for the most part, in the 1990s. In the United States, government contributions typically constitute a smaller proportion of museum budgets, but cutbacks to national funding agencies early in the decade demonstrated the vulnerability of culture to political forces. In addition, the dramatic growth of commercial initiatives within museums, the increased importance of corporate funding, and the transformation of directors from scholars to fundraisers tipped the scales in the balance between market and mission.

The second major trend was the introduction of new communication technologies that transfixed not only the museum profession, but also the western world. Although museums first employed computers for management purposes in the 1970s, their use for the purposes of public access was still relatively uncommon. By the early 1990s, technology was no longer a matter for the back rooms; the public, it seemed, was clamouring for content and museums had plenty. As government raced to fund initiatives to insure a national presence on the 'Information Highway', museums scrambled to participate, arguing that multimedia would guarantee them a new relevance, especially with young people. Efforts by multimedia firms and companies such as Bill Gates' Continuum (now Corbis) to acquire museum content fuelled the sense of urgency. Pundits warned against the perils of inaction, raising the spectre of 'road kill', while government officials spoke of new jobs and of the importance of public and private partnerships. While budget cuts continued, significant funding was invested in creating CD-ROMs and other digital products.

Generating revenue through multimedia proved much more difficult than anticipated, but the Internet held out an even greater promise. Its potential to disseminate information and to reach new audiences was clearly even greater. Museums were quick to establish their presence on the World Wide Web, but along with efforts to gain expertise and to capitalize on the Internet's communication capabilities came a new rhetoric about the potential of the Internet to generate revenue. According to proponents, the virtual museum would soon become a centre of attraction, but real visits would also grow, stimulated by the presence of virtual collections. Universities and schools, along with the general public, were touted as new markets to be penetrated. Access would become 'transactions', facilitated by electronic cash, with commercial users paying a more substantial, market-based sum. Alternatively, site licences could provide for regular usage. Costs incurred through building the requisite infrastructure would be recovered through charging, which might even compensate for lost government funding. Should museums fail to proceed quickly and efficiently, outside commercial interests were poised to capitalize on their resources.

This thesis contends that digital information does not represent a significant new source of revenue for museums; second, that the notion of information as a commodity undermines a fundamental responsibility of museums to disseminate information to the widest possible public irrespective of people's ability to pay; and third, that the commodification of information is indicative of a broader trend towards commercialization within museums, a trend that undermines their traditional role as public institutions.

This thesis draws on the work of Jürgen Habermas, a contemporary German philosopher, for an understanding of the role of museums within a democratic society. In particular, it presents Habermas' notion of the public sphere as a rationale for museums' continued efforts to serve a universal public. The public sphere has been defined by Habermas as "a realm of our social life in which something approaching public opinion can be formed. Access is guaranteed to all citizens" (Habermas, 1974: 49). The public sphere lies not only in our media, our courts and our universities, but also in our cultural life, our museums and libraries, and in the myriad of organizations, formal and informal, that enrich the quality of life in democratic societies. The public sphere stresses the importance not only of the individual, but also of individuals conferring in unrestricted fashion with their fellows.

This thesis begins with an introduction to the historic bourgeois public sphere that first developed, according to Habermas, in late eighteenth- and early nineteenth-century Britain. Habermas does not limit his description to those activities or institutions with an obvious political connection; his vision of the early public sphere also includes such forms of public communication as salons, coffeehouses, clubs, theatres, concerts and societies as well as newspapers, novels, letters and conversation. Museums, as social institutions where private people come together to learn and discuss, contribute to "the supportive spirit of cultural traditions and patterns of socialization...of a populace accustomed to freedom" (Habermas, 1992: 453). Chapter Two of this thesis describes the rise of the public sphere as well as its purported decline. It also summarizes criticism levied at *The Structural Transformation of the Public Sphere*; for example, Habermas' idealization of a period that was exclusionary and far from ideal. Finally, it concludes with an explanation of why Habermas has been selected to provide the theoretical framework for this thesis.

Chapter Three examines the development of the museum public in eighteenth- and nineteenth-century Britain, the period identified by Habermas with the growth of the public sphere. This chapter traces the development of the notion of an inclusive public, the belief that museums are responsible for providing their educational services to all. Although this objective was slow in developing and never fully realized, nineteenth-century British museums did make dramatic progress. Contemporary writers routinely criticize early museums as autocratic, elitist, nationalistic or even as "disciplining". Although there is certainly truth in these criticisms, this chapter argues that early British museums, placed in the context of their time, also demonstrate the development of important democratic trends: a growing commitment to public education and the belief that certain services should be available to all.

Chapter Four also explores the public nature of museums, but from the perspective of late twentieth-century Canada with references as well to Britain and the United States. Drawing on both museum literature and on extensive interviews with museum and public officials, this section of the thesis will argue that government cuts and the pressure to generate revenue are weakening both the physical and intellectual infrastructure of Canadian museums, while the shift from a public service to a marketing ethos is undermining the principle of universality that evolved during the course of the nineteenth century. Although attendance in museums remains high, cuts in outreach programmes and travelling exhibitions, coupled with new charges for educational programmes, jeopardize universal access. Also worrisome, from the perspective of the museum's public role, are the heightened dependency on corporate funding and its influence on public programming. The erosion of the arms' length principle in some jurisdictions may also affect museums' intellectual independence.

The next two chapters of this thesis explore the issue of commercialization from the perspective of digital information in order to address one of the central tenets of this thesis; that is, that digital information does not represent a significant new source of revenue for museums. Chapter Five, a case study, examines the experience of the Canadian Museum of Civilization (CMC), long a proponent of new technologies. The chapter identifies three dominant themes inherent in the museum's approach to technology: first, the centrality of information; second, technology as an essential component of museums' public communications; and third, revenue-generation as a valid means to cover the costs incurred through digital initiatives. These themes are examined in light of CMC's attempts to generate revenue from digital images, the Internet and standalone products such as CD-ROMs.

The second case study, Chapter Six, also focuses on the issue of the commercialization of digital information, examining the licensing of museum intellectual property. The chapter examines the 'gold rush' mentality of the past decade: the belief in technology as a guarantor of new audiences, both real and virtual; the expectation of important new revenues resulting from the licensing of museum content; and the urgent need for action to prevent appropriation by outside forces. It then examines the demand for museum intellectual property from the perspective of stock agencies such as Corbis, the rights and reproduction departments of a number of museums, as well as consortia such as the Art Museum Imaging Consortium and RLG's Cultural Materials to assess the profitability of licensing initiatives. In the process, it addresses some of the current issues pertinent to licensing such as the relative popularity of digital and analogue images, the costs of administering museum intellectual property, strategic digitization, standards and copyright.

The thesis concludes with a summary of findings and with a series of policy recommendations aimed at promoting equality and access to museums and their digital resources. Others deal more generally with issues identified by my research. Education and the relationship of the physical and the virtual are two subjects addressed in my recommendations to government. Charging, the need for critical assessment of Web use, information as a resource, the role of standards, and the potential of the Internet in building communities are the policy issues addressed to museums.

My interest in museum information dates from my experience as a civil servant and as an employee of the Canadian Heritage Information Network (CHIN), a federal government programme responsible for creating and providing access to a national digital catalogue of Canadian collections. During the 1980s, I had negotiated with Canadian museums the conditions for providing online access to their collections. Many institutional representatives were nervous about this endeavour - Were their records good enough to show to the world? Would someone use their records to create commercial products? - but they also believed strongly in their public mission. Museums received government funding and held collections in trust for the public. They were therefore responsible for providing access.

It was the new 1990's rhetoric of museum information as commodity and the public as consumer that prompted this thesis. In the professional discussions regarding mechanisms for payment or for controlling access, there seemed to be little room for debates on the ethics of charging. Discussion focused on pragmatics rather than on guiding principles. It seemed curious that while museums were speaking of markets to be penetrated, other public institutions such as libraries and universities were focusing on issues of access. Assumptions about demand remained largely untested. What did the public really want? Were efforts to generate revenue really successful? What were the costs associated with these initiatives and the issues that needed to be resolved? Given the high cost of technology and the reduced budgets of many museums, I felt it was important to dispel some of the myths that still linger surrounding the revenue potential of museum information.

In addition to exploring the pragmatics of charging, however, this thesis also addresses the issue from a philosophical viewpoint. In the rush to adopt the Internet in the 1990s, the practical issues tended to overshadow the more theoretical. Little was known of the ultimate impact of this technology on our institutions and, indeed, on our society. Debate about its potential was often couched in passionate terms. Countering those who saw parallels between the

Internet and previous communication technologies, such as the telegraph, radio and television, were those who stressed the epochal nature of the Internet. It was even contended by some pundits that the Internet "installs a new regime of relations between humans and matter and between matter and non-matter, reconfiguring the relation of technology and culture" (Poster, 1997: 205). Within museums, the sense of urgency was palpable as expectations of new revenues along with fears that museums would somehow miss out grew. Technology was regarded almost as an end in itself, rather than as one tool among many, and there was little critical examination of results. One of the goals of my research has been to dispel the tendency towards technological determinism by examining digital information in the broader context of museum missions. This focus on mandate seemed particularly important as the dissemination of information is one of the core functions of museums.

An additional motivation for selecting the commercialization of museum digital information as the subject of my thesis is that I believe the issue acts as a window into broader debates about the public nature of our institutions. Museums are in a period of transition. The past two decades have seen a gradual shift away from an ethos of public service towards a more market-oriented approach. The issue of charging for access to information is an indicator of how far we have come. Canadian and British museums entered this world of marketing, fund-raising and commercialization later than American museums, but all three countries are facing significant shifts in attitudes. These changes have been triggered by an often urgent need to generate new revenue and are reinforced by changing hiring practices within museums that favour marketing over curatorial skills and by the dominance of a business ideology within governments. In light of the incipient retirement of the baby boomers, which may further change institutional culture, it seemed timely to reopen the debate about what it means to be a public institution at this particular time in our history.

Habermas' notion of the public sphere is invoked for its potential to illuminate the role of the museum within a democratic society and for its emphasis on democratic communication. Why does it matter whether museums restrict their services to those who can pay? Why does it matter whether information is treated as a commodity to be sold to libraries, schools and universities? In financially difficult times it is hard to argue against the logic of the marketplace. Habermas' vision of the public sphere with its commitment to unrestricted discussion and access by all citizens serves as a reminder that notions of universality matter.

The development of museums in eighteenth- and nineteenth-century Britain is revisited in Chapter Four for similar reasons. Although museum history is quite well known, it is generally viewed in isolation from broader social trends. Museum publications over the past decade have tended to dismiss nineteenth-century museums as elitist, nationalist and even "disciplining". This thesis argues that in spite of their many shortcomings, early museums can be seen as part of a broader struggle to develop a more equitable society. The objective of serving a broad public was not the invention of the modern welfare state; rather its roots lie deep within museum history. In making difficult decisions regarding public service, it is important to recognize our institutional roots.

A final purpose of this thesis is to stimulate debate both within museums and within funding agencies. If, as is likely, the issue of charging for access resolves itself through a recognition that in the Internet environment, information is disseminated for free, that decision will likely be based more on an inability to develop a successful business model than on a discussion of principles. As institutions and governments pour money into the creation of digital resources, there is a need for critical examination regarding the purpose of these resources, their effectiveness as a tool in serving the public, and their relationship with other institutional responsibilities. The term "virtual museum" tends to obscure the real differences between what happens on a Web site and what happens within the four walls of a museum. The Internet and other forms of technology hold great promise for museums in sharing their knowledge with the public. Similarly, a market oriented-approach to museum operations can result in more effective, audience-responsive services. But in addressing today's challenges, there is, I believe, a greater need for reflection than the current pressured pace of work permits. As museums make decisions that will shape their future, and in their own way, help shape our society, it is important that these decisions be made not only in response to present contingencies, but also in light of broader institutional purposes. By addressing both practical and philosophical issues pertaining to the commercialization of digital information and museums, I hope that this thesis can stimulate debate.

Chapter 2 - The Public Sphere

> *A rational society or rational way of life, in other words, is one in which reasons are continuously given to justify behaviour and where public spaces exist to permit free or uncoerced debate over questions of cognitive, normative and aesthetic truth* (Seidman, 1989: 18).

It is the contention of this thesis that Jürgen Habermas' notion of the public sphere can illuminate the public role of museums and, in so doing, clarify the issue of the commercialization of museum digital information. The importance of the public sphere was first articulated in *The Structural Transformation of the Public Sphere*, published in Germany in 1962 and only appearing in English in 1989. This chapter will introduce the concept of the public sphere, examine its historical background, and explore the criticism that has been levelled against this important early publication. Finally, this section will conclude with an examination of the relevance of Habermas' work to the subject of the commercialization of museum digital information and to the public role of museums.

Definition of the Public Sphere

The public sphere, as defined by Habermas, means the "realm of our social life in which something approaching public opinion can be formed", a realm that is universally accessible and that mediates between society and state. Habermas argues that a portion of the "public sphere comes into being in every conversation in which private individuals assemble to form a public body" (Habermas, 1974: 49). Public body, in this context, does not necessarily mean an institution or a specific location, but the act of discussion in an unrestricted fashion about matters of common relevance. It is in the act of critical debate by a reasoning public that public opinion is formed and it is to that public opinion that the exercise of political control must be subordinated. The political public sphere, Habermas argues, comes into being during discussions on activities related to the state and plays a crucial role in democracies by ensuring that the activities of the state are transparent.

But it is not only the institutional guarantees of a constitutional state that are required for a public sphere to function politically: also essential are the supportive cultural traditions and activities of a society accustomed to freedom (Habermas, 1992: 453). It is in this domain that the relevance of the public sphere to the cultural field and, indeed, to this thesis, becomes apparent. The political public sphere has its roots in the wider public sphere, the institutional heart of society with its press, its interest groups, charitable and cultural organizations, professional associations and so on, that contribute to critical debate and public participation. It is within this domain that the habit of democracy is formed.

The public sphere has been described as Habermas's "gift to Anglo-American thought" in that it resurrects a neglected aspect of our political and cultural tradition (Peters 1993: 542). The German term used by Habermas is *Öffentlichkeit* which can be translated as publicness or publicity, but within *The Structural Transformation of the Public Sphere* has been rendered as the public sphere to avoid confusion with the current use of the word publicity with its strong marketing connotation. The term *Öffentlichkeit* dates to the eighteenth century. The adjective from which it originates, *Öffentlich*, corresponds, in current German usage, with "the public: a sociological aggregate of readers, viewers or citizens, that excludes no one a priori and is endowed with key political and critical powers." (Peters, 1993: 543). *Öffentlichkeit* can also be translated as *openness* and is the equivalent of the Russian term *glasnost*, much discussed in the late 1980s.

The public sphere should not be viewed as an exotic or new concept, combining as it does two ordinary, but important political concepts: "'publicity' in the sense of openness and access, and 'the public' as the sovereign body of citizens" (Peters, 1993: 543). These key concepts, which can be traced back at least to the eighteenth-century European and American Enlightenment, underlie constitutional government:

> ...the idea of a sovereign, reasonable public, nourished by the critical reporting of the press and engaged in the mutually enlightening clash of arguments (Peters, 1993: 544).

Through debate, the concept implies, the public develops rational opinions, which guide and justify the actions of the government. Although Habermas sees clear signs of the decline of the public sphere in modern times, it remains as important to constitutional democracy today as ever.

A clearer understanding of the public sphere can be obtained by comparing it with a related concept, that of "civil society", a term also much debated in the seventeenth and eighteenth centuries that has returned to our political vocabulary in recent decades. As defined by Hegel, civil society is a sphere of life positioned between the family and the state that consists of private individuals, classes, groups and institutions whose activities are regulated by civil law and are not directly dependent upon the political state (Taylor, 1990: 95). Included in Hegel's definition are both a self-regulating economy and the autonomous, opinion-forming public. Habermas' public sphere can be seen as a constituent of Hegel's civil society distinct from economic activity. Other contemporary writers have used the term "public life" and "public space" in much the same sense.

Habermas and the Evolution of the Bourgeois Public Sphere

The notion of a public sphere distinct from a private realm is found in ancient Greek society. According to Greek thought at the time of the city-states, the distinction between the private and public sphere corresponded with the strict distinction between the household and political life. Although entry into the public sphere was dependent on mastery of a household, this capacity for political life or *bios politikos* was held to be distinct from the life of the home or *oikos*. Within the private sphere, human beings were driven to live together out of necessity, men to provide for individual needs such as nourishment and women to give birth and raise the young. The household head ruled over his family and slaves with unquestioned authority (Arendt, 1958: 31). The realm of the *polis*, on the other hand, was the realm of freedom and equality where citizens debated public business. This notion of equality, however, was unlike current concepts that are based on justice, as the majority of the population within the city-states were not masters of households and, lacking the leisure to act in the demanding life of the *polis,* were denied entry into the public sphere (Peters, 1993: 556).

The notion of publicness took on a different form during the Middle Ages. According to Habermas, the public sphere as a realm separate from the private cannot be shown to have existed within the feudal society of the High Middle Ages; rather the term public can more appropriately be applied to attributes of lordship (Habermas, 1989: 5). Nobility represented themselves publicly as embodiments of some sort of higher power, not "for but 'before' the public" (Habermas, 1995: 8). This representation of publicness was more of a status attribute than a social realm, an aura of authority enhanced by personal attributes such as insignia, clothing or demeanour corresponding with a code of chivalrous behaviour.

By the Renaissance, the provincial nobility was clearly beginning to lose its power to represent. The representation of publicness, the "body politic", became increasingly concentrated in the king and his court with their displays of grandeur and their highly refined etiquette. The breakdown of the feudal state, the growth of national states and the early capitalist commercial economy resulted in further changes to aristocratic society. By the eighteenth century, court society had evolved into a new form of sociability, the salons. Representative publicity was limited to the court of the king, an "enclave within a society separating itself from the state" (Habermas, 1995: 11).

The late eighteenth century saw the emergence of the public and the private spheres in a more recognisably modern sense. Public now referred to the apparatus of the state while private referred to matters excluded from the realm of the state. Habermas details the major tendencies of that epoch, amongst them the devolution of the feudal powers - Church, prince and nobility - into private elements, on the one hand, and public elements, on the other. With the Reformation, religion increasingly became a private matter, but the institutional Church existed as a corporate body under public law. The separation of a state budget from the king's private holdings marked a further distinction between public and private. The creation of a bureaucracy and the military as permanent public institutions and the development of parliaments and judicial organs furthered this depersonalization of state authority.

These changes corresponded with the development of capitalism and the growth of trade. The mercantilist phase of capitalism, in particular, furthered the development of the modern state. As trade became increasingly organized and capital-intensive, there was a need to provide political and military support which led to the growth of bureaucracies and the development of taxation. Public authority was consolidated. The term public by now referred to the state, "an apparatus with regulated spheres of jurisdiction and endowed with a monopoly over the legitimate use of coercion" (Habermas, 1995: 18).

Another result of increased trade was the increased need for news. From the fourteenth century on, a guild-based system of correspondence was organized to provide merchants with more information about distant events. As the traffic in commodities grew, so did the need for news on a continuous basis. News dealers came into existence to meet this need. Initially, these 'news letters' were limited to the special interests of merchants or administrators, but by the end of the seventeenth century, a press was offering a regular supply of more general news to the public.

This period also saw the development of a civil society, "the genuine domain of private autonomy [that] stood opposed to the state" (Habermas, 1995: 12). This notion of civil society is central to Habermas' vision of the public sphere. With the development of capitalist market economies, economic activities that once took place within a household now were oriented toward a commodity market and assumed general interest. The process of economic reproduction, expanded under public direction and supervision, grew in public relevance.

But civil society comprised much more than the economic. This new and growing social life also included many institutions and activities that encouraged public communication, such as salons, coffee houses, clubs, theatres, concerts and societies as well as newspapers, novels, letters and conversation (Calhoun, 1990: 8). Sometimes these organizations served multiple purposes. Clubs, lodges and other voluntary associations not only encouraged socializing and mutual assistance, but they also raised capital for business ventures and civic improvements. Many are also known to have provided support for the radical politicians of the mid to late eighteenth century such as John Wilkes (Brewer, 1982: 200).

The relationship of civil society to the press bears closer examination. By the middle of the seventeenth century, journals were appearing on a daily basis, many of which grew out of the bureaus of correspondence established to handle the news requirements of merchants. These journals, which were a key element of early commercial capitalism, initially contained information relevant to foreign trade and information on the court as well as "tabloid" fare such as murders, miracle cures, and pestilence. Before long, state authorities saw the value of these journals for the purposes of state administration and as vehicles to direct instructions and ordinances to "the public". In principle, this public included all subjects, but in practice, it meant the educated classes capable of reading. These classes now included state administrators, jurists, doctors, pastors, officers, professors, schoolteachers and scribes as well as capitalists, merchants, bankers, entrepreneurs and manufacturers.

This new stratum of bourgeois people, who occupied a central place within the new public, were readers. As they were the group most affected by mercantilist policies and by the measures taken by state authorities, they were also most likely to oppose some of these measures and to take a proprietary interest in the concerns of their group. Habermas characterizes this group as the emerging public sphere (Habermas, 1995: 23). Not only those who participated in capitalist production were affected by government regulations. As local markets grew to depend on regional and national ones, broad strata of the population were touched by state administration, by taxes, duties and prohibitions that could extend into private life. These interventions provoked the critical judgement of the public and, in effect, turned them into the adversary of the ruling authorities.

It is in this period, from the middle of the seventeenth century on, that the English terms "public" and "public opinion" appear. Public opinion, which grew into common use within the following century, was defined, in its early sense, as a common viewpoint reached through debate and discussion rather than as the sum of the private opinions of individuals. Although governments were used to hearing the opinion of the Church, public opinion was novel in that it developed within society independent of any hierarchical structure such as the State or the Church.

It is to the press that the emerging public sphere of civil society turned. By the end of the seventeenth century, periodicals had emerged that regularly printed criticism and reviews, and by the first half of the eighteenth century, learned articles based on "critical reasoning" appeared in the daily press. In Britain, in particular, the increased freedom of the press that followed the lapsing of the Licensing Act in 1695, permitted the growth of critical arguments and allowed the press to bring political decisions forward to the public, shaping public opinion. Satirical journals by authors such as Swift and Defoe were widely discussed in British clubs and coffee houses. This independent press played a key role in the development of parliamentary democracy (Habermas, 1995: 60). Statesmen also seized the opportunity presented by the press to mould public opinion through political journalism.

But Habermas argues that the domain of the bourgeois public sphere is not the purely political. Of particular relevance to this dissertation is his emphasis on the importance of other cultural activities in the development of a critical public. By the first decade of the eighteenth century, there were approximately 3,000 coffee houses in London frequented both by nobility and by a wide stratum of the bourgeoisie including craftsmen and shopkeepers. John Houghton, a fellow of the Royal Society, compared the coffee houses with universities:

> Coffee-houses make all sorts of people sociable, the rich and the poor meet together, as also do the learned and the unlearned. It improves arts, merchandize, and all other knowledge; for here an inquisitive man, that aims at good learning, may get more in an evening than he shall by books in a month... (Houghton quoted in Kelly, 1970: 55).

These coffee houses became centres for literary and art criticism as well as for business and economic and political discussions. Journals appeared as adjuncts to coffee house society in which coffee house discussions were generated and enhanced and which included selections of letters from coffee house denizens. It was in these journals that the "public held up a mirror to itself" (Habermas, 1995: 43).

The production of cultural products for widespread distribution also emerged in this period. Business-minded publishers replaced the wealthy patrons of former generations and organized the commercial distribution of literary works. Similarly, by the Restoration, the production of music was no longer tied to the church or to the court, but was being produced for public concerts, a phenomenon that grew rapidly in the eighteenth century. Art moved beyond its official role to become a matter of changing tastes and free choice, while the first recognizable museums of the modern concept appeared that "institutionalized the lay judgment on art: discussion became the medium through which people appropriated art" (Habermas, 1995: 40).

This cultural life also had its counterpart within the family; in fact, Habermas sees the patriarchal conjugal family as the source of the subjectivity and literate argument necessary for public life (Peters, 1993: 552). The patriarchal conjugal family had become the dominant family structure of the bourgeoisie. Although families were dependent on the marketplace for survival, within family walls, life tended to turn in on itself. Within this private sphere, individuals viewed themselves as "capable of entering into 'purely human' relations with one another" (Habermas, 1994: 48). Diaries and letters became one vehicle for experimentation with subjectivity. With the development of a state-run postal service, it was not surprising that letters became a key literary form in the eighteenth century. Habermas speaks of the "audience-oriented subjectivity" of the letter, in which individuals offered their intimate thoughts before another (Habermas, 1995: 49). From this emerged novels such as *Pamela,* a collection of letters that explored psychological matters in autobiographical form. *Pamela*, by Samuel Richardson, appeared in 1740 and was hugely popular and influential. Associated with the emergence of novels was the circulating library, an institution that could be found in most towns by the middle of the eighteenth century, even if sometimes limited to a shelf of books for lending in a small bookshop (Feather, 1997: 55). Book clubs and reading circles mushroomed (Brewer, 1997: 182).

In principle, this literary public sphere was open to all. Anyone with access to literary products could participate in critical debates. Within the literary public, differences in status were to be "bracketed" and reason, rather than the identity of the speaker, was to carry the day. In practice, however, the public of educated readers was still extremely small, although it grew significantly during the eighteenth century. At the beginning of the eighteenth century, the proportion of illiterates in England was greater than during the Elizabethan era, but literacy increased dramatically during the century. At the beginning of the century as well, half of the population lived in poverty and could certainly not afford literature, but Habermas argues that the dramatic increase in the sale of monthly and weekly journals between 1750 and 1775 is evidence of some measure of improvement (Habermas, 1995: 51).

Literature, then, was another means by which private people came together as a public to practise the art of critical analysis and discussion, yet criticism was not restricted to literary matters. It also covered social and political matters. In this way, the literary public sphere also became a sphere of criticism of public authority. The bourgeois public sphere arose from private life and became the site of critical public debate over the regulation of civil society. As the economy became increasingly self-regulated, the public sphere assumed increased political functions. In eighteenth-century Europe, the focus of political debate was constitutional law, the rule of the absolute monarch versus the rule of law and the legitimation of power through public opinion. This public discussion of public authority was without historical precedent.

The Decline of the Public Sphere

The political public sphere, as it came into being under the constitutional (written or unwritten) state of the early nineteenth century, was established in the political realm as a means to ensure the connection between law and public opinion. In principle, the law was to apply equally and without exception to everyone and was to govern the executive and the judiciary. Since state activity was to be subject to norms legitimated by public opinion and since public opinion was to be based on rational agreement rather than political will or self-interest, the rule of law was to replace state domination. Nor could the power of the public be construed as domination, as public debate based on reason would theoretically ensure a consensus about what was necessary for the good of all.

The inherent contradiction within this schema was the minority nature of the political public sphere. Franchise was restricted to white, male, educated property-owners. Although women and dependents played a role in the literary public sphere, they were excluded from the political public sphere. By 1832, only about a million of the British population of twenty-four million were allowed to vote (Habermas, 1995: 66). The public, from whom public opinion was derived, was therefore incomplete. This lacuna could be justified if the economic and social conditions were such that everyone (at least, all men) had the equal opportunity to obtain the necessary qualifications, but even under early nineteenth-century capitalism, this was not the case. The political public sphere consisted of a minority and the principle of public opinion based on reason and not on limited interests was put in doubt.

It was in the resolution of political inequality that another issue arose, according to Habermas. The nineteenth century was a century of electoral reform. As the franchise was expanded beyond the original educated and propertied class (with the 1832 Parliamentary and the 1836 local government reforms in Britain, for example), the myth of a public opinion based solely on disinterested reason wore thin. As long as the public sphere retained its homogeneous character with common standards of debate and courteousness, there was an appearance of rationality and agreement. As the public sphere expanded, first informally through the growth of the press and later through the expansion of the electoral franchise, conflicts once dealt with privately tended to become a more public concern. Capitalism did not provide equal opportunity in the accumulation of property and the self-regulating marketplace did not prove capable of resolving inequities. Groups whose needs were not met brought their grievances into the public sphere and pushed for regulation to meet their needs. Habermas describes how the "public sphere, which now had to deal with these demands, became an arena of competing interests fought out in the coarser forms of violent conflict" (Habermas, 1995: 132). Laws passed in this fashion could not be seen as "embodying the reasonable consensus of publicly debating private persons".

As social power became concentrated under capitalism, the economically weaker turned for assistance to the state with its promise of universality. The state, in response, expanded beyond its traditional function of maintaining order to assume other roles, including the protection of economically weaker groups. Over time, the distinction between public and private blurred, as the state became increasingly involved in private affairs and private organizations such as special-interest groups assumed greater public power, a condition referred to by Habermas as the "refeudalization" of society (Calhoun 1992: 22). In this environment, the public became a sporadic participant. The rational-critical debate of private individuals acting in public was replaced by negotiated compromises between various interest groups. This process marked the movement toward the welfare state.

Civil society was also altered by the changing nature of work over the course of the next century. The growth of large organizations, whether private or bureaucratic, created depersonalized work relationships separate from the private sphere of the family (Calhoun 1992: 22). The domain of the private was reduced to time not spent on the job; the private sphere was reduced to the family. At the same time, the family lost some of its functions of caring and education as these were assumed by the state. The eighteenth-century family, with its "audience-orientation", produced a culture-debating public. Writing in the early 1960s, Habermas described the modern family as culture-consumers with little opportunity or taste for debate. The public sphere, he feared, had suffered accordingly.

As the press had played a role in the growth of the public sphere, so did the press (and other media) play a role in its decline. *The Structural Transformation of the Public Sphere* judged the mass media harshly, in particular radio, film and television with their fusion of entertainment and information:

> They draw the eyes and ears of the public under their spell but at the same time, by taking away its distance, place it under 'tutelage', which is to say that they deprive it of the opportunity to say something and disagree (Habermas, 1995: 171).

The concentration of media ownership into a few hands and the dependency of the media on advertising revenue also decreased its reliability.

Under the media's influence, the public concentrated more on the personal attributes of legislators and less on rational-critical debate. Habermas saw this tendency to turn candidates into celebrities as a form of representative publicity. This tendency was heightened by the public relations industry and the "spin doctors" of political parties, affecting even legislatures where staged displays increasingly replaced critical debate among members (Calhoun 1992: 25). Within the public sphere, government, corporations and special interest groups seek legitimacy and power rather than responding to the needs of an independent, informed and critical public (Peters 1993: 560).

To Habermas, writing in 1962, the public sphere was threatened with disintegration. The only hope was if critical publicity could gain ascendancy over "publicity merely staged for manipulative purposes" (Habermas 1962: 235). In order for this to happen, Habermas recommended that all state information as well as information pertaining to organizations that interact with the state, such as political parties and special-interest groups, be made accessible to the public. If this requirement could be realized, then a "public body of organized private individuals" could take the place of the "now defunct public body of private individuals who relate individually to each other" (Habermas 1974: 55). These organized individuals would be in the position to participate in the process of public communication by using the channels established by parties and associations in their dealings with the state. This would require a commitment on the part of these often rival organizations to the notion of the public sphere.

Criticism of *The Structural Transformation of the Public Sphere*

The Structural Transformation of the Public Sphere has been widely debated since its publication in English in 1989. For some, the notion of the public sphere represents "a fruitful starting point for work on urgent contemporary issues in the study of the mass media and democratic politics" (Garnham 1992: 359). Others have criticized Habermas for his support of concepts dating from the Enlightenment, arguing that postmodern society requires "new forms of engagement, unencumbered by the failed projects of the past" (Murdock 1993: 521). Apart from debates over the definition of the public sphere, three main areas of criticism have emerged: the idealization of the bourgeois public sphere, Habermas' support of Enlightenment principles and his treatment of the mass media.

The Idealization of the Bourgeois Public Sphere

Much of the criticism of *The Structural Transformation of the Public Sphere* has a historical basis. Although the empirical research of a number of Anglo-American social historians has largely borne out Habermas' account of the rise of a debating public in opposition to absolutism, critics argue that Habermas idealized the bourgeois public sphere of the late eighteenth and early nineteenth century by omitting other historical publics (Porter, 1997: 34). They point to movements such as Owenism, Chartism and British popular politics, as well as forms of political interaction in the French countryside, as examples of efforts by segments of the working class and peasantry to strive for emancipation through reasoned exchange (Eley, 1992: 305). In addition, critics argue Habermas has downplayed the ways in which the elitism of the bourgeoisie may have blocked wider possibilities for emancipation. Rather than focusing entirely on the struggle against absolutism, the bourgeoisie were also concerned about the actions of subordinate classes. Exclusiveness and repression often marked their response to the popular/plebeian elements (Eley, 1992: 306).

Another critique of *The Structural Transformation of the Public Sphere* was its neglect of the issue of women's exclusion from the public sphere. In spite of their formal exclusion from political public life, nineteenth-century bourgeois women engaged in public activity through extensive voluntary and philanthropic associations, while non-bourgeois women provided support for male-dominated working class protest activities and participated in demonstrations and street protests. Early women's rights activists also lobbied for universal suffrage (Ryan, 1992: 285). Historian Mary Ryan concludes from such examples that "the utopian aspirations that Jürgen Habermas set before us twenty-five years ago" can be better served in a plural and decentred concept of the public open to "the voices of those who have long been banished from the formal public sphere and polite public discourse" (Ryan, 1992: 285).

Other writers see the exclusion of women from public life in that era as systematic. The notion of civil society separate from family life originated in the writing of such influential seventeenth and eighteenth-century social contractors as Jean-Jacques Rousseau. Although in principle civil society was a universal realm open to all, in practice it was a fraternal pact that excluded women. How was this justified? Women's subjection to men had a "foundation in nature", according to many social contractors (Pateman, 1988: 107). If family and public life were separate, as they argued, then women's lack of liberty was natural, not political.

Still others question the separation of public from private as a pre-condition for the existence of a healthy public sphere, arguing that there are significant private concerns that should be raised in public debates. For example, domestic violence against women was long considered a private matter restricted to a small number of families, but is now recognized as a broader, societal problem. Similarly, questions of workplace democracy that are treated as strictly private economic concerns in some parts of the world, notably within recent Anglo-American management and political thinking, may serve to perpetuate class dominance. In addition, members of unequal social groups within stratified societies may differ in their definition of the public good. Public debate, critics argue, rather than a priori boundaries, should define the range of common concerns. This is especially important as the separation of private from public can be used to undermine some views and empower others (Fraser, 1992: 132).

In his 1992 article, *Further Reflections on the Public Sphere*, Habermas addresses these critiques. He agrees that his early depiction of the bourgeois public sphere was overly idealized and that the emphasis on rational aspects of communication overdrawn. In light of historical research that has appeared since he first addressed the subject, such as E.P. Thompson's groundbreaking *The Making of the English Working Class*, he concurs with the concept of multiple public spheres as well as a bourgeois public sphere shaped in competition and through exclusion of the plebeian public. Similarly, feminist literature has since illuminated the patriarchal character of the society. Habermas now believes that the exclusion of women from the public sphere was different in nature from restrictions based on class because the isolation of women not only affected economic and political life, but also the conjugal family. (Habermas, 1992: 428). One potential strength of the public sphere, however, is its potential for self-transformation. The principles of unrestricted inclusion and equality, though not always practised, provide "areas of common ground not only for the labour movement but also for the excluded other, that is, the feminist movement" (Habermas, 1992: 429). Through contact with devalued countercultures, the public sphere can be transformed from within.

Habermas and the Enlightenment

Frankfurt school critical theorist, Theodor Adorno, once observed that it was "a good deal easier to write a universal history leading from the slingshot to the megaton bomb than it is to write one leading from savagery to humanitarianism" (Adorno, 1973: 320). The failures of Enlightenment democracy have lead some to abandon the idea of universally valid beliefs or values. Habermas' defence of the Enlightenment, albeit guarded, finds critics among postmodernists who argue for the rejection of the Enlightenment project in its entirety (Harvey, 1990: 14). Where Habermas sees the notion of publicity as a rational ideal of political participation, others, such as Foucault, see publicity and public life as means of discipline and control and rational experience as the justification for cruel social policies (Foucault, 1980: 108).

The eighteenth-century "project of modernity" came about through the extraordinary efforts of Enlightenment thinkers "to develop objective science, universal morality and law, and autonomous art according to their inner logic"

(Habermas, 1983: 9). The purpose of this project was to develop and apply specialized knowledge to enrich everyday life. Enlightenment thinkers believed that knowledge of art and science could liberate mankind from the tyranny of nature and bring about moral progress, institutional justice and human happiness. They embraced the notion of human progress and welcomed change as a means to achieve the project of modernization. Doctrines of equality and liberty, a belief in human intelligence (once allowed the benefits of education), and universal reason prevailed (Harvey, 1990: 13).

This optimism has been shattered by the unprecedented and organized nature of violence in the twentieth century. To Max Weber, writing early in this century, the "iron cage" of bureaucratic rationality was the legacy of the Enlightenment. Similarly, Max Horkheimer and Theodor Adorno claimed that Enlightenment rationality hid a logic of domination and oppression, a rationality that justified universal oppression in the name of human liberation (Harvey, 1990: 13). Foucault saw the seventeenth and eighteenth centuries as the source of a new type of power, a disciplinary power of continuous surveillance. The constitution of a public right derived from collective sovereignty, he believed, is "fundamentally grounded in mechanisms of disciplinary coercion" that are justified by the human sciences and against which little can be done (Foucault, 1980: 108).

Postmodern thought, which has drawn heavily on Foucault, rejects the Enlightenment with its meta-narratives. Although the term postmodernism covers a wide range of beliefs, postmodernists typically call for new categories, new ways of thinking and writing, and new political values to overcome what they see as modernist failures in discourse and practice (Best and Kellner, 1991: 30). Postmodernists tend to favour that which is fragmentary, fleeting and chaotic, dismissing efforts to develop a unified representation of the world as either illusionary or repressive. Ideas of progress or historical continuity are eschewed and global projects rejected in favour of local values and localized resistance to oppression (Harvey, 1990: 47). Although in support of localized resistance, Habermas argues that this outright rejection of all universals can lead to relativism and lend itself to dubious political use.

At the core of the debate between Habermas and the postmodernists is "whether modern ideas of publicity and public life... are a rational ideal of political participation or a subtly vicious form of control" (Peters, 1993: 551). *The Structural Transformation of the Public Sphere* and his subsequent works have demonstrated Habermas' belief in the ideal of free communication and public reason as a political and moral force. Although much of his work expresses a certain pessimism regarding the possibility of realizing the goals of the Enlightenment under current economic and political conditions, Habermas looks to communication as a way to rebuild democracy.

Mass Culture and Mass Media

Another major criticism of *The Structural Transformation of the Public Sphere* is the asymmetrical treatment of the bourgeois public sphere and the public sphere of "late" capitalism. As sociologist Craig Calhoun states, "Habermas tends to judge the eighteenth century by Locke and Kant, the nineteenth century by Marx and Mill, and the twentieth century by the typical suburban television viewer" (Calhoun, 1992:33). Similarly, Habermas' account glorifies the history of early journalism by omitting the mass of lurid scandal sheets and the partisan press of that era while underestimating the positive potential of today's media. Recent historical research reveals that the early print market was not controlled by intellectuals engaged in public debates, but by highly competitive capitalists in search of a quick profit (Garnham 1992: 360).

Habermas' views on the decline of the public sphere were heavily shaped by Frankfurt School critical theory which developed in Germany in the 1920s and 1930s in response to the rise of fascism in the West and Stalinism in the East (Ess, 1996: 203). Critical theorists, such as Theodor Adorno and Max Horkheimer, developed some of the earliest critiques of mass culture and communication under contemporary capitalism. These writers described the mass media as a "culture industry" that transforms art into business, destroying individuality and indoctrinating consumers with the ideological values and ways of life of a dominant capitalist society (Adorno and Horkheimer, 1993: 31). Habermas, a student of Adorno and a "second-generation" critical theorist, continues their critique of the power of the media to manipulate audiences, but unlike his predecessors, his criticism is tempered with a belief in its potentially liberating power (Peters, 1993: 541).

Critics of Habermas' account of the decline of the public sphere have pointed to the positive effects of public education as a means to counter the manipulative power of the media. Researchers have also stressed the role of interpretation in audience response. Viewers may well accept the structure of what is being offered, but they may also reject it or synthesize it with their own experiences. In short, television can both serve and subvert democracy. Habermas now agrees that his interpretation, based at least in part on the experience of his native West Germany, was too simplistic. Television was new to Germany in the 1960s, as were elections run as marketing campaigns. Similarly, the "educational revolution" with its growth of secondary education had not yet spread to Germany and literature on the social effects of television was lacking. Habermas now acknowledges that he was too pessimistic about the critical powers and resisting abilities of a pluralistic mass public (Habermas 1992: 439-441). He also cites the role of television in the revolutionary transformation of Eastern Europe in recent years as evidence of its potential as a positive force.

Although conceding these points, Habermas stands by his overall assessment of the decline of the public sphere. If mass democracies are to continue as liberal constitutional states, he argues, they must strive to maintain a public sphere that fulfils political functions. Can a public sphere dominated by mass media provide a realistic opportunity for citizens to shape the values of their society? Habermas points to two possibilities, both of which have relevance to the subject of this thesis. The first of these is participation, not only in the political process, but also in the social and cultural spheres as well:

> The institutional core of civil society is constituted by voluntary unions outside the realm of the state and the economy and ranging...from churches, cultural associations, and academies to independent media, sport and leisure clubs, debating societies, groups of concerned citizens, and grass-roots petitioning drives all the way to occupational associations, political parties, labour unions, and "alternative institutions" (Habermas, 1992: 454).

These are opinion-forming associations that manage to have a political impact via the media by participating in public communication, by providing examples of alternative activities that contribute to public discussion, or by advocating reforms. Habermas sees public deliberation among equal citizens as the source of legitimacy within a democracy. Just as he stressed the importance of the original "culture-debating public", so does he see the public sphere in the actions of new social movements that call for reform rather than revolution and that reject "totalising conceptions of order" in favour of open discussion about matters of common interest (Alway, 1995: 122). The role of the women's peace camp in banning cruise missiles from Greenham Common or the actions of citizen groups in pressing governments to ban land mines are two examples of the public sphere at work. Implicit in their actions are the Enlightenment principles of democratic life: public emancipation through reason and critical debate (Peters 1993: 559).

The second possibility for strengthening public life lies in the manner in which discourse is conducted. Habermas calls for the widest possible democratization of the decision-making process, defining the ideal speech situation as follows:

> 1. Every subject with the competence to speak and act is allowed to take part in a discourse.
> 2a. Everyone is allowed to question any assertion whatever.
> 2b. Everyone is allowed to introduce any assertion whatever into the discourse.
> 2c. Everyone is allowed to express his attitudes, desires, and needs.
> 3. No speaker may be prevented, by internal or external coercion, from exercising his rights as laid down in (1) and (2). (Habermas in Ess, 1996: 210).

In practical terms, "undistorted communication" depends on a willingness to participate in rational discourse on controversial topics, to permit free and equal access to all participants, to attempt to understand the issues and arguments, to yield to the force of the argument and to accept a rational consensus (Best and Kellner, 1991: 237). In addition, Habermas stresses the importance of a sense of responsibility towards one's fellow human beings and the community at large (Ess 1996: 216). It is against these measures that the public role of museums and the commercialization of digital museum information will be examined later in this thesis.

Why Habermas?

Habermas was selected to provide the theoretical framework for this thesis because his articulation of the importance of the public sphere and his emphasis on democratic communication reinforce principles that have been increasingly overshadowed in recent years. Over the course of my sixteen years as a Canadian civil servant working in the field of museum documentation, I observed a change in the language of government. The ethos of public service was transformed as government adopted the language and methods of business schools. Whereas in the early 1980s, the public meant all citizens, by the 1990s it increasingly meant consumers. Cost recovery and revenue generation displaced universalism as a guiding principle, even within cultural programmes. Museum information, for example, became a product to be sold to the educational market. In this environment, the possibility of critical examination seemed diminished, as to raise the question of public good at a time of heightened financial concerns was to be dismissed as irresponsible or reactionary.

This cultural change within government is also reflected in comparable changes in public institutions reliant on government funding. As government funding has been reduced, institutions such as universities have increasingly turned to the private sector for funding, adopting the language of business in the process. This has had significant impact on their research and on their relationship to knowledge. Whereas universities traditionally viewed proprietary claims as fundamentally at odds with their responsibility to disseminate knowledge as widely as possible, nearly every research university in the United States now has a technology-licensing office (Press and Washburn, 2000: 45). Chapter Four of this thesis will argue that this cultural change is jeopardizing museums' public role. The concept of the public sphere is evoked in this thesis out of a desire to balance the language of the market.

Habermas' notion of the public sphere is particularly apt because it is grounded in Anglo-American cultural and political tradition. Although postmodern thinkers have criticized Habermas for his support of Enlightenment principles, there are, as I will also argue in Chapter Three, strong parallels between the era he describes in *The Structural Transformation of the Public Sphere* and our own. Although many contemporary thinkers would assert that we have left modernity behind, we still live in a capitalist democracy characterized by rapid technological and social change. Museums are institutions that grew out of the Enlightenment belief that the gathering and display of knowledge to the broadest possible public would help people to know themselves and their world better and thus improve their lives. Why not then turn to a current thinker who looks at these Enlightenment values from the perspective of their relevance to contemporary society?

Habermas' work is also central to this thesis for its relevance to the subject of communication. A core principle of the public sphere is the general accessibility of information as a fuel for the analysis, discussion and debate necessary to create public opinion. As I will also argue in Chapter Three, museums and libraries flourished in the late nineteenth century because they were broadly regarded as part of the educational infrastructure necessary for a healthy society. Today, as more and more information is disseminated in digital form, the Internet, although increasingly dominated by business and far from universally available, is an additional tool in building the public sphere. Clearly, there is a role for institutions such as libraries, schools and museums in promoting equal access to information, whether in digital or traditional form.

A number of other theoreticians were also considered in selecting the framework for this thesis, among them Michel Foucault and the critical theorists Theodor Adorno and Max Horkheimer. Of these, Adorno and Horkheimer were the more likely choice because of the importance of their description of the "culture industry", a term used loosely to describe the manner in which contemporary culture has been integrated into the capitalist system. One of the hallmarks of Frankfort School critical theory was its preoccupation with cultural and aesthetic phenomena. As early as the 1940s, Adorno and Horkheimer described how the modern culture industry bolstered capitalism by producing safe, standardized products for the purpose of entertainment. As distribution and production techniques were rationalized and as the profit motive spread through the cultural sphere, cultural entities became increasingly standardized. (One can think of contemporary popular music or Hollywood movies as instances of this standardization). New and challenging ideas were co-opted while cultural creations became "a species of commodity, marketable and interchangeable like an industrial product" (Adorno and Horkheimer, 1972: 158). The prevalence of these products, intended for mass consumption, encouraged conformity while discouraging critical and original thought. In this environment, Adorno and Horkheimer argued, the individual was reduced to a mere composite of conventional views and ways of being (Alway, 1995: 41).

Adorno and Horkheimer's work is relevant to this thesis for its explanation of how business increasingly encroaches on activities and institutions once considered outside its sphere of influence; for example, the Olympic Games, schools, universities and museums. Its description of the commodification of cultural material is also useful when considering the implications of the potential commercialization of museum digital information. One can also see the influence of their thinking on *The Structural Transformation of the Public Sphere*, but whereas Habermas has been able to recognize positive potential in the mass media - for example, the role of television in the fall of the Iron Curtain - Adorno and Horkheimer saw little difference between the effects of the culture industry and the blatant manipulation of culture under the Nazis. Whereas Habermas has been adamant about the positive accomplishments of modernity, such as "the rule of law, formal democratic principles, civil, political, and social rights, cultural pluralism", in his predecessors' work, these accomplishments inevitably disappear as society is rationalized (Seidman, 1989: 6). Similarly, Habermas' ongoing belief in the potential of the public sphere (or, in his more recent work, public spheres) in maintaining democratic self-determination and critical accountability is at variance with Adorno and Horkheimer's vision of deceived masses thinking and doing as they are told. For these reasons, I find Habermas more pertinent to an examination of contemporary museums. In spite of the encroachment of the market into public institutions such as museums, I see an important distinction between the American "When I hear the word culture, I reach for my checkbook" and Nazi Germany's "When I hear the word culture, I reach for my gun".

Another possible theoretician considered and rejected was Michel Foucault, the inspiration behind much of museum criticism in the past decade. A central theme of his work was the relationship between knowledge and power. According to Foucault, systems of knowledge (or discourses) consisting of codified techniques and practices, can be used by institutions for the purposes of social control and domination. Interpreters of Foucault's work in the museum field have primarily seen the history of early museums in this context. However, as I will argue in Chapter Three, this vision of nineteenth century museums as "disciplining" fails to do justice to the disparate origins of British museums and to the democratic trends that also struggled into existence at that time.

Within contemporary museums (and within government), Foucault's work can inspire us to examine how our institutional culture limits our independence or our capacity for critical thought. However, as with many postmodern thinkers who reject outright the tenets of modernity, Foucault is better at identifying problems than at suggesting ways to correct them. Foucault seems to have believed that only through resistance to localized practices of repression, could change occur on a global level (Harvey, 1990: 46). Yet, if domination, as he suggests, shapes our mental and physical being, resistance seems problematic. How do we ensure that our resistance is progressive rather than regressive? How do we know that we are not merely creating a new form of domination? Foucault gives few specifics to guide us.

Although Habermas, like Foucault, is critical of aspects of modernity, his approach is not merely deconstructive. Instead, his life's work has been aimed at reconstructing modernity's best features. The notion of the public sphere stresses principles of equality and access as well as localized resistance. Although the concept of the public sphere represents an ideal never reached, it is nonetheless an important democratic concept against which we can judge our institutions and our society.

Chapter 3 - The Development of the Museum Public

> *But if, as commonly, we start an inquiry with an assumption like this, offered as fact when it is not fact, it is unlikely that we shall go on to ask the really relevant contemporary questions, or reach the point at which our present urgencies can be illuminated by the actual lessons of history* (Williams, 1961: 175).

The purpose of this chapter is to examine the development of museums in late eighteenth- and nineteenth-century Britain in order to demonstrate the deep historical roots of the museum's commitment to a universal public. Drawing on the work of Jürgen Habermas, this chapter will demonstrate that the growth of museums was part of a wider cultural evolution, characterized by Habermas as the emergence of the "public sphere" (Habermas, 1995: 40). The "culture-debating public"' that transformed British political life was the same public that created and frequented early museums. The same struggles that led eventually to important democratic trends such as universal franchise and universal education also shaped the early development of museums.

This notion of early museums as an element of the public sphere is at odds with the more common vision of early museums as fundamentally elitist and nationalistic. Kenneth Hudson, in his highly influential work, *A Social History of Museums*, writes:

> Probably the most important fact about seventeenth- and eighteenth-century museums and art galleries is that they were run by autocrats, who asked for nobody's advice or suggestions as to how the collections should be presented or organised...This attitude persisted long after the widespread establishment of public museums in the modern sense (Hudson, 1975: 6).

More recently, museologist Tomislav Sola characterized contemporary museums as:

> ... used and manipulated, they obey their bosses, and because they are, for the most part, like them: being concerned with power, profit and conquest. What we are talking about...is that prevailing, dominant, nineteenth-century museum model... (Sola, 1992: 102).

The characterization of nineteenth-century museums as primarily nationalistic and socially elitist is a commonplace. Joel Orosz has documented - and criticized - the tendency among American historiographers to dismiss pre-1870 museums as either amateur or elitist, unresponsive to the needs of the general public. He cites George

Brown Goode, John Cotton Dana, Theodore L. Low and Francis Henry Taylor as well-known, early proponents of a view that remains influential, that the early American museum was "a mere playground for the well-off and well-educated, an island of elitist culture set in a hostile democratic sea " (Orosz, 1990: 253).

An even more extreme view of early museums can be seen in the work of Tony Bennett and Eilean Hooper-Greenhill, that of museums as "disciplinary" institutions. This characterization, derived from the work of Michael Foucault, sees nineteenth-century museums as "one of the apparatuses that created 'docile bodies' through disciplinary technologies" (Hooper-Greenhill, 1992: 168). The "embroilment" of museums and other "institutions and practices of high culture" in civic improvement during that period is seen as entailing "a profound transformation in their conception and in their relation to the exercise of social and political power" (Bennett, 1995: 21). Museums, libraries, parks and reading rooms form "a veritable battery of new cultural technologies" that symbolized the power of the state and reduced the people to mere spectators. Paradoxically, another critic, Carol Duncan, has viewed the lack of government support for a national gallery in the late eighteenth and early nineteenth century as evidence of the selfishness of the ruling oligarchy (Duncan, 1995: 38).

Although there are certainly elements of truth in these critiques, they obscure a more complex reality. As in most human endeavours, the development of museums reflects a variety of interests, possibilities, commitments and fears. A consistently negative interpretation of events clouds the strong democratic trends that also evolved within British museums of that era, the increasing commitment to education and to a broader public, the growing diversity of museum audiences, and the extent of public support and participation. As contemporary museums grapple with issues regarding their public nature, it is important that these democratic roots be recognized because they help explain why public museums (and libraries) came to be seen as important educative institutions and why such objectives as serving a universal public are still worth defending.

Why British museums of the eighteenth and nineteenth centuries? It was in Britain of the eighteenth and early nineteenth centuries that a public sphere that functioned in the political realm first arose (Habermas, 1989: 57). In addition, many of the forces that led to the creation and growth of British museums are similar to those that underlie the growth of museums in such countries as Canada and the United States. Both Canada and the United States, for example, shared common institutions such as Mechanics Institutes, educational bodies that originated in

Britain and that played a role in the development of museums (Teather, 1992: 23; Orosz, 1990: 110). Writing in 1889, George Brown Goode, Assistant Secretary of the Smithsonian, described the strong ties between British and American intellectual life and the inspiration that Henry Cole's South Kensington Museum had provided to American institutions (Goode, 1902: 247). Although Joel Orosz has argued quite convincingly that Goode underestimated the professional contribution of pre-1870 American museums, there is no doubt that Cole's creation was an object of imitation in the United States (Orosz, 1990: 234). As some of the case studies to be presented later in this thesis will be drawn from Britain, Canada and the United States, the possibility of examining the history of all three countries was considered. However, for the sake of brevity and because British museums were more numerous and more highly developed at that time, it was decided to concentrate on British history.

Another possible case study was the museums of late eighteenth-century and early nineteenth-century France. Many aspects of present day museum administration and practices - the classification and exhibition of objects, lighting and conservation - have their roots in the French practice of the Revolutionary period and of the First Republic (Boylan, 1992: 141). As well, the public accessibility and didactic practices of the Paris museums were inspired by Enlightenment values. However, the Muséum, the Louvre and other French museums of that period, whose collections were enlarged by the confiscated royal and ecclesiastical collections and by the property of the emigrants and exiles, were very much state institutions with a strong political and academic mission and cannot be seen as an outgrowth of the public sphere (McClellan, 1994: 2). State involvement also appears to have been stronger in many other major European museums, either through their origin in collections of royalty and nobility, or as direct creations of national or civic government.

This account of eighteenth and nineteenth-century British museums will by no means be exhaustive. Rather than providing a sequential account of their development, as has been done elsewhere, it will place selected institutions in the broader cultural context of the era, a period that coincides with the development of the public sphere, in order to demonstrate their diverse origins and the level of debate that accompanied their birth and development (Teather, 1983; Lewis, 1984). Four themes will be explored: collections, the state, the market and the public. These themes will also form the basis for an analysis of contemporary museum issues in Chapter Four.

Collectors

Whereas late seventeenth-century Britain had very few newspapers, public libraries, botanical gardens or picture galleries and no public museums, one hundred years later, leisure and culture had developed to the extent that we can see "our own cultural world staring at us in embryo" (Plumb 1974: 17). During the seventeenth century, with the growth of wealth and leisure among the educated, the collecting of curiosities became fashionable in Britain, spurred on by the numerous and increasingly public continental collections (Tinniswood, 1989: 54). Also influential was the growth of science, the discoveries of Galileo and Newton and the philosophical speculations of Descartes and Locke having provoked a general rethinking of knowledge and human understanding (Houghton, 1942a: 56). With the discoveries of the East and West to stimulate the imagination and the growth of sea travel to distant continents, a trade in exotic curios soon grew up that catered to the needs of the "virtuosi", as early collectors were called (Altick, 1978: 13). Collecting antiquities provided the virtuosi with an opportunity for contact, however vicarious, with the heroes of the classical world, while manmade technical and scientific objects, especially those of a marvellous nature, were testimony to the industry of mankind (Hunter, 1983: ix). An additional interest lay in paintings that provided information about the past or someone or something that was absent (Tinniswood, 1989 48).

Objects in these "cabinets of curiosity" were displayed not so much for their aesthetic value or utility, but because they demonstrated the rich diversity of the natural and human world. They also conferred certain social advantages upon their owners, enhancing their prestige and providing them with the opportunity to confer with other virtuosi and "men of quality" (Tinniswood, 1989: 48). Many of these cabinets were open only to their owners and to a few select initiates, while others were opened to other virtuosi (Tinniswood, 1989: 60). Only a few, such as the Tradescant collection, were broadly accessible (MacGregor, 1985: 150). "The Ark", as it was known, was open to visitors for the payment of a fee, seemingly sixpence, and proved a major London attraction. It later formed the core of Oxford's Ashmolean Museum which opened to the public in 1683 (Tinniswood, 1989: 59).

By the early eighteenth century, a new type of collector had arisen, the "connoisseur". To the connoisseur, collections were a matter of critical evaluation rather than wonder and were to be acquired according to strict standards of taste laid out in manuals of connoisseurship (Brewer, 1997: 256). Connoisseurship was the reserve of gentlemen, men of independent fortune with a taste for art and the requisite detailed knowledge, seemingly acquired as part of their classical education, but more often through the "Grand Tour". The Grand Tour was a male rite of passage in which young aristocrats ventured to the continent to refine their education in languages, diplomacy and culture. The Society of Dilettanti, established in 1734, recognized the importance of the Grand Tour in the making of a connoisseur. Its early members, many of whom were renowned collectors, had all visited the Mediterranean (Brewer, 1997: 259).

Throughout much of the century, the Dilettanti set the tone for discussions about art and antiquity. Connoisseurship, the ability to focus on issues of quality and authenticity, was the preserve of men whose independent fortunes enabled them to view and study many originals. Initially, their influence was restricted to their aristocratic circle, but as art became more widely popular and as a broader range of people travelled to the Mediterranean, debate arose about the authority of the Dilettanti. At stake were the role of the artist as well as the purpose of art. Was it to serve primarily as a source of private pleasure or as a form of public moral instruction?

It is in the debate with the artists that we see the seeds of some of the issues that would shape museums, issues of access and exclusiveness. Like most authors, artists generally came from simpler backgrounds than their patrons and worked for a living, which compromised their aesthetic judgment, according to the Dilettanti (Brewer, 1997: 210). Artists, such as Hogarth, criticized connoisseurship and its preoccupation with Italy. Painters who aped Italian style and manners were viewed with contempt, as were dealers who promoted old and foreign works. Hogarth argued for a modern aesthetic, one based in observable experience and relying on individual genius rather than on academic rules. But how was taste to change? Hogarth rejected the idea of a royal academy of art as too exclusive and un-English. Standards should emerge from the artists themselves rather than from a privileged and absolutist body that aped the manners of a club of exclusive gentlemen. Painters such as Joshua Reynolds, however, whose popularity increased after visiting Italy, encouraged other artists to undertake the Grand Tour. These and other artists favoured the establishment of an academy to serve not only as a teaching institution, but also as an exhibiting institution that would shape public taste (Brewer, 1997: 218).

Opportunities for British artists to exhibit their work and to study great art were limited. From the 1730's, pamphlets argued that the owners of major collections should display their paintings to other connoisseurs and painters. Great works of art should be exhibited "in order to edify and educate the public" (Brewer, 1997: 221). Although some aristocrats did open their doors regularly and although tourism grew over the course of the century, it was not until April 1760 that the London artistic community was able to hold its first public exhibition (Tinniswood, 1989: 89).

In *The Structural Transformation of Public Sphere*, Habermas writes of the importance of voluntary organizations in building the public sphere and it is under the auspices of such a voluntary organization, the Society for the Encouragement of Arts, Commerce and Manufactures in Great Britain that the artists first exhibited. The Society of Arts was founded in 1754 by William Shipley, a provincial drawing-master and the son of a London stationer (Colley, 1992: 90). Its diverse membership included Samuel Johnson, Benjamin Franklin, Charles Townsend, William Pitt and many other prominent members of the government (Allan, 1973-74: 443). Although the Society of Arts wished to cultivate British art, awarding prizes on an annual basis to promising child artists and sculptors, it was equally interested in the development of dyes and the growth of timber to be used in shipbuilding. Investing money in art was good for trade (Colley, 1992: 91). This connection of art to commerce was a characteristic of nineteenth-century British cultural life.

Five years later, partially out of a desire for greater independence and partially for the right to charge admission, artists set up a society of their own, the Society of Artists of Great Britain. The decision to charge admission they justified as a means to discourage those people who could not be "judges or purchasers of works of art" and who might frighten away "many whose approbation was most desired" (Solkin, 1992: 178). By 1767, the Society was able to lure nearly 23,000 visitors to its annual spring exhibition (Brewer, 1997: 232). But quarrels fractured the artistic community, with those artists who wished to paint in the classical style seeking a way to convince patrician patrons that their work embodied the same values as Old Masters. One of the best ways to do this was to found a prestigious royal academy and one of the best ways to assert their authority was to argue a public mission (Brewer, 1997: 235).

In 1768, the classicists obtained the support of George III, and the Royal Academy was founded with Reynolds as its first president. Unlike the Society of Artists, it was intended to be an exclusive organization, operating with Royal patronage and focusing on classical instruction and public exhibition. With forty elected members, it required that all fellows resign from other artists' societies. The Society of Artists continued with some success for a number of years, with public attendance for its exhibitions higher than ever. It also developed pension funds, lobbied parliament on the protection of engravers from unauthorized copying, and arranged lectures on the technical side of painting. However, it fell into financial difficulties after building an over-elaborate exhibition hall and was soon overshadowed by the Royal Academy. By 1780, the Royal Academy had obtained impressive new quarters (rent-free) from the Crown at Somerset House. Its exhibition that year attracted 61,381 with 2,680 visitors cramming its exhibition rooms on one day alone (Brewer, 1997: 240). This success rang the death knoll for the Society of Artists.

Somerset House helped establish the artist, rather than the patron, as arbitrator of public taste. Its exhibitions, with their atmosphere of civic virtue, required no connoisseur to interpret artistic intent to the public. Still, controversies remained that are reminiscent of today's debates. Why did the Academy, an institution under the patronage of the Crown, charge for admission? What of the propriety of exhibiting casts of antique statuary, especially of male nudes? (This was solved by strategically positioned fig leaves.) What of the mission to elevate the public, a heterogeneous lot who did not always conform to the ideals of taste? And finally, what of the hundreds of artists not represented by the Academy? Some of these openly criticized the right of the Academy to speak for artists. George III was chastised in the *Middlesex Journal*, a highly radical paper, for "waving the plumes of prerogative.... in triumph over the cap of liberty" and supporting "the Mean, slavish, and selfish arts practised by the Foreign Academy in Pall-Mall" (Brewer, 1997: 250). In spite of these struggles and controversies, British art was now being exhibited to a growing public and the artist was recognized as capable of shaping public taste.

Other evidence of the growing recognition of public access to collections can be seen in the founding of the British Museum, the first national museum anywhere to be explicitly open to the public. It grew out of the sizable eighteenth-century collections of Sir Hans Sloane, President of the College of Physicians and Sir Isaac Newton's successor as President of the Royal Society. Offered to the Crown for £20,000 upon Sloane's death in 1753, funds were raised by public lottery as the King, according to Horace Walpole, "excused himself, saying he did not believe that there [were] twenty thousand pounds in the treasury" (Altick, 1978: 25). The British Museum, established by Act of Parliament in 1753, brought together not only the Sloane Collection, but also the Harleian manuscripts and the Cottonian

Library. Before the museum was officially opened in 1759, it was augmented by the gift of the Royal Library from George II (Kelly, 1966: 157).

The first Statutes and Rules drawn up by the trustees, in 1757, are notable in their commitment to the principle of public access. The preamble states that "although it was chiefly designed for the use of learned and studious men, both natives and foreigners, in their researches into the several parts of knowledge; yet being founded at the expense of the public, it may be judged reasonable, that the advantages accruing from it should be rendered as general as may be consistent with the several considerations above mentioned" (Kelly, 1966: 157). Admission to the museum was to be free.

Unfortunately, having established the British Museum, the government largely ignored it for the next fifty years, a factor that tempers contemporary claims of museums as "displays of power" (Bennett, 1995: 59). Perhaps because of a lack of financial resources and a shortage of staff, admission was not as liberal as had been attended, one Trustee doubting the ability of a few librarians to prevent the "many irregularities" that would ensue if admission were liberalized (Edwards, 1969: 336). The museum trustees, a self-perpetuating body, were a conservative lot and the small administration tended to view visitors as distractions from their research. No doubt there was also bias in the admissions process, although possibly not as systematic as is generally reported, as an early proposal to charge for admission was shelved in 1784, the Trustees concluding that the financial return would be minimal as recent visitors "consisted chiefly of Mechanics and persons of the lower classes, few of whom would probably have been at any expense to justify mere curiosity" (Caygill, 1981: 13). Nonetheless, from a low point of 2500 visitors in 1805, attendance was to climb over the course of the next half century to the astonishing height of over 2 million in the banner year of the Great Exhibition, 1851 (Edwards, 1969: 598).

This change was triggered by the rising middle classes who pressured for increased access and improved efficiency, for, as one MP stated: "the public paid for the Museum and therefore had a right to insist on every faculty of ingress" (Caygill, 1981: 25). Reformers, elected to Parliament following the Reform Act of 1832, pushed for changes. Part of the reformers' broader agenda was to open national monuments such as the British Museum and the Tower of London to the public and to eliminate entrance charges. The changed policy was also prompted by criticism in the press over the state of the British Museum. Montague House, the original home of the British Museum, had been described in the Edinburgh Review as "the tomb or charnel-house of unknown treasures" (Gunther, 1975: 59). In fact, by 1828, when collections were first transferred to the present building, little remained of the more perishable parts of Sir Hans Sloane's bequest. Criticisms also dwelt on the manner by which the Trustees appointed staff, the management of the Museum as a whole and its neglect of science. Edward Edwards, a junior assistant in the British Museum Library who was to be active in the development of the 1845 Museums Act, blamed the government. In words that would sound familiar to many a modern administrator, he criticized Members of Parliament who were willing to listen to attacks on public institutions, but who "were not half so ready to open the public purse-strings in order to enable impugned managers or trustees to improve the institution entrusted to them upon a worthy scale" (Edwards, 1969: 559).

A series of Parliamentary Committees on the British Museum (1835-36), on National Monuments (1841) and on the National Gallery (1850) debated many aspects of museum administration including the responsibility to the public. Of particular interest in the Report on the British Museum, is the diversity of views expressed, both on the part of professional staff and the government. Sir Henry Ellis, principal librarian, spoke against the opening of the Museum on public holidays which, he felt, would only encourage the "most vulgar class" to crowd the halls. He stated that he saw no point to this, as "the mere gazing at our curiosities is not one of the greatest objects of the Museum". The presence of "sailors from the dock-yards and girls who they might bring with them" would also discourage "people of a higher grade" (Altick, 1978: 444).

Other employees saw the issue differently. John Gray, representing the Department of Natural History, stated that the Museum should "encourage a taste for science among the people generally and to advance it among those who are more specifically to be regarded as men of science and students" (Teather, 1983: 130). Having resided in Spitalfields, he knew that the residents there "were very fond of natural history" and would assuredly visit the Museum if provided the opportunity (Altick, 1978: 445). He spoke of the extensive official support provided the Jardin des Plantes in Paris and other continental institutions that were correspondingly more advanced in their methods (Gunther, 1975: 82). He also defended his compatriots whose behaviour in public buildings had been "most unjustly abused" by those who delighted in praising foreigners at the expense of their fellow Englishmen and by those "who have profited by places being kept from public view, except on the payment of fees" (Altick, 1978: 448). From what he had observed, "English visitors were to be trusted with the care of such exhibitions even without the strict police supervision that was used on the Continent" (Gunther, 1975: 91).

Parliamentarians also held diverging views. There were those, largely old-line Tories, who felt that the democratization of public institutions would lead to a decline in standards and taste. One member questioned the use of insects "to ploughboys...and weavers". Farmers and tradesmen should not be forced to pay for places intended "for the amusement of the curious and the rich...If the aristocracy wanted the Museum as a lounging place, let them pay for it" (Altick, 1978: 443). In opposition stood those who cited the wide distribution of cheap texts on national monuments as evidence of broad public interest. One member referred to Burke's definition of the sublime and its tendency to evoke noble feelings. Free admission to St. Paul's and Westminster Abbey would encourage historical knowledge, but also give rise to a growth in religious feeling. The British Museum and the National Monuments were a valuable cultural resource that encouraged intellectual curiosity and constructive mental energy.

In 1837, as a result of these deliberations, the British Museum was opened on holidays for the first time. On Easter Monday of the first year under this new policy, the museum attracted 23,000 people (Altick, 1978: 445). The opening of the British Museum to all was a major milestone in the development of a more inclusive notion of the public in relation to museums.

In addition to the national institutions, there were other collections that were open to all. These include university, society, popular and proprietary museums, as well as Mechanics Institutes, churches, and exhibitions (Teather, 1983: 133). The latter part of the century also saw an explosion in municipal museums and galleries following the granting of museum powers to the "the Councils of Larger Towns" by the Museum Act, 1845. The development of some of these will be touched on briefly as they demonstrate the diversity of the museum impulse.

Mechanics Institutes were only one of a range of institutions that emerged in the first half of the nineteenth century dedicated to adult education and, in particular, the teaching of science. From the seventeenth century onwards, lectures and societies had cultivated this interest in science. In 1799, Dr. George Birkbeck, a Quaker who received medical training in Edinburgh, undertook a series of free lectures on mechanics at the Anderson Institution in Glasgow. By the fourth lecture, five hundred mechanics were in attendance (Kelly, 1970: 119). From this initiative emerged a number of institutes devoted to lectures on physical science as well as classes for more elementary instruction. With the support of Birbeck and a number of reformers such as Henry Brougham, founder of the Society for the Diffusion of Useful Knowledge, Jeremy Bentham, James Mill and others, a Mechanics Institution was opened in London in 1823. Like the Scottish initiatives, its focus was self-improvement through education. (Kelly, 1970: 121).

The clientele of the Mechanics Institutes generally consisted of skilled manual workers, shopkeepers, business and professional people. Rather than a strictly scientific education, the Institutes often offered a more general programme including reading, writing, math, music, languages and some science. Literature and art were given prominent places, the latter partially for its importance to industrial design (Kelly, 1970: 128). Additionally, these organizations generally offered a library as well as a museum of scientific apparatus or of natural history. Although the ultimate success of these institutes is of some debate, they spread with astonishing rapidity. By 1841, they numbered 300; by 1851, there were 700 of them (Kelly, 1970: 125). The movement also spread to the United States and Canada, where some of the oldest museums and libraries in English Canada grew from their collections (Teather, 1992: 23).
Although the museums associated with the Mechanics Institutes were not the most successful part of the endeavour - the libraries fared better - the Institutes were involved in a number of extremely successful exhibitions. In Leeds, an exhibition of arts and manufactures in 1839 drew 183,913 visitors, while in Sheffield, the Institute exhibited manufactured goods, models, paintings and natural history specimens to a crowd of 70,000. The national press reported, on this occasion, that "the greatest order and decorum were at all times observed" (Altick, 1978: 455). Other cities were even more successful, with the Manchester Institute attracting 3 million visitors to exhibitions held from 1837 to 1842.

The Society of Arts, which had hosted the first public art exhibition in 1761 and which had continued to exhibit and award prizes for superior craftsmanship, became the informal headquarters of the Institutes, following the collapse of the Society for the Diffusion of Useful Knowledge. It also, in the 1840s, became the major organization promoting exhibitions of the practical arts. Since its inception forty years previously, it had sponsored displays of agricultural inventions. Nearly moribund in the early 1840s, it was able to reform itself and attract active new members (Cole, 1884: 382). Inspired by the success of the shows as well as by government exhibitions of manufactured goods in Europe, it held a series of increasingly popular exhibitions in London of "select specimens of British manufactures and decorative art". Most successful was the Exhibition of Ancient and Medieval Art in 1850, drawn "from the cabinets and galleries of the greatest connoisseurs in the kingdom" (Altick, 1978: 456). Artisans and mechanics were encouraged to attend at reduced admission rates during the last two weeks.

The president of the Society at this time was Prince Albert, who had demonstrated an interest in arts and technology. The enterprising Henry Cole, whose previous public responsibilities had lead him to organize the Public Records Office and to successfully reform the postal system and who, in addition, published children's books and introduced the *Journal of Design and Manufacture*, was another influential member. Together they planned a national exhibition of British arts and manufactures to be held in 1851. Against considerable odds and in the face of scepticism and fear about crowds - the Chartists had marched on London only three years previously - the Great Exhibition was held. It was, of course, an outstanding success, attracting over 4 million people in the six months between April 1 and September 30 (Altick, 1978:457). Crowds also poured into the British Museum, National Gallery and other London sights.

Although the Exhibition was a spectacular success, it was clear that British manufactures left much to be desired in terms of design. As a result, the Board of Trade named Henry Cole Secretary of the newly formed Department of Practical Art, later the Department of Science and Art, with a mission to improve instruction in art throughout the country. Henry Cole, who was the model for Charles Dickens' utilitarian Mr. Gradgrind in *Hard Times* ("facts, facts, facts"), set about to form the nucleus of a museum collection, largely of objects from the Great Exhibition (Naylor, 1992: 236). This collection, joined soon after by the collection of the Patent Office and Frank Buckland's short-lived British Museum of Fish and Fisheries, became the South Kensington Museum, ultimately the Victoria and Albert. Cole's innovations in services to the public were to have enormous influence in the museum world, but the museum's early development was erratic and haphazard, largely because of reluctant government financial support (Waterfield, 1991: 108).

The Fifth Annual Report of the Department of Science and Art, written no doubt by Cole, illuminates his thinking:

> It would appear to be less for the rich that the State should provide public galleries of painting and objects of art and science, than for those classes who would be absolutely destitute of the enjoyment of them unless they were provided by the State (quoted in Waterfield, 1991: 110).

This credo was backed by practical actions. Unlike other public museums, the South Kensington Museum was open every day and supplied with a restaurant, designed by William Morris, perhaps the most renowned artist-designer of his generation. Lighting was installed so that the galleries could be opened in the evenings to accommodate the needs of working people (Waterfield, 1991: 110). Admission was free except during student hours when it was limited to sixpence. The Museum recognized, as a "credo of management", the need to label and display its collections so that both the "learned" and the "ignorant" would be tempted to explore them (Cole, 1884: 293). Although guides and catalogues would be available, the goal was to provide sufficient didactic information so that the poor would not be obliged to buy them. Services were not only to be provided to Londoners, but loans would be circulated to other communities. This commitment on the part of Cole and his colleagues toward an inclusive public was exceptional, but it was to have a profound effect on the future of museums, both in Britain and in North America. It also anticipated efforts to develop museums and galleries in the poorer sections of London and other cities (Waterfield, 1991: 110).

The State

One condition unique to Britain in the eighteenth century was the weakness of court culture and the increasing link between commerce and culture. Whereas royal courts in Europe were traditionally the centres of national power as well as of learning and refinement, the events of the seventeenth century - the Civil War, Commonwealth and Protectorate - dealt a blow to British court culture from which it never fully recovered. Although the Crown remained an important patron during the eighteenth century, it was far from being the most lucrative. Other wealthier patrons existed and, increasingly, public performance provided substantial returns. In fact, it is reported that at the end of the eighteenth century, Haydn earned more from a single public concert than from an entire series of private royal performances (Brewer, 1995: 342). Similarly, authors relied increasingly on the sale of their works to the public, especially the rapidly emerging prosperous middle class of merchants, industrialists and provincial landowners, and on subscriptions for their living.

In the aftermath of British military successes during the time of George III, there was a revival of royal support for the arts, partially as a way to enhance the stature of the kingship, but also to reinforce the prestige and the moral character of the nation itself. The Royal Academy, as we have seen, owed much to the patronage, if not the financial support, of George III. The fine arts were viewed by some as a way to encourage public and private virtues and as a counterweight to the excesses of a wealthy commercial society, but the subject of patronage remained controversial through much of the eighteenth century, particularly in the field of literature. Some authors, particularly in the early part of the century, regretted the paucity of royal and aristocratic support, but other authors were happy to see patronage fade away, viewing it almost as a kind of prostitution (Brewer, 1997: 162). As the century passed and authors increasingly gained the support of the commercial literary world, they became less dependent on any one individual. The development of copyright also improved the author's situation (Feather, 1997: 66). Aristocratic support was still welcome, but increasing in England, this had to be of the promotional kind, rather than financial.

Although the intense cultural activity of the eighteenth century continued in the nineteenth, the role played by the State in the arts was a relatively minor one. Royal patrons remained important - Prince Albert, as we have seen, was a keen supporter of the arts and the sciences, especially as they related to technology - but there was no national policy for culture, nor did the government control or define "the heritage". Writing in 1805, Martin Arthur Shee, painter and future president of the Royal Academy, declared, "It is the policy of a great nation to be liberal and magnificent". British governments chose parsimony, although not only in the arts (Briggs, 1992: 36). The eighteenth-century trend towards high levels of spending to finance war efforts was countered by Victorian "cheap government". According to recent analysis, per capita public spending in 1851 was two-thirds what it had been in 1781 (Harling, 1996: 11).

Purse strings were kept tight for national institutions such as the British Museum. The Royal Academy fared somewhat better, but the Academy of Music, founded in 1823, was always so short of funds that a £500 annual grant received from 1868 was considered a breakthrough (Briggs, 1992: 36). London was the last major European capital to possess a government-sponsored art gallery. The National Gallery was founded in 1824, decades after comparable institutions in Vienna and Paris, and was without its own building until 1837. Even then, the new facilities were cramped (Altick, 1978: 416). Similarly, when the sugar magnate, Henry Tate, offered his collection of paintings to the National Gallery, negotiations with the government were so unpromising that he finally paid to build the required new building (now the Tate Gallery) himself (Briggs, 1992: 36). Although the government did purchase such collections as the Elgin marbles, there are other instances of notable art works being passed by for lack of funding. Even Henry Cole, hero of the Great Exhibition and director of the South Kensington Museum, was unable to persuade the Prime Minister, Lord Palmerston, to let him purchase a fine collection of medieval Italian majolica, wood carvings and bronzes. Palmerston's reputed response? "What is the use of such rubbish to our manufacturers?" (Briggs, 1992: 36)

The state's involvement in museums was also ambivalent. It was widely believed that the arts were important to the success of industries and manufactures. As we have seen, there was a growing belief in the elevating and educational effects of the arts on the population, but in spite of this, the role of the government in promoting museums was marked by suspicion and uncertainty. Even when legislation confirmed the role of government in supporting museums, "the government withheld full-fledged support" (Teather, 1983: 134).

In addition to the Parliamentary Committees on the British Museum, there were also a number of studies of relevance to museums. In 1834, a report on foreign museums and public libraries was written and circulated by Benjamin Hawes, radical MP for Lambeth. Hawes was the Member of Parliament who had initially called for the investigation into the deficiencies of the British Museum (Teather, 1983: 130). Another effort was made by James Silk Buckingham, MP for Sheffield, who was the first to seek Parliamentary support for the concept of rate-aided museums and libraries. Buckingham, the son of a Cornish farmer, who went to sea before he was ten and was largely self-educated, was able, in spite of government opposition and public ridicule, to secure the appointment of a select committee on the "extent, causes and consequences of the prevailing vice of intoxication among the labouring classes of the United Kingdom".

Two bills resulted that reached committee stage in 1835. The first called for the establishments of "Public Walks, Gardens and Places of Recreation in the Open Air" while the second sought to authorize "the erection of Public Institutions, to embrace the sense of diffusing Literary and Scientific information, and forming libraries and museums, in all towns, for the use of Inhabitants of the Same" (Hansard, 1834: cols. 118-119). These bills were defeated, largely because of a clause giving authorization to levy a rate - that is, local property tax - for that purpose. They were resubmitted in 1836 and in combined form in 1837, but both attempts failed. At the close of the session, Buckingham ceased to be a Member of Parliament (Kelly, 1973: 7). In *The Birth of the Museum*, Tony Bennett has argued that Buckingham's efforts represented an instance of the development of "surveillance and control" as an aspect of governance, but they can also be seen as an example of the role of individuals in struggling to improve the quality of life for a significant portion of the public (Bennett, 1995: 18).

William Ewart, an MP who had spoken in support of the Public Institutions Bill of 1835, continued to raise the question of museums and libraries in the House, supported by Joseph Brotherton of Salford. Brotherton, another new MP, was a cotton manufacturer who had turned to public work (Kelly, 1973: 7). For nearly forty years he served as a pastor and for twenty-five years as an MP. In addition to his support of museums and libraries, he fought for Parliamentary and factory reform, and was also active in liberal causes, including efforts to limit the horrors of capital punishment (which he would have liked abolished). His interest in museums and libraries evolved from an interest in industrial design (Kelly, 1973: 9). As chair of the Select Committee on Arts and Manufactures in 1835-36, he had called for the creation of public museums and galleries. In Parliament in 1839 he argued that, "the public libraries, the public galleries of art and science and other public institutions for promoting knowledge, should be thrown open for the purpose of inducing men merely by the use of their outward senses to refine their habits and elevate their minds" (Hansard, 1839: col. 91). In 1840 and again in 1844, he spoke in favour of public libraries, evoking a response from Sir Robert Peel to the effect that "he should be sorry to see the Government interfering in a matter which had much better be left to private exertion" (Hansard, 1840: cols. 1075-1081).

A public meeting in Manchester in November 1844 provided Ewart with new ammunition. This meeting suggested that municipalities should be able to both establish and support museums by means of a penny rate. Brotherton, who attended the meeting, informed Ewart of this suggestion, who in turn raised the proposal in the House as a means to improve standards of industrial design. This strategy was successful and in 1845 the Museums Act was passed, permitting councils of boroughs with a population of a least 10,000 to levy a 1/2 d. rate (rather than the proposed 1d.) and to charge admission of not more than 1 d. per person (Kelly, 1973: 10).

Five years later Ewart, supported by Brotherton and with the guidance of Edward Edwards, an employee of the British Museum Library, submitted the Public Libraries Bill. Like the Museums Act of 1845, the Public Libraries Act of 1850 permitted municipal authorities to also levy a small rate to establish and administer a library. This Act was not passed without extensive opposition. Some MPs complained of additional taxation, others felt libraries were best left to private enterprise, still others feared that public libraries "might be converted into normal schools of agitation" (Kelly, 1973: 15). The complaint that a free service would sap the independence of the citizen was also heard. In spite of extensive opposition, the bill passed into law (Kelly, 1973: 15).

The ground was laid for the growth of museums and libraries, but it was not until the 1870s and 1880s that the movement for free municipal museums flowered (Kelly, 1970: 179). Of the roughly 250 museums in existence in 1889, the majority of these had been started by institutes, philosophical and literary societies, or private collectors (Teather, 1983: 150). The collections of many of these societies eventually formed the core of the emerging system of municipal museums.

The Market

For Arnold Toynbee, writing in the nineteenth century, the Industrial Revolution was "a period as disastrous and as terrible as any through which a nation ever passed" (quoted in McKendrick, 1974: 175). Toynbee's regret can be contrasted with the "bland self-congratulation" of other Victorian commentators such as G.R. Porter or Sir Robert Giffen (McKendrick, 1974: 176). The controversy over the effects of industrialization also divided twentieth-century historians as they tried to evaluate the cycles of prosperity and recession, the regional differences and the varying experiences of different occupations. Recent work by many social historians, however, has provided a picture that suggests that life was improving for a significant portion of the population in spite of substantial inequalities. On the one hand, agricultural labourers were brought to near starvation and traditional arts and crafts suffered tremendously. On the other hand, the gross national income increased by a factor of 10 between 1750 and 1850 (McKendrick, 1974: 178). Although the population tripled in the course of the nineteenth century, real per capita income is estimated to have quadrupled (McKendrick, 1974: 175).

This resulted in a new middle class of consumers, including artisans, tradesmen, engineers, clerks, the more substantial farmers and possibly, as well, skilled factory workers and domestic servants. (McKendrick, 1974: 172). There is also substantial evidence that lower-income segments shared in the economic growth and that the number of "paupers" declined (Briggs, 1992: 18). However, in recognizing the long term growth in industrial wealth, it is important to acknowledge that although the majority may have experienced increased prosperity, many others experienced hardship, unemployment and sickening poverty (McKendrick, 1974: 175). To paraphrase Keynes, in the long run we are all dead, and what matters to the individual is his own short life.

Although injustice and exploitation existed, so did forces that worked towards co-operation, consensus and community (Porter, 1997: 30). The growth in industrial production and international trade during that era was accompanied by significant political, intellectual and social change, some of which has been characterized by Habermas as the growth of the public sphere, outlined in the previous chapter. Along with new wealth came a growth in consumption which reached revolutionary proportions by the third quarter of the eighteenth century. Although significant poverty existed, more people than ever before were able to acquire material possessions.

Whereas research suggests that the pre-industrial British household was characterized by limited possessions with as much as 60% to 80% of the average man's income during good times going to food, by the late eighteenth century this was changing. "Blankets, linens, pillows, rugs, curtains and cloths" as well as "pewter, glass and china; and brass, copper and ironware" increasingly found their way into British homes (McKendrick, 1982: 26). Some examples of this growth can be seen in the last fifteen years of the century when tea consumption increased by 97.7% and printed fabrics by 141.9% during a period when population grew by 14% (Mathias, 1979: 162). Excised (taxed) commodities such as tobacco, soap, candles, spirits and beer grew at more than twice the rate of population growth, greatly increasing government revenues.

The growth in consumption also dominated the cultural field. The leading contemporary historian of the period, J.H. Plumb, has argued that culture became an industry in the eighteenth century, developing a mass audience large enough to be commercially exploited (Plumb, 1974: 17). This broad success was viewed with some misgivings and even hostility. Some feared that the spread of culture represented a decline in standards. Others saw a passion for the arts as a source of worldliness and vice. In marked contrast, others argued that an interest in the arts led to a more virtuous life. As Hume wrote in a 1752 essay first entitled *On Luxury* and later renamed *Of Refinement in the Arts:*

> ...besides the improvements which they receive from knowledge and the liberal arts, it is impossible but they must feel an increase of humanity. Thus industry, knowledge and humanity, are linked together by an indissoluble chain...(Brewer, 1997: xix).

A remarkable tendency of this period was the extent and the passion with which such issues were debated.

At the heart of cultural growth was the spread of print, "the bedrock on which British culture was built" (Brewer, 1997: 450). Some evidence of this is the reputed sale of 200,000 copies of Thomas Paine's *The Rights of Man* in the year following its publication in 1791. By 1800, over 300,000 distinct titles had been published, each of which may once have existed in anything up to one thousand copies (Feather, 1997: 51). Similarly, by 1750, more than seven million copies of newspapers were being printed annually with daily newspapers in both London and the provinces (Feather, 1997: 53). These newspapers, as well as the novels, magazines and periodicals that reflected the increasingly diverse interests of the public, also served to shape taste and opinion.

The increase in the production of print was matched by improvements in distribution. Books were available in an unprecedented fashion. By 1800 there were nearly 1000 bookshops listed in a national directory; thousands more were probably unlisted. Books were also increasingly available through libraries. The commercial circulating library, similar to contemporary video stores, became a popular means to access books in the second half of the eighteenth century, as did book clubs and subscription libraries (Feather, 1997: 64). The first subscription library opened in 1758 in Liverpool and by 1800, approximately 100 existed, some with several hundred patrons and collections of several thousand. Although libraries catered primarily to the middle classes, books and newspapers were often available to a wider clientele in coffee houses. Travelling peddlers and chapmen also carried reading material throughout the countryside, such as chapbooks, cheap abbreviated novels, almanacs, ballads, and joke and riddle books (Brewer, 1997: 174).

The eighteenth century was also a period in which music thrived, initially still largely through aristocratic patronage, but increasingly through public subscription from the middles classes and open entry on payment of an admission charge. Some clubs, concert halls and public rooms catered largely to the fashionable, but others served quite a humble public (Plumb, 1974: 30). Thomas Briton's Rooms, for example, consisted of the loft of a converted coal house where, for the subscription of ten shillings a year and a penny for coffee, one could listen to the great contemporary English composers, such as Purcell, as well as foreign composers such as Corelli and Vivaldi (Plumb, 1974: 30). By the middle of the century almost every town, university and church had its orchestra and even taverns provided musical fare. Relative to the potential audience, concert halls were probably as numerous in London in the 1770s as they were two hundred years later (Plumb, 1974: 31).

In the first fifty years of the eighteenth century, there was also an extraordinary boom in the art market, especially for Old Master paintings and antiquities. It has been estimated that between 1720 and the 1770s half a million etchings and engravings were imported from France, Italy and Holland. In addition to the numerous classical antiquities brought into the country, as many as 50,000 paintings may have been transferred into British hands (Brewer, 1997: 203). Private collectors brought home some of this material, but most were obtained by dealers. By the end of the century, the capital of the art market had shifted from Amsterdam to London (Bazin, 1967: 110).

The enormous growth in the consumption of art was partially a result of increased prosperity and partially an enthusiasm for art that quickly extended down the social scale. The wealthy, of course, acquired the most spectacular works, but many purchasers were of humbler origins, from the professions and from the higher ranks of trade and commerce. Prices were low and with the improvement in printing techniques, prints of many famous works became available to a large public (Plumb, 1974: 25). By the middle of the eighteenth century, prints of all types - Old Masters, contemporary British works, political caricatures, satirical prints, landscapes - were available to all but the most humble (Plumb, 1974: 25). Paintings by such artists as Joshua Reynolds and Benjamin West were affordable by few, but a small print of their work could be purchased from a print seller for as little as sixpence in black and white and one shilling coloured. This made the artist less dependent on the grand patron and, at the same time, created a public among those who had little opportunity to travel to Europe or to buy originals (Brewer, 1997: 457).

The intense activity in the arts continued into the nineteenth century. With rapid industrialization came new patrons and new markets. Daniel Defoe's vision of writing as a "very considerable Branch of the English Commerce" became a reality and it was now possible for authors to earn a living without the need for literary hackwork (Williams, 1961: 168). Popular novelists could command generous advances, while people queued up at circulating libraries for new and celebrated novels. New forms of distribution, such as bookstands in railway stations and serialization in magazines or in weekly parts, also increased the availability of books. Charles Dickens is an example of an author whose works were popularized in this fashion (Punter, 1992: 13). The Cheap Literature Movement, which included the Society for the Diffusion of Useful Knowledge, the Society for the Promotion of Christian Knowledge and such publishers as the Chambers Brothers and John Cassell, also sought to expand the availability and affordability of reading material (Kelly, 1970: 164).

The press came into its own in the nineteenth century, but not without a prolonged struggle against government repression in the first thirty years of the century. One side effect of the French Revolution was the increased desire by government to muzzle the radical press. Any editor who dared to take a controversial position did so under the shadow of the law of seditious libel. It was not until the 1830s that the government decided that libel trials against booksellers and publishers were counterproductive. Another measure intended to weaken the popular press, the stamp tax on newspapers, was of longer duration, but demands for intellectual emancipation, coupled with the growing need of business interests for ready access to information, eventually won out. The newspaper tax was eliminated in 1855 and the paper duty in 1861 (Kelly, 1970: 160).

The result was a boom in newspapers. Led by the *Telegraph*, a cheap London press grew up that reached deeper into the population. Morning papers sprang up in every major city. Among the new provincial dailies were papers that had previously existed only as weeklies or bi-weeklies, such as the *Manchester Guardian*, founded as a Radical weekly in 1821. The number of newspapers in Britain grew from 563 in 1851 to 1294 in 1867 (Kelly, 1970: 164). Readership also increased dramatically, with the *Telegraph* claiming a circulation of 240,000 within sixteen years of its founding and the most popular Sunday paper attracting nearly a million readers by 1890 (Williams, 1961: 176). Technical improvements, as well as the development of the railway and the telegraph, also encouraged the spread of newspapers (Kelly, 1970: 160).

In the arts, the increase in wealth created new markets, not only private, but also, as the nineteenth century wore on, public. New organizations arose early in the century, such as the British Institution, which provided additional opportunities for popular contemporary art exhibitions as well as sales (Colley, 1992: 176). The annual show of the Royal Academy became the premier selling exhibition, regularly attracting more than 250,000 people, not all of whom were there to buy (Fuller, 1992: 180). As with authors, artists experienced greater potential for financial independence as well as increased status, but these gains were accompanied by a growing confusion about the social role of the arts as well as the shaping of public taste.

One ongoing issue was the relationship of the arts with manufacturing. A number of radical politicians elected after the 1832 Reform Act were concerned about the quality of British design, pointing out that countries such as France and Germany had numerous schools of design which encouraged excellence in manufactured goods. The 1836 *Report of the Select Committee on Arts and Manufactures* called for the creation of state schools as well as more exhibitions and art galleries to elevate the level of public taste, but the relationship of artists with manufacturing was not always successful and a subsequent *Report* ten years later acknowledged this failure (Kirkham, 1992: 285).

In spite of this, art became increasingly popular as the century wore on. Encouraged by a large number of entrepreneurial dealers, successful businessmen often assembled collections of contemporary British art. Frequently, these collections later formed the basis for municipal art galleries which became increasingly numerous in the last three decades of the century. Dealers such as Ernest Gambart organized well-publicized tours of pictures. Art also reached a broader public through new cheaper forms of reproduction, particularly lithographic and photo-engravure printing (Waterfield, 1991: 21). The movement to create art galleries in the poor districts of large cities was supported by prominent artists such as Watts, Leighton and Burne-Jones and was sometimes associated with Christian missions to the poor (Waterfield, 1991: 23).

What we now term cultural tourism also came into its own in the nineteenth century, stimulated by the difficulties in foreign travel early in the century and by the rapid growth of the railways that connected the homes of the aristocracy with the large towns and cities. Railway travel in itself was originally considered elevating, a way to open the countryside to all its citizens. As Charles Knight, author of *Knowledge is Power* and publisher of the Society for the Diffusion of Useful Knowledge wrote:

> It is for the humblest children of Nature that we especially rejoice, when 'Earth's fairest scenes' are for the first time opened to their view, by the marvellous inventions of our age" (Knight, 1851: iii-iv).

In an age where poor urban dwellers were increasingly cut off from the countryside, rail did open new opportunities for recreation.

Not every one was convinced of the benefits of the age. John Byng, a retired army officer working for the Inland Revenue and ardent traveller, had earlier commented, "I came abroad to view old castles, old manors and old religious houses before they are quite gone" (Byng, quoted in Tinniswood, 1989: 114). The concern about the damage of creeping industrialization can also be seen in numerous papers submitted to the Society of Antiquaries as well as articles in *The Topographer.* Organizations such as the Commons Preservation Society, formed in 1866, the Kyrle Society, founded in 1878, and the National Trust for Places of Historic and Natural Beauty, organized in 1895, sought to mitigate some of the effects of growth and industrialization (Briggs, 1992: 35).

The mechanization and commercialization of culture was a source of profound debate. Prince Albert's words at an 1849 banquet to promote the Great Exhibition illustrate an optimistic faith in the ability of trade and commerce (with the help of colonialism) to unify mankind:

> Nobody, however, who has paid any attention to the particular features of our present era, will doubt for a moment that we are living at a period of most wonderful transition, which tends rapidly to the accomplishment of that great end to which, indeed, all history points - the realization of the unity of mankind...the great principle of the division of labour which may be called the moving power of civilisation, is being extended to all branches of science, industry and art...the products of all the quarters of the globe are placed at our disposal, and we have only to choose what is the best and cheapest for our purposes, and the powers of production are intrusted to the stimulus of competition and capital...Whilst formerly the greatest mental energies strove at universal knowledge, and that knowledge was confined to the few, now...the knowledge acquired becomes at once the property of the community at large...(Cole, 1884 : 212).

Others, such as William Blake, Thomas Carlyle, John Ruskin and William Morris, saw in this notion of progress a rejection of the past and of time-honoured traditions. The factory could not form the basis of a just society. The division of labour did not just divide labour; it fragmented and diminished men. The same Schools of Design which Henry Cole and Prince Albert had promoted as a link between art and manufacturing were chastised by Ruskin in the 1870s:

> The tap root of all this mischief is in the endeavour to produce some ability in the student to make money by designing for manufacture. No student who makes this his primary object will be able to design at all; and the very words "School of Design" involve the profoundest of art fallacies (Naylor, 1992: 241).

These beliefs led Ruskin to argue for social reform. Morris went even further. He contended that "Art made by the people and for the people, a joy to the maker and to the user" was impossible "under the present system of commercialism and profit-mongering" (Naylor, 1992: 247). Where Prince Albert saw industry coupled with science and art as leading to the prosperity and even the unity of mankind, Morris forty years later saw the need for revolution (Naylor, 1992: 244).

The Public

In pre-industrial England, the average life expectancy for a woman was less than thirty. For the majority of the population, poverty was the chief characteristic of their lives; in fact, it has been suggested that periods of prosperity such as occurred in the late fourteenth century were largely a result of the reduced competition for work and food resulting from the decimation of the population by plague or famine (McKendrick, 1974: 180). A high proportion of men and women in the 1600s chose never to marry. Those who did, married late and had few children, many of whom did not survive. As the eighteenth century progressed, by comparison, people married younger. They had more children with a somewhat greater rate of survival, with the result that the population of England and Wales grew from 5.058 million in 1701 to 8.664 million in 1801 (Hitchcock, 1997: 70). They were also increasingly urbanized; in fact, English cities accounted for nearly three quarters of European population growth between 1750 and 1800 (Brewer, 1997: xxiv). London, which in 1600 had a population of 200,000, was by 1800 the largest city in Europe with a population of 900,000 (McKendrick, 1982: 21).

The population was also increasingly literate. The extent of literacy among the population is a contentious subject among historians, but it appears there was a gradual rate of growth. The literacy rate for men has been estimated at 10% in 1500, 45% in 1714 and 60% in the mid-eighteenth century. For women, the literacy rate has been calculated at 1% in 1500, 25% in 1714 and 40% in 1750 (Brewer, 1997: 167). Among the aristocracy, the gentry and the urban middle class, literacy became the norm. Below the elite, estimates for literacy vary: 95% of shopkeepers in the third quarter of the century are thought able to read, although most labourers remained illiterate. Londoners were the most likely to be able to read; country-dwellers the least.

Education was also unevenly distributed. A system of endowed grammar schools, which emerged in the late sixteenth century following the loss of scholastic education with the dissolution of the monasteries, flourished for most of this period. These were complemented by schools and academies of all kinds from Dame Schools, which taught the very basics to all but the very poorest, to commercial academies that taught a variety of skills such as languages and accountancy, while for the upper and wealthier middle classes the private tutor, often trained in Oxford or Cambridge as a clergyman, flourished. The churches, especially the Unitarians, Baptists, Congregationalists and Methodists, were active in education. Late in the eighteenth century, the Sunday School movement of the various Nonconformist churches began to provide some education to workers in the North, Midlands and in the poorer parts of major cities, notably London. A series of religious charities such as the Religious Tract Society also tried to combat illiteracy through the distribution of cheap reading materials. The availability of popular reading materials by subscription or in weekly or monthly parts also made books more widely available (Feather, 1997: 60).

The British public was also notable for its involvement in trade. Napoleon was at least half correct in his famous jibe that Britain was a nation of shopkeepers: it has been estimated that one in every five families in eighteenth-century Britain supported itself through trade and distribution. Still others, such as farmers and manufacturers, were reliant on local and external trading networks (Colley, 1992: 56). It has been suggested that one of the reasons for the rapid rise in the number of societies during this period was the need for commercial people to band together to raise capital for business ventures or for other collective activities such as charity, schooling or civic improvements. Hospitals and almshouses, for example, were often founded by the Masons, who raised money for these projects by subscription. Others, such as the Marine Society of London, provided training and support for the children of men in the merchant marine as well as preparing homeless boys for a life in the navy (Colley, 1992: 91). Societies helped to protect members from adversity and encouraged mutual support and obligation (Brewer, 1982: 219).

Clubs grew up for both sexes and for every class and taste and often transcended the traditional barriers of class and religion (Brewer, 1982: 219). The Masons, pseudo-Masonic orders and some friendly societies boasted of the way they brought together Whigs and Tories, Anglicans and dissenters, tradesmen and gentlemen. Belonging to a club provided individuals with a degree of freedom, freedom from financial insecurity, but also freedom to act in a body of equals. The society decided its activities collectively and leaders were generally elected on a rotational basis. Many societies came much closer to realizing the eighteenth-century republican ideals than did political society at large, and because of this, draconian restrictions were placed on all kinds of "associations" in the late eighteenth century by an establishment increasingly fearful of a revolution on the American and French model. Of course, societies also provided status and could lead to patronage and jobs (Brewer, 1982: 227). Some also provided support for radical politicians, most notably, John Wilkes, best known for his struggle to establish a free press, arguing in 1762 that, "The liberty of the Press is the birthright of a Briton, and is justly esteemed the firmest bulwark of the liberties of this country" (Williams, 1961: 184). Wilkes was also a supporter of British art, going so far as to plead in Parliament for a national gallery (Colley, 1992: 174).

Societies also figure in the history of early British museums. The Royal Society, whose collection was formally inaugurated in 1660, was one of the first, and between 1750 and 1845, at least fifty-three London and provincial societies formed museums that were open to members and often to the public as well. Generally, these societies, whose interests covered a diversity of terrains such as natural history, science and antiquities, provided a meeting room, a library, publications such as proceedings, as well as museums (Teather, 1983: 112). Many of these, such as Bristol, York, Leeds and Leicester, became the foundation for public institutions and some, such as Dorchester and Salisbury, survive even today as independent museums still governed by their founding society (Boylan, 1999: Interview).

Population growth continued apace into the nineteenth century. In the period between 1751 and 1821, the population of the British mainland grew from seven to fourteen million. Fifty years later, in 1871, it had nearly doubled again and by 1901 it had increased to thirty-seven million, many of whom were city-dwellers. A significant proportion were also children. These changes put tremendous pressure on the educational system, and of necessity, the nineteenth century was a period of educational reform, often hotly contested. Against the original few, such as Mill, Carlyle, Ruskin and Thomas Arnold, who supported education for all, were the many who feared that as far as the poor were concerned "such a degree of knowledge would produce in them a disrelish for the laborious occupations of life" (Williams, 1961: 136). A number of factors swung the balance in favour of universal education: the rise of an organized working class, which demanded schooling; the expansion of the franchise and the needs of a growing and evolving economy. By the end of the century elementary, secondary and university education had all been radically reformed. Above all, elementary education was free and attendance to the age of twelve was mandatory (Briggs, 1992: 35).

Adult education also flourished in the nineteenth century in a great variety of forms and at all levels of society. Science was of particular interest, not only technology, but also science for its own sake. National and local societies were formed to pursue the various disciplines as were literary and philosophical societies. The Leeds Philosophical and Literary Society is typical in its aims: "the promotion of Science and Literature, by the reading of Papers, the delivery of Lectures, the formation of a Museum, the collections of a Library, and the establishment of a Laboratory fitted up with Apparatus" (Kelly, 1970: 113). The Mechanics Institutes were also part of this phenomenon, as were the various radical movements. The London Working Men's Association, for example, gave a high priority to educational activities and also championed freedom of the press (Kelly 1970: 139).

The nineteenth century also saw a major, and at times spectacular, growth of literacy. Technical experimentation in printing and paper making in the 1780s and 1790s had already borne fruit after 1800, resulting in cheaper books and newspapers, while the introduction of factory methods to paper-making and steam power to the printing press, both in the late 1820s to early 1830s, significantly reduced the cost of books. This encouraged a mass market, even among the poor (Feather, 1997: 67). The rate of literacy seems to have increased steadily, especially in the newer towns. Estimates of literacy based on the ability to sign a marriage register show an increase from 66.3% in 1839 to 95% in 1893 for men and an increase from 58.4% to 94.65% for women (Williams, 1961: 166). Efforts on the part of organizations such as the Society for the Diffusion of Useful Knowledge and by publishers seeking to provide useful but inexpensive literature for the masses contributed to this development (Kelly, 1970: 164).

Accompanying the growth of literacy was a significant increase in the number of libraries and the development of public libraries. Cathedral, town and subscription libraries were among the various types already in existence. These institutions varied in their quality and their degree of accessibility with some of the larger subscription libraries so exclusive and so expensive that it was difficult for ordinary people to attend. The Public Libraries Act of 1850 was therefore an important step in democratising access. Further legislation - there were eighteen library acts passed in the next fifty years - resulted in the founding of 125 libraries between 1847 and 1886 (Kelly, 1973: 23). Like museums, libraries were looked upon by reformers as a means to make workers "more moral, sober, thrifty and industrious", but the movement was not just a top-down affair (Kelly, 1973: 26). Working people were active in campaigning for local facilities, raising £13,000 in Manchester in 1852 and serving on the library committee in Norwich in 1856.

Although efforts to establish public libraries were often met by fierce opposition, not everyone viewed these facilities along class lines. Edward Edwards, pioneer in the library movement and one of the initiators of the Act of 1850, argued in 1859 that libraries must be useful to all. Similarly, James Picton, laying the foundation stone of the reading room in Liverpool in 1875, supported a broader notion of the public:

> It must be remembered that this institution is not for a class or a community. It is the common property of all, irrespective of rank, station or circumstance (Kelly, 1973: 28).

By 1870, libraries were being viewed as part of a great movement in public education. Some analyses of membership lists conducted in the 1870s indicated that approximately 20% of users were from the professional and middle classes and the remainder were from the working class (Kelly, 1974: 83).

Public interest in museums also grew tremendously in the nineteenth century. Attendance at the British Museum grew from 11,989 in 1805-06 to 230,000 in 1835 following the opening of its new building and the liberalization of visiting rules. The National Gallery saw an increase from 60,321 in 1830 to 503,000 in 1840 after the completion of its new, although only partially-opened, building. By 1858, London attendance had increased to 517,895 at the British Museum, 1,000,000 at the National Gallery and 475,365 at the new South Kensington Museum. Ten years later the number of visitors at South Kensington reached the million mark, although the total dropped after 1887 (Teather, 1983: 275). Numbers of visitors to provincial museums were also impressive: often the annual total was equivalent to more than one visit per year by every person comprising the local population, this at a time when tourism was not yet contributing significantly to museum visitation, except in major cities such as London.

The popularity of museums with the public could perhaps be partially attributed to their novelty, but the explosion of popular interest in science, which rose to even greater heights with the Darwinian controversy from 1859 onwards, was also a factor. Collecting natural science specimens became a highly popular pastime, although certain branches of natural history were more common in one group than another. Ornithology was preferred by the upper classes (who hunted); botany and marine aquaria by middle-class ladies and clergymen; entomology by lower income groups (Teather, 1983: 213). Working class scientific societies were numerous, especially those focused on natural history, although a much disputed mid-century study conducted by Antonio Panizzi, Principal Librarian of the British Museum, claimed an even stronger interest in the art, antiquities and library sections. This interest in art, especially contemporary British art, grew as the century progressed (Waterfield, 1991: 21).

The Victorian museum was also viewed as an integral part of adult education and as a suitably "improving" form of recreation (Teather, 1983: 276). This latter quality placed museums in the midst of broader debates on the social fabric. The agonising over the "Condition of England" during the 1830s and 1840s, expanded to serious concern for public health and civil order in rapidly growing towns and cities where a new industrial working class often lived in appalling circumstances. Increasingly, traditional working class activities were deprecated and discouraged. As Edward Bulwer Lytton wrote in 1833:

> The very essence of our laws has been against the social meetings of the poor, which have been called idleness, and against the amusements of the poor, which have been stigmatised as disorder (Bulwer Lytton, 1833: 35).

Concern over drinking in particular prompted a call for healthier recreations. This can be seen in the 1834 report of a parliamentary select committee on drunkenness.

The belief in the educational value of museums seems to have had widespread support and was to gain further impetus following the successes of Prince Albert and Henry Cole. An early instance can be seen in an article from Blackwood's Magazine in 1842:

> Exhibitions, galleries, and museums, are part and parcel of popular education in the young and the adult: they stimulate that principle of inquisitiveness natural to man, and with the right sort of food: they instil knowledge, drop by drop, through the eye into the mind, and create a healthy appetite, growing with what it feeds on: they make the libraries of those who have no money for books, and are the travels of those that have no time to bestow on travel: they are...the surest aids to freemen, since they inculcate tastes and habits that render even freemen still more free (quoted in Altick, 1978: 442).

Museums were also seen as important to progressive communities. This era was a period of rapid technological change, one in which the engineer emerged as popular hero. Along with telegraph and the spread of the railway came efforts by cities to provide clean water and sewers (Briggs, 1992: 6). An interesting example of this phenomenon can be seen in a speech given by Henry Cole at the Nottingham School of Art in 1873. Cole praises Nottingham for its Museum of Science and Art, its Arboretum, its Free Library supported by rates, for its clean water and its projected sewage system. "Thou shalt not pollute the rivers. I think this will soon be an eleventh Commandment which England must adopt before long", said Henry Cole (Cole, 1884: 344). The Science and Art Museum could contribute to public health, he argued, because it is science that identifies the causes of disease (Cole, 1884: 344).

The issue of access to museums sometimes cut across class lines, as in the case of the widespread debates on the Sabbath during the second half of the century. This battle was waged by Sabbatarians, such as the Lord's Day Observance Society (LDOS), founded in 1831, who believed that the Sabbath should remain a day of rest (and prayers). Also in favour of Sunday closing were working people who feared the eventual loss of a badly needed day of rest. In opposition stood those, such as the National Sunday League, formed in 1855, who believed that visiting museums and other forms of healthy recreation could help curb excessive drinking. Allied with them were many of the poor who relied on public facilities for relaxation, facilities that were subject to legislative restriction (Harrison, 1982: 125). Thus, we have the likes of Thackeray, Dickens, Mill, Owen and Babbage submitting a memorial to the Queen in 1860 in support of Sunday openings, while in 1871, we have Lord Shaftesbury addressing the LDOS to defend the Sabbath against "millions of un-Christian people" (Harrison, 1982: 135). Whereas on May 7, 1876, "the elite of mechanics" marched to the British Museum to deliver a Sunday-opening petition, in 1880, 30,000 working men petitioned against the Sunday opening of Bethnal Green Museum (Harrison, 1982: 135).

Within museums support grew for Sunday openings. Although in 1836, the Principal Librarian of the British Museum had opposed opening the Museum on weekends as a way of keeping out "the vulgar class", by 1873, professionals such as Henry Cole spoke in favour of "museum Sundays", which he saw as a way of "defeating Satan by an indirect process" (Cole, 1884: 345). Thomas Greenwood supported Sunday openings and reported that Birmingham Museum was open on

Sunday as well as Monday, Thursday and Saturday evenings. Similarly, the Bethnal Green Museum was open on Monday, Thursday, and Saturday evenings. When, in 1888, Northampton experimented with opening its Museum and Reading Room on Sundays for six months, the results were impressive - 2,000 visitors per afternoon (Teather, 1983: 276). Sundays and evenings were often the only times that working people could visit.

The debate was not restricted to the question of public access to museums. As the century progressed, the role and, increasingly, the condition of museums attracted growing attention from the public, the state and the profession itself. The museum was a place for public education. The museum was a place for entertainment. The museum was a repository. The museum was a place for scientific research. The museum was a place for social improvement. The museum was a temple. The museum could boost commerce, refine morals and elevate the spirit. The museum could unify mankind. The museum could help Britain compete with other nations. The museum was to the mind what clean rivers and clear air were to the body. The museum transported the poor from dirty streets and monotonous rows of buildings. The museum taught how to build better machines, paint better pictures, dispose of sewage and cure disease. The museum served tea to the well-to-do. The museum equalized.

Issues

In the "Victorian game", historians pick a theory regarding that era and then try to prove it using the historical record. Victorian society was sufficiently complex, it is suggested, that it is possible to find evidence for almost any social trend. It is also very human to see what we want in the past, to seek affirmation of our own particular personal and cultural biases. Looking back, our vision tends to be coloured by the awful legacy of the last hundred years, the wars, the genocides and the mass oppression. Knowing that World War I is just around the corner, it is easy to condemn the Victorians.

Yet looking back, it is difficult not to be struck by the many parallels with our age. At the turn of the twenty-first century, we talk incessantly of the rapid technological, economic and social change with which we struggle. In our efforts to comprehend our seemingly unprecedented circumstances, we attach labels: the Information Society, the Digital Revolution and the posts: postmodern, post-industrial and post-Fordist. Yet in our experience of change, our swings from optimism to pessimism, from conviction to uncertainty, we are not unique. Change was a dominant trend in the Britain of the late eighteenth and nineteenth centuries, just as it is today. Today's debates about free admission, censorship, about public education and the relationship of culture and commerce are not so different from those of the nineteenth century. The rapid growth of population in that era, the urbanisation, industrialization, and the increasing impact of technology were unprecedented. Where we at least can try to learn from the mistakes of the past, our ancestors had few models for many of the challenges they faced.

That is why, in looking at this not so distant era, it is important to recognize the victories as well as the failures. Rather than dismissing nineteenth-century museums as "disciplining" or as representing just a new form of governance, it is important to see that they were also part of a broader struggle from which we have benefited, the struggle for universalism. Whatever their shortcomings, many individuals fought for principles that have shaped our societies, the belief in a public that is all-inclusive and the notion that certain services, such as education, clean water, museums and libraries should be available to all. These victories were not won without struggle, nor were they imposed by an all-powerful and controlling government. They were contested by individuals acting alone, in groups or within the government - whether national or, as was more often the case, local - who believed that the public was important. These people were motivated by a variety of reasons, some altruistic, some self-serving. Yet we continue to benefit from their efforts. In a time when universality is questioned, when public services are sometimes cut to the bare bone and when we must increasingly live by the force of the market, it is important that we recognize their struggles.

In this chapter, I have tried to show that the growth of museums in eighteenth and nineteenth-century Britain was part of the development of the public sphere. Habermas' description, though presenting an idealized version of a time and a place, stresses the importance of institutions of culture and sociability in which private citizens participate in public debate. It also stresses the importance of public access to knowledge. In this chapter, we have seen the role played by individuals, by societies and by the press in the growth of museums. We have also seen the role of the state and of the market. Cultural activities once restricted to the few became the domain of many. Debate and dissension gradually transformed the notion of the public. What was once a privilege became a right, as education changed from a matter of "*sauve qui peut*" to one of universal availability.

We have also seen the ambivalent nature of state participation. In 1929, the Royal Commission on National Museums and Galleries summarized the past role of the government in the development of museums:

> In general it is true to say that the State has not initiated. The Collections, whether artistic, literary or scientific, once formed by the zeal of individuals; and thereafter bestowed on or acquired by the State, have been maintained out of the public at the lowest possible cost. The attitude of the State to the National Museums and Galleries has for the most part been a passive and mainly receptive attitude. Development has been spasmodic (Royal Commission on National Museums and Galleries, 1929: 10).

Drawing on the work of Michel Foucault, Eilean Hooper-Greenhill has argued that following the French Revolution:

> The public museum emerged as one of the campaigns of the state to direct the population into activities that would, without people being aware of it, transform the population into a useful resource for the state (Hooper-Greenhill, 1992: 168).

In the context of the British government's "passive" and "spasmodic" support for museums, it is difficult to see much evidence of Foucault's disciplinary state (Royal Commission on National Museums and Galleries, 1929: 10). This is not to deny Foucault's important insight into the manner in which institutions (or societies) create discourse to normalise practice and behaviour. Certainly, museums acted out their cultural biases in exhibitions and education, but it is important to acknowledge the debate, the resistance and the innovation that occurred within the field. Museum professionals felt as passionately then about their profession as we do today. They also disagreed with each other.

There are additional historical grounds for tempering the generalized notion of the disciplinary institution. Just as early British museums often grew out of the activities of societies, so did other examples of Foucault's disciplining institutions. Hospitals in late eighteenth-century Britain, for example, were often built by local societies such as the Freemasons. Artists and the musician Handel played a role in London's Foundling Hospital and actually served on its board. The role of society members, many of whom were from the middle class and some of whom were women, suggests that these institutions were subject to some degree of the debate that often characterized society activities. Jeremy Bentham's Panopticon, an important symbol to Foucault of the disciplinary mentality, was viewed with suspicion by the authorities and never got off the ground (Porter, 1997: 31).

Ironically, the Tate Gallery was built on the site of the Millbank Prison, a building described by Jeremy Bentham as an "English Bastille" (Rothenstein, 1962: 17).

As to the criticism regarding nationalism and elitism, it is no doubt true that these existed. "Spasmodic" state support seems to have mitigated the nationalistic impulse to some extent (Royal Commission on National Museums and Galleries, 1929: 10). There is also strong evidence for professional interaction that cut across national lines. Even during the Napoleonic Wars, employees of the British Museum are reported to have maintained contact with their French colleagues (Gunther, 1975: 40). Scientists such as John Grey of the British Museum travelled extensively and reformers such as Charles Eastlake, Director of the National Gallery, Richard Redgrave and Henry Cole applied techniques learned elsewhere in Europe (Waterfield, 1991: 19). If anything, British museum professionals tended to compare their circumstances unfavourably vis-à-vis their European counterparts, lamenting the lack of state support. At least in the middle of the century and under the aegis of the first World Exhibition, Prince Albert could speak of the unity of mankind.

Elitism was also a reality. Collecting was for many a way to enhance status. Such collections were subsequently donated and buildings endowed by wealthy benefactors, while the board members of major institutions were drawn almost exclusively from the upper echelons of society. In contrast, local government and society museums often had governing committees that were much more representative of the local citizenry or society membership respectively (Boylan, 1999: Interview). It can be argued that one of the purposes of museums was to support the existing social order by mitigating some of its worst excesses. Yet the development of museums shows a heterogeneity of ideals built around broadly-based human interests: the desire to collect, the desire to learn and the desire to be entertained. The broad acceptance of museums can be seen in the staggering growth of attendance once conditions for access were equalized. It can also be seen in their diverse and idiosyncratic forms and origins.

As we move into a new century where the ability to generate revenue may increasingly mould the services provided by the museum and where the ability to pay may shape public participation, it is important to remember the struggle for universalism. Habermas' notion of the public sphere recognizes the importance of broadly-based and participatory cultural activities. His belief in the importance of the involvement of ordinary citizens in community life corresponds with the best impulses of museums. The emphasis on democratic communication seen in his work reconfirms the need for museums to be open and inclusive. Similarly, his recognition of the importance of critique in realizing modernity's emancipatory potential speaks of the need for institutions with an independent voice. As Henry Cole said, "The Museum will be like a book with its pages always open, and not shut" (Cole, 1884: 293). The next chapter will examine the challenges faced by contemporary museums in living up to that ideal.

Chapter 4 - Contemporary Pressures on the Public Nature of Museums

> *TRUTH, KNOWLEDGE, GIFT SHOP*, words carved in stone over the entrance of the Springfield Museum in the popular American cartoon television show, *The Simpsons*.

The last chapter examined the development of museums in eighteenth- and nineteenth-century Britain in the context of Habermas' concept of the public sphere, placing particular emphasis on the expansion of the museum public. Although critics may argue that museums have often been exclusionary, in fact, by the end of the nineteenth century the objective of serving a universal public on a non-exclusive basis was well established in Britain. One hundred years later, where do museums stand? The challenges that face museums are many - issues of multiculturalism, globalisation, the changing role of the state, the technological imperative - to name a few. This chapter does not attempt to examine all these subjects as to do so is well beyond the scope of a single thesis. Rather, it demonstrates how changing government attitudes towards museums, the movement away from public sector support and the growth of commercialization are weakening the museum's role in the public sphere.

Chapter Three placed museum history in the broader context of the state, the market and the public. This chapter will maintain these themes. The previous section also focused on British museums, although with the understanding that public institutions in Canada and the United States followed a similar professional tradition. This chapter will place a greater emphasis on Canada, again with the understanding that many of the issues faced by museums in the three countries are quite similar although differing in intensity. Post-war Canada and Britain share a history of greater state and municipal involvement in culture, while American museums have relied more heavily on private foundations and individual benefactors operating within the context of a most generous tax regime. Canadian and British museums, with an institutional culture heavily oriented towards public service, have also come later to the world of marketing, fund-raising and commercialization. All three countries, however, have faced significant shifts in attitudes regarding state support for the arts over the past two decades. The size, timing and impact of the resulting budget cuts have varied, but many issues remain the same. Examples will be presented from all three countries, but Canadian references will predominate.

Moving forward one hundred years from the era described in Chapter Three, how does the museum public fare today? As human beings, it is often necessary to filter the sensory and intellectual information we receive. If, for the time being, we put aside the many horrors of this past century, the sufferings of those in less fortunate countries or even closer to home, we find ourselves in a rather auspicious time and place. Those of us fortunate enough to live in the highly developed world are experiencing a period of peace and relative stability. Our political systems, though still imperfect, provide unprecedented freedom and security to a greater proportion of the population than ever before. Most of us will live longer than our ancestors, are better fed and educated and have more choices than could previously have been imagined. These are real victories not to be undervalued.

We, in the museum profession, have also experienced our victories. The decades following the second World War have witnessed an unprecedented growth in museums - from only one hundred eighty-five Canadian museums in the early 1960s to over two thousand - supported by significant injections of government funding (Canadian Conference for the Arts, 1997: 6). In the United Kingdom, more than one thousand museums have opened in the last 30 years, while in the United States art museums alone have grown by 50% since 1970 (Museums and Galleries Commission, 1999: Web; Dobrzynski, 1997: 1). Audiences have also grown enormously, until it has become a commonplace to remark that more people go to museums than professional sporting events. According to Statistics Canada, 56% of the Canadian population claim to visit museums at least once a year (Statistics Canada, 1993). Twenty-seven million visits are made annually to Canada's museums, an 11% increase since 1989 (Statistics Canada, 1998). The Museums and Galleries Commission reports over eighty million visits a year to UK museums and galleries (Museums and Galleries Commission, 1999: Web). Similarly, between 40% and 60% of the American public visit at least once a year (Falk and Dierking, 2000: 2). Museums contribute to the vitality of communities and provide services unthought of one hundred years ago. Professional developments and greater resources have improved the care of collections. The reflections of this chapter should be viewed against the backdrop of very real accomplishments.

However, it is evident that all do not share equally in the benefits of our age. In the midst of relative prosperity, homeless people walk the streets. By all accounts, the gap between the haves and have-nots is growing. The public institutions that service society - the hospitals, the state-funded schools, the universities and libraries - are scrambling to survive. In this environment, museums are also scrambling, struggling to adapt to more than a decade of government cuts and to a new ideology that views taxation and public expenditure with suspicion and that stresses revenue generation and increased self-sufficiency.

The Museum

If Canadian museums entered the nineties as public institutions, they are leaving it as hybrid organizations that also run businesses to help keep their doors open. In response to government cuts over the past decade, they have adopted a range of strategies in order to survive. The term "survival" is used deliberately and not out of sensationalism. In interviews I conducted with a number of directors and with the president of the Canadian Museums Association in the summer of 1998, survival was the word most commonly used. Yet all directors acknowledged that their institutions have been forced to become more efficient and more publicly aware. In spite of these positive elements, the overall impact is sobering.

The degree to which Canadian museum funding has been cut varies from institution to institution depending on its relationship to the three levels of government: federal, provincial and municipal. Whereas in 1986-87, the federal government accounted for 29% of the operating revenues of art galleries and museums across Canada, it accounted for only 5% in 1996-97 (Council for Business and the Arts in Canada [CBAC], 1998: IV). Cuts to the National Museums between 1994 and 1997 averaged 30% (Graham, 1998: Interview). The 1996-97 *Annual Report* of the Canadian Museum of Civilization, for example, described the reductions as follows:

> Federal funding for the Corporation...decreased from a high of $43.9 million in 1991-1992 to $38.1 million in 1994-1995. By 1997-1998, the level of planned government support will have decreased to $29.1 million. This represents a reduction of $9.0 million, or 23.6 % from 1994-1995. When the lack of any increases for inflation during the period is factored in, the real purchasing power of the corporation's operating budget is reduced by an additional 10%, for a total reduction of 35% over this four-year period (CMC 1997c: 5).

Similarly, museums and galleries, aside from the national museums, received only 58% of their revenue from provincial and municipal governments in 1996-97 compared to 74% a decade earlier (CBAC, 1998: V). The McMichael Canadian Gallery, which receives much of its funding from the Ontario provincial government, saw the percentage of government support shrink from 89% to 40% over a period of ten years. These cuts have been offset somewhat by increases in revenue. In an interview in July 1998, the director, Barbara Tyler, stated that the museum was able to accommodate early cuts in the order of 5% a year, but once cuts escalated to 10% a year, this became impossible (Tyler, 1998: Interview). Another provincial museum, Alberta's Glenbow, was hit early and hard. Between 1988 and 1996, its grant was reduced by 39%, resulting in a loss of 40% of its permanent staff (Janes, 1996: 56).

If Canadian national and provincial museums are limping along, it is at the municipal levels where we see the dead bodies. As budget reductions pass down from one level of government to another and as responsibilities are off-loaded, many municipalities are struggling to cope. Museums provide an easy target for cuts, and in some provinces, such as Ontario, the situation is compounded by local government restructuring. As municipalities are amalgamated, museums can get lost in the shuffle. The Toronto Historical Board, for example, is not only coping with cuts of approximately 10% in general operating grant for each of the past three years, with additional targeted cuts ranging from 8 to 15% in 1998 and with more likely to come, but it has also been part of a jurisdictional struggle over who controls heritage in the new "megacity" (Gerrard, 1998: Interview).

The Billings Estate Museum, a municipal museum in Ottawa, lost one third of its budget in a single cut in municipal funding in the spring of 1998. According to the president of the Friends of the Museum, the decision to reduce the museum rather than other aspects of the city's recreation programmes was based on a public opinion poll that found that public outcry over the museum would be less than cuts to other services. Unfortunately, the extent of the cut has compounded the museum's problems by disqualifying the museum from receiving provincial funding (Bradley, 1998: Interview). The Cumberland Museum, another Ottawa-area museum, has been privatized and now is run by a British firm, Serco, that normally specializes in administering airports (Pilon, 1998: Interview). This example of outsourcing raises an interesting question: should a private firm profit from collections donated to a public museum?

Professional organizations are also struggling, again depending on the jurisdiction in which they are located. The following quotation from a 1998 letter to the New Democratic Minister of Small Business, Tourism and Culture in the province of British Columbia by Professor Martin Segger of the University of Victoria captures the situation in that province:

> Further to matters cultural in British Columbia, I have just returned

> from an emergency regional meeting of the British Columbia Touring Council, and am still reeling from the news of that Society's collapse and retreat to part-time status in a board-member's basement. This follows shortly on news from the British Columbia Museums Association's radical downsizing and services curtailment, also noting the perilous state of health of the British Columbia Heritage Society. I watch the Heritage and Culture Branch dwindle to skeletal staffing and as a board-member of the Royal British Columbia Museum I see it struggling under a regime of cuts that now has it contemplating a scenario of whole curatorial division closures (Segger, 1998: M.S.).

Segger identifies other blows to the museum field in British Columbia: programme cuts to municipal and regional art galleries, significant cuts to the B.C. Arts Festival and the loss of the Community Legacy Fund which supported volunteer efforts, the disappearance of travelling exhibitions, a reduction of close to 50% of performance opportunities for performing artists, and the loss of nearly one third of professional cultural workers. Segger concludes by pointing out the irony that these cuts are occurring at a time when cultural tourism and museum visitation is on the rise. What was the response from the Minister's office? Simply that poll after poll indicates that the public is concerned about hospitals, education and the environment: the numbers just aren't there to support culture.

The situation described has some parallels in the United Kingdom. The Heritage Lottery Fund has been one bright feature in recent years, as is the Labour government's willingness to invest in arts and heritage after two decades of financial drought. The National Museums and Galleries, which receive the lion's share of government funding, have suffered, although not to the degree experienced by their Canadian counterparts. It is the local authority and university museums that have experienced cuts of comparable magnitude. These cuts stem from the fragmentation of local government initiated by Margaret Thatcher in her efforts to curb their power and ever more severe funding "settlements" (Boylan,1998: Interview). While the Ontario Conservatives prefer forced amalgamation, the Thatcher Conservatives preferred the opposite, between 1979 and 1989 passing forty-six separate bills targeted at controlling the activities of local authorities (Hewison, 1995: 273). An example of government reorganization in the UK can be seen in the Glasgow Museums, whose internationally famous education department received funding from the larger region of Strathclyde. With the elimination of Strathclyde, the education service was cut from thirty positions to one (Warren, 1998: Interview).

Although not all museums have suffered in the process, many have. A 1997 survey of Scottish museum services reported a widespread reduction in conservation and maintenance activities as well as in hours of operation. In addition to the virtual disappearance of its education department, for example, Glasgow's conservation department was slashed and the Museums' staff cut from 420 to 300 positions (Carrington, 1999c: 30). The Scottish Museum Council suggested that many museums would be forced to close by 2000 should cuts continue (Scottish Museum Council, 1997: 1-2). Its director warned of a "millennium meltdown" and stated that Scottish local authority museums were "balanced on a knife-edge between survival and collapse" (Harvey, 1998: 5).

Elsewhere in the UK, regional museums are suffering, "dogged by political uncertainty and financial cuts" and "desperately short of money" (Waterfield, quoted in Baily, 1998: 26). Institutions that in the 1960s and 1970s were described as "lively and flourishing" are now in decline, some having lost much of their curatorial staff and others even contemplating the sale of works of art (Burlington Magazine, 1998c: 235). A 1998 example was the decision by the Durham County Council to close the Bowes Museum for the five winter months and the proposal to sell works of art from its collection in order to save the museum (Burlington Magazine, 1998: 235). Similarly, the Buckinghamshire County Museum's budget was reduced by about one third and faced almost total closure just weeks after receiving two prestigious national awards for recent new developments and quality of service, while in Wales, the Swansea Council reportedly considered disposing many of the 42,000 objects held in storage (Dyer, 1998b: 20).

Local government reorganization has had massive implications in both policy and career terms. Over the past fifteen years, an estimated one hundred UK director or head of service positions have been abolished as museums in many communities have been merged into larger groupings within local government including leisure, tourism, community services and even "client services". Often the most senior museum professional does not even have the rank of a deputy or assistant director within the new combined services, so there is now no professional voice within the new chief officer's management team (Boylan, 1999: Interview). In some municipalities, such as Sheffield, museums have been cut loose and turned into charitable trusts. They may retain some funding from the authority, but must look for the rest elsewhere (Warren, 1998: Interview). On the positive side, these museums once again have high level director positions and specialist governing boards, both of which disappeared in earlier local government changes (Boylan, 1998: Interview).

The Labour government, following a policy of increased public spending, announced in the summer of 1998 that it would provide the English National Museums with £100,000,000 over three years to help in various ways and in the hope of seeing the re-establishment of free admission. The new funds came with many provisos, including a demand for greater efficiency (undefined) and increased revenue generation. The Minister of Culture, Chris Smith, has charged the nationals with drumming up more imaginative ways to raise revenue. It is not clear where this new revenue will come from, given the competition that British museums face with other leisure activities such as shopping (Warren, 1998: Interview).

American museums, as stated previously, are generally less dependent on government support and have benefited in recent years from a booming American economy. In 1996, however, the National Endowment for the Arts (NEA), a significant funder of artistic excellence and innovation as well as a supporter of museum exhibitions was slashed by 39%, resulting in major staff reductions at the NEA and complaints by artists that they had been abandoned. The National Endowment for the Humanities was simultaneously cut by 36% and the Institute of Museum Services by 27% (Cobb, 1996: 125). The reduction in the NEA's budget from $162 million to $99.4 million, which represents less than one hundredth of 1% of the US federal budget, came after a decade-long "culture war" in which members of Congress threatened to eliminate the programme altogether. In 1998, the NEA's budget was quietly approved by the House of Representatives, which suggests that the NEA will survive, but funding levels remain low and the organization is tied up with Congressionally imposed decency standards (Henneberger, 1998: 16). A representative of the American Association of Museums, however, has expressed optimism regarding the future of the Institute of Museum and Library Services (Szczesny, 1998: Interview).

Museum response to government reductions in Canada has been muted. Preoccupied with the struggle to remain operational, most museums are undertaking a combination of efficiency improvements, operational cuts and a new focus on revenue generation. Some measure of their resolve can be seen in a 100% increase in revenue from gift shops and concessions between 1989/90 and 1995/96 (Statistics Canada, 1998: M.S.). In interviews with Canadian museum directors in the summer of 1998, it was generally conceded that the impact of the initial reductions was not all bad. Museums had been forced to become more efficient, to review their services, to look more closely at the needs of the public and to seek alternative funding. The impact of this new emphasis on revenue generation will be addressed later in this chapter following an examination of the issues arising from reductions in government funding.

If museums have managed to maintain their public face, there has been a price to pay in terms of infrastructure, both human and physical. For many museums, funding cuts have meant an immediate loss of staff since salaries and related costs are typically the largest line in the museum budget. As already noted, the Glenbow lost 40% of its professional staff, while in Toronto, the Royal Ontario Museum shrunk from 468 full-time and 200 part-time workers in 1989 to 326 full-time and 54 part-time in 1996-97 (CBAC, 1998: 41). The National Museums have similarly reduced their staff through a combination of redundancies, attrition and early retirements. As federal institutions, their most extensive cuts were in the 1994/97 government-wide Programme Review, which slashed funding by 30% over three years (Graham, 1998: Interview). Each of the four National Museums was able to choose to implement its cuts in its own fashion, either by giving up operating funds, salaries or a combination of the two. The Canadian Museum of Nature saw its staff shrink from 210 full-time and 58 part-time employees in 1995 to 153 full-time and 7 part-time in 1996-97 (CBAC, 1995: 19; CBAC, 1998: 41). In contrast, the National Gallery of Canada, faced with a similar percentage reduction, chose a more gradual approach, relying as much as possible on attrition to minimize lay-offs (Moulding, 1998: Interview). Nonetheless, its staff shrunk from 277 full-time and 29 part-time employees in 1995 to 244 full-time and 29 part-time in 1996-97 (CBAC, 1995: 1; CBAC, 1998: 9).

One of the unexpected results of the 1994/97 federal Programme Review (and similar initiatives elsewhere at the provincial and municipal levels) has been the success of its early retirement programme which allowed employees to retire at fifty without paying a penalty. However, this programme, which has been unexpectedly popular, has introduced an element of randomness to staff reductions. In principle, only people whose positions were deemed non-essential could retire. Managers had the right to refuse an individual's request if it was felt that the organization could not afford to lose that function, as each early retirement meant the loss of that person's position and salary. In practice, early retirement has rarely been refused and, as a result, considerable reorganization has been required to accommodate these unplanned changes. For example, when the Director General of Collections and Information Access at the Canadian Museum of Civilization retired, both collections management and conservation were placed under research, thus reversing a trend in Canadian museums to separate collections management from the curatorial function.

Other difficulties have also been experienced as a result of staff reductions. In institutions where lay-offs were numerous, even where special efforts were made to act fairly and humanely, those who have remained can suffer from "survivors' guilt" (Janes, 1995: 15). In addition, there is often a degree of cynicism towards public institutions fuelled by the widespread cuts. Despite museum workers' general dedication to their work - the Canadian Museum of Civilization reports recent retirees who return on a volunteer basis to complete projects - it is difficult to be idealistic when institutional loyalty is met by lay-offs.

Apart from the inevitable increase in workload, the lack of mobility, the demoralization and work-related stress that one would expect after a decade of cuts, there is also a real concern about the loss of expertise and corporate memory. In the National Museums and other institutions that have offered retirement incentives, those retiring came from all parts of the organization and included many skilled and high level employees. The extent of staff turnover can be seen at the Canadian Museum of Civilization: only 20% of staff in 1998 have been employees for more than five years (Kirby, 1998: Interview) Although some of the expertise can be replaced through contracts - design skills for special exhibitions, for example - not all work is project-oriented. Certainly, corporate memory, which is particularly valuable in an organization devoted to the creation and dissemination of knowledge, cannot be replaced.

The longer term impact of cuts will be compounded by demographic factors. Canada, more so even than the United States, is experiencing the impact of the post-war baby boom. A very high percentage of senior positions in public institutions, including museums, universities, schools and the public service itself, are held by people in their fifties who are about to retire. As there have been few promotions in the last fifteen years because of the baby boom bottleneck, there are few young people coming up to replace them (Standing Committee on Canadian Heritage, February 10, 1998: M.S.). As a result, the loss of expertise initiated by funding cuts will be amplified, fuelling what the director of the Canadian Museums Association refers to as a "demographic time bomb" (McAvity, 1998: Interview). Although the UK did not experience the baby-boom to the same degree as North America, the rapid museum expansion and recruitment in the late 1960s and 1970s has created a comparable situation (Boylan, 1999: Interview).

It is also difficult for young Museum Studies graduates to find permanent jobs. Although the American journal, *Museum News,* spoke positively of the potential for museum careers in a series of articles, this optimism has been questioned elsewhere (Museum News, 1998). In a running discussion on Museum-L, the Web-based museum discussion group, graduates with masters degrees discussed whether they should establish themselves by accepting low paying, part-time jobs. The head of museum training at Algonquin College in Ottawa reported that its graduates typically must accept temporary or part-time work for a number of years before finding permanent jobs (Pattillo, 1998: Interview). This situation is paralleled in the United Kingdom where there are too few jobs for Museum Studies graduates and where experienced workers, threatened by cuts, compete with new graduates (Wayling, April 1998: 23). It must be noted, however, that the situation in the UK has been exacerbated by the decision of some university Museum Studies programmes to significantly increase enrolment (Boylan, 1998: Interview). Nonetheless, as employees with traditional museum training (and values) are bypassed for promotion by individuals with no museum experience but with backgrounds in marketing or business, there is bound to be fall-out. To add an extra Canadian twist, some skilled professionals are opting for jobs that promise greater stability and better salaries in the United States (Rinaldo, 1998: Interview).

At a more senior level, American art galleries in recent years have reported difficulties in hiring directors (New York Times, 1998: 1). As of the summer of 1998, trustees were reporting that they could not find suitable candidates for twenty directorships at prominent American museums. Other estimates placed the number higher. According to the *New York Times*, the emphasis on money and marketing has stripped jobs of their character and driven visionaries and scholars away. As the outgoing director of the New Museum of Contemporary Art in New York replied when asked if she would accept another directorship:

> Why would I? To direct an institution nowadays you have to be an opportunist. You have to use every social situation you get to think about fundraising and social contacts. Sorry, but the cocktail-party conversation is not my preferred mode of thought (Solomon, 1998: 35).

The New York Times also reported that it has become increasingly common for former directors to move to auction houses and private galleries, a practice once considered taboo. The Times' explanation:

> Perhaps that's because museums are no longer viewed as castles of purity and scholarship, towering above the world of commerce. Rather, they're

> seen as businesses of sorts governed by practical imperatives, and the prestige of the museum director has been tarnished in the process (Solomon, 1998: 35).

The American Association of Museums *Strategic Agenda FY 1998-2000* lists the higher rates of burn-out among senior museum executives and the consequent loss of skilled individuals as one of major challenges facing American museums (AAM, 1997: 68). European art museums, with their higher reliance on public funding, reportedly offer a greater degree of job satisfaction (Jeromack, 1997: 9).

Other infrastructure problems are also arising. The host of new buildings erected for Canada's Centennial in the late 1960s, often with government assistance, are now thirty years old and badly in need of expensive refurbishment, "desperately so" according to the director of the McMichael Canadian Collection (Tyler, 1998: Interview). Representatives of the Department of Canadian Heritage echoed her view. Even Canada's two newest national museums, still only ten years old, are starting to require more maintenance, as are their older exhibitions (Graham, 1998: Interview). Although the major Canadian museums have been able to generate new revenues, these funds are directed towards maintaining operations and cannot begin to cover major capital expenditure. An examination of funding to Canadian museums from 1989 to 1995/96 indicates a reduction in capital revenue from $200,592,000 to $144,995,000 (Statistics Canada, 1993/94: 1; Statistics Canada, 1995/96: 1). The federal Museums Assistance Programme, once a source of grants for physical upkeep, is no longer able to fund major capital projects. Many provincial governments such as Ontario have also cut capital funding (Carter, 1998: Interview).

In an interview in the summer of 1998, Charles Costain, the Acting Manager of the Preventive Conservation Division at the federal Canadian Conservation Institute (CCI), stated that building care is a key part of preventive conservation. Protecting collections from fire, theft, pests, temperature and relative humidity is dependent on effective building maintenance. Apart from the structural deterioration of numerous thirty year old museums, Costain is concerned that the heating, ventilation and air conditioning systems are also reaching the end of their lifespan. To replace these systems is extremely expensive. The Canadian Conservation Institute has entered into negotiation with a major Canadian bank, hoping to demonstrate that improvements to museum systems would increase energy efficiency, resulting in savings that could be used to pay back bank loans. The bank, however, is hesitant to institute a programme of loans to museums without appropriate guarantees. As of July 1998, it was unclear whether negotiations would be successful (Costain, 1998: Interview).

An additional concern regarding the care of collections is the current emphasis on access over preservation. Although museums must always find a balance, Costain worries that the current emphasis on public programming may cause museums to focus on restoration rather than preservation. In some cases, they may feel obliged to restore an artifact needed for an important exhibition rather than investing the money in repairs that may benefit the collections overall, but that lack public visibility. To save costs, they may also choose to put aside the object requiring conservation and exhibit something else. Cuts in conservation staff also mean there are fewer people to care for collections and facilities. Outsourcing, which can often be used satisfactorily for restoration work, does not lend itself to ongoing maintenance. It is difficult to gauge the impact of these developments because of a lack of performance indicators. In addition, deterioration can be gradual and may not show up for a number of years. The CCI representative did feel, however, that the situation was serious (Costain, 1998: Interview).

This problem is compounded by cuts in government services. At the federal level, conservation funding is no longer available from the Museums Assistance Programme while the Canadian Conservation Institute must now charge for restoration work, although staff report that this new relationship may give museums more control over when work gets done. Perhaps more serious are the cuts to provincial programmes; for example, the cancellation of restoration work at the Ontario Ministry of Citizenship, Culture and Recreation and a widespread reduction in its advisory services. Provincial advisors worry that in spite of progress made in recent decades in the care of collections, small museums may return to the "dip and strip days" when collections were cared for by well-meaning but sometimes ill-informed individuals (Carter, 1998: Interview).

In interviews with museum managers and at hearings of the Standing Committee on Canadian Heritage held in the fall of 1997 and the spring of 1998, directors voiced their concerns regarding the ongoing care of collections. The director of the Acadian Museum spoke of the difficulties faced by conservators when budget problems impinged on their ability to restore a national heritage object (Standing Committee, March, 10, 1998: M.S.). Storage facilities are in many cases stretched to the limit. The Royal British Columbia Museum, for example, rents storage space to accommodate some of its collections (Barkley, 1998: Interview). The cost of managing the Glenbow's 1.2 million objects amounts to $3.5 million per year.

According to the Glenbow's director "no matter how entrepreneurial you become, taking care of collections is not a glamorous subject. It's not really marketable. We've tried it. The Nova Corporation in Calgary does not want to give us $200,000 to make sure we have a proper level of shelving for our objects" (Standing Committee, March 10, 1998: M.S.). He concludes that collections are really a public resource and a collective responsibility. A major role for government is in assuming responsibility on behalf of all citizens by providing sufficient resources for collection care. Currently, funds that might otherwise be used for collections care are being diverted into public programming.

The Glenbow Museum was unusual among Canadian museums in that it opted to reduce its costs and refocus its mission by reducing its collections through deaccessioning. Realizing in 1992 that it faced bankruptcy if it continued at the same rate of expenditure, it developed a six-point strategy to raise revenues and to cut costs. In a move that generated a great deal of controversy both within the community and within the museum itself, it chose to sell three thousand objects that did not correspond with the museum's revised focus. Funds generated in this fashion, approximately $5 million, have been used to create a Collections Endowment Fund, indexed to protect it from inflation. The income from this fund is used for collections care and documentation. Although the museum was criticised for this decision to deaccession, it is generally agreed that the process was well-managed and, contrary to some predictions, the Glenbow continues to receive public donations (Ainslie, 1996: 33).

Along with concerns regarding physical infrastructure is the issue of the intellectual foundation of contemporary museums. In addition to the loss of knowledgeable individuals, museums have also been required to limit their research. Several directors reported that the only research now conducted is that required in preparing an exhibition. With the trend towards outsourcing in all aspects of exhibition production, there is an added risk that the knowledge gained by external curators will not become part of the intellectual capital of the institution. Research findings may not be properly incorporated into museum records, especially where there have been extensive cuts to collections management staff. Part of the intellectual capital of an institution is in the depth of knowledge of its employees. Also, outsourcing of research and projects may limit the development of curatorial staff, thus creating a downward spiral in which the museum has again to go outside because of a lack of internal expertise (Inglis, 1998: Interview).

At least one museum, the Royal British Columbia Museum (RBCM), has been criticized in the press for its lack of research. Although research has indeed been reduced at the RBCM, the number of citations by outside researchers has remained stable, suggesting that what has been lost in scope has been gained in relevance. Recently, the museum decided to install an IMAX theatre (complete with popcorn) to be run as a commercial operation. Although the RBCM has also been criticized for abandoning its mission in favour of revenue generation, theatre revenues are needed if the museum is to maintain its research programme (Barkley, 1998: Interview).

Research is not the only activity that is problematic. Paradoxically, at a time when access to information resources is stressed, museum libraries are being closed. That of the Montreal Museum of Fine Arts, the oldest of its kind in Canada, as well as facilities at the McCord Museum, the Musée juste pour rire and the Winnipeg Art Gallery have all been shut in recent years. Others have been obliged to reduce their services to the public, amongst them the Art Gallery of Ontario, the Musée du Québec, the Musée d'art contemporain de Montréal and the Vancouver Art Gallery (Gauthier, 1995: 50). Perhaps one of the most worrying examples of this development is the decision to reduce the hours of operation of the Royal Ontario Museum's library to half-days. The ROM's library handles 10,000 queries a year, making it comparable in use to that of the National Gallery. There is a particular irony in the fact that ROM's new Discovery Centre, billed as "a powerful communication programme", offers rental space for birthday parties, but no real link to the library's important collections (Sharp, 1998: 12).

Acquisitions are another core area in which museums are increasingly hamstrung. François Lachapelle, director general of the Corporation du Musée régional de Rimouski, reported on the significantly reduced capacity of Canadian museums to acquire visual arts (Standing Committee, March 10, 1998: M.S.). Many museums, such as the Canadian Museum of Civilization (CMC), are entirely dependent on donations, although this is mitigated by the CMC's success in directing would-be donors to appropriate purchases (Carpentier, 1998: Interview). Others are able to fund acquisitions with revenue, although increasingly these funds are used for more basic operations. The McMichael Canadian Gallery reported that it had initially diverted half of its gift shop receipts towards acquisitions, but was no longer able to do so. It now relies on its revenue of approximately $30,000 from licensing copyright images to supplement donations (Tyler, 1998: Interview). Even the National Gallery worries about its ability to collect systematically. Although it actively pursues donations, adequate levels of government funding are essential if it is to continue exercising its independent judgment in building quality collections. In the past, some of its purchases have proved controversial both with the public and the government (Moulding, 1998: Interview).

Another typical programme cut noticeable for its impact has been the widespread reduction in the number of travelling exhibitions. During the period when federal government funding was at its highest, many museums circulated travelling exhibitions. At one time, for example, the Royal British Columbia Museum circulated as many as twenty-four shows throughout the province with four or five of them also crossing Canada. At the same time, three or four shows from other provinces would be touring British Columbia. However, in November 1998, the last of the RBCM's travelling exhibitions closed. The RBCM director reported that this was a cause of regret and cited the case of his museum's recent cross-disciplinary exhibition on whaling that drew material from Nova Scotia and the United States. This exhibition was particularly successful in generating public interest and debate in Victoria, but the museum could not afford to send it elsewhere, not even within the province (Barkley, 1998: Interview).

A similar situation exists elsewhere in the country. The Nova Scotia Museum, which at one time had a well-developed touring programme complete with its own truck, no longer circulates exhibitions. As of 1997, the Art Gallery of Ontario had reduced its division responsible for travelling exhibits and outreach to one individual. This division at one time employed thirty staff (McAvity, 1997: 4). The federal Museums Assistance Programme has been obliged to reduce its funding for outreach, while those institutions, such as the National Gallery and the Canadian Museum of Civilization, that still develop travelling exhibitions, now do so on a cost recovery basis.

The reduction in numbers also reduces the scope for diversity in subject matter. At the March 10, 1998 hearings of the Standing Committee, the director of the Caribbean Cultural Workshop, Clyde McNeil, reported that he had been unable to bring an extremely significant travelling exhibition from the Caribbean to Toronto because of the lack of an available venue. This loss to his community he saw as an issue of equity and access. Other directors saw the decline of travelling exhibitions as a major source of isolation, both professionally and publicly. Canadian museums are spread over a huge land mass, serving a population that is ethnically and linguistically one of the most diverse in the world. The lack of travelling exhibitions has meant a real loss in terms of museums' ability to transform local and regional culture into national culture. It has also marked a decline in the ability of the larger institutions to serve other communities, once an important aspect of Canadian museum policy (Standing Committee, March 10, 1998: M.S.).

Isolation was a major concern raised by heritage institutions at the Parliamentary hearings. Not only did museums feel hindered in their ability to contribute to a national culture, but they also felt cut off from colleagues. Staff development and travel budgets within institutions had been slashed, limiting the number of people who attend conferences or meetings (Standing Committee on Canadian Heritage, March, 10, 1998: M.S.). Similarly, cuts in federal government programmes such as the Canadian Conservation Institute (CCI) or the Canadian Heritage Information Network (CHIN) have meant fewer national meetings to bring together colleagues with similar professional interests, which had previously provided fora for professional exchange and community building.

Paradoxically, at a time when museums are at their most popular, they are also concerned about their ability to reach a wider population. Community museums have expressed a concern about their capacity to undertake outreach activities; i.e., to go out into the population and to record the local culture and environment. Cuts to public education have also compounded concerns regarding access by reducing the ability of school boards to fund transportation required for visits. In additions, some museums, such as the National Gallery and the Canadian Museum of Civilization, are now obliged to charge a small fee per child to recover costs. Similarly, the Royal Ontario Museum now charges for outreach activities to hospitals and schools (Rinaldo, 1998: Interview). More museums also charge admission, up from 34% of the total in 1989 to more than 40% in 1995 (Statistics Canada, 1998: M.S.). These combined factors mean that fewer school children are guaranteed museum visits. This is a cause for concern as school visits in the past ensured attendance by children from all backgrounds and often led to return visits, either as family groups, or later in life, as adult visitors. Directors were also concerned that cuts to education were affecting the ability of rural children to visit, again because of transportation costs (Barkley, 1998: Interview; Stevenson, 1998: Interview).

Cuts to education may also have longer term impacts, especially for art galleries. Studies in Australia on museum attendance have demonstrated the strong correlation between art education and gallery attendance (Bennett and Frow, 1991: 56). As public schools have been forced to pare back their programmes and as emphasis has shifted into numeracy and literacy skills, artistic training has suffered. Some museum educators fear that this will undermine the work they are doing with schools and eventually erode art appreciation (Wolf and Burger, 1991: 144).

The State

As argued in the last chapter, the debate regarding the role of the state in culture has long been a matter of controversy. The historic record reveals arguments both for and against the intervention of governments in the production and distribution of cultural products. The debates by British parliamentarians in the 1830s and 1840s over the role of the British Museum and the National Gallery are examples of this. Twentieth-century Canada and Britain increasingly opted for a role for the state, not only in funding, but also in cultural policy and production. The United States opted for less direct government intervention, but with the development of the National Endowment for the Arts in 1965 and the state arts agencies around the same time, government became an important source of financial support. As of 1995, just under 30% of American museum income came directly from the public purse as opposed to the 65% from government sources in Canada (Weil, 1997: 261; Statistics Canada, 1998: M.S.). Statistics for the UK as a whole are somewhat difficult to obtain, but *Cultural Trends* estimated that for the year 1988/89, at least 80% of resources for Britain's national museums and galleries came from the Exchequer (Policy Studies Institute, 1990: 11). American tax policy, on the other hand, which strongly encourages charitable giving, is more supportive of nonprofit institutions than either British or Canadian tax policy, and can be considered as an indirect form of government support (Monroe, 1995: 51).

If in the 1960s and 1970s there was some measure of consensus in favour of public support of culture, in the 1980s and 1990s, there was considerably more debate. Museums have been bit players in a larger drama that has undermined the traditional role of the state. In the past, one of the major reasons for economic intervention by the state in the cultural area has been a belief in the intrinsic worth of cultural products to a society. The market alone was considered deficient in its ability to produce the social benefits provided by the creators of cultural goods. Globalisation, the international movement towards open economies based on the free play of supply and demand, has discouraged state intervention in favour of consumer choice. Countries that are significant exporters of cultural products, such as the United States, tend to view national cultural policies as ways to protect domestic industries and markets. Countries, such as Canada and France, view these policies as essential to the preservation of their culture (and if they have economic benefits, so much the better). In the general context of economic liberalization, state intervention in culture has come into conflict with the forces that favour open competition (Raboy, 1994: 296).

An additional factor has been the move in recent decades to limit the financial and social responsibilities of the state. In some jurisdictions, the primary motivation has been economic, the need to reduce deficits created during the decades of the welfare state. In others, reform has also been driven by neo-conservative beliefs that favour individual responsibility over collective action and which, in theory at least, anathematize big government (Hewison, 1995: 212). In practice, actions are sometimes at odds with stated aims; for example, the recent move to shift responsibility for education from small local school boards into the hands of the Ontario Ministry of Education or Margaret Thatcher's attack on local authorities, which was in direct contradiction of treaty obligations in relation to democratic rights under Council of Europe and European Union Conventions (Boylan, 1999: Interview).

A further factor, most evident in the United States, but present in varying degrees in other jurisdictions, has been the cutting of cultural budgets for partisan reasons. Although the Republican president, Richard Nixon, was arguably the most generous supporter of the National Endowment for the Arts, many of the Republicans elected to the House of Representatives in 1994, partisans of the Gingrich revolution, vowed to abolish the agency (Henneberger, 1998: 16). This initiative was instigated by a $30,000 contribution from the NEA to a $300,000 retrospective of the works of photographer Robert Mapplethorpe commissioned by the University of Pennsylvania in 1989. This exhibition contained several homoerotic works that were deemed offensive by many individuals. A second exhibition also raised conservative ire by including a large photograph by Andres Serrano entitled "Piss Christ". Spearheaded by Republicans such as Senator Jesse Helms and by television evangelists such as Pat Robertson, critics argued that government had no business in the arts (Fitzpatrick, 1992: 32).

An additional motivation for these moves can be judged by the remarks of a legislator to the then chairman of the NEA, Jane Alexander: "We have to kill you - you're our trophy" (Levy, 1996: 39). Congress succeeded in slashing the Endowment's budget, but was unable to eliminate the programme. By 1998, however, the climate improved. Many conservatives were mollified by the 40% reduction of the NEA's grant and by the Supreme Court's approval in June, 1998 of congressionally imposed decency standards. Effective lobbying and

Congressional elections may also have had a modifying effect (Henneberger, 1998: 16).

Although political influences have been less overt in Canada where funding agencies operate on an arm's length principle, concerns have been raised by Ontario artists that a recent decision by the Ontario Arts Council to appoint business people to sit on juries to judge grants to arts organizations was politically motivated. The business orientation of the Council's board, which has been entirely replaced by the provincial government since 1997, also has worried artists who fear that the principle of peer review has been undermined. The Council's allotment from the provincial government was simultaneously reduced from $42 million in 1995-96 to $25 million in 1997-98 (Renzetti, 1998: A15).

Alarms were also raised by the Canadian Museums Association (CMA) over a 1998 legislative initiative by the federal government to transfer responsibility for appointing directors of cultural agencies such as the National Museums, the Canadian Broadcasting Corporation and the National Film Board from their respective Boards of Directors to the government itself (McAvity, 1998: Interview). The CMA feared that this might undermine the arm's length principle. As Margaret Thatcher once said, "One could only do so much by changing the framework of the system: it was the people who operated within it who were key" (Thatcher, 1993: 637). This initiative did not proceed, but may possibly be reintroduced.

At the federal level, cultural programmes within the Department of Canadian Heritage, with the exception of programmes in support of heritage, were somewhat protected from the worst of the 1994-97 Programme Review cuts. While the corporate services area of the Department of Canadian Heritage was reduced by approximately 40%, the cultural programmes were reduced by 13% (Homulos, 1998: Interview). In addition, the 1998 budget provided an additional $25 million for each of the next five years to the Canada Council, which had previously been reduced from a high of $108 million in 1992-93 to a low of $91 million in 1996-97 (Canada Council for the Arts, 1997: Web).

Where the federal government's actions have become much more directive is in the demands for greater publicity for government financial support. One of the repercussions of extensive budget cuts has been a decreased federal visibility, but for reasons of national unity, it is argued, the federal government must be seen as an active and positive force. Grants to museums must now satisfy two explicit objectives: pan-Canadianism and government visibility. In a new departure, grant recipients are required "to make every effort to ensure that the Canadian flag has a prominent place of honour at all events" and to "encourage others to profile this most-important symbol of Canada throughout the year". They are also encouraged to "assist in helping Canadians come to a fuller awareness and appreciation of our country and citizenship" (Copps, 1997: M.S.). Nationalism was also a key component in Thatcherism which has been described as a "mixture of free markets, financial discipline, firm control over public expenditure, tax cuts, nationalism, 'Victorian values'..., privatisation and a dash of populism" (Lawson, 1992: 64).

Whatever the motivation behind budget cuts, governments since the Reagan-Thatcher-Mulroney years have promoted a business mentality that emphasizes increased efficiency, revenue generation, user paying, private sector funding and, especially in the UK, creating pseudo-competitive markets in what is left of the public sector. The primacy of the economic in government policy-making can be seen in the words of a senior federal government official interviewed in the summer of 1998. When asked what a federal programme should do when the means by which it generates revenue does not correspond with its mandate, he replied that it should consider changing its mandate. The rationale for government support has also changed to emphasize the economic. A message from the Ontario Ministry of Citizenship, Culture and Recreation posted on the Ministry's web site in the summer of 1998 states:

> One of the major themes of this Government is "investing in jobs for the future, today". The arts and culture initiatives announced in the budget recognize the value and importance of these sectors in contributing to Ontario's buoyant economy.

A recent article by the current Tory-appointed chairman of the Ontario Arts Council pitched culture in the following terms:

> For spiritual nourishment, soul enhancement, job creation, skills training, visitor attraction, urban renewal, economic development, corporate marketing and consumer attractiveness, the arts are proving to be one of the soundest long-term investments government can support (Jackman, 1998: 21).

Comparable language can be seen in a 1985 Arts Council publication in the UK:

> The outstanding quality of the arts is undoubtedly a major attraction for the 12 million visitors who spend around £5,000 million in this country. The work of the Arts Council is therefore a very advantageous investment -

> both in Britain's economic development and, even more significantly, in the development of British culture (Rees-Mogg, 1985: 2).

Contrast this with the words of the first chairman of the Canada Council in 1957, the Honourable Brooke Claxton:

> We have long felt that material things cannot alone make a great nation. As we press forward all along the line on the material front we must hope to advance, too, on the spiritual front, advance in our artistic expression as a nation, advance so that we can lift ourselves to the level of our destinies (Canada Council, 1957: Web).

and his vice-chairman, Father Georges-Henri Lévesque

> Even in this prosperous country of ours, many (artists) who are extremely gifted live a life of insecurity and even privation...We often forget that the artists and writers also create wealth, but a kind of wealth often underestimated by an unconscious and sometimes unavowed materialism (Canada Council, 1957: Web).

It appears that the materialism is no longer unavowed.

The linking by the state of cultural goals with commercial ends is not entirely new. The rationale for the founding of the South Kensington Museum, as we have seen, was the reform of English art and design training. The government's objective was to enhance the country's competitiveness in foreign markets by improving the artistic quality of English goods (Conforti, 1998: 20). We have also seen that the marketplace played an important role in broadening cultural access in the era characterized by Habermas as the birth of the public sphere. Nonetheless, the current dominant influence of economic factors over all others appears unprecedented in the history of the modern world.

Although the Canadian federal government has tried to protect culture from the worst of its budget reductions, the heritage programmes and institutions have not been quite so fortunate. The museum programmes established under the 1972 National Museums Policy of "democratization and decentralization" have been hit hard, although the decision to increase the Museums Assistance Programme (MAP) to $9.4 million beginning in 1999 was viewed positively by the museum community (Department of Canadian Heritage, 1998: M.S.). However, as recently as the early 1990s, MAP had provided $14 million a year in such grants. A further $500,000 was also made available to the Cultural Property Export Review Board in 1998 to assist museums in acquiring significant artifacts and, in addition, the government announced a wide-ranging indemnification plan to facilitate the circulation of exhibitions (Palamar and McAvity, 1998: 8). In a move the implications of which are not yet clear, however, the Minister of Canadian Heritage has decided to “loosen up existing grants programmes so more funds will be available to the Minister for discretionary purposes” (McAvity, 1998: 2). Charles Gruchy, the Director General of the Heritage Branch until the summer of 1998, has stated that he believes that the principle of peer review will remain in effect, but that the ultimate influence of peers on where the money goes will be reduced. (Gruchy, 1998: Interview).

MAP and its sister programmes, the Canadian Conservation Institute (CCI) and the Canadian Heritage Information Network (CHIN), were originally established to improve the preservation and access of Canadian collections. At a hearing in March 1998 before the Standing Committee on Canadian Heritage, museum directors acknowledged the success of this policy. The National Museums Policy, they agreed, had raised professional standards across the country, strengthening the care and documentation of collections while encouraging public outreach. Canada, it was felt, had become a world leader in the management of its museums (Standing Committee, March 10, 1998: M.S.). The Policy was also a factor in the extraordinary growth in museum numbers.

By contrast, the federal government has been described as a non-player in recent years. The Canadian Conservation Institute and the Canadian Heritage Information Network, which received the full brunt of Programme Review cuts, have each been charged with the task of generating $500,000 a year in revenue. According to the directors who reported to the Standing Committee, the federal government has lost its leadership role. In an interview in the summer of 1998, one director commented that the amount of money available through individual grants from MAP was so small that it was almost not worth the effort of preparing a grant application. Another described MAP as providing useful seed money. When asked about the need for a new Heritage Policy, the directors replied that there was no point, unless it was accompanied by additional funding (Standing Committee, March 10, 1998: M.S.).

The severe reductions in funding have clearly affected governments’ ability to set meaningful policy. At the same time, cuts in the civil service may also have a negative impact. Just as museums face a reduction in their intellectual capital, so do federal and provincial ministries. The loss of skilled employees through cuts is bound to have an effect. These planned reductions have been amplified by a further unplanned loss of skilled individuals as demoralized senior civil servants move to the higher wages and increased opportunities within the private sector. In the *Fourth Annual Report to the Prime Minister on the Public Service of Canada*, the Clerk of the Privy Council reported on the "quiet crisis" in the Public Service in which it was becoming "increasingly difficult to retain, motivate and attract people essential to the work of the Public Service" (Bourgon, 1997: 38). A recent study by the Association of Professional Executives on the stress of managing the Liberals' massive four-year downsizing showed that:

> Executive public servants in Canada have twice the "overall distress" of their British counterparts. Incidences of physical problems are 39% above the norm; anxiety is 45% higher; and the number of problems with day-to-day social functioning are 29% higher...At the same time, federal executives work longer hours, spend more time away from home and have lower job satisfaction than do people in other occupations (May, 1998: A1).

An article in the Ottawa Citizen in October 1997 reported that:

> A brain drain is sweeping the federal public service as an unprecedented number of highly skilled specialists, managers and executives quit for higher paying jobs in the private sector...The concern is that the brain drain, left unchecked, could undermine the calibre and quality of the public service in dealing with critical policy and administrative issues (May, 1997: A1).

Although these concerns have been raised about the federal government as a whole, turnover at the level of director general within the cultural and heritage sectors in recent years confirm their significance to the Department of Canadian Heritage.

Interviews with heritage employees, not only in Ottawa, but also within provincial and municipal governments, have indicated a comparable level of demoralization that may ultimately weaken the policy function. Apart from the obvious concerns of increased workloads and the frustration over a decreased ability to provide service, there was a widespread perception among civil servants in the heritage field who agreed to be interviewed that community knowledge was less valued by senior managers in all three levels of government than it had been previously. Governments, they felt, had become more process-oriented and more inward-looking; direct service provision was being marginalized at a time when slashed budgets made it more and more difficult to interact with clients. This impression received back-handed confirmation by a senior government official. When queried about the relative value of community knowledge in the current environment, the official replied that senior managers felt that many specialist employees were unwilling to adapt to the new circumstances and that they had been "taken hostage by their communities" instead of "representing the government".

These words are echoed, albeit in a more neutral fashion, by the Clerk of the Privy Council:

> Public servants will have to rethink how they conceive and develop policy proposals. They will need to focus on their collective responsibility to serve the broader public and to work across institutional lines to develop the best possible policy. They must strike a balance in fulfilling both their individual accountabilities to their clients and stakeholders and at the same time their collective responsibilities to the broader public interest (Bourgon, 1997: 35).

No doubt the increased demands resulting from reduced staff levels and reduced budgets may require managers to focus more on control and less on creativity and client communication. It is also possible that the federal government's decision to maximize its resources by encouraging cross-departmental policy development and by overcoming "the vertical stovepipes that divide government activities into somewhat artificial domains" may contribute to the impression by some civil servants that professional knowledge is devalued (Bourgon, 1997: 34). What front-line civil servants perceive, however, is that the infrastructure of Canadian museums, carefully nurtured by all levels of government over thirty years, is deteriorating markedly. The long term consequences, they believe, are grave. Whatever the causes of the impasse, it is clear that there is a real problem of trust and communication that cannot fail to hinder the state's ability to play a leadership role.

The Market

The alliance between culture and commerce has long been an uneasy one. As was argued in Chapter Three of this study, the birth of a consumer society and the development of a sizable public for culture in eighteenth-century Britain did not occur without criticism and uncertainty. Questions of quality, of artistic independence, criticism regarding extravagance and elitism were often hotly debated. Cultural products became more widely accessible, but critics argued that this accessibility resulted in a debasement of art, what in this century has been called a loss of aura. It is not surprising that in an era of unprecedented abundance and consumption that these questions should continue.

The link between museums and the commercial world was further strengthened in recent decades as American art museums looked to business for sponsorship dollars. In January 1968, the first meeting of the Business Committee on the Arts was held at the Metropolitan Museum of Art, followed in the mid-1970s by the Met's Corporate Patron Program. A Met pamphlet entitled *The business behind the art knows the art behind the business* promoted the new program as follows:

> Many public relations opportunities are available at The Metropolitan Museum of Art through sponsorship of programs, special exhibitions and services. These can often provide a creative and cost effective answer to a specific marketing objective, particularly where international, governmental or consumer relations may be a fundamental concern (quoted in Haacke, 1986: 70).

Other people have described sponsorship differently. As a Los Angeles art consultant whose clients included E.F. Hutton and Pacific Bell stated in 1985:

> It provides an image for a corporation as sensitive and innovative instead of as a heartless, bottom-line company. It is a powerful marketing tool for oil companies, banks and tobacco companies which are trying to clean up their bad public image (McGuigan, Malone, Huck, and Doherty, 1985: 96).

Even more harsh were the words of a London critic who argued that the spectacular rise of sponsorship during the 1980s turned:

> London's public galleries...into shop windows and sumptuous advertising malls for arms manufacturers and credit salesmen (Januszczak, 1986: 11).

Januszczak was referring to the role of the United Technologies Corporation (UTC) in backing a number of London shows, including a Stubbs exhibition at the Tate Gallery, in the 1980s. During the opening address at one UTC-backed exhibition, the arts minister of the time, Lord Gowrie, praised the show as an example of private rather than public initiative. UTC and its subsidiary, Sikorsky Helicopters, played a role in the design of cruise missiles which, coincidentally, arrived in Britain at around the same time.

Since the 1960s, the liaison between the corporate world and the American museum community - what *Newsweek* has referred to as the museum-industrial complex - has become increasing commonplace, fuelled by an increased reliance on popular but expensive blockbuster shows, economic difficulties and government cuts (McGuigan, Malone, Huck, and Doherty, 1985: 96). Whereas, in

1967, American corporations spent $22 million on the arts as a whole, by 1994, businesses with revenue over $1 million were donating more than $875 million (Cobb, 1996: 133). The rise of the arts administrator, trained in the language and practices of business, may also have contributed to the phenomenon (Haacke, 1986: 60).

Museums in Canada and Britain, with their greater reliance on state subsidies, entered the corporate world more cautiously, but budget cuts in recent decades have forced them to jump on the bandwagon. Changes in government attitudes also spurred their entrepreneurial initiatives. A trustee of the Victoria and Albert Museum, the art historian Martin Kemp, who resigned in protest at policy and staffing changes there in 1989, later wrote of the new style trustee bodies with - it was alleged - overtly political appointees:

> The cosy clubs have been replaced by far more active, partisan and managerially-minded bodies, many of whose members do not hesitate to impose their views on the organisations for which they are caring. I do not think the present government has made any secret of the fact that it expects the boards to promulgate policies which reflect the economic values of the market (Kemp, 1989: 356).

That this attitude is now shared by politicians of all stripes can be seen in the words of the Labour Minister of Culture, Media and Sport, Chris Smith:

> Getting good quality retail, marketing and income generation into museums is something which should not be sniffed at. It assists with scholarship presentation and conservation. It does not distract from it (Nightingale, 1998: 25).

This pursuit of corporate sponsorships has many critics (as well as many proponents, most notably market-minded governments). Critics such as the American sociologist Herbert Schiller have warned of the "corporate takeover of public expression". Schiller argued that the relationship between the corporate world and similar institutions is particularly insidious because museums "maintain the appearance of a public resource and a site of public creative expression" (Schiller, 1989: 92). He also questioned the morality inherent in accepting funding from the tobacco industry, from countries with a history of human rights violations, or in renting museum facilities to corporations to be used in promoting new products (Schiller, 1989: 93).

The artist, Hans Haacke, has been particularly outspoken in his criticism of corporate influence in the arts. Since his 1975 exhibition *On Social Grease*, Haacke has consistently argued that corporate support of the arts is less an example of philanthropy than an exercise in public relations designed to promote a positive image, one that enhances the economic and political profile of big business while camouflaging the less salubrious aspects. Haacke has also argued that the close relationship and, indeed, the dependency of museums on corporate funding has diminished their ability to play an emancipatory and critical role. Companies are drawn to high visibility shows such as blockbusters that absorb a great deal of energy that might otherwise be used within the museum. Shows of a controversial nature are unlikely to be sponsored and may offend potential donors. As a result, self-censorship reigns. Philippe de Montebello, director of the Metropolitan Museum has called this "an inherent, insidious, hidden form of censorship". He added, "But corporations aren't censoring us - we're censoring ourselves" (McGuigan, Malone, Huck and Doherty, 1985: 98). Even though corporate donations often cover only a small proportion of an exhibition's costs, Haacke has argued that their influence is disproportionate - and largely unchallenged (Haacke, 1986: 71).

In interviews with senior Canadian museum personnel, the majority shared some of Haacke's concerns. Although only one overt case of censorship was described, several felt that corporate influence was disproportionately high (Tyler, 1998; Carpentier, 1998; McAvity, 1998; Segger, 1998: Interviews). Corporate funding of the arts is no longer philanthropic: it has now become an overt marketing activity handled by marketing departments. Whereas twenty years ago, the arts were in a privileged position, now Canadian museums must compete with other cash-strapped institutions such as hospitals and universities (McAvity, 1998: Interview). As a result, corporations can demand more for their money. The disproportionate amount of publicity given to companies for what is often a relatively small sum of money may partially explain why the federal government is more adamant about museums' waving the flag when receiving government grants. Often the government may have supplied a much more significant sum of money to underwrite an exhibition, but will only receive a passing mention in comparison to the private sector. It is worth noting that it is government that has encouraged museums to seek corporate sponsorship.

For example, at a 1998 Picasso show at the Canadian National Gallery, the presence of the corporate sponsor, Midland Walwyn, then a major Canadian financial firm, by far out shadowed that of the Gallery itself in the entrance hall of the exhibition. There is a certain irony to be had in juxtaposing Picasso's membership in the Communist Party with the words of the CEO of Midland Walwyn: "At Midland Walwyn, we share Picasso's belief in the power of thought and his pursuit of excellence". Perhaps even more paradoxical was the Chrysler car displayed in the entrance hall of the Art Gallery of Ontario (AGO) during a William Morris exhibition in 1993. Showing admirable sensitivity to the Morris oeuvre, Chrysler offered to upholster the car in one of Morris' prints. Out of a similar respect for Morris' work, the AGO declined (Gale, 1998: Interview).

Writing in the *Art Bulletin* in 1997, the Harvard University Art Museum director, James Cuno, described the display of an Oldsmobile during a Magritte exhibition at the Montreal Museum of Fine Arts as "bizarre" and "not a harbinger of things to come", but these "commercial incidents" have in fact become more common; for example, the display of a BMW on the catalogue of an exhibition of motorcycles sponsored by BMW at the Guggenheim in 1998 or an autumn 2000 show of Armani fashions also at the Guggenheim that followed a gift by the designer to the museum of $5 million (Cuno, 1997: 6). The Brooklyn Museum of Art was also criticized for accepting funding from collector Charles Saatchi ($168,000) to display his private collection (the *Sensation* exhibition) and for allowing Mr. Saatchi to bypass the Museum's own curatorial staff. Further questions of conflict of interest arose over a positive review by a second exhibition sponsor, *Time Out New York* magazine, as the show was largely panned by New York critics. The *Art Newspaper* warns that further appearances of conflict of interest – the impression that museum galleries are for sale or rent - may result in government regulation of sponsorship (D'Arcy, 2000: 10). It also points out, however, that it is government cuts that have forced museums to seek out corporate support.

Corporate sponsors do have an effect on the type of exhibitions offered. Understandably, they prefer high profile shows with popular, uncontroversial content. Picasso or the Impressionists are typical of the type of subjects that are attractive, while new, experimental or unconventional subject matter - indeed vast areas of art history - are unlikely to be funded. Large institutions are also more likely to attract sponsors than smaller, regional institutions. Some individuals, such as Joe Geurts, the Chief Operating Officer of the Canadian Museum of Civilization, were fairly phlegmatic about the ability to manage corporate demands, stating "If Team Canada can accept sponsorship, why shouldn't museums?" (Geurts, 1998: Interview).

Others, by contrast, spoke of "being in handcuffs" or "having to bend over backwards" or even "letting principles die" (Tyler, 1998; Carpentier, 1998: Interviews). One example of direct influence by a sponsor occurred in the Canada Hall of the Canadian Museum of Civilization in an exhibition discussing the history of the railroad. A video being developed on the subject stated that many Chinese workers, who were brought to Canada to work on the railway, lie in unmarked graves along the track. The sponsoring company, Canadian Pacific, requested that the museum remove the reference, arguing that the comment was unfair because not only Chinese workers had died. The museum complied (Wolfe, 1998: Interview).

The former Director General of Collections and Information Access, Paul Carpentier, contrasted this decision with previous museum policy. He cited a case where the National Museum of Man, the precursor of CMC, had rejected a cigarette company as sponsor, partially because of the nature of its business, but also because it had insisted on vetting exhibit texts. The museum proceeded with a less expensive version of the exhibition. Carpentier concluded that when museums had to rewrite history in order to accommodate sponsors, they were in big trouble (Carpentier, 1998: Interview). As of 1996-97, cigarette companies provided Canadian museums with $1 million a year, although the federal government is phasing out tobacco sponsorship over a five year period ending in 2002 (McAvity and Stevenson, 1997: 7).

Other examples of museum involvement in the marketplace include the adoption of marketing techniques and a new emphasis on revenue generation. In interviews conducted in the summer of 1998, the majority of senior museum personnel expressed reservations regarding their incursions into the marketplace, but all felt that their current circumstances necessitated this. One positive outcome cited by museum directors has been a new focus on identifying and meeting the needs of the public. In some cases, this public awareness has entailed the adoption of marketing techniques. In other cases, museums have gone beyond market analysis to engage the public in a genuine debate. Canadian museum directors identified this new attention to the public as perhaps the silver lining to the difficult financial climate. Surveys were regularly used to assess the needs of the public and to evaluate visitor satisfaction. Services were amended accordingly and new amenities such as better restaurants and parking facilities were introduced to make the visit a more satisfying experience.

The Royal British Columbia Museum is an example of a museum that not only surveyed its public, but also engaged in in-depth consultation. When the worst cuts hit, the director, Bill Barkley, tendered his resignation, considering the extent of the cuts as indicative of museums' real lack of value to society. When persuaded to stay by the provincial government, he made this conditional on being allowed to set up an independent "futures office" to consist of himself and two other employees. After spending three months in reading and research, he organized meetings throughout the province, carefully inviting a wide cross-section of the public and making sure that heritage interest groups were not over-represented. What the museum learned from these meetings was that the public, even in remote areas, considered the preservation of the province's heritage by the museum as an important function. What they also learned was that the public did not trust the museum. People felt isolated from the collections. Individual donors, faced with security guards, curators and collections managers, lacked any sense of confidence that they would see their donated objects. Ironically, the increased professionalism of Canadian museums, nurtured over decades to improve collections care, may have contributed to this distancing.

The museum's response has been to develop a five year plan focusing on ways to make the museum relevant to the daily life of the community and to provide easier access to the collections. One way this has been accomplished is through open houses in which visitors may enter storage areas. During these open houses, as many as fourteen thousand people may visit the stores. The museum has begun re-consulting the public to determine whether its efforts have been successful. There is some evidence that public perception is changing and the director hopes that this may eventually result in increased government funding. In the meantime, according to Director Bill Barkley, the museum is still struggling to survive (Barkley, 1998: Interview).

Another area of increased emphasis over the past decade has been in the use of promotional techniques to publicize museum activities. The McMichael's Barbara Tyler commented that in the past museums produced excellent exhibitions, but sometimes drew smaller audiences because of a lack of publicity. Now museums were much more able to attract visitors, although there was some sense that the pendulum had swung too far in the opposite direction with marketing campaigns promising more than was actually delivered in order to attract corporate funding. Staff, this director reported, were conscious that standards were suffering within the museum because of cuts and felt demoralized by the discrepancy between the publicity and the internal reality (Tyler, 1998: Interview).

Marketing has also paid off for many museums in terms of membership growth. Using telemarketing, the National Gallery of Canada was able to increase its membership from 2,700 to 15,000. In 1988, the McMichael Canadian Collection (with some financial assistance from the Department of Canadian Heritage) mailed out 100,000 brochures, offering free membership for six months. The campaign's objective was to convert 25% of individuals attracted by the special offer into permanent members. Cognisant of the rapid growth of the Italian-speaking population in its vicinity, the gallery now includes Italian in their brochures (Tyler, 1998: Interview).

Although generally positive about the use of marketing techniques to reach and serve the public, most individuals interviewed were less sanguine about their revenue generating activities. Typical sources of revenue include admission charges, memberships, gift shops, restaurants, parking, and IMAX theatres. Other sources of income include renting out space for weddings and receptions (also a major growth area in UK museums), as well as film productions and even rock concerts. This latter activity, although lucrative, was one of the most controversial. Regarding the rental of the Nova Scotia Museum of Industry for weddings, the director, Candace Stevenson, stated that this was one way to bring the museum into the life of the community (Stevenson, 1998: Interview). Other museums were more concerned, possibly because of the more sensitive nature of their collections. Paul Carpentier, formerly of the Canadian Museum of Civilization, spoke of conservation issues. He pointed out that taxpayers had paid millions of dollars on sophisticated environmental controls. Bringing people with food and drinks into the middle of collections "made his stomach turn" (Carpentier, 1998: Interview). Not all museum staff shared his concerns and the museum proceeded with the practice.

Similarly, the director of the McMichael Gallery voiced her discomfort with the practice. Her museum, having shifted from over 80% government funding to approximately 40% in ten years, has even hired a wedding consultant. She spoke of the need to monitor the type of food and drinks served at receptions "to avoid people from getting drunk or grinding paté in the carpet" (Tyler, 1998: Interview). To assuage staff discomfort, who she said were traumatized by the practice, a five minute talk on the collections was given at the opening of the reception and visitors were encouraged to view the art. If the museum did not need the revenue, it would discontinue the practice.

The decision to rent space in a large institution may come down to a matter of risk assessment. In smaller institutions with less security, and especially in historical houses, the practice may be more problematic. Richard Gerrard of the Toronto Historical Board spoke of a case where wedding attendees wandered out of a reception into supposedly secure areas, playing billiards and leaving taps and gas fixtures on in historic rooms. He also spoke of the challenge of storing artifacts during the five or six film and television productions held annually at Spadina House, one of the Board's sites. Other smaller historic facilities elsewhere in the province, desperate for money, have even allowed film makers to use their collections (Gerrard, 1998: Interview).

Charging for admission in Canadian museums has become much more common. Presently, over 40% of museums charge, up from 34% in 1989 (Statistics Canada, 1998: M.S.). While admission charges have generated a great deal of discussion and controversy for decades in Britain, there has been little public concern voiced in Canada. Of the four National Museums, three charge admission. The National Gallery experimented with charges several years ago, but decided to drop them when it found that its attendance figures and gift shop receipts suffered. Now, it only charges for special exhibitions and remains closed on Tuesdays during the winter to cut costs. Surveys at the Royal British Columbia Museum, on the other hand, have shown little change in demographics since admission charges were instituted (Barkley, 1998: Interview).

If Canadians seem relatively resigned to paying entrance fees, this is not the case in Europe. An *Art Newspaper* survey of major European museums indicates that the imposition of admission fees at several national museums has resulted in major drops in attendance, 33% on average in London. The Science Museum, at one extreme, saw visitorship reduced by half, from 3.2 million in 1987-88 to 1.1 million in 1989-90 when charges were imposed. Attendance has since risen to 1.5 million in 1996-97. The two most popular museums in Europe do not charge: the British Museum with 6.7 million visitors in 1996 and the National Gallery with 5 million (Marsan, 1998: 11). Each has more than doubled its visitors since others started charging in the 1980s. Both successfully resisted Conservative government pressures for charging, arguing that this could produce a net loss due to reductions in trading income, partly as a loss in total visitor numbers and also because the amount of admission charge paid would influence the amount available for purchases of catalogues, books and souvenirs. This factor is regarded as particularly significant in relation to spending by child visitors (Boylan, 1999: Interview). By comparison, the Louvre, which charges entry fees (although providing wide exemptions), attracted 4.7 million in the same year. When entrance fees were scrapped in 1996 at the National Gallery of Victoria in Australia, attendance doubled (Marsan, 1998: 11).

One challenge for museums has been to maintain a balance between market and mission. The Canadian Museum of Civilization is an example of a market-oriented museum. Major exhibitions, such as the 1998 *Mysteries of Egypt*, are often tied to IMAX films produced with the participation of the museum. Props used in the films figure in the exhibit and later travel with the movie as promotional items. The National Gallery, on the other hand, has to date predicated its business decisions on how they affect its mission. When pressed by auditors to base its exhibition programme on popularity, the Gallery refused. Although it is conscious of the market and of the activities of other galleries, it has chosen to remain focused on its mandate. Blockbuster shows, held generally in the summer months to reach as wide an audience as possible, have become increasingly important as a source of revenue, but the Gallery uses the revenue to support its broader exhibition programme (Moulding, 1998: Interview). However, the orientation of the Gallery may change under its new director appointed late in 1998.

Other directors speak of the challenge in finding a balance. According to the director of the McMichael, the need to establish more and more business activities takes the institutional focus off the mission and places it on the bottom line. The Royal British Columbia Museum has received criticism in the press for being revenue-driven, but argues that it has had to balance public service with the need to survive. The director regrets the energy devoted to revenue-generation, stating that given a choice, the museum would direct its efforts to what it does best, being a museum. Energy directed at making money is energy that could be directed elsewhere; for example, into research or academic and public programming. The director does state very firmly that his museum is not a business, citing Stephen Weil's reminder to museums that businesses that don't make money get shut down (Barkley, 1998: Interview).

One additional effect of the new focus on the bottom line is a change in the institutional culture. At the McMichael, 70% of the new people hired in the past decade have been on the business side (Tyler, 1998: Interview). Twenty of the 110 positions at the Royal British Columbia Museum are now for business purposes such as collecting admissions, marketing and other commercial initiatives (Barkley, 1998: Interview). At the Canadian Museum of Civilization, most of the fifty or so positions lost in recent cuts have been in collections management and research while new positions have been created in the more business-oriented aspects of the museum (Carpentier, 1998: Interview). The registrar of the Toronto Historical Board reported that his senior managers in 1998 included an accountant, an MBA in marketing and a former property manager: none had museum experience when recruited (Gerrard, 1998: Interview). Similarly, the Royal Ontario Museum, whose director espoused the philosophy "if it ain't broke - break it" when it comes to institutional restructuring, has seen a shoring up of its administrative side (Sharp, 1998: M.S.; Hushion, 1998: Interview).

The ideological shift within museums from public service to entrepreneurial can create a degree of tension. The director of the McMichael stated that she thought that one of the biggest management challenges facing museum directors was in handling the different points of view between the more traditional museum workers and their new, business-oriented colleagues. Often the former were quite discouraged by what they saw as a decline in standards because of budget cuts and the discrepancy they perceived between promotional material and reality (Tyler, 1998: Interview). The director of the Royal British Columbia Museum, on the other hand, felt that balancing public programming and curatorial staff had always been a challenge. This situation was no different. He did, however, point out that those positions devoted to revenue generation could, under other circumstances, be used in more fundamental work (Barkley, 1998: Interview).

At the Canadian Museum of Civilization, the Chief Operating Officer, Joe Geurts, spoke of the difficulty experienced by many of the traditional museum professionals in accommodating change. Whereas younger workers in the cultural area were more flexible and willing to be self-employed, older workers were looking for job security and institutional loyalty. As long as his museum could bring in skilled people and contract for more specialized skills, he saw no difficulty with the current rate of change. Staff in the traditional areas were more concerned, suffering an increased rate of burnout and fearing that the care, research and documentation of the collections had suffered (Bishop-Glover, 1998: Interview). The belief that museum standards were being eroded and professional knowledge devalued was echoed by interviewees from a number of institutions who cited the popularity of voluntary retirement packages as indicative of a high level of staff disillusionment.

The Public

If the stereotypical view of Canadian museum visitors is still of "a well-educated, well off woman with a family who was born in Canada from west European ancestry", the reality is more democratic (Cheney, 1994: 1). According to an analysis of the Ontario portion of the Canadian Arts Consumer Profile, a study that surveyed tens of thousands of Canadians about their cultural behaviour in 1991, the profile of people who go to museums at least once a year is remarkably similar to the population as a whole. The proportion of visitors by age, sex, income, education, community size and birthplace (Canadian or elsewhere) is almost identical to their proportion in the population (Cheney, 1994: 5). Education was found to be a key variable in determining the frequency of visits to museums, but individuals with only high school education - slightly over 50% of the population - still account for 42% of museum and 37% of art gallery visits (Cheney, 1994: 10). Of the individuals surveyed, 65% believe that museums make a community a better place to live. This was the second highest rating given to a cultural activity in the survey, the importance of exposing children to the arts being ranked the highest (Cheney, 1994: 7).

The statistics therefore show that Canadian museums are one of the few public spaces where people of all backgrounds gather together for peaceful exchange. They also play a communally valuable role in other senses. Analyses of visitor responses have suggested that exhibitions reinforce and extend visitors' existing beliefs, while providing viewers with an important degree of personal self-affirmation. These same studies suggest that museums act as an instrument of social stability rather than as levers for radical change (Weil, 1997: 266). This is one reason why the stories told by museums are important. According to research done by the Smithsonian's Institutional Studies Office, visitors tend to receive museum presentations as objective truth:

> The museum visitor, an educated individual who is normally alert to the special interests of advertisers, the intentions of authors, and the selective sources of all kinds of speech, typically sets all such cautions aside when entering the museum. Only when the museum's story line deviates in radical ways from the visitor's narrative is that individual likely to become conscious of the fact that exhibitions, too, have authors, and those authors, in turn, have interests to serve (Doering and Pekarik, 1996: 22).

This finding gives credence to Herbert Schiller's concern regarding museums' future as sites of public creative expression (Schiller, 1989: 92). It also lends support to the arm's length principle.

Issues

The purpose of this chapter was to explore the impact on museums of government funding cuts in the 1980s and 1990s and the pressures on museums to generate revenue. The success of museums in reaching a widely divergent population and the general level of respect of the public towards museums is a real accomplishment. However, a number of issues exist that jeopardize museums' public role. Of particular relevance to this thesis are issues of equality and of physical and intellectual access, qualities judged by Habermas as important elements of a healthy public sphere.

If we consider that museums hold collections, to a large extent donated by the public and cared for at public expense, and that these collections are held in trust for both present and future generations, then the first area of concern is the serious degradation of the museum infrastructure. The institutions most at immediate risk are the smaller museums supported by local governments and struggling to deal with cuts passed down from higher levels of government. This is a particular problem in jurisdictions such as Ontario (or in the United Kingdom) where in each case local government restructuring has weakened the traditional ties between museums and local authorities. Some of these museums may not survive. Others will survive, but run the risk of regressing in terms of collection care and other key responsibilities.

Although the larger institutions talk of the struggle to survive, their continued existence seems more assured, given their greater public profile. Of serious long term consequence, however, is the deterioration of their physical infrastructure. Their roofs, their sprinkler systems, their heating, ventilation, security and electrical systems, to give just a few examples, have aged to the point where they will require serious capital expenditures at a time when capital funding for Canadian museums is at a low level and when governments are focusing on visibility, blockbusters and tourism. Resources for documentation, for purchasing new storage units, for preventive conservation and restoration are scarce and, in most cases, there are fewer people devoted to collections care. These are not matters that can be left to the private sector. They are also matters that should be addressed before the problems become acute and collections suffer.

If the physical infrastructure is at risk, so too is the intellectual infrastructure. Clearly the inability to conduct sustained research and systematic collecting will affect the intellectual capital of the institution and, in the long term, its public programming. The loss of skilled and knowledgeable individuals through lay-offs and early retirements already represents a loss. The practice of extensive outsourcing for exhibitions research and other similar functions may also jeopardize the knowledge base of the institution while depriving permanent staff of important development opportunities. Another more insidious risk to museums, as the emphasis on marketing and revenue generation increases, is the declining status within some museums of the more traditional activities such as curatorship. Canadian museums, it used to be said, lacked the huge encyclopaedic collections of the Louvre, the British Museum or the Met, but they could justifiably boast of being among the best run institutions in the world. Twenty years have been invested in creating a highly skilled workforce. It is important that these skills not be lost or devalued.

The perception among civil servants in the heritage field that their specialized knowledge is less valued is also a matter of serious concern. Whether explicit in the statement that employees are being held hostage to their communities or implicit in the recommendation by the Clerk of the Privy Council that civil servants must balance their loyalties, there is an assumption that in being close to their communities, civil servants are somehow disloyal. Yet a decade ago, even five years ago, these close ties would have been seen as praiseworthy, a fundamental part of good service and sound policy. By downplaying this knowledge and by dismissing the concerns of civil servants as an inability to change, governments run the risk of weakening their ability to provide leadership at a time when this is badly needed. There is also a danger that governments will turn their back on the high professional standards and the very real accomplishments that were achieved through their efforts. It may be that the civil service "brain drain" is as much a factor of disillusionment as it is of salaries.

Although museums can justifiably boast of increases in attendance and although Statistics Canada suggests that museums are reaching a much wider segment of the population (56% if the 1993 Statistics Canada report is to be believed) there are some worrying issues regarding public access. The first concern is cuts to the educational system. It was through school visits that museums came closest to providing a universal service, reaching out to groups such as recent immigrants who might not normally be served. Now, with the need for parents to cover the costs of busing, there are fewer visits with a smaller percentage of children attending. Children in rural areas especially are much less likely to attend. Coupled with the lack of travelling exhibitions, the reduction of outreach activities and the increase in admission charges, we have an increased potential for inequality in the distribution of services. Programmes that contributed to humanistic values, such as art education or library programmes, are also receiving less funding in schools, which does not bode well for future participation. In a large and diverse country such as Canada, struggling to create and maintain shared values and cultural connections, these are matters worth considering.

But access is more than a matter of numbers. Access also pertains to the nature of the experience. An additional issue is the museum's ability to present information. Many museum theorists have argued with varying degrees of indignation that museums have never been neutral ground. Be that as it may, the question arises: Are museums more or less free to tell their stories than they were prior to reductions in government support? The answer seems to be that they are less free, that the need to obtain favour with corporate sponsors limits the range of subjects that they deal with and the nature of the information presented. They are also less free if the content they provide must be filtered through market studies. Not that corporations are the only potential censors. The experience of the NEA shows the continued ability of art to stir government passions. The erosion of the arm's length principle, whose effectiveness depends a great deal on government forbearance, is also troubling.

Even more worrying is the changing notion of the public wrought by the struggle to generate ever-increasing revenues. Who is the museum public? Are they citizens enjoying a public space that is open to all or are they consumers? At a speech in April 1998 given by the then director of the Art Gallery of Ontario, the museum public was repeatedly referred to as consumers. It is possible that this reflects a minority view, but it underlines a disturbing trend within our profession and within our society. Consumerism, "the right to pursue one's interests, without hindrance, in the marketplace", encourages people to deal with public difficulties by purchasing a commodity. It is an individual act. Yet the exercise of citizenship presupposes a willingness to act collectively in pursuit of equality, fraternity, as well as individual liberty (Garnham, 1990: 19). Increasingly, public institutions such as museums, universities and even hospitals, once dedicated to public service, are forced into the marketplace. In the short term, this may pay the bills that governments are no longer willing (or able) to handle, but democratic governments require citizens who are willing to consider the public as well as the individual good. Habermas' notion of the public sphere is important because it recognizes the need for a healthy area of public discourse to balance government and the marketplace.

If we accept the fact that we live in a society based on capitalism and democracy - and certainly there are few signs of Canadians manning the barricades - then corporate sponsorship represents an important source of revenue. Competition, an eye for the marketplace and a diversification of funding sources is healthy. What is problematic is when museums need the money so badly that professional standards are eroded. What is also problematic is when the corporate voice predominates or when through direct or self-censorship the potential for discourse is reduced.

Again, if we accept that we live in a capitalist society, then museums' involvement in commercial operations is a natural extension of their operations. The market can impose a discipline and a greater responsiveness to the needs and interests of the public. It is when the market overshadows the mission that we need worry; when the pursuit of those who can pay diverts our attention from those who cannot. It is difficult to swallow a 1998 newspaper advertisement for an exclusive men's store that presents the former director and a senior curator of the Art Gallery of Ontario, each wearing thousands of dollars of clothing, as they promote the exhibition with the highest-priced admission in Canadian museum history. Meanwhile, a few blocks away, the homeless sprawl on the sidewalks.

The following two chapters will explore the issue of commercialization from the perspective of digital information. Technology offers a major new avenue for museums to reach out to the public. At the same time, the digitization of museum content represents one of the most costly and labour intensive initiatives that museums may undertake. In the heady days of the technology boom of the 1990s, it was frequently suggested that these costs could be recouped or even surpassed by revenues generated through licensing museum intellectual property or through sales of digital products. Two case studies will be presented that will argue, in keeping with the hypothesis of this thesis, that digital information does not represent a significant new revenue source for museums. They will also argue that this confusion regarding the revenue potential of digital information could undermine the museum's traditional responsibility to reach out to the broadest possible public. This issue will first be examined through the experiences of the Canadian Museum of Civilization.

Chapter 5 - Case Study: The Commercialization of Information Technology at the Canadian Museum of Civilization.

> *The real database, the real information system of an organization is not in its computers but in the heads of its middle managers...people who have been there for a long time, know the place, care for the place and so on* (Mintzberg, 1999: M.S.).

One of the dominant themes within museums in recent decades and, indeed, within our society as a whole, has been the centrality of information technology. Within the museum field, a major proponent of the importance of computers has been the Canadian Museum of Civilization. Reflected in the Museum's strategic plan and other publications is the view that technology is key to a viable future for museums as communicators. A corollary of this view is the need to generate revenue from information in order to cover the costs of technology. This chapter will look at the relationship of these beliefs and their potential impact on the public role of the museum.

The Canadian Museum of Civilization (CMC), one of four national museums, is the largest museum in Canada and also the most highly visited, with a 1998 attendance of approximately 1.2 million. The dramatic architecture and fine location of its large new building, opened in 1989 on the banks of the Ottawa River overlooking the Parliament Buildings, make it a popular attraction for tourists, although the majority of its visitors are from the local provinces of Ontario and Quebec. Ottawa, Canada's capital, is one of the most prosperous Canadian cities and its inhabitants are the most highly educated in Canada. Not surprisingly, CMC attracts a large number of local residents, many of whom are return visitors and frequent attendees of other museums and galleries. The museum, located in Hull in Francophone Quebec, attracts both Anglophones and Francophones, in keeping with the bilingual nature of the institution, and a somewhat higher percentage of women. Although popular with older visitors, it has succeeded in bringing in a younger audience, especially younger adults (Graham, 1997: 1).

CMC is the largest public museum in Canada, with a total operating revenue in 1996-97 of approximately $53 million and a staff complement of 418 full-time and 164 part-time employees (CBAC, 1998: 41). A museum of human history, it houses collections of history, folk culture, ethnology and archaeology. Also under its management are the collections of the Postal Museum and the Children's Museum, the last two being housed in the new CMC building. The Museum of New France, an entirely virtual museum, is also based within CMC's walls, while the Canadian War Museum, an affiliate museum, possesses its own two buildings and has been lobbying for new facilities for some time. In addition to its four million objects (predominantly archaeological), it also possesses collections of 400,000 photographs, 15,000 audio recordings featuring folklore, songs and languages and 7,280 film and video sequences (CMC, 1995a: 9). Its collections of Native Canadian artifacts, especially those of West Coast origin, are among its most notable, and CMC feels a special obligation in making this information available to native communities (Inglis, 1998: Interview).

Although the Canadian national collections can be traced back to the creation of the Geological Survey of Canada in 1841, the current incarnation of the Museum dates back only ten years to the opening of its new building in 1989. CMC may truly claim to be a "wired museum" with its 3000 kilometres of copper wire, 1000 kilometres of fibre optics and 150 kilometres of coaxial cable. Its fibre optical infrastructure, more extensive than in any other single building in the world, has sufficient capacity to carry every telephone conversation in Canada. Accompanying the electronic infrastructure was a new vision, that of CMC as the museum for the global village (MacDonald and Alsford, 1989: 220 -221).

In the 1989 publication entitled *A Museum for the Global Village*, launched to coincide with the new building, the then Executive Director of CMC, Dr. George MacDonald, and his co-author, Stephen Alsford, presented a vision of a "less collection-centric" museum. Although artifacts remain important to the museum in this vision, access to information about artifacts, presented in a way that is lively and entertaining as well as educational, assumes an increased importance (MacDonald and Alsford, 1989: 34). The museum is described as symbol, vision, showcase, treasure-house, memory, communicator, mentor, celebration, host and resource. MacDonald and Alsford cite technology as one of the key tools required to manifest these various incarnations, stating that it is technology that permits the museum to reach out in varied ways to the diverse audiences of the global village (MacDonald and Alsford, 1989: 216).

Several themes reappear in this and other publications, themes that are echoed in the Museum's many projects. The first of these is the primacy of information. Museums generate, perpetuate, organize and disseminate information. Although artifacts remain key, the proponents of this view see several advantages in viewing information as the primary resource or commodity of museums. First, the intangibles of culture such as oral history and the use of surrogates such as replicas or images are more easily accommodated. Second, in the Information Age, information-based services play an increasing role in economic prosperity. By identifying information as the core business of museums, it positions them to play an important role in this new era. Third, under this equation, education and communication can achieve a more balanced role relative to the more traditional role of collections research, conservation and exhibition (MacDonald and Alsford, 1991: 307). Museums become information utilities with artifacts as their primary specialization (MacDonald and Alsford, 1991: 306 - 308).

The second theme presented in many CMC publications is that technology represents an increasingly important way for museums to communicate this information with its public. Technology, it is said, can lead to democratization by increasing access and by permitting the community to participate in the creation of content and in the direction of the museum. It is a tool for life-long learning that reduces the need for staff to act as mediators and increasingly presents opportunities for customized learning. As audiences, especially young people, become increasingly conversant with computers, it will help museums to compete with the entertainment industry which might otherwise assume many museum functions. Technology, according to this view, is a tool for creation, management and preservation, positioning museums as important players in the Information Age. Traditional museums and historic sites that eschew information technology will become increasingly less competitive as visitors are seduced by new technologies (MacDonald and Alsford, 1995b: 36).

Technology can also enhance the museum's contribution to cultural identity, according to MacDonald and Alsford. Museums act as an important part of society's memory. Yet each institution holds only a fraction of this memory. Through collaboration and improved network-based communication, museums can contribute to the reconstruction of "virtual cultures". One important element of this is genealogical information, cited as the second-most popular subject on the Internet. As technology advances, the authors argue, it will eventually be possible to recreate previous civilizations and people them with virtual versions of human ancestors.

Yet technology is expensive. It is here that the third theme arises, that information must generate revenue to cover costs, as the former director of CMC insists:

> Currently hypothetical technologies can be realized with the massive funds available from industry co-ventures and mergers. They are strictly investment funds and must be repaid by massive revenues from visitors...Those visitors will be seduced by new technologies. Ultimately,

> history is destined to become a commodity (even more than it is now) to be rehabilitated and themed, purchased and sold (MacDonald and Alsford, 1995b: 36).

This belief can also be seen in CMC's Strategic Plan for 1993 to 1998 entitled *A Vision for the 21st Century*. The key features of the Museum's strategic directions are described as follows:

> To be a centre of museological excellence...;
> To foster in all Canadians a sense of our common Canadian identity and history;
> To promote intercultural understanding and dialogue;
> To share and communicate its knowledge to a degree unprecedented in museums; and
> To provide a learning experience that is both educational and enjoyable (CMC, 1993a: 15-16).

In order to meet public needs, CMC will:

> ...continue the shift towards an electronic environment of collections management...expand electronic outreach activities...make knowledge, artifacts and programmes more accessible...through the use of electronic media (CMC, 1993a: 18-20).

And further:

> Since use of CMCC information through electronic media will be on a user-pay basis, projects will be cost-effective (CMC, 1993a: 24).

Costs incurred in improving accessibility, CMC believed, would be recovered through access fees to online information targeted at the home entertainment and educational market or by developing products that could be mass-produced in quantities and at costs that suit market demand. This would necessitate the building of digital archives stored in stable media as the raw resource. Priorities should be set, based on a market-conscious approach under which objects of public interest or market demand are digitized first. These popular items would be considered the "low-hanging fruit" to be processed first into specific knowledge products in order to generate a "revenue stream" that would subsidize the process of digitization. Once digitized, images could be used and reused in different applications, thus reducing costs (MacDonald and Alsford, 1995b: 35).

Digital images could also be used in developing a whole range of products based on a particular theme. For example, a new IMAX movie could be paired with an exhibition on the same subject, using props from the film to add drama to the display, while related T-shirts, books, audio tapes or multimedia products could be reproduced for the gift shop (MacDonald and Alsford, 1995b: 36). The digital image could have different uses in the entire product range. It was further assumed that products of this nature can best be developed in alliances with the private sector. Using content as a bargaining chip in return for access to financial resources or skill sets, museums could form mutually beneficial alliances with industry or private developers. Museums, it was argued, must become more market-responsive and more entrepreneurial without, of course, losing sight of their educational missions. Those that do not meet demands would be by-passed (MacDonald and Alsford, 1995b: 34).

These assumptions must be seen in light of the gold rush mentality that surrounded the economic and technological developments of the 1990s. In 1989, Bill Gates founded Interactive Home Systems, a company designed "to create new uses and markets for high-quality visual content" (Lusaka, 1996: 35). Renamed Continuum and finally Corbis, it aimed to realize a future in which living room walls would be decorated with wafer-thin video monitors displaying digital reproductions of the world's art treasures, as reportedly Gates' own house was furnished (Kaufman, 1994: 1). In the early 1990s, Continuum approached museums from Russia to Seattle to acquire the rights to images judged desirable to print-based, electronic and multimedia publishers as well as to advertisers and art directors (MacDonald, 1994: 6). In some cases, such as the National Gallery in London, deals were made that were not in the institutions' best interests, although later contracts were arranged on a non-exclusive, limited term basis. There was also much concern about the knock-down price paid by Gates, estimated at $0.60 US per work of art for a five year licence in the majority of cases, while the same museum might charge $60 to $150 US for a single reproduction in a respectable academic book (Boylan, 1999: Interview). The predations by Bill Gates were considered sufficiently worrisome that President Mitterand reportedly forbade French museums from doing business with his company (CMC, 1993c: M.S.).

To many people in the museum field, Bill Gates' attempt to obtain control over a sizable portion of the world's visual arts indicated the desirability of museum content and the risks run by museums if they did not seize the technological initiative. The acquisition by Gates in 1995 of the seventeen million Bettman Archive images, the largest historical and news photo collection in the world, raised further fears, as did the purchase of the Leonardo Codex for $30.8 million. In 1996, two years after Gates announced that the Leonardo da Vinci manuscript "will not be used in any way with [his] business enterprises", Corbis released a Leonardo CD-ROM, encouraging potential buyers "to read Leonardo da Vinci's $30 million notebook" (Rosenbaum, 1996: 25). The concern was sufficiently strong that at a meeting of the Canadian Museums Association, emerging public demand for visual material was likened to a tsunami that would swamp museums unable to respond.

This fever was not limited to museums. As MacDonald wrote in 1994:

> Anyone who has read a North American newspaper in the past year has read of the $100 billion or so that telcos, cable providers, software house, and media conglomerates are scrambling to spend to develop the electronic multimedia market and claim their share of it. The payoff is worth trillions by the end of the decade (MacDonald, 1994: 6).

The spread of PCs with CD-ROM drives and modems, the phenomenal growth of the Internet, the installation of kiosks to disseminate government information and the emphasis on digital technology in schools furthered this sense of urgency. The threat of being "roadkill on the Information Highway" spurred many mergers and acquisitions amongst telcos, cable providers, software houses and media conglomerates. It was MacDonald's fear that the heritage sector was "turning a deaf ear to this scrabble" (MacDonald, 1994b: 6).

A second key environmental factor that must be taken into consideration are the dramatic changes affecting public institutions during this time frame. As discussed in the previous chapter, museums have experienced severe budgetary cuts and have been under extensive pressure to generate new revenues. CMC's cuts of approximately 36% have resulted in the following changes: a decrease in travelling exhibits now done only on a cost recovery basis; elimination of the acquisitions budget; conservation performed only on those objects that are to be exhibited; fewer temporary exhibitions; delay in completion of permanent galleries and a delay in the renovation and expansion of the Canadian War Museum. Although CMC has actively pursued new revenue, admission fees and cost efficiency measures do not compensate for its losses (CMC, 1998d: M.S.). CMC's philosophy regarding digital information as a source of revenue must be viewed in light of these circumstances.

But has its digital information response met institutional expectations? Has it generated the anticipated revenues? Has it proved a cost effective way to reach out to new publics? This chapter will examine the various revenue-generating technology initiatives undertaken by the Museum over the past decade in light of these questions. It will also examine the relationship between the main themes manifest in these projects - the primacy of information, broader access and revenue generation - to examine how CMC's attempts to commercialize its information affect its public role.

Digital Images as a Source of Revenue

CMC's interest in imaging technology dates to the mid 1980s when it undertook to record images of its collections on optical disc. Even with an online catalogue, management of CMC's four million artifacts was growing increasingly challenging. Not all the collections were photographed and the process of identifying objects to meet the needs of staff or external researchers was time-consuming and inexact (Granger and Alsford, 1988: 17). A number of options were considered and rejected: photographing the entire collection, filming, videotaping, or capturing on microfilm. In the end, the museum decided that an analogue laser image-capture process was the best available solution at an affordable price. The quality of reproduction offered by the laser disc was judged to be sufficiently high. The retrieval capabilities of optical information systems, it was felt, would improve collections management, cut down on staff time and diminish the need to handle fragile collections. The lifetime of optical media also appeared comfortably long. Finally, optical discs could be used for public access to collections information (Granger and Alsford, 1988: 20-25).

After an initial pilot project, the optical disc project was implemented beginning in 1986. The laser discs did prove to be a useful collections management tool as they contained the main photographic record of the collection and were reasonably accessible. Part way through the project, however, it became clear that analogue technology was being superseded by digital. The original project was never completed, although the discs continued to be used well into the middle of the 1990s when it became increasingly difficult to maintain the discs' - by now obsolete - players and printer (Patterson, 1998: Interview). Instead, in the autumn of 1993, CMC signed an agreement with Kodak to photograph and digitize its collections using Kodak's Photo-CD technology (CMC, 1993b: M.S.).

The agreement with Kodak was part of a broader scheme to transform the museum's information resources into digital form. In January 1993, Digital Equipment of Canada (DEC) had entered a $9 million, five-year deal to provide IT "foundation services" to CMC and to support the museum as it "penetrates new markets and sources of revenue" (Kainz, 1994: G1). The agreement between CMC, Digital and Kodak became known as DigiMuse (Digital Museum).

One of the objectives of the DigiMuse project was to test the feasibility of the digitization of museum assets. During the 1993/95 period, the museum was able to attract a $500,000 grant from the Partnership Initiatives programme of the Canadian government's Treasury Board (CMC, 1994a: M.S.). This programme funded electronic dissemination proposals that paired government and private sector partners, each of which was prepared to commit some level of resources. The Museum argued that electronic dissemination of information would increase access to heritage information held by various government agencies. Standing in the way of this objective were three obstacles: first, the collections were not in digital form; second, they were not intellectually ordered to facilitate access; and third, the material was not packaged in a way to make it suitable for use by courseware developers, electronic publishers or even for internal users (CMC,1993c: M.S.).

The museum proposed to digitize a representative sample of its collections, drawing on different media including photographs, film, audio and text and with an emphasis on the subject of totem poles. Multimedia products would be developed based on three technologies: CD-ROM, CD-I and Photo-CD. The process would be documented and results shared with other government programmes. The Museum also planned to identify changes in work patterns resulting from digital access to collections (CMC,1993c: M.S.).

CMC saw the alliance with Kodak and Digital as the first step in transforming itself into a "museum without walls, accessible in the near future to all Canadians wherever they live" (CMC, 1993: Press Release). For Digital and Kodak, their presence in the Museum provided an opportunity to showcase their technologies and to court potential clients amongst its extensive cultural contacts (Tam, 1996b: A2). CMC's arrangement with Digital would provide the museum with a computing infrastructure. Applications would be designed to improve research, curatorial and administration functions and to permit CMC's treasures to become a global resource. In a speech given to the press in June 1994, the Museum's Executive Director described the rationale for his initiative in the following terms:

> Given the increasing ethnic diversification of our population, the changing status of Native peoples, and concerns over national unity, there is an urgent need today to be more proactive in stimulating public interest in Canada's history and culture - which define our shared identity. We can't

> rely on all Canadians going to museums; we have to reach out to them. Traditional methods of outreach, such as travelling exhibits and books, have limited spread, and are not as cost-effective as we wish. We need to do more, on a wider scale; the new information and communication technologies available today are our means of doing that (MacDonald, 1994: 2).

CMC's agreement with Kodak was designed to take archival negatives and capture them digitally, using its proprietary Photo-CD technology. Kodak also photographed selected parts of the collection and produced 35 mm. colour transparencies as well as digital versions in five different resolutions, including thumbnail, computer monitor quality and high resolution. The diversity of output was one of the selling features of the technology, as can be seen in this statement by the Executive Director at a press event held by Digital in June 1994:

> Our aim here is to build an archive of digitized images of the heritage objects in our collections - a visual database which will serve as the raw resource for multimedia services and products (MacDonald, 1994: 6).

During CMC's Digitization Project (1994 - 1997), approximately 11 to 14 people were directly involved in photographing and digitizing images at the onsite Imaging Centre. Of these, CMC assigned one project coordinator, one archives clerk and two conservators. Kalmara, the Kodak subsidiary responsible for implementation, supplied one manager/photographer, two photographers, two to three scanning technicians and four preparators. In addition, five other CMC employees were assigned to inventory collections, update computer records and correct terminology in support of the project. On an average day, one photographer could do up to fifty views per day, depending on the complexity of the photographic set up and the number of views required per object. With this level of support, 20,000 new photographs were taken and scanned in 1994 and 18,500 in 1995. In 1996, the production schedule was cut back. Using one photographer and one preparator, 10,000 new images were taken (Tomlin, 1997: 1-2).

Setting priorities presented a challenge. Recent acquisitions had been routinely photographed in colour, but not so objects acquired before 1990. Anticipating that the analogue disc images could be reused, the initial objective was to photograph those objects for which no image existed. Objects required for exhibitions, multimedia or other commercial products, however, assumed a higher priority. In some cases, as storage rooms were inventoried, it made more sense to digitize all their contents. Similarly, when the Children's Museum was closed for renovations, its collections were processed.

By the end of August 1998, 58,000 new photographs had been taken. Including these new images, 161,000 images were scanned. In addition, an archival collection of approximately 200,000 historic photographs was also captured digitally. Efforts were made to digitize the analogue images stored on optical discs, but although approximately 60,000 were processed, it was decided in late 1998 not to proceed with the initiative at this time. This decision was based on the lower quality of the original analogue images and their digitized forms and on the effort required in linking them with textual data. The project to photograph and digitize the Museum collection, however, continues at a reduced rate. These artifact images form part of CMC's collections management system, based on KE Emu, implemented in 1998 (Tomlin, 1998: Interview).

Late in 1998, CMC began transferring its collections management records with approximately 100,000 low resolution images onto its Web site along with an as yet unspecified number of historic photographs. This image catalogue was accompanied by a statement regarding conditions of use. In essence, normal educational use was permitted, but commercial applications required written permission from the Museum. Although CMC had at one time hoped to charge for access to Web content, it has since changed its mind, based on experiments in electronic commerce that will be examined later in this chapter. Apart from their educational potential, however, the Museum hoped that these low resolution Web images would attract new purchases of museum photographs. It is as yet unresolved as to what portion of the ordering, payment and delivery process will be automated using an electronic commerce facility known as Cybercash (Butler, 1998: Interview).

One of the further complications in automating this process is that most of the requests received by the Museum are for transparencies rather than digital images. In 1998, CMC received approximately fifty to one hundred such requests per month, primarily for educational use and for publications, but also to a lesser extent for commercial uses such as calendars. The vast majority specify transparencies rather than digital images that could be downloaded in high resolution form (Eustache, 1998: Interview).

This preference for transparencies is in keeping with a study conducted by the Canadian Heritage Information Network in the summer of 1998. This study assessed the needs of five market segments for museum intellectual property - broadcasting, publishing, multimedia, advertising, and corporate - to determine whether there was a market for the commercial exploitation of museum intellectual property. It concluded that a market did exist, particularly with broadcast and publishing companies. Interest was greatest in photographs and images, but also existed for film and video clips (The/Marketing/Works and Phase 5 Consulting Group, 1999a: 1). Although companies frequently worked with high-resolution digital images, more than half of the broadcasting industry representatives and the majority of publishers interviewed for the study still chose "to scan transparencies or slides themselves in order to control the colour balancing and overall quality" (The/Marketing/Works and Phase 5 Consulting Group, 1999b: 31). Digital files were preferred by the multimedia segment, but contrary to early expectations, this class of client, with the exception of CD-ROM producers, tended to be less interested in museum intellectual property than the traditional museum market of publishers and broadcasters. Web site developers saw little need for "authentic", high resolution images.

A further complication in automating the ordering and delivery process is the sliding price scale that depends on the user as well as the nature and extent of use. The Museum, for example, has received a few unexpected requests to reproduce portions of its Web site. One of these requests was to copy the portion of its site dealing primarily with Canadian history for use in an educational CD. The Museum decided to grant permission in light of the CD's projected school market. Determining the price for this transaction posed a challenge. In the end, the Museum charged $1500, a sum it considered quite modest in light of the extent of information involved. Again, the educational nature of the project was taken into consideration (Alsford, 1998: Interview).

Staff at the Museum expressed pride that the original digitization project exceeded anticipated goals and was under budget (Baird, 1998: Interview). They feel that the digitization process has led to a more intimate knowledge of the collection. This, coupled with the new collections management system, should have a positive impact on many aspects of museum work from research and exhibition planning to the development of new products in the gift shop. The involvement of conservators in the process also provided an opportunity to assess the condition of individual artifacts and to perform such basic care as cleaning (Tomlin, 1998: Interview). Public access to collections on the Web is also seen as a positive outcome, even if this access does not generate revenue as originally anticipated. Many of the people originally interviewed, especially those involved in the care and research of collections, felt that access was an essential element of the Museum's mission and expressed scepticism regarding the revenue potential. This scepticism seems to have been well-founded, as CMC's Web catalogue has had little impact on requests for images (Alsford, 2000: Interview). Chapter Six will discuss this issue in more detail.

On the negative side, questions remain about the selection of objects for digitization. The Executive Director, for example, has stated that many objects were not worth digitizing and that priorities should have been based on market potential (MacDonald, 1998: Interview). Staff responsible for collections management, on the other hand, relish access to a colour photographic record, although some concern was expressed about a lack of advance planning to assist in managing digitized images. In addition, no cataloguing of new acquisitions was conducted during a three year period (Guilbert, 1998: Interview).

Cataloguing is underway on the collection of field and historic photographs, which were discovered to be less numerous than originally believed, but at the current rate, the process could take forty years (Eustache, 1998: Interview). The audio-visual collection, which consists of film and sound recordings produced by researchers in the field, has been documented in erratic fashion with some contents thoroughly described, but other material possessing only rudimentary accession records (Carpentier, 1998: Interview). The library records, however, are available online. Staff hope that there will eventually be links between the collections and library system.

Other concerns expressed relate to the long term viability of the Photo-CD format. Photo-CD was a proprietary format that failed to reach broad public acceptance. As a result, Kodak sold its office imaging business to Danka Business Systems late in December 1996. Under its arrangement with Danka, Kodak committed to a continued, albeit reduced, role in Photo-CD research and development (Kodak, 1998: Web). In the summer of 1998, there was some concern that Kodak would no longer support the product, but the company quickly issued reassurances. Nonetheless, CMC staff worry about the implications of migrating to a new medium should the technology become obsolete (Guilbert, 1998: Interview).

Corel

One initiative through which CMC tested the market for museum images was in its association with Corel. In 1995, CMC was approached by the Ottawa-based software company, a specialist in desktop publishing software and now the owner and producer of Word Perfect word processing system (CMC, 1995b: M.S.).

Amongst its other products, Corel publishes CD-ROMs of clip art - images, photos, fonts, Web graphics - that can be downloaded and incorporated in products such as newsletters or reports. Purchasers are free to use, modify or publish the images as long as they comply with certain restrictions. For example, images cannot be used in a defamatory fashion nor in a manner that suggests an endorsement of a product by the individual or entity captured in the images. Certain resolution ceilings are also in effect (Corel, 1998: Web). Resolution is the number of pixels (picture elements) making up a digital image. Clarity and definition improve as resolution increases (Besser and Trant, 1995: 45). A common way to control the use of a digital image is to provide it at a resolution suitable for viewing on a screen or incorporating into a school essay, but not precise enough for such uses as commercial reproduction.

Corel sought to include some of CMC's digital images in its clip art products. The museum supplied Corel with images of 800 artifacts from its collection under a non-exclusive agreement that permitted CMC to maintain its copyright. CMC viewed this initiative as an opportunity to learn about the market for digital images as well as a way to increase the visibility of its collections (CMC, 1995b: M.S.). Eight CDs were produced under this arrangement with CMC receiving $80,000 as an initial payment with a potential for further minor royalties, although little in the way of royalties was actually received (Corcoran, Interview: 1998). As of 1998, the cost of a collection of one million Corel clip art images was approximately $159 Canadian (Corel Web Site). No further CMC images have been acquired by the firm.

Corbis

CMC also entered into a licensing agreement with Corbis, the successor to Continuum, referred to earlier in this chapter. CMC was approached by Corbis early in 1995, as were the Royal Ontario Museum and the National Aviation Museum. Corbis indicated its image preferences and CMC selected a few hundred images for inclusion in its catalogue, seeing this again as an opportunity to determine the revenue-generating potential of various types of material. CMC received a small payment as well as a promise of royalties, although none had been received as of the summer of 1998 (Corcoran, 1998: Interview). The experience of other Canadian museums has been comparable. The Royal Ontario Museum, which supplied three hundred of its Chinese treasures, has had fewer than fifteen sales (Pearson, 1999: Interview). The National Aviation Museum reports one possible sale in the years since it supplied approximately four hundred images to

Corbis, although it acknowledges that the Austro-Hungarian aeronautical images it supplied were highly specialized (Hale, 1999: Interview) The subject of the licensing of museum images will be examined in greater depth in the following chapter.

The Internet as a potential source of revenue

The Canadian Museum of Civilization was the first Canadian human history museum to establish a presence on the Internet (CMC, 1994c: M.S.). Early in 1994, it began providing text information via the Ottawa FreeNet and by December 1994, it had formally launched its Web site. MacDonald considered the site an "important early step towards achieving the institution's strategic goal of using new technologies to make information about Canadian heritage more widely accessible, both nationally and internationally" (Alsford, 1994: 421). At that time, MacDonald viewed the Internet as a "dress rehearsal" for the Information Superhighway, which would eventually permit narrowcasting to special interest groups such as Canada's indigenous communities (MacDonald and Alsford, 1995b: 22).

CMC has since created a large Web site with a wide range of interesting materials. Unlike many museums, it has focused on depth of content, rather than style. In 1998, it received over five million hits; one year later it received approximately eleven million, making it one of the most popular museum sites in Canada (Alsford, 2000: Interview). One of its most unusual features is the Musée de la Nouvelle France, devoted to the history of New France. In 1991, the then Minister of Communications created this museum as an affiliate of CMC. A change in government, shortly after, removed funding for the new institution. CMC's response was to create the Museum as a collaborative project on the Internet with partners in Canada, France and the United States including museums, archives, universities and government agencies. The Web site, which won the Silver Web award at the 1998 American Association of Museums, features exhibitions, portraits, tourism information, links to other sites on New France and many other themes.

Three goals were established for CMC's Web site: promotion, education and revenue generation. Like many institutions, the museum anticipated that its Web site would provide a cost effective way to create wider public awareness of its resources and services while also offering pre-visit orientation and building a closer relationship with its audiences (Alsford, 1996b: M.S.). The museum also hoped to make the results of decades of collecting and research available for educational purposes. Its initial plan was to provide this knowledge in the form of online exhibits and eventually move beyond this by reproducing collections databases, archives and published material. It was in the third goal of revenue generation through online services that the museum differed from many other institutions. CMC anticipated that the Internet would stimulate museum visits while offering interesting new possibilities in such areas as tourism, advertising, online subscriptions and retailing (Alsford, 1996a: 6-7). Unlike many museums, CMC took steps to test these hypotheses.

Examining these in turn, the first question is whether the Web site increases visitation to the museum. This is difficult to assess, and as the Internet is a relatively new phenomenon and very much a work in progress, it is also difficult to predict how its impact will change over time. However, a series of visitor surveys by CMC's Audit and Evaluation staff have provided some interesting insights into the current situation. The first survey to be discussed was conducted during the autumn of 1996 and the winter of 1997. This survey formed part of CMC's ongoing seasonal demographic analysis that has been tracking trends since 1989. During a period of five months, 289 visitors completed a questionnaire that investigated, amongst other services, the visitors' familiarity with the museum Web site. Although 79% of visitors stated they would access the museum electronically if the service were available and although 57% of visitors claimed to have access to the Internet, very few were actually aware that the museum had a Web site. Well over two-thirds of visitors indicated that they did not know of its existence (Graham, 1997: 76).

Those who were aware of the CMC Web site were the people most familiar with the Museum itself, the regular visitors. Of these return visitors, 41% knew about CMC's Internet access. Amongst those who had visited the museum once or twice in the previous year, 33% were aware of this form of electronic access. Among the group that had never been to CMC at all or not in the past year - roughly one-half of respondents - only 20% knew of the Web site. The author of the survey reported that this finding was consistent with a summer 1996 survey that showed that regular CMC visitors were most familiar with the museum's advertising in general. The author also pointed out that of a potentially important target segment, regular museum goers who had not previously visited CMC, only 19% knew of its Internet presence (Graham, 1997: 75).

In spite of the high percentage of respondents who expressed an interest in electronic access, only 14% of those with access to the Internet had actually visited CMC's Web site. These were primarily the avid CMC visitors. Only 8% of new visitors with Internet access had previously visited the Web site. Nonetheless, knowledge of the Web site has been growing slowly. Whereas in the fall of 1995, only 1% of those surveyed had visited CMC on the Internet, by early 1997, the percentage had increased to eight (Graham, 1997: 78). The report concluded that some additional marketing of the site was required for it to reach its potential. The report would also seem to suggest that whatever its other benefits, the popularity of CMC's Web site (2.2 million hits in 1997 increasing to over 5 million in 1998) was not, at that time, resulting in new visitors to the museum (CMC, 1998c: M.S.).

These findings were further confirmed in a 1998 survey of 1,008 summer visitors. When the 772 respondents were asked whether they had seen or heard advertisements for the museum in the previous three months, only 2% mentioned the Internet. The vast majority mentioned traditional media, especially print, as the source of information (Graham, 1998: Interview). Familiarity with the Web has continued to grow, however. By the summer of 2000, 11% of surveyed visitors had visited the Museum's site for information about CMC activities. Local residents were the most likely to have consulted the Web; international visitors the least, although as the majority of international visitors to CMC are on bus tours, this is not altogether surprising (Graham, 2000: Interview).

In terms of revenue generation through the Internet, CMC has undertaken a number of initiatives. These were initially based on the notion of a two-tiered Web site: the first tier or storefront to be provided free of charge to visitors and the second tier or subscription section to be provided on a membership basis. The purpose of the storefront was to promote the museum, encourage visits to the physical site, assist visitors in their planning, and create awareness of museum services including its online retail operations. In addition, the storefront was to cultivate new audiences and build a closer relationship with existing visitors. Several potential revenue generating activities were to be based in this area: a Cyberboutique, special activities such as auctions, development initiatives such as direct sponsorship or advertising, and commercial programmes to encourage facility rentals or membership (CMC, 1995c: M.S.). Eventually, CMC discarded the notion of a two-tiered approach, but the various money-making initiatives under this structure will be described here.

Cyberboutique

The Cyberboutique, billed as "the first international store operated online by a Canadian cultural institution", was launched in January 1996. This virtual service displayed colour images of over 250 museum products including reproductions, publications and the Museum's own multimedia products. Although there was initially no provision to accept payments online, customers could complete an order form that would automatically calculate taxes and shipping charges and confirm their preferred method of payment twenty-four hours a day. Order forms could then be mailed or faxed (CMC, 1996d: M.S.). The capacity for secure transactions was added in the summer of 1998, with the launch of a revamped Cyberboutique. Customers can now provide credit card information and complete their purchases online. In spite of the initial optimism regarding e-commerce, sales have remained slow, only several a month (Loye, 1998: Interview) The 1-800 telephone number posted at the site, however, has stimulated more inquiries into products. The Metropolitan Museum of Art in New York with its multiple gift shops and long established catalogue has been somewhat more successful, with reported sales in 1998 of $100,000, compared to $87.4 million through its regular outlets in the fiscal year through June 1997 (Stuart, 1998: Web; Dobrzynski, 1997: A16). The National Gallery of Art in Washington reports that Web sales are less than 1% of its total merchandising operations (Johnson, 1999: Correspondence).

Sponsor a Treasure

An even more experimental programme was launched early in 1996. This was an online auction, entitled *Sponsor a Treasure,* in which the museum invited individuals and corporations to adopt more than one hundred objects from its collections. The rationale for the project was given in a message from the Executive Director posted on the Web site. Whereas in the past, he stated, governments and the private sector had provided adequate resources to museums to maintain their collections, recent cuts had reduced some museums to selling their treasures. CMC was firmly opposed to this measure and instead invited members of the public to act as "foster-parents". Successful bids would be applied to the care, preservation and exhibition of collections. This innovative project was to be another step in building the "virtual museum" (Tam, 1996a: A2) .

Sponsor a Treasure officially ran as a six-week pilot project. Minimum bids were set in the $50 to $25,000 range. Care was taken to exclude gifts to the Museum, native artifacts, unless commercially produced, as well as objects of a sacred nature (CMC, 1995d: M.S.). Successful bidders were to be rewarded through the association of their names with their adopted artifacts on the Web site or wherever the object was exhibited (CMC, 1995e: M.S.).

John McAvity, Executive Director of the CMA, saw the online auction as "an innovative idea" that reflected the desperate hunt for alternative revenue sources underway in museums across the country. The spokeswoman for the National Gallery provided another viewpoint:

> At the Gallery, we hold the collection for the Canadian public in trust, which means we won't compromise our responsibility. It's part of our mandate to ensure there's money for restoration, conservation and acquisition of individual works. I can't see us saying we can't. At the Gallery, we hold the collection for the Canadian public in trust, which means we won't do this because we don't have the money (Tam, 1996a: A2).

From a financial perspective, the project was not successful, possibly because it was premature, according to the Museum's Executive Director (MacDonald, 1998: Interview). No objects were actually sponsored, preparations were more time-consuming than anticipated and visits to that portion of the CMC Web site were disappointingly low. The initiative did attract media attention and resulted in content that could be repurposed into an online exhibit. The Museum gauged it a useful learning experience, one it may reattempt in the future with additional advance publicity and the possible sale of unique objects from the Cyberboutique or artifacts weeded from the collection (CMC, 1996a: M.S.).

Electronic Membership

The second tier of CMC's Web site, as envisioned in 1995 and 1996, was to be reserved for members. Just as one would pay admission to visit a special exhibition, so one would pay for entrance into this resource-rich site. As long as the site contained content of sufficient volume and quality with regular new features, it was anticipated that people would be willing to subscribe. The goal for the membership tier was four-fold. First, it was to be the location of an encyclopaedic knowledge resource to be developed over time and to be targeted at a variety of audiences. Second, it was to provide public access to information originating from CMC's unique collections in both educational and entertaining ways. Third, it was to provide access to behind-scenes operations and activities, creating knowledge of museum processes and new support for museums in general. Fourth, it was to develop into a unique resource whose breadth of coverage and educational value would merit an access fee. The initial target audience for this initiative was the educational community and the arts and culture crowd (CMC, 1996a: M.S.).

The first step in the process was to explore the requirements for creating and administering a controlled access system. For a period of almost a year, beginning in May 1996, the museum provided open access to the original part of its Web site which described the museum, its programmes, its permanent exhibits and its services. In order to access its "Virtual Museum", educational material primarily although not entirely in the form of online exhibits, users had to register. No fee was charged at this stage as the museum wished to raise public awareness and to ensure that its registration system was foolproof. Instead, the museum required key demographic information as a precondition of entry. At the end of the pilot phase, a review would be held to determine the receptivity of the audience to membership fees (CMC, 1996a: M.S.).

Several difficulties manifested themselves during this experiment. The museum, like many other registration-based sites, found that Web-users were not keen on the idea of registration; indeed, two years after this experiment very few Web sites operate successfully on a pay-for-access basis. The possibility that registration would turn away many visitors was contrary to management's desire to have good visitation statistics. Additionally, older Web browsers experienced difficulties with some of the features of the registration system, resulting in requests for assistance that were difficult and time-consuming to resolve. Some users objected to losing their anonymity, while others objected to controlled access on principle, especially from an institution supported by taxpayer dollars. In many cases, registrants would provide the least amount of information possible or even fill in obviously false information (Alsford, 1996: M.S.).

By the time the museum management cancelled the experiment, ten months after its inception, approximately ten thousand users had registered. An analysis of summer registrants found the demographics, which excluded the school-based audience because of the time frame of the analysis, roughly similar to the demographics of the Museum's visitors as a whole. Following this experience, the notion of the two-tiered Web site was dropped and the entire contents were made available without restrictions (Alsford, 1998: Interview)

MilliCent

Although the notion of subscription-based access proved unsuccessful, CMC undertook a further experiment in electronic commerce in 1997, based on the premise that people would be willing to pay small fees if they could select exactly what they wanted to see. One of the conclusions CMC drew from its subscription experience about the reluctance of visitors to register was that people were unwilling to sign up for something that they couldn't see. According to the chief of the Corporate Systems Group, Gord Butler, museum information is better suited to micro payments than a membership or credit card approach:

> We have more flexibility with the micro payment approach. Viewers can search via our database repositories and have access to the entire artifact collection, but select only what they want to see. People will search for specific information that could be worth as little as 25 cents or as much as 25 dollars. They will have their own virtual exhibit at their fingertips (Digital Equipment, 1998: Web).

Accordingly, in June 1997, CMC undertook a pilot project using MilliCent, a product from Digital Equipment. This micro commerce technology was developed to handle Web-based transactions in much the same fashion as a phone card. MilliCent is an electronic prepaid "wallet" that users maintain on their hard disk while browsing the Web. As they access fee-based information, the fees are deducted from the wallet. One of the advantages of this type of technology, according to Gord Butler, is that information does not need to be prepackaged. MilliCent can economically handle small transactions and therefore fees can be kept low in accordance with the museum's educational mandate and target audience (Digital Equipment, 1998: Web). Revenue depends on the volume of transactions. In keeping with the pilot nature of the initiative, visitors were provided with wallets at no charge (Eustache, 1998: Interview).

The content for the MilliCent project consisted of low resolution images of artifacts from the museum collection as well as images of the Museum itself. To view a small image cost \$0.01; to view a larger one, \$0.02. In addition, articles and reports from the museum's library and archives were made available at prices ranging from \$0.01 to \$0.04, depending on the length of the article and whether images were included (Digital Equipment, 1998: Web Site). Many of these articles came from material previously published by CMC. By March 1998, in spite of the fact that customers were provided wallets free of charge, CMC had sold the equivalent of just \$80 worth of images and article. No feedback was provided by customers other than a letter from a user in Toronto who complained about the practice of selling low resolution images that could be obtained for free elsewhere (Eustache, 1998: Interview). In 1998, Digital was bought out by Compaq, and although the pilot continues, the future of MilliCent is unclear.

Family History Project

CMC's most recent experiment in electronic commerce is based in the Musée de la Nouvelle France portion of its Web site. As described previously, the Musée de la Nouvelle France is truly a virtual museum, existing only in the Web and maintained by CMC and its partners in the initiative. In 1999, CMC planned to launch an initiative based on two subjects that figure prominently in the Museum's vision, genealogy and cultural tourism (a launch since postponed to November 2000). The original settlers of New France were small in number, approximately 10,000 family names. Six million French Canadians are descended from these families, as are 6 million Americans. The early history of these settlers was quite well documented through parish and judiciary documents such as birth and marriage records, inventories and deeds. Since 1981, a Montreal company has been entering this type of information into databases. CMC has entered into a strategic alliance with this firm and has acquired the right to provide information on a commercial basis to individuals wishing to search the origins of their family name (Blanchette, 1998: Interview).

Customers seeking the history of their family name will be able to access some basic information at no charge. They will then be informed of relevant holdings on the Museum site. To obtain further information, they will be charged a small fee. This payment will be processed in much the same fashion as at the Cyberboutique, where patrons' credit card information is handled in a secure environment. Search results may consist of a family history including information about the location settled by their ancestor as well as the community in France from which the family originated. Should they so desire, they will be linked to tourism authorities in either France or Quebec to obtain information to assist in planning trips. Based on the widespread interest in genealogy on the Internet, CMC expects its service to generate revenue and also, possibly, to stimulate advertising or sponsorship of its site from tourism districts (Blanchette, 1998: Interview). Generally information of this kind is available through provincial archives.

Advertising/Sponsorship

CMC has long considered both advertising and sponsorship as potential ways to underwrite the cost of maintaining its Web site. Of the two, sponsorship is considered the most attractive possibility. As the CMC site is very diverse and as users come to it from many different directions, the volume at any one page is somewhat limited. Advertisers would most likely require the Museum to post ads on many different pages, something the museum considers unwarranted in time and effort. Sponsorship, the opportunity for a corporation or other donor to be associated with the Museum, as is common with exhibitions or other activities, is considered more desirable and is currently being pursued by Development staff. Another possibility is selling space on the Web site (Alsford, 1998: Interview).

Few museum Web sites have attracted sponsorship. The Canadian Heritage Information Network has attracted funding to create "virtual exhibitions" in collaboration with museums in Canada and parts of the world including Japan, France, Benin and South America. Much of this funding has drawn on government internship programmes. However, in 1998, a virtual exhibition on German immigration to Canada was able to attract support from a Canadian company whose founder had emigrated from Germany. This sponsorship is one the few instances of corporate funding of this type.

Standalone Products

Heritage Kiosk

One of CMC's earliest initiatives in electronic outreach was its Heritage Kiosk Project, envisaged as a vehicle "poised to enter the on-ramp to the electronic highway" (CMC, 1994d: M.S.). This project was initiated by the CRB Foundation, a charitable foundation best known for its *Heritage Minutes*, short film clips on subjects pertinent to Canadian history, generally shown on television and in movie theatres. CMC and the CRB Foundation, together with input from university and private sector firms, created kiosks that could display not only the Heritage Minutes, but also background information such as quizzes and games based on museum holdings. Information on institutional programmes, services and products was also displayed. With significant funding ($400,000) from the Department of Communications (now Canadian Heritage), CMC offered to sell other units to Canadian museums at cost, with the idea that information could be exchanged by networking the kiosks together (Department of Communications, 1994: M.S.). Although the project originally generated great enthusiasm, the "technological kaleidoscope" shifted and few kiosks were sold (CMC, 1994e, M.S.).

Multimedia

In 1994, as part of its DigiMuse initiative, CMC undertook an ambitious programme to produce standalone educational products such as CD-ROMs and other new media. Pending the development of multimedia-capable communications networks, these products were viewed as the best means to meet public demand for museum content in digital form. As with many CMC initiatives involving technology, products were developed in partnership with the private and public sector, including developers, publishers, distributors, and granting agencies (TCI Convergence Limited, 1998: 23). These partnerships were based on the principle that multimedia firms were better equipped to provide the technological expertise required by museums to reach some of their electronic outreach goals.

By 1998, CMC had produced eleven CD-ROMs (TCI Convergence Limited, 1998: 23). In addition, it produced a number of Portfolio CDs, a simpler form of presentation not unlike a digital slide show based on Kodak's Photo-CD technology. The Museum's three most recent CD-ROMs are *Stampville*, produced in partnership with Canada Post; *Inuit: People Under the Great Bear*, produced with the multimedia firm Edirom; and *The Pocket Museum*, with Public Technologies Multimedia and Videotron. *The Pocket Museum* CD-ROM is a "hybrid" product that permits interaction between the CD and a Web site, the latter developed with funds received by Videotron from the Quebec government. In addition, Videotron also made the CD available through an experimental cable trial. A western telephone company, Telus, will also be distributing CMC's CDs in a broadband experiment early in 1999 to schools, libraries and homes (Blanchette, 1998: Interview).

The cost to produce CMC's three most recent CD-ROMs has been estimated at $350,000 per CD, a figure that includes approximately $125,000 each from the Museum and the developer, as well as approximately $100,000 of CMC staff time. Marketing and promotion cost the Museum a further $25,000 per unit, with additional marketing activities undertaken by the other partners. Each CD took approximately two to three years to produce. Project costs have been partially underwritten by government grants from the Canadian Studies and Multicultural Directorates of the Department of Canadian Heritage. The production cost of *Stampville* was entirely covered by Canada Post which agreed to a one-time purchase of 15,000 units from CMC. To date, *Stampville* is the only CD to have broken even (TCI Convergence Limited, 1998: 23-24).

Several of CMC's CDs have received international recognition. At the 1998 annual meeting of the American Association of Museums, *Inuit* was awarded silver in the Interactive Multimedia category and the *Pocket Museum* Web site received bronze in the World Wide Web category (CMC, 1998a: M.S.). Similarly, at the Multimedia International Market in Montreal in 1996, the *Pocket Museum* CD was the winner of a Golden Award and received considerable attention in the Quebec press (CMC, 1997a: M.S.). This recognition has not necessarily translated into high sales or significant revenues. Apart from concerns about obsolescence, CD-ROM technology presents several difficulties as a source of revenue. Although many computers possess CD-ROM readers, the technology has not met with the anticipated level of success. Costs are high, both in terms of money and time, and the return per unit is low. A study by the Canadian Heritage Information Network, entitled *Best Practices Study of Museum CD-ROM Production*, that examined the business issues pertinent to CD-ROM development, analysed the return on the *Musée de Poche* in the following fashion:

> Typically, the wholesale price varies between 30% to 50% of the retail price. Assuming a wholesale price at 40% of the retail ($39.96), the CMC's revenues are approximately 20% of the retail price, or $8.00 per unit. Assuming CMC's costs are $275,000, it will be necessary to sell approximately 34,000 units to achieve a return on investment (TCI Convergence Limited, 1998: 24).

By way of comparison, the best-selling art CD of 1998, the first volume of Zane International Publishing's *Power CD History Through Art* reportedly sold only 8500 copies in retail chains (Rosenbaum, 1998: Web).

Even if CMC's costs were lower than those used in the above estimate, it is clear that substantial sales are needed to recoup costs. This difficulty in making a profit has been the experience of many producers, which is one reason that the technology has waned in popularity. With the small size of the Canadian market, fragmented into two language groups, a further challenge is introduced. CMC has had to aim its products at the international market, but ironically, has been told that one of its CDs was too "European" for American tastes (Blanchette, 1998: Interview).

Distribution is an additional problem with CD-ROMs. Sales of Canadian CDs through museum gift shops are quite low, while it is often difficult to get shelf space elsewhere. Even the Smithsonian, with its tremendous visitorship, estimates that it sold only 20% of its CDs in its many gift shops (CHIN, 1998: 52). Bundling CDs together may increase sales, but may also lower profit margins. Although schools are a target market, the computer equipment used in schools varies widely (Corcoran, 1998: Interview). On a more positive note, CMC is finding that the life span of a CD is longer than originally anticipated. Whereas books are often remaindered after six months, museum CDs may remain on the market for four to five years, although prices are sometimes reduced over time, as is the case when CDs are "bundled" together (Blanchette, 1998: Interview). One example of this is an early CD entitled *Totem Poles* that has recently been put on the curriculum list in British Columbia (Bubic, 1998: Interview).

Further challenges relate to the amount of staff time required to produce suitable content and the need for staff to keep abreast with technology. Whereas books can vary in length, CDs tend to be big in content and it is difficult to pick popular topics. CMC has sold 50,000 copies of *Inuit, Glimpses of an Arctic Past*, a book on Inuit life available in English, French and German editions. However, the popularity of this book has not translated into equivalent sales for its CD, which suggests that at a production cost of less than a third that of the CD and with sales five to ten times larger, the book has proven a more economical and effective way to reach the public. It is possible that CDs reach a different audience than books. However, any future CD-ROM productions at CMC will depend on a substantial commitment from its partners. In the meantime, more energy will be devoted to the Web (Blanchette, 1998: Interview).

3-D Imaging

In June, 1995, CMC unveiled a test project for a new digital imaging system capable of reproducing objects in high-definition, three-dimensional form on-screen. Seven carved, thumb-sized Palaeolithic figurines were scanned using a camera and computer combination called a synchronized scanning laser system. This system, designed by the National Research Council of Canada, accurately reproduces objects in colour and allows them to be rotated and viewed from all angles. Scanned images can be stored on disks or CD-ROMs and can be transferred by satellite, modem or high-speed networks. The technology also permits the fabrication of exact or scale-model replicas. The seven Palaeolithic figures, which were too small for easy viewing, and their larger three-dimensional electronic copies were displayed as part of an exhibition entitled *Mothers of Time* (Tam, 1995: E6).

The museum has experimented with this technology in a number of areas. In 1997, CMC launched an exhibition entitled *The Third Dimension: A New Way of Seeing in Cyberspace* that displayed approximately five hundred full-colour, three-dimensional virtual models of CMC artifacts (CMC, 1997b: M.S.). Visitors to the exhibition were able to interact with images in a 3-D display station, rotating, panning and zooming in on high resolution, full-colour images. The exhibit also featured a remote "virtual museum" site at the Royal British Columbia Museum, as well as an Internet site displaying images as part of the Canadian federal government's SchoolNet programme.

This exhibition was undertaken as part of the AMUSE (Access to MUSEums) project, an initiative undertaken by CMC, a number of private sector firms and government programmes associated with the technology, including the National Research Council, the Canadian Conservation Institute and the Canadian Heritage Information Network. The goal of the project was to commercialize the 3-D colour digitizing system and to demonstrate the possibilities for remote access to museum collections by operating a digitizing station and display at CMC with a link to an additional museum. AMUSE received funding through a grant in 1995 from CANARIE Inc., the Canadian Network for the Advancement of Research, Industry and Education. A representative of the National Research Council, George Forrester, described the rationale for the exhibition:

> Some people say "That's gimmicky", but part of the NRC's mandate is to find new applications for this technology. And the way to improve this technology is for places like the Museum of Civilization to try it out and tell us what we need to improve on. The users will be the critics (Tam, 1995: E6).

In another notable use of three-dimensional virtual reality, CMC presented a simulated tour of the tombs of King Tutankhamen and Queen Nefertari in a specially equipped virtual reality room as part of a 1998 exhibit entitled *Mysteries of Egypt*. As stated in the previous chapter, this exhibition drew heavily on the use of replicas developed as props for the IMAX film, *Mysteries of Egypt*. In the press release announcing the tours, the museum stated that virtual reality was one way to compensate for the degradation of heritage sites caused by pollution and over-visitation (CMC, 1998b: M.S.).

Computerized 3-D imaging has been used in medicine and in industry for a number of years; for example, in the development of prostheses, but this particular manifestation has a long term association with the museum world, having been developed with the assistance of the Canadian Conservation Institute which saw potential applications in the field of conservation (National Research Council, 1997: M.S.). As in a number of CMC's experiments with high technology, the museum has entered into an agreement with the company responsible for marketing it, Hymarc, providing it with a location onsite to showcase and operate its colour digitizing system. This agreement will be in effect into 1999 with a potential for further extensions (Morel, 1998: Interview).

At the opening of the *Mothers of Time* exhibit, the Executive Director told reporters that "this technology could revolutionize the way museums catalogue, research and exhibit their collections" as well as acting as a building block to construct virtual museums that could reach visitors "through the information superhighway" (Tam, 1995: E6). He added elsewhere:

> Of course, 3-D imaging will never replace the display of artefacts. However, the CMC welcomes the opportunity to enhance upcoming exhibitions and displays with a tool of such exciting potential (CMC, 1995f: M.S.).

CMC originally considered the technology as a source of revenue, possibly through licensing the data for use by the "publishing, film making, advertising, CD-ROM producing industries" on a fee per use and royalty basis. It also saw potential in selling services to museums interested in drawing upon CMC's expertise in this area or through creating replicas for sale to the general public (CMC, 1996b: M.S.). By 1998, however, the museum described its involvement in the three-dimensional imaging as experimental and had reduced its expectations of revenue, at least for the foreseeable future. There was some hope, however, that a virtual reality film produced by Hymarc could possibly produce financial returns (Morel, 1998: Interview).

One of the challenges of this kind of 3-D technology is the cost of the equipment required to scan and display images and the need for highly skilled operators. Even without purchasing the equipment, the hourly rate just for scanning is $200 with a daily output of two objects on average. Equipment for displaying the 3-D images is also costly. The museum is currently investigating how many more objects it will digitize in this fashion (Morel, 1998: Interview). A business case is also being prepared to determine its cost-effectiveness in the production of replicas to be sold in the museum gift shop and elsewhere (Henry, 1998: Interview).

In autumn 1998, the museum conducted its first formal analysis of visitor response to this technology, interviewing fifty visitors to the virtual reproduction of King Tut's tomb. The two main reasons why people saw the programme were because they were told about it by a guide (34%) and by coincidence (24%); i.e. people were passing through the exhibit in which it was located. Although 88% of visitors said that the technology met their expectations, it was not clear what these expectations were. Some visitors seemed to confuse virtual reality with IMAX. Young people tended to be most dissatisfied with the presentation, finding the technology too static (Graham, 1998: M.S.)

Issues

A 1994 article in the business pages of an Ottawa newspaper described the launch of the DigiMuse project in the following terms:

> The Canadian Museum of Civilization wants the nation's heritage to boldly go wherever the information highway leads, in the name of education - and business (Kainz, 1994: G1).

For the past ten years, the Museum has indeed gone boldly along the information highway. In so doing, it has been guided by the three major themes identified earlier in this chapter. Inherent in the Museum of Civilization's approach to digital information were the principles first articulated in *A Museum for the Global Village*: first, the primacy of information; second, the importance of technology in disseminating information and third, the need to generate a "revenue stream" through the sale of information to offset the high costs of technology and content capture. The final section of this chapter will examine CMC's ten years of experimentation with technology in light of these three themes and against the backdrop of Habermas' notion of the public sphere.

The first theme, the primacy of information, recognizes the importance of artifacts, but identifies information rather than collections as the primary resource or commodity of museums. Switching the focus to information, proponents argued, broadened the scope of the institution to include the use of surrogates such as replicas or images and such intangibles of culture as oral history. This new focus, it was felt, also positioned museums to play a more important role in the Information Age, while permitting a rebalancing between education and communication, on the one hand, and the more traditional role of collections research, conservation and exhibition. It is not my intention to debate the relative importance placed on education in previous decades or whether the so-called

Information Age is more than an intensification of Modernity's emphasis on knowledge and technology. Nor is it my purpose to argue the merits of real objects versus surrogates. Surrogates have a long history within museums, although a cautionary note made by the Director of the Metropolitan Museum of Art, Philippe de Montebello, at the 1997 Annual Conference of the College Art Association may be worth repeating. Quoting Hector's exhortation in Shakespeare's *Troilus and Cressida*, he stated: "T'is mad idolatry to make the service greater than the God" (de Montebello, 1997: Web).

The question remains: What is museum information? At this stage, little is known of the individuals who access museum Web sites. Their habits and interests are seen only vaguely through current statistics. Nor do we know how this public will develop in the future. We do know that use of the Internet has grown quite explosively, although there is some evidence that this extraordinary growth is flagging (Nielsen, 1998: Web). We have seen that frequent visitors to CMC are more likely to be familiar with its site than infrequent visitors and that the Internet is not currently as effective a marketing tool for the Museum as traditional advertising media. We also know that when CMC mounted information pertaining to its exhibition on ancient Egypt, usage increased significantly (CMC, 1998c: M.S.). Clearly, there is a demand for exhibition-type information on popular subjects, information that "tells a story", to use a phrase current in the field. How this information is used is not yet known. We do know that according to best estimates, the average user session as of the first week in July 1998 was 12:09 minutes (CMC 1998c: M.S.). Two years later, the average session had grown to just under fifteen minutes, a figure that compares favourably to the eighteen minute average visit to the much larger Smithsonian site (Alsford, 2000: Interview; House, 2000: M.S.). When we consider that the average visit to the physical museum in July 1998 was 4.3 hours, however, it is clear that the quality of the experience is very different (Graham, 1998: Interview). The term "virtual museum" may obscure these differences.

The growth of museum attendance in recent years testifies to public interest in material culture as well as museum skill in the production of exhibitions. The Internet has provided a new means to disseminate this type of information to what the French call "le grand publique". Where more work remains is in a better understanding of the information needs of virtual visitors and a better understanding of costs in creating and maintaining a Web site. Cost information is often not readily apparent as content creation typically involves diverse staff. What also needs to be understood is the quality of the learning experience.

Interestingly, although visitor evaluations of the Museum and its exhibitions are very positive, there has been a consistent expression of dissatisfaction with the limited amount of information accompanying exhibited artifacts, especially among regular visitors (Graham, 1997: 1).

Another area where more work remains to be done by the museum profession is in the less glamorous side of museum information: the development of finding aids to museum holdings such as catalogues. One of the troubling developments in the museum field in Canada in recent years has been the lack of resources available for cataloguing and collections management. The previous chapter discussed this problem: the reduction in government funding and the need to increase revenue with a resultant emphasis on public programming and a de-emphasis on such infrastructure activities as research. In most institutions, cataloguing is restricted to objects being prepared for exhibition. In the case of CMC, we have seen that despite an emphasis on information, little cataloguing has been conducted in recent years. Staff reductions were most severe in the areas responsible for collections management with the result that fewer people were available to produce basic information. In addition, collections people have frequently been diverted to multimedia and Web projects.

In fairness, it should be stressed that considerable effort has been made by CMC to provide a basic level of artifact information. The 1998 initiative to mount the museum catalogue on its Web site spurred a flurry of activity in standardizing data and making it bilingual, work that still continues. Few other museums have taken this initiative. In addition to the lack of resources for artifact cataloguing, however, the collection of field and historical photographs, the archival manuscript and audio-visual collections require considerable work. Staff have expressed a commitment to documentation, but resources are thin. The holdings in question are the result of field research by decades of anthropologists, folk culture specialists and historians, unique material about Canada's cultural history particularly pertinent to native people. Interviews conducted in the field in past decades may describe hunting grounds pertinent to land claims or record cultural practices lost in the upheaval of the past century. From a genealogical viewpoint, oral histories and images may also have personal value to contemporary aboriginal Canadians.

The significance of this type of information is legally recognized under Canada's Privacy and Data Protection regulations in that personal information may be disclosed to bona fide native claims' researchers, unlike other personal information held by the government (Treasury Board of Canada, 1993: 18). The inclusion of cultural artifacts in treaty negotiations with First Nations peoples and the question of repatriation increase their significance. Access is complicated by copyright issues and by moral rights not embodied in law, but now recognized in anthropology (Inglis, 1998: Interview). Yet although requests by researchers are increasing, the numbers are small, approximately fifty a month, compared to the 5 million hits received by the Museum Web site in 1998 or the 1.2 million visitors who pass through CMC's doors. In an era of constrained funding where success is measured by attendance and revenue, there is an increased risk that this type of material will not receive the resources needed to make it readily accessible.

Cataloguing material of this nature is not glamorous. It is a slow and labour-intensive process. Entering catalogue information into a computer is also time-consuming, made more difficult by the lack of widely accepted cataloguing standards. To compensate for staff shortages, work is often done by students and interns and can be uneven in quality. Although funding for documentation was made available to non-National museums under the 1972 National Museums policy, it was never provided to National Museums. The cuts of the past decade have also reduced the impact of any funding, undermining initiatives to standardize data.

Also pertinent to the adoption of standards is the issue of leadership. Institutions such as the Canadian Heritage Information Network, Britain's mda (formerly the Museum Documentation Association) and the California-based Getty Information Institute have played major roles in developing and promoting documentation standards within museums. In the mid 1990s, the Canadian Heritage Information Network ceased its research into the documentation of collections, focusing rather on issues of interoperability in the Internet environment, although it has since recognized the need for further work on data structure and terminology. It is hoped that these initiatives will continue. The demise of the Getty Information Institute (GII) in 1998 was a blow to standards development not only in the US, but also internationally. The Getty Information Institute supported a number of standards initiatives and was one of the few to do so in a sustained fashion at an international level. The decision to maintain its vocabulary programmes under the aegis of the Getty Research Institute is a welcome one, as is the continued support of the *Object ID* project (McDonnell, 1999: Interview).
Standards issues have become more pressing with the advent of the Internet. On the one hand, there is renewed interest in the idea of sharing information about museum collections; on the other hand, as more and more information becomes

available electronically, the difficulty in locating specific information becomes more acute, in spite of proprietary search engines and directories such as AltaVista and Yahoo!. A number of standards organizations have proposed metadata schemes (data about data, comparable in concept to library catalogue cards) to aid in the discovery of electronic resources on the Internet, but to date there are no obvious solutions. The Computer Interchange of Museum Information or CIMI (www.cimi.org), a consortium of heritage organizations working together to facilitate access to cultural heritage information, represents museum interests in this challenging area. Collaboration is an essential component in the development of standards as well as a prime motivator in their adoption.

As museums show renewed interest in sharing information, either through collaborative databases or in a distributed database environment, the issue of the lack of common standards becomes more acute. One somewhat worrying trend in recent years has been the tendency to downplay the importance of common documentation practices at the institutional level in favour of technological solutions that might compensate for the lack of shared standards. An example of this can be seen in recent studies examining the potential of ANSI Z39.50 , "a mechanism that allows searching across databases with dissimilar data structures providing they are Z39.50-compliant" (Gosling and Gill, 1997/98: Web). A 1999 article in *Spectra* entitled *Best Practices in Networking Cultural Heritage Resources: Where to Start?* states:

> In many areas we have now abandoned the idea that all practitioners will use the same standards as the concept of interoperability is prevailing (through such instruments as the Z39.50 standard and of using such mechanisms as the Dublin Core set of metadata to search for materials across different fields (Green, 1999: 10).

However, a number of library initiatives, including a two year project undertaken by the National Library of Canada to create a virtual union catalogue, indicated real difficulties in applying Z39.50, even with library databases that are MARC compliant. Local differences in cataloguing practices, variations in standard-compliant software distributed by different vendors, and in the application of the standard within individual libraries resulted in a number of technical, bibliographic, vendor and administrative issues (Lunau and Turner, 1997: Web). Efforts to resolve these issues will require extensive work among all participants. Far from bypassing inconsistencies, Z39.50 will only work where there is "a shared understanding between client and server of rich and specific information semantics" (Lynch, 1997a: Web).

In an article on DigiMuse, heritage was described as pieces of a jigsaw puzzle scattered in diverse institutions. Digital representations were seen as a way to put the parts of the puzzle together. If the vision of a completed picture is to be realized, then museums must develop and implement the standards necessary to link their diverse information resources. Activities such as cataloguing and the implementation of standards require a long term commitment, both at an institutional and a professional level. In this time of reduced resources, this commitment may be hard to come by.

The second theme inherent in CMC's approach to digital information is the importance of technology to disseminate information:

> Traditional methods of outreach, such as travelling exhibits and books, have limited spread, and are not as cost-effective as we wish. We need to do more, on a wider scale; the new information and communication technologies are our means of doing that (MacDonald, 1994a: 2).

The experience gained in the past few years make it necessary to qualify this statement. The new information and communication technologies are not necessarily more cost-effective and wide-reaching. As noted above, CD-ROMs tend to be more expensive and less wide-reaching than books. Even Corbis has acknowledged that only one of its CDs, *A Passion for Art,* an electronic tour of the Barnes Foundation, has done better than break even (Rosenbaum, 1996: 25). Kiosks and Photo-CDs as public access vehicles came and went at an astonishing speed. At the present time, transparencies remain the format of choice for the preservation and delivery of images (although digital image delivery is increasing). Three-dimensional imaging is an intriguing, but highly expensive medium still in its infancy. Of the new technologies, the Internet offers the most promise of increasing access, although it can be difficult to assess its cost-effectiveness, given the wide range of individuals often involved in maintaining a site. Still, it succeeds in reaching individuals who might not otherwise be touched and increases the possibility of interaction and direct communication. Additional research is required to better understand its impact and its use, a subject that will be discussed in greater detail in Chapter Six. Now that the technology is better established, it may be an appropriate time for visitor studies to investigate public response to Web sites and other technology initiatives in a more systematic fashion.

Yet despite falls in the price of hardware and the increased software capacity, technology is still costly and often requires a reassessment of priorities and a transfer of resources. One of the major problems of being an early adopter of specific technologies (along with the risk of being locked into obsolete or failed systems and standards) is that it is easy to become technology-driven. Ironically, this may detract from the creation and use of information resources. As we have seen, a number of costly technologies have proven to be dead-ends. Although experiments can prove to be learning experiences, they may consume tremendous resources that may be better used elsewhere. Longer term planning is required to identify and realize the potential of diverse information resources, planning that recognizes technology as one tool among many.

Also important is a willingness to assess results in a rigorous fashion. Technology is very seductive. As it changes, it is very easy to leap from one to another, creating a sense of forward momentum without stopping to see how effectively one has furthered one's institutional mission. One of the challenges facing public sector institutions in this regard is that they are judged differently from the private sector where the bottom line is pre-eminent (although until very recently this has not been the case with Internet firms). The adaptation of cutting edge technology is prestigious, drawing press attention and in some cases, such as the development of "micro-galleries" at a number of large institutions, corporate sponsorship. Government funding has also been more readily available for technology projects than for other more mundane initiatives. This is especially true when projects are nationalistic in tone and boast such government favourites as the "Information Highway" and private/public sector partnerships. As already noted, CMC received close to $1 million in government funding for its DigiMuse and kiosk projects, as well as special grants for a number of other initiatives. Institutions that can attract this type of funding are to be congratulated. The point is, rather, that the risk of being technology-driven increases in this environment.

The need for careful assessment is particularly acute given the issues that still surround digital information, the lack of standards for scanning, storage or document formats, for example. Given the labour-intensive nature of conversion to digital format, it is not likely that costs will be reduced significantly. This chapter has already touched on the issue of content standards and the challenge in locating information. The rapidly changing technological context also means that there may be significant ongoing costs in maintaining digital resources. In addition, current uncertainties about copyright in the digital world complicate the picture, a subject that will also be discussed in greater detail in Chapter Six.

CMC's digitization project indicates the difficulty in setting priorities for digitization, especially in the case of a large collection. A number of publications, primarily from the library and archival field, are of some assistance, although all stress that circumstances vary from institution to institution (Hazen, Horrell, Merrill-Oldham, 1998; Ester, 1996). A recent report by the Council on Library and Information Resources, *Selecting Research Collections for Digitization*, provides a set of questions to be asked prior to digitization that are worth repeating here:

> Does the material have sufficient intrinsic value to ensure interest in a digital product?
> Will digitization significantly enhance access? Increase use by an identifiable constituency?
> What goals might be met by digitizing?
>> Preservation?
>> Improved intellectual control?
>> Added functionality?
>> Cost savings?
>
> Does a product exist that meets identified needs?
> Are rights and permissions for electronic distribution secured or securable?
> Does current technology yield image quality adequate to meet stated goals?
> Does technology allow for adequate digital capture from a photo intermediate?
> Are the costs of scanning and post-scan processing supportable?
> Does the institution have the necessary expertise and resources to plan and implement the project?
> Is there sufficient organizational and technical infrastructure to create, manage and deliver digital products? (Hazen, Horrell, Merrill-Oldham, 1998)

Other considerations cited in this report relate to image quality and resolution, the creation of metadata, the means of access and archiving. When coupled with a recognition of the long term implications of maintaining a digital resource, the rapid evolution of technology and the decreased rate of government subsidies, the need for careful planning and assessment becomes apparent.

The third theme inherent in CMC's approach to digital information is the need to generate revenue to fund electronic outreach. In this chapter we have seen a number of initiatives undertaken with the goal of generating revenue: the production of multimedia such as Portfolio CDs and CD-ROMs, as well as charging for access to online information, whether through memberships or on a pay-per-use basis. Museum images have also been licensed to third party vendors. In none of these cases has revenue been significant. This experience is not unique to CMC, or to the museum field.

Other problems arise in seeing digital information as a source of revenue. In the museum literature over the past ten years, there have been articles arguing the relative merits between market and mission-driven institutions. Yet this literature rarely describes the impact of this debate on the morale of staff, many of whom remain deeply committed to a public mandate. In interviewing staff in CMC, it was possible to see a division between those who see information as a source of revenue and those who see it as a public good. Even at a management level, opinions varied. Some managers expressed a vision of technology as a means to exchange and create information with interested communities such as Native Canadians. At the other end of the spectrum were those who argued that the champions of free access in museums, libraries, archives and universities were hurting those who would generate revenue. This division has been mitigated by the 1998 decision to mount the Museum catalogue on the Web site at no charge. Yet staff spoke of difficulties incurred in implementing earlier projects over which there were philosophical differences. This issue of public service versus commercial exploitation is by no means unique to CMC. It is being repeated in every museum grappling with the issue of revenue generation. Nor is it unique to museums. Rather it is part of a broader public debate over the notion of universality, once an underpinning of our society, but now increasingly in doubt.

Public institutions are not businesses. Subsidized public institutions are not subject to the disciplines of the marketplace to the same degree as the private sector. Nor were they established for the purpose of making a profit. Although public institutions must increasingly generate revenue, they have been established for other purposes. In the current environment, it becomes difficult to maintain a balance between mission and market.

A case in point is the museum's educational mission. Many of the technology products and services described in this chapter were targeted, either implicitly or explicitly, at the educational market. Yet Canadian school and university budgets have been slashed in the past decade. Tuition fees have climbed and graduates are facing the highest debt load ever. From a practical viewpoint, this hardly seems a lucrative market. From a philosophical viewpoint, the risks of market over-riding mission are very real. Granted, there are instances of services offered at reduced rates to students. For example, publishers and other commercial users pay higher rates for museum images than do students. Yet, as we saw in the last chapter, charges are now applied to school visits at a time when many public schools can no longer afford the cost of busing.

In *The Structural Transformation of the Public Sphere*, Habermas described the importance of cultural activities in the development of a critical public. This vision is echoed in a 1991 article entitled *The Museum as an Information Utility:*

> In a democratic society decision-making relies on an informed citizenry. Public museums, like public libraries, were created because of a social understanding that knowledge is a public good and that public pools of information are necessary. But it is not sufficient to be a repository of information. It is important for museums actively to use information to create understanding; or, to help their audiences exploit effectively the information resources in their self-directed quest for knowledge (MacDonald and Alsford, 1991: 306).

This vision of information as a public good seems at odds with the vision of information as a commodity. Charging for access defeats the goal of universality and exacerbates the disparities between rich and poor that can already be seen in the unequal distribution of Internet services throughout Canada and internationally. This is not to deny the current economic difficulties of museums or to denigrate efforts to generate revenue through auxiliary services such as gift shops, parking, facilities rentals or restaurants. Nor does this view eliminate charges for value-added services and products such as publications. Rather it points out the need to draw the line between those services where charging is appropriate and those mission-critical activities where it is not.

This issue is particularly timely. MacDonald quite rightly identifies the high cost of technology which will increase the pressure for fee-for-service access to information even in such bastions of public service as libraries. In addition, Internet activists fear that recent mergers will result in the transformation of a "gift" culture, where information is freely exchanged, to a "commercial" culture, where information is bought and sold under the control of large corporations. The issue of charging for access to digital cultural information will also be examined in greater depth in the next chapter which will explore the issue of licensing information.

Chapter 6 - Case Study: The Licensing of Museum Intellectual Property

> *When those guys talk about "information", I reach for my wallet* (Geoffrey Nunberg quoted in Mann, 1998: Web).

In Chapter Five, I discussed the philosophy guiding the Canadian Museum of Civilization's approach to information technology: the belief that technology was key to a viable future, the need to generate revenue to support technology and the identification of information as the revenue source. This chapter will also address the link between technology, information and revenue, identifying some of the attitudes influencing museums' approach to automation during the past decade. In particular, it will focus on the licensing of museum intellectual property.

The chapter will begin with a description of what I call the "gold rush" mentality, the belief that digital museum content represents an important new revenue stream for museums. It will then explore the demand for museum intellectual property from the perspective of stock agencies such as Corbis, inhouse rights and reproduction departments, and initiatives by consortia such as the Art Museum Imaging Consortium and the Research Libraries Group's Cultural Materials Initiative. This chapter will further the hypothesis of this thesis by demonstrating that early expectations of significant new revenue were largely unfounded. In addition, it will argue that this belief has focused attention on issues of control rather than on a critical examination of the needs of the public, the cost benefits of wide-scale digitization and the role of museums in the current debates over intellectual property legislation. Finally, this chapter will argue that the tendency to look at information as a commodity may further undermine the museum's traditional public role.

The Gold Rush

An extreme example of "gold rush thinking" can be seen in *The Implications of Emerging Technologies for Museums and Galleries*, a 1997 article by Michael Fopp, director of the Royal Air Force Museum and former chair of the Museum Documentation Association's Board of Directors. In this article, Fopp speaks of the need for museums to compete with the leisure industry. Although museums are highly valued as educational institutions in our society, the public is unwilling to pay a market price for their services. Government cutbacks, in recent years, make the position of museums more precarious, but technology may provide them with the means to compete in the global marketplace, if only they shift their traditional Victorian attitudes. Through technology, Fopp argues, museums can capitalize on their collections and realize income that "will eventually make grant aid seem like peanuts" (Fopp, 1997: 144)

In this vision, the museum of the future will be a physical site similar to a traditional museum, but linked to a virtual museum that provides global access to goods and services twenty-four hours of the day. Virtual visits will outnumber physical visits, but physical visits will also increase, stimulated by the existence of virtual collections. Access will become "transactions", facilitated by electronic cash, a mechanism under which casual users will pay a small fee either for viewing or a slightly larger one for downloading, while commercial users will pay a more substantial, market-based sum. Although further developments are required to protect copyright, progress is being made. Eventually, the article states, technology will guard against improper exploitation of museum resources, ensuring adequate financial rewards while permitting museums to capitalize on all their assets and reach new users (Fopp, 1997: 150).

Fopp argues that "only our ignorance of the opportunities about to be realized can stop this happening" (Fopp, 1997: 144). One risk of this ignorance is that commercial firms such as Corbis will snap up the best museum images and dominate the massive commercial use of images about to be realized. Why, he argues, should museums hand their resources to their competitors while they are perfectly capable of exploiting them themselves? "Museums must make the culture shift from providing free (or very cheap) access to a fixed-site 'real' museum to providing limitless digital access at a price to a global audience" (Fopp, 1997: 153). Given the value of their collections, museums are in the perfect position to seek private sector partners and government sponsorship. Fopp concludes that "there has never been a better future for museums nor a greater opportunity for them to reverse the decline in their funding" (Fopp, 1997: 153).

In this vision of technology as the potential saviour of museums, we see many of the same elements discussed in the previous chapter: technology as the guarantor of new audiences, both real and virtual; museum information as a source of new revenues; external forces poised to dispossess museums of their rightful dues; copyright issues resolved through technological safeguards; and museum recalcitrance as the major impediment to the realization of this vision. The viewpoint expressed by Fopp was probably more common in the first half of the 1990s when the "Information Superhighway" was front-page news, yet elements of this vision still linger.

In an important article on site licensing, for example, David Bearman and Jennifer Trant, two founding members of the Art Museum Imaging Consortium (AMICO), described the need for new approaches to the management of images in light of the ease of digital copying and the "potential of electronic distribution of images to reach vast new audiences" (Bearman and Trant, 1997: 269). Their contention:

> ...both the appropriate cultural role and the financial best interests of cultural heritage institutions will be advanced by collective protection and promotion of their intellectual properties, and by mechanisms that encourage the growth of a market in high quality reproductions (Bearman and Trant, 1997: 267).

Museums unwilling to lower transactions costs through collective management and distribution will find that:

> Technologically modified copies of their original properties, or technologically altered copies of properties belonging to others, will be substituted for the "real thing", creating a truly "virtual" world. Instead of profiting greatly from the advent of digital mass distribution, rights holders may find themselves holding rights no one wants (Bearman and Trant, 1997: 271).

The view that outside interests will dominate the field if action is not taken can be seen in a speech by another AMICO principle, Max Anderson, at the 1998 College Art Association conference in Toronto. Anderson, at the time Director of the Art Gallery of Ontario and a member of the Board of Trustees of the Association of Art Museum Directors, contended that a relationship with a rights-clearing entity such as Corbis represented a surrender of museum destiny to a for-profit entity (Anderson, 1998: Web). Geoffrey Samuels, the president of a second site licensing initiative, the Museum Digital Library Collection, speculated that licensing profits could be large, as much as $7.5 million per year from American universities should licensing initiatives charge a fee of $.50 per social sciences and humanities student (Samuels, 1996: 67, 55). This new revenue could be employed to fund digitization initiatives within participating museums.

A 1999 publication by the Getty Information Institute echoed the warning that the cultural heritage community risked having its intellectual property subsumed by commercial interests. Given the ability of these firms to penetrate markets by bringing content to electronic networks quickly and efficiently, cultural organizations might find it difficult to compete (Zorich, 1999: 28). At the very least, the "vastly increasing volume of intellectual property requests spawned by new technologies" would mean that managers of rights and reproductions in cultural organizations would be busier than ever (Zorich, 1999: 34).

The view of museum content as a valuable commodity can also be seen in a number of articles by museum IP managers:

> In short, I think we should be well aware of our role as leaders in the field of intellectual property. Museums are the depositories of what is some of the most important, authentic, high-quality, and potentially most sought-after visual material available to the media. Intellectual Property - whether in images, audio, film/video, or interpretive content - is a product in high demand, and we should actively concern ourselves with how to exploit its potential, to everyone's advantage (Keshet, 1997/98: 21).

To become "lucrative electronic image outlets", however, would require a major transformation of traditional museum operations (Sorkow, 1997: 167).

The 1997 *Museum and Galleries New Technology Study* identified economic issues and, in particular, questions of revenue, as one of the most critical issues faced by museums and galleries in adopting new technologies. It reported that projects receiving European Union funding, such as Aquarelle and others in the EU Libraries Programme, were designed to examine operational costs and buyer behaviour in order to develop new business models "based on "pay per use", subscription, advertising or other revenue streams/resources" (MAGNETS, 1997: Web).

Even where expectations of revenue are moderate, there is evidence that the digital environment is changing museums' notion of service. Costs for the creation and maintenance of digital resources are so high that cost recovery is increasingly contemplated. *A Network of Jewels*, for example, the 1999 report from the UK's National Museum Directors' Conference, proposed charging fees to schools and libraries (but not end users) for access to digital content. Licensing fees from commercial providers and publishers would also defray costs (National Directors Conference, 1999: Web).

A major initiative announced by the Museum of Modern Art, New York, and the Tate Gallery was more optimistic in its belief in the revenue potential of digital initiatives. In April 2000, the museums announced the creation of an independent for-profit e-business to establish "the premier destination on the Internet for individuals to access, understand and purchase" the best in modern art and design (Museum of Modern Art and Tate Gallery, 2000: Web). The new site, structured to supply "content, commerce, and community" aims to generate revenue from a combination of sales and advertising, through affiliate sales from participating sites, and through syndication and pay-per-use viewings of original content. In the press release announcing the new initiative, the Director of MoMA, Glenn Lowry, enthused:

> This exciting new venture will allow us to spread our message to a new global audience interested in art, design, and culture, and underscores our firm commitment to fiscal responsibility and long-term financial stability (Museum of Modern Art and Tate Gallery, 2000: Web).

This focus on the revenue potential of information has coloured museums' approach to digital information, but is it justified? The remainder of this chapter will explore the validity of this approach by examining the demand for museum digital content.

The Demand for Digital Images: Stock Agencies

Like many other industries, the stock photography business, "the sale and distribution of pictures for newspapers, advertising agencies, graphic and television agencies", has been undergoing a period of dramatic consolidation (Angioni, 1998: 36). The business took shape in the 1970s when a number of photographers began building up small picture archives, generally devoted to a particular subject or style. The 1980s were marked by consolidation, as were, increasingly, the 1990s. Today, it is estimated that over 45% of the $1 billion worldwide photography market is controlled by two companies: Getty Images and Corbis, down from six companies in the autumn of 1999 (Selling Stock Online, 2000: Web).
Corbis, with its growing collection of over twenty-five million images, of which approximately two million are available in a high-resolution digitized format, was one of the first to stake its future on digital technology. Today, it aims to be "the" place for images on the Internet. According to the Corbis Web site, the company's mission is "to sell the best visual content to creative professionals and online consumers through innovative digital technologies". A brief history of Corbis' involvement in the museum field was provided in the previous chapter, as was a report on royalties received by the three Canadian museums that have licensed images to Gates' firm. Although concerns over Corbis' role in the museum field

have diminished, its actions have contributed to museum expectations regarding the licensing of digital images. For these reasons, it is worth investigating Corbis at greater depth to determine whether the anticipated public demand for museum content has been realized. Information about Corbis and other picture agencies in the art field will be placed in the broader framework of stock photography, especially as it concerns digital imaging.

Although the story of Corbis is quite well known in the museum field, less well known is the aftermath of its incursion into museum territory. In one of the few follow-up articles on the subject, entitled *How Fares the Digital Revolution?*, the *Art Newspaper* reported that the Philadelphia Museum of Art, one of the early contributors to Corbis, had earned royalties of less than $5000 in the four years following the digitizing and licensing to Corbis of roughly 1300 of its major art works. Three years later, sales remain approximately the same (Clark, 1999: Interview). The manager of rights and reproductions reports that customers are mainly interested in a handful of major works (Kaufman, 1996: 6).

An interview with the Detroit Institute of Art was also telling. In 1996, after a year of negotiations, Detroit licensed approximately 1000 of its images to Corbis as a means to generate revenue and to advance technologically. The Museum judged that digital technology provided a better preservation medium than transparencies. Additionally, it wished to take advantage of the coming changes. According to the Director of Photography, Dirk Bakker:

> Printing presses can [now] take digital information and print directly. We have to assume that within the next decade, our revenues for the old way of [publishing] our images...will diminish. I think by the end of this decade all of this will be done in the digital domain, period (Lusaka, 1996: 74).

Three years after *Museum News* reported on Detroit's deal with Corbis, Bakker has revised his opinion. Although the Institute's rights and reproduction department realizes annual revenues of roughly $100,000, there have been no royalties received from Corbis. In Bakker's opinion, Corbis made a serious miscalculation in its plan to serve a consumer market for digital images. Bakker feels that an artificial stimulus of the market won't work; if a person has got though life without an image of Tintoretto, that person will not necessarily purchase one, just because the image becomes available on the Internet (Bakker, 1999: Interview).

Other museums express similar results. The North Carolina Museum of Art supplied 174 colour transparencies of its major works to Corbis, including works of art on view at the Museum or pictured in its *Handbook of the Collections*. In 1997, it received twenty-four requests through Corbis; in 1998, twenty (Erickson, 1999: Correspondence). The Kimbell Art Gallery licensed everything in its collection of approximately two hundred works and receives one or two requests a month through Corbis compared to the two requests per day received directly by the Gallery itself (Adams, 1999: Interview).

The fifteen hundred images supplied to Corbis by the Minnesota Historical Society were mainly images of people at work and play as well as some portraits of well-known figures. In 1998, Corbis received twenty-two inquiries that they sent to the Society for pre-approval. This comprises less than 1% of the number received directly by the museum itself. Bonnie Wilson reports that the Society's photo lab makes hundreds of prints per year for customers who call, write, or use the Web (Wilson, 1999: Interview). One concern raised by the Historical Society regarding its relationship with Corbis concerns the paucity of textual data associated with its images on the Corbis site, especially information that might encourage researchers to contact the Historical Society (Mortenson, 1999: Interview).

Although Corbis remains convinced that the mass market will be the biggest within ten years, it is the only picture agency to adopt this strategy to date, although Getty's recent purchase of Art.Com and American Royal Arts indicates a new interest in consumers (Selling Stock Online, 2000: Web). Agencies such as Corbis believe that the individual consumer will wish to purchase images for personal use on newsletters, walls and screen savers (Hartke, 1999: Interview). Some images are available on its site for free and it is possible to use the site to send electronic postcards. These services form part of a strategy to familiarize consumers with the use of digital images.

Industry analysts question this strategy. Although Corbis has spent tens of millions of dollars in acquiring photographs (and its competitors), it has fallen short of profitability, relying instead on Bill Gates' deep pockets (Angioni, 1998: 36). One criticism is that Corbis has a weak sense of what the client wants. According to *Selling Stock Online*, photo editors must have a strong and evolving sense of the end user. Most commercial files are built in conjunction with selling so that editors develop knowledge of what the market wants. "Even with the benefit of sales information, the best edited stock agency files seldom license rights to more than

5% of their images" (Selling Stock Online, 1997a: Web). Corbis, it appears, has focussed on the issue of supply while making assumptions about demand.

The critique continues:

> There is a lot of talk about the school kid who will go on-line and purchase images for their reports at $.25 to $1.00 per transaction. No one has made an attempt to really market to this kid. No one has any real idea what he will need, except everything. No one has any idea how many transactions might take place at these prices. But if this is the expected market the only practical instruction to an editor are, "pick any image that you think someone might like." That leaves a lot of latitude (Selling Stock Online, 1997a: Web).

Jim Pickerell, editor of *Selling Stock Online*, concludes that Gates' mistake was in scanning too large a percentage of his collection, incurring costs that have not been offset by sales (Pickerell, 1999: Interview). Just because a product is easier to find and cheaper doesn't mean that customers will want a lot more of it. As 1999 consumer sales for Corbis are estimated at a mere $1 million, this critique rings true. Getty's consumer sales were higher, $6.1 million, but resulted in a loss of $5.8 million for the company, chiefly because of investments in Art.Com aimed at generating more sales (Selling Stock Online, 2000: Web).

Where then are stock photo sales occurring? Purchases by Corbis of other photo archives suggest that Corbis is changing its business strategy. In February 1998, Corbis acquired Digital Stock Corporation, thought to be the world's second largest provider of royalty-free digital images. According to a Corbis spokesperson:

> Today's acquisition represents an aggressive move by Corbis to broaden its content and customer base to include advertising, graphic design, corporate communications, pre-press, publishing, multimedia and web site design markets (Selling Stock Online, 1998e: Web).

Of Corbis' many acquisitions in recent years, this was the first of several aimed at advertising and graphic design. Previous purchases had been aimed at the editorial and consumer markets. A Corbis representative confirms that this new aspect of their business has been "growing in leaps and bounds" (Hartke, 1999: Interview). Getty Images, which since its founding in 1994 has grown to be the largest agency, has concentrated on the professional market - journalists, film and television, advertising and graphic design.

The importance of digital technology to this industry is growing. Getty Images, the largest operation of its kind, reported that more than 15% of its 1998 fourth quarter sales were E-commerce sales (Angioni, 1998: 36). Overall sales have increased enormously, to a large extent as a result of its acquisitions, but as with Corbis, profitability remains an issue, with a 1999 loss per share to Getty investors of $1.93 (Selling Stock Online, 2000: Web).

One difficulty in assessing E-commerce activity is in the lack of a clear and universally accepted definition. Although labelled E-commerce, it is likely that the sales described above entailed some level of human interaction either in locating images, clearing usage or negotiating prices. Even if processes such as searching, payment or image delivery are all done online, as Getty and Corbis hope, some analysts speculate that the need for a degree of human interaction may remain. In recent years, there have been several lawsuits regarding the use of royalty-free images, supposedly images with no need for usage clearance. Some fear that suits will increase in number.

Problems have primarily occurred where collections have included images of real people. In one recent case, a picture of a young family found its way into a *PhotoDisc* collection. Shortly afterwards, the image began appearing in strange places: a Christian Coalition calendar; an ad to promote the baldness remedy Rogaine; atop personal ads for single parents in a major newspaper; and in a story on chronically ill children carried by two trade magazines. The family sued and won. *Selling Stock Online* speculates that a small percentage of royalty-free users resort to this product as they have difficulty in obtaining models to promote their products and services. It recommends that customers be obligated to request releases (Selling Stock Online, 1998i: Web). Although museum images are less likely to include real people, many museums are concerned that their images be used appropriately. This may be one reason that the vision of fully automated commercial image delivery is unrealistic for museums. Another reason is the skill that a knowledgeable person can bring to locating the most suitable image.

The combination of digital and analogue technology is expected to continue with analogue sales declining over time. Problems associated with digital images, such as resolution, have improved and comfort levels are rising, but print catalogues still remain a strong marketing tool. A 1998 survey by *Graphic Design: USA* of 1200 subscribers - graphic designers, ad agencies, corporations and publishers - found that 64% of respondents had used a royalty-free digital image in the past year. Forty-seven per cent reported that they had used the Internet or an online service to locate stock photos. When asked how they preferred to search for stock, 20% of respondents gave CDs or online databases as their preference, 40% preferred a combination of digital and print resources while the final 40% preferred to use print catalogues only (PDNews, 1998b: 20).

Museum Intellectual Property Marketing Study, an analysis by the Canadian Heritage Information Network of five market segments - publishers, broadcasters, multimedia producers, advertisers and corporate users – has also indicated considerable variation in image preferences. Newspapers may prefer digital files, but traditional buyers of museum images such as textbook and academic publishers still prefer transparencies for reasons of quality control. Multimedia producers, needless to say, are comfortable with digital files, but advertisers and corporate users use both digital and transparencies. In order to service the advertising and graphic design community, image quality and ease of service is essential. Often these firms require a twenty-four hour turnaround (CHIN, 1999: 44). This market segment also tends to be conservative in its selections, preferring icons such as the *Mona Lisa* or *Waterlilies* - that is, images that have worked before - to lesser known images and valuing appearance over authenticity (Hartke, 1999: Interview).

The textbook and academic market, on the other hand, need a much greater range of material. Images are selected based on the theme of the book and are much more specific in their nature than the general concepts illustrated by advertising images. Publishers constitute one of the major users of museum images. *Selling Stock Online* estimates the worldwide market for educational photographs at $150 to $200 million annually, much less than advertising, but one more likely to need the services of smaller agencies specializing in this market (Selling Stock Online, 1998d: Web). This reliance on specialized agencies rather than the large, heavily automated firms is a factor of the need to select images appropriate to the specific points made in a text:

> With editorial uses it is often necessary to know facts that are not readily apparent by just looking at the image. It is important to be sure the image is an appropriate illustration of the points being made in the text. Thus being able to supply specific details of exactly what is happening is as important as the artistic qualities of the images (Selling Stock Online, 1998d: Web).

Because of the need for accurate background information, supplying images to this market segment has a much higher overhead than selling through catalogues to designers and advertisers. *Selling Stock Online* speculates that it may not be in the best interests of many of the smaller agencies catering to specialized book publishers to put all their images online. Its rationale is based on the need for extensive captioning and keywording to accompany the images:

> Given the costs of filing, the variety of images needed and the relative infrequency that any single image will be requested, it will be much less desirable to go to the expense of putting a large selection of images in a costly electronic database (Selling Stock Online, 1998d: Web).

Selling Stock Online suggests that it may be more profitable for smaller specialized agencies catering to academic publishers to supply an electronic sample of low resolution images sufficiently large to be informative and to encourage buyers to call for in-depth research. High resolution images can then be scanned as required.

Although digital technology is becoming increasingly important in the world of stock photography, this development has not yet translated into a blanket approach to digitization. Of Getty's 70 million photographs, 1.2 million have been scanned; of Corbis' file, 2 million. There are a number of reasons for this gap. First, the large agencies cannot afford to digitize everything in their files, especially as only a small percentage of images in an agency's file, often less than 1%, ends up ever being licensed. Second, the cost of preparing images for digital marketing is higher than for traditional filing methods and although e-commerce was expected to reduce people costs, technical staff represent a considerable new expense. A third significant cost is familiar to museums, the cost of cataloguing images to permit retrieval by the public or even inhouse researchers. Keywording represents a major cost in providing online access. Finally, beyond those images selected for extensive marketing in print catalogues, it is not yet clear what will sell well in the online environment. Corbis and Getty are becoming more selective about what images they accept and keep in order to free resources for digital marketing (Selling Stock Online, 2000: Web).

According to Mark Getty, the founder of Getty Images, a number of museums have offered to license their collections to his firm in return for digitization, but he declined, saying:

> The market is very selective, not everything put on to the net is in demand. It would be foolish for a museum to digitalise everything in its collection. But this is what they are asking for - I suppose it's the museum mentality. They are used to preserving everything for future generations, but we are more interested in consumer demand, consumers make their own choices (Angioni, 1998: 36).

Corbis is currently negotiating with two American museums and plans to continue adding museum images to its digital files, although most of its growth is in its commercial lines (Hartke, 1999: Interview).

Two well-known agencies that concentrate on art reproduction, the Bridgeman Picture Library and Art Resource, are also actively soliciting museum images. According to Art Resource, sales are not " 'vastly increasing' but just busier than usual" (Greenbaum, 1999: Interview). Some of this growth can be attributed to its Web site. The company plans to maintain both digital files and transparencies and currently delivers one electronic file per day. The remaining requests are for transparencies, although the company expects that this will change in the future. Similarly, Bridgeman is experimenting with digital transfer in its London office, primarily to newspapers, but is still dealing exclusively with transparencies in New York (Eichel, 1999: Interview).

Art Resource does not think that automation will eliminate the need for human intervention:

> Art Resource's staff consists of trained art historians who have a real knowledge of art history. Most clients want to know more about the image, not just see a digital file. Our researchers use their knowledge to locate special images, and do searches that are not that obvious. As part of my job, I negotiate fees based on how something is used, and all clients use images differently. There is no way that a computer can do this, especially negotiate or clear usage from a museum or estate, where each case is different (Greenbaum, 1999: Interview).

The Demand for Digital Images: Museums

Although much has been written about the application and control of copyright in the museum environment, little has been written on the scope of rights and reproduction activity in the museum. One exception is the article *Pricing and Licensing for Museum Digital Content* which provides a historical perspective on the photographic services within the Boston Museum of Fine Arts. This article recounts how the picture collection was begun in 1909 as a result of scholarly inquiries, rather than as a systematic approach to documenting the collection. Until the 1960s, the picture collection reflected "the most studied and requested objects". With the development of the "blockbuster" in the mid 1970s, scholarly catalogues developed into beautifully illustrated colour books. Ten years later, the MFA set up policies to encourage image use in television, film and product development. Requests for photography soared and growth has continued to this day. From the 1980s to the mid 1990s, revenue from new photography requests more than doubled. Revenue from reproduction rights increased even more significantly, from $26,000 in 1981 to $200,000 in 1995 (Sorkow, 1997: 168).

This pattern of long term growth can be seen in a number of the major institutions interviewed for this chapter, especially those larger institutions with "premier" collections. Many of the larger institutions have sought to accommodate this increase through changes in administration, the use of automation to manage image collections and to produce contracts, and the development of boilerplate text and usage guidelines to streamline the licensing process. A number of institutions are using the Internet as an additional vehicle to promote their collections and to provide information on licensing. The general consensus is that demand has increased over the past ten to fifteen years, but this long term growth is attributed to the increased importance of images in our society rather than technology alone. Technology is certainly a factor - the growth of the Web for commercial purposes cannot but increase the demand for images and certainly the use of images has increased within museums - but few see that growth as dramatic.

The National Gallery in Washington, for example, was one of the first museums to mount its collection database online, accompanied by a sizable number of images. More recently it has added a mechanism to facilitate requests. The Office of Visual Services at the Gallery reports four online requests per week. In the last few years, demand has grown by approximately 10% while in early 1999, requests were at the same level as in 1998. The Office of Visual Services also reports that requests are still primarily for traditional media. The Gallery has a well established system for black and white images and for transparencies and is not sure that it would be cost-effective at this time to digitize these holdings at this time, citing quality issues as an important concern (Bernard, 1999: Interview).

The Museum of Modern Art in New York has not mounted its catalogue online primarily because of the copyright issues associated with modern art. It cites a more sizable growth in demand for digital images, somewhere in the range of 25% to 30%, but this growth includes internal as well as external use. In addition to printed catalogues, the museum now provides interactive kiosks for almost all of its major exhibitions. Its Web site and other technological uses also affect demand (Carpenter, 1999: Correspondence).

Other institutions report growth, but no dramatic increase. The Detroit Institute of Arts has mounted 1000 searchable images online with a seamless interface into its programme-oriented web site. Even though it has created a mechanism to order online and even though the database receives a significant number of hits, it reports few new takers. The head of the Visual Resources Department believes that demand for images is based on need. According to Dirk Bakker, if the need is not there, it is impossible to stimulate it artificially. He also believes that in spite of efforts to commercialize the Internet, there is so much material available for free that people will avoid material to which charges apply. The promises of profitability are, in his opinion, largely a mirage (Bakker, 1999: Interview).

Although the museum supplies 3% to 5% of its images as digital files and although it has digitized a portion of its collection for use in kiosks and programmes and through its association with Corbis, Bakker does not plan to digitize extensively at this point, preferring to wait until the technology is more stable. Pressure exists within museums to digitize, but Bakker questions the rationale, especially when resources for cataloguing are limited (Bakker, 1999: Interview).

Other museums interviewed placed a higher priority on digitization. The catalogue of the San Francisco Fine Arts Museums was mounted online in 1996, accompanied by an extensive publicity campaign that included coverage from the press, radio and even CNN, as well as a listing in *What's Cool*. Visitation has since stabilized at approximately 2000 visitors (unique IP addresses) per day, with visitors viewing five pages on average. The catalogue, which is mounted prominently on the site, receives approximately 50% of the total traffic. One benefit of the public access project has been an increase in accountability resulting from efforts to document the collection at a level suitable for public viewing. The collections database summarizes information in ways that can also be used in developing and implementing collecting policies (Futernick, 1999: Interview).

The San Francisco Museums' site is also unique among the surveyed museums in that it has seen a significant increase in image requests since the catalogue was mounted, an increase of 100%. Revenues, however, are still only $100,000 per year. The Director for Collection Imaging feels demand is linked to the possession of "iconic" works of art, such as those found in major art galleries. In addition, as more and more images are available on the web in multiple locations, he believes the revenue potential of any one institutional web site is diminished. One notable feature of the San Francisco web site is its "zoom" feature. This provides viewers with the opportunity to examine larger than life versions of images. Although some concerns have been raised regarding piracy, Museum staff have persevered, based on the fact that many images on the site have been published elsewhere. The format used does not make for easy removal and visitors to the site are asked to protect copyright. The Museum concluded that most commercial users would seek permission rather than using an image illegally (Futernick, 1999: Interview).

The Minnesota Historical Society is another institution with a large image database prominently featured on its Web site. The Manager of Rights and Reproductions reports that in the six months following the launch of the image database, demand has increased but without inundating the institution. Typically, it seems, students are content to use the low resolution images from the Web site, while publishers and other traditional users continue to order high quality images. In January 1999 the Historical Society's photo lab processed 149 orders, of which about 25 originated on the Web site. However, phone orders may have declined. The reference specialist for photographs believes that the Web site has increased awareness and use of collections, facilitated ordering and increased interaction with staff. The Chief Photographer agrees, but feels that some very popular images may become overused. He cites the popularity of "calendar-type" images over images with more intrinsic research value (Mortenson, 1999: Interview).

This tendency to select images from a popular core was consistent across all institutions, from the Victoria and Albert to the Royal Ontario Museum. The Boston Museum of Fine Arts reports that of its collection of 500,000 objects, only 185 have been requested more than ten times in ten years. It hopes that technology will change this (Allan, 1999: Interview). The Art Institute of Chicago, the National Gallery in Washington and the Boston Museum of Fine Arts all report strong sales of Impressionist works. According to the Director of Commercial Licensing in Chicago, the Impressionists are decorative, recognizable and easily digestible. In addition, copyright issues are not as complex for works in the public domain (Nugent, 1999: Interview). Other factors influencing the popularity of images seem to be new exhibitions and publications that feature particular works. The Museum of Modern Art, for example, reports that its exhibition programme can have a major influence on demand. According to the Director of MOMA's Department of Photographic Services and Permissions, a major exhibition is a "like a virus [that] runs through the art history world, and everyone who is exposed catches it!" (Carpenter, 1999: Interview). The National Gallery of Canada reported an increase in requests following its move into a popular new building displaying a wider selection of its collection (Campbell, 1999: Interview).

Image preferences vary, depending on the type of user. The Victoria and Albert Picture Library classifies its clients into two categories: commercial users and academic or private users. Commercial users include publishers - mainstream, university and magazine - as well as advertisers and graphic designers. The publishers predominate, although the museum would like to increase service to advertisers and designers who typically are attracted by stereotypes and demand less research. As we have seen, however, this clientele demands a fast turnaround time that might be difficult to accommodate without additional financial investment in the service (Stevenson, 1999: Interview).

Although the Victoria and Albert, like other museums, reports a popular core of material - generally images that have appeared in print - the majority of its requests can be labour-intensive. Its non-commercial users may be scholars writing articles, students or enthusiastic amateurs. An example of the latter might be an embroidery club from North America interested in reproducing a textile seen in a catalogue. Requests of this type are "high maintenance", requiring research and interaction with curatorial staff. They also result in a low financial return (Stevenson, 1999: Interview).

The Art Institute of Chicago has segmented its Imaging Department, one of the busiest in North America, into two divisions: one responsible for commercial licensing, the other for editorial, scholarly and academic use. The former grouping handles advertising, film, web requests, video, multimedia and product development, whether for museum or other stores, and constitutes 40% of its business. The latter grouping, which includes all kinds of print books, whether academic or commercial, as well as students and scholars, makes up 60% of its business. The Art Institute reports (and this was typical of all museums interviewed) that transparencies are the dominant media. Publishers at this stage still prefer to deal with transparencies as they prefer to scan their own images to guarantee quality; for example, different software may result in colour variations. The Director of Commercial Licensing feels that digital files may increase in popularity as systems are unified, but not in the short term. The Museum possesses a significant number of digital images of varying standards, including some high quality images, and will provide colour-corrected, watermarked images for some purposes. It uses digital cameras for some internal uses, but prefers to use traditional cameras for its licensing activities, again because of reasons of quality (Nugent, 1999: Interview).

Not all museums serve the commercial market. For policy reasons, the National Gallery in Washington focuses on educational use and eschews sales to advertisers or product developers. There are no Monet fridge magnets in its gift shop; its images are used for educational products only. Other museums simply get fewer requests of this type (Bernard, 1999: Interview). The North Carolina Museum of Art lists other museums, publishers, the occasional student and multimedia developers as its most common users. Requests from advertisers are uncommon (Erickson, 1999: Interview). This is also the case with the National Gallery of Canada which cites publishers as its biggest class of user, although it has noticed more requests from individuals wishing to download images for web sites or to create links to the Gallery's site (Campbell, 1999: Interview). The Minnesota Historical Society, which receives the bulk of its requests from magazine and book publishers as well as authors, also services few advertisers (Wilson, 1999: Interview). Often requests from commercial users require a judgement call on the part of museum staff. When MacDonalds in Denmark wished to decorate a new location with prints from the Museum of Modern Art, MOMA recommended that the company acquire works by contemporary local artists (Carpenter, 1999: Interview).

All institutions, regardless of size, describe the licensing activity as labour-intensive. In spite of the public's taste for icons, differing conditions of use make each case unique; for example, as museums wish to promote educational use, fee structures for students will differ from commercial charges. Similarly, most museums wish to evaluate the use of their images, as in the case of MacDonalds. In addition, requests are often very specific in nature, a matter of getting the best image to suit a particular need. A well-documented collection in a good collections management system that links object records and image information is vital. One documentation challenge regarding images is that cataloguing practices may not correspond with requests. The National Aviation Museum, for example, reports that publishers are apt to request "planes taking off" rather than specify the type of aircraft or other information likely to be included in museum records (Hale, 1999: Interview). The Visual Resources Association has developed guidelines for documenting visual collections. Additional information may be required for digital images.

In addition to the research challenge - and requests can sometimes be very academic and obscure - there is also the question of copyright. Many licensing agreements specify that it is the responsibility of the client to clear copyright, but under certain circumstances, such as creating an institutional Web site or contributing to site licensing initiatives, the museum itself may have to contact copyright holders to seek permission. The National Gallery of Canada reports that this process can be extremely time-consuming; it is sometimes difficult to locate artists and not all respond promptly. The Gallery now tries to clear rights upon acquisition, but there remain many objects in its collection that are problematic (Campbell, 1999: Interview).

In general, licensing activities are heavily administrative and involve extensive paperwork. Although institutions such as MOMA have streamlined the process through the development of boilerplate and the use of computer software, the preparation of contracts remains a time-consuming process. Other institutions report that follow-up activities are demanding. Typically, transparencies are loaned to the licensor for a set period of time. The Detroit Institute of Arts reports that getting them back can be very laborious. It loans transparencies for four months, but only 30% of these are returned on time (Bakker, 1999: Interview). This is a situation that may be eventually improved by digital technology.

Inevitably, the labour-intensive nature of this work cuts into profitability; in fact, profitability is often difficult to define as photographic services must also meet internal needs. The Permissions Office at MOMA, one of the most highly organized and popular collections, makes a profit every year varying from a few thousand dollars to tens of thousands. However, that income is more than off-set by the loss of close to $100,000 in the photographic studio (Carpenter, 1999: Interview). The Victoria and Albert, another very active picture library, reports a modest profit, based on its marginal costs, although the head of the library feels that profits may increase over time (Stevenson, 1999: Interview). The Museum of American Art found that profitability increased when it assigned the commercial licensing of one hundred of its most popular images to Art Resource (Brose, 1999: Interview). The Kimbell Art Gallery, on the other hand, a smaller museum that has licensed its entire collection to Corbis, states that its licensing activities probably don't even cover costs. Other institutions break even or make a small profit. Compared to other sources of revenue, such as gift shops or restaurants, profits are small, but interviewees stressed the importance of their service to institutional missions.

When profits fail to meet "gold rush" expectations, however, the blame is sometimes laid on staff or inadequate marketing rather than on demand and the nature of the service. One interviewee reported being berated by 25-year-old MBAs:

> To hear our Finance people, I'm personally responsible for the collapse of the Japanese economy, and should be able to just run right over there and

> fix it! Believe me, that's the last time I give them an optimistic income estimate! And if I hear the word "entrepreneurial" one more time, I'll just start screaming!

The issue of museum profits has also been raised in the academic community, but from a very different perspective. Museum images are often used for teaching such disciplines as art history and for illustrating scholarly publications. An article in the Chronicle of Higher Education reported:

> Scholars and non-profit publications, which once obtained photographs from museums for nominal fees, now are faced with escalating charges but also with increasingly elaborate contracts limiting the range of permissible uses (Failing, 1998: B5).

These contracts, according to Patricia Failing, Chairman of the Art History Department at the University of Washington, mean that images licensed for a traditional publication must be relicensed if that publication is reissued in electronic form. Similarly, slides obtained for use with an ordinary classroom projector must be relicensed if incorporated into an instructional multimedia programme or used for distance learning. Images intended for use in a scholarly publication may run as high as $250 to $400 per item (Failing, 1999: Correspondence).

Other art historians such as Gary Schwartz, Director of CODART, or Curators of Dutch Art, at the Netherlands Institute for Cultural Heritage, share these concerns:

> Every publisher of books on art is confronted with the issue. I remember being at Abrams a few years ago, when the editor pointed at a new book on a 20th-century art form they had just published and said with horror that they had paid $40,000 for rights and that they had turned down a second book by the same author because the art she was writing about was all under copyright. When I said in my talk that the history of art is in danger of becoming the history of art in the public domain I was thinking of the cumulative effect of decisions made under constraints of this kind (Schwartz, 1999: Correspondence).

With the high cost of images, Schwartz fears that art history is becoming a greater drain on university finances than other disciplines such as literature or history. Schwartz concluded a 1998 speech at the College Art Association in Toronto by saying:

> Personally, I consider the boom market in IP a bubble, based on the untenable assumption that ideas and images can be owned. For the

> moment, though, with all the world behaving as though they can be owned, there is no percentage in acting on the contrary conviction (Schwartz, 1998: Web).

Ironically, the issue of ownership of images is not as clear cut as Schwartz fears. In November 1998, New York federal judge, Lewis A. Kaplan, dismissed a claim for copyright infringement against the Corel Corporation, a Canadian software manufacturer and distributor of clip art. The suit against Corel was instigated by the UK's Bridgeman Art Library which claimed that Corel had included copies of approximately 120 of Bridgeman's copyrighted transparencies in its *Professional Photos CD-ROM Masters*, without first seeking permission. Corel's CD-ROM series contains seven hundred reproductions of well known, public domain paintings by European masters. Bridgeman claimed that its transparencies are entitled to copyright protection under both Canadian and British law as well as under the Berne Convention (Kaplan, 1998: 5).

Because Bridgeman is British and many of the works of art in question are located in the UK, Judge Kaplan applied British Law, specifically the 1998 UK Copyright, Designs and Patents Act, which states that artistic work can be copyrighted if "original". Kaplan rejected Bridgeman's claim or originality for its transparencies, stating that photographs that act as copies of other works lack originality (Lufkin, 1999: 8).

To be original, a work:

> ...need not be original or novel in form, but it must originate with the author and not be copied from another work...Protection of a derivative work turns on whether the [author's] skill, judgment and labour transforms the underlying work in a relevant way (Kaplan, 1998: 9).

Kaplan equated photographic copies of works of art with photocopies and distinguished them from photographs of people, places and events which he viewed as creative and deserving of protection. He also stated that Bridgeman could not prove that Corel had copied its transparencies as Bridgeman was not the sole distributor of the images in question. Bridgeman's initial response to its loss was a plea to the museum community to support it in an appeal. However, it has since dropped the case, possibly fearing that another loss in a higher court of law might further jeopardize the claim to separate copyright in photographs of public domain art.

The Demand for Digital Images: Museum Consortia

Providing public access to museum information electronically is not a new idea. The governments of both France and Canada have supported initiatives of this type for over two decades. The Canadian Heritage Information Network released its National Databases, electronic indices to the collections in Canadian museums, in 1986 and joined with the Getty Conservation Institute and the Smithsonian in the late 1980s to provide university and museum subscribers with access to conservation databases. Similarly, the French public was able to access museum records via Minitel years before the Internet grew in popularity. These government-sponsored initiatives provided access to a variety of textual data, generally museum catalogues, but also, in the case of CHIN, bibliographic and scientific information. Within the United States, the Research Libraries Group, targeted primarily at university libraries, but also with representation from a number of museum libraries, provided access to databases relevant to the history of art. Not until the advent of the Internet, however, has it been feasible to provide easy networked access to digital images.

David Bearman and Jennifer Trant, active proponents of site licensing, cite a series of meetings held in California in the early 1990s as the impetus behind the provision of museum images to universities. The 1992 Irvine *Conference on Technology, Scholarship and the Humanities*, jointly sponsored by the America Council of Learned Societies, the Coalition for Networked Information, the Council on Library Resources and the Getty Art History Information Program (later the Getty Information Institute) raised the issue of information networks as a vehicle for furthering scholarship. A 1994 meeting by the Getty, emphasizing digital imaging, furthered the debate. Three critical issues were identified:

> The absence of a critical mass of materials to support research;
> The complex intellectual property system and the costs of obtaining rights; and
> An inadequate technical infrastructure for collation, delivery and use of primary matters. (Bearman and Trant, 1998: 1).

Site licensing, the practice of licensing a "library" of properties to a consumer at a single price, was identified as the most efficient way to ensure legitimate use while responding to increased demand for digital museum content (Bearman and Trant, 1997: 275). The cost of current methods of managing museum intellectual property would prove "prohibitive in the context of high volume digital licensing", resulting in a breakdown of current licensing methods (Bearman and Trant, 1997: 272). A site licensing initiative could provide "a type of one-stop-shopping for museum content", reducing administrative costs by streamlining individual rights transactions (Bearman and Trant, 1997: 276). Many museums had been approached by agencies such as Corbis offering to relicense museum images. Site licensing collectives seemed to represent a way for museums to maintain control within their own community.

Further meetings resulted in a proposal to initiate a testbed demonstration project, the Museum Educational Site Licensing Project (MESL). The purpose of this project was:

> 1. To develop, test and evaluate procedures and mechanisms for the collection and dissemination of museum images and information.
> 2. Propose a framework for a broadly-based system for the distribution of museum images and information on an on-going basis to the academic community.
> 3. Document and communicate experience and discoveries of the project (Besser and Stephenson. 1996: 5:1-5:15).

The project was launched in September 1994 and brought together six cultural heritage repositories and seven universities. Over the course of two and a half years, participating museums provided member universities with 9319 digital images and collections management records to be mounted locally. As American museums lack a common data standard, it was necessary to map data to a common structure. Also, as the project was initiated before the Internet was widely available, each university was initially obliged to develop its own interface to provide individual and classroom access. Similarly, each participating professor developed a unique approach to incorporating the images into course content (Stephenson, 1998: 2-4).

One notable aspect of this project was its commitment to investigating and documenting a wide range of legal and administrative, technical and pedagogical issues. The project was conducted under a cooperative agreement rather than a formal site licence with the understanding that the experience might lead to the development of a model set of terms and conditions for future licensing. No money changed hands, although costs were occurred by all parties. These costs, as well as the revenue potential of the project, were a subject of investigation. Content issues, although not the main focus of the project, proved critical: how to provide sufficient images from participating museums to meet the diverse needs of professors. Also critical was the quality of the collections management records supplied by museums. As mentioned previously, it was necessary to merge data into a common data structure. The success of that mapping and the disparate use of terminology between the various museums and by curatorial and academic staff became important issues, requiring the addition of a central quality assurance process. Technical issues, including image quality and the functional requirements for image delivery systems, were also considered (Stevenson, 1998: 3-5).

In order to evaluate these issues, three survey techniques were employed: a faculty/student questionnaire administered to faculty and students before and after using MESL in the classroom; an informal Web-based survey mounted on each university's Web site to gather feedback from informal users of the MESL data; and, two surveys administered to project participants before and after the project to determine attitudinal changes to the use of online images and text. In addition, a twenty-two month study was funded by the Andrew W. Mellon Foundation to examine in greater detail the economics of networked access to visual information. Project participants published a number of articles on their experiences and the Getty Information Institute issued a two volume report entitled *Delivering Digital Images: Cultural Heritage Resources for Education* (Stephenson and McClung, 1998). This commitment to evaluation and documentation was an extremely valuable aspect of the project and should serve as a model to other initiatives in the field.

The Cost of Digital Image Distribution: The Social and Economic Implications of the Production, Distribution and Usage of Image Data (the Mellon study) determined that "while some factors encourage the use of multi-institutional digital image databases of cultural heritage objects, there are also significant barriers to their widespread use" (Besser and Yamashita, 1998: Web). Universities expressed considerable enthusiasm for the use of digital images. University slide librarians reported that authoritative textual information describing objects and their context could be of assistance in cataloguing local collections. Digital distribution also facilitated individual usage from multiple locations. In spite of these positives, however, questions remain.

One area of concern was the technology needed to display images in classrooms. Besser and Yamashita identify the cost of wiring classrooms, providing the computing and network infrastructure, and the technical and instructional support as key issues, particularly in under-funded, technologically inexperienced humanities departments. Interface design is also important. In addition to the requirement for querying and manipulating the image database, there is also a need for additional tools to replicate the ability of users to examine, organize, compare and save sets of slides. Issues of image and textual quality are also significant. Museums are hampered by the lack of common content standards and any initiative that combines locally produced data must cope with the differences in terminology and data structure. In addition, the language used within museums to describe objects is not necessarily the language of teaching nor the language of students. Besser & Yamashita speculate that providing "authoritative metadata" might even be more valuable than the images themselves (Besser and Yamashita, 1998: Web).

One of the biggest issues identified by MESL is the demand for museum images. University slide libraries have been developed in response to diverse teaching and research needs. The average size of the slide libraries examined by the Mellon study was 285,000 images with an annual growth rate of 2.5% to accommodate changing curricula. Many images provide contextual information, much of which is beyond the scope of museum collections. Besser and Yamashita believe that it will be a long time before consortia can provide the coverage of existing slide libraries and that there will be a need for parallel analogue and digital facilities, a factor that will raise costs. In addition, there will also be a need to complement central collections with locally held resources. Will universities be able to enhance the data they access or distribute new products developed with museum images?

Finally, issues of cost were considered. The authors of the report state that in contrast to early expectations, it is unlikely that museums will receive revenues from site licensing; rather, it is more likely that they will have to subsidize consortia efforts. Will they be willing to do so on an ongoing basis? Given the fact that museums will be unable to replicate the range of slide library resources, how will universities allocate their funding? How will the cost of the digital infrastructure be paid for? These are some of the questions raised by the Mellon study.

The commitment to evaluation was one of the strengths of the MESL project. An additional benefit was the experience of collaboration between museums and universities, as can be seen in this quotation by a University of Maryland professor:

> In some sense I think what MESL did wonderfully was to create a community of arts professionals from the museum and academy who

> shared some significant goals and who felt mutually responsible to one another and to the collaboration. This produced a set of almost intangible satisfactions in the project that inclined people to work very hard and to produce their best. MESL was thus, for many of us, about the collaboration as much as (if not more than) the database of images (Promey, 1999: Correspondence).

Prior to the release of the various MESL reports, however, two new initiatives were announced. These were the Art Museum Image Consortium (AMICO) and the Museum Digital Library Collection (MDLC). AMICO originated in 1997 in response to a decision by the Getty in 1995 not to extend MESL beyond its evaluation phase. Three members of the MESL Management Committee felt that it was necessary to build on the momentum of the initiative and to create an independent organization to improve management of museum intellectual property. They founded AMICO under the auspices of the Association of Art Museum Directors (Bearman and Trant, 1998: 3). A fourth committee member initiated MDLC under the sponsorship of the American Association of Museums. More recently, the Research Libraries Group, or RLG, announced its intention to build and distribute cultural heritage resources. A fourth initiative, the Image Directory, was launched by Academic Press.

Art Museum Image Consortium (AMICO)

AMICO is incorporated as an independent non-profit organization run by its members. Launched in 1997 with twenty-three major art museums, by 2000 membership had grown to thirty-two museums (AMICO, 2000: Web). AMICO shares many of the features of MESL in that its objective is to create a digital library of museum images and metadata for distribution to universities. There are a number of important differences in the model, however. Unlike MESL, where members only contributed images for which they held copyright, AMICO members contribute twentieth-century material and are responsible for obtaining rights clearance. The need for collation and enhancement of content is also more formally recognized and is undertaken by AMICO.

The Research Libraries Group, a not-for-profit organization with many years experience in providing access to digital information pertaining to the history of art, is presently responsible for the delivery of content and the management of subscription services. AMICO hopes that additional distributors will ultimately offer the library, targeting other markets such as public libraries and schools. It believes that its content is suited to users of all ages and levels of knowledge and anticipates that "authenticated sources of scholarly information will become increasingly important".

As conditions of membership in the consortium, AMICO members are responsible not only for providing the metadata, the high resolution digital images and for clearing copyright for works not in the public domain, but also for paying annual membership dues. These vary in size, depending on each member's annual budget, and are roughly equal to the sum paid by university subscribers, approximately $5000 US. These fees are a major source of AMICO's income. AMICO also receives revenue from subscription fees charged by RLG which recovers its own costs by adding a sum to the AMICO licence fee. Subscription fees are based on the size of the student body; individual users, whether faculty or students, are not charged. If AMICO can obtain subscriptions from 10% of its target market, it hopes to become self-supporting in five years (Bearman and Trant, 1998: 11). By 2000, 300 universities had become subscribers (Trant, 2000: Interview).

Museum Digital Library Collection (MDLC)

MDLC was established to "provide technical and financial assistance for digitizing museum collections, and to manage the storage, distribution, and licensing of digitized materials and related software to educational institutions, libraries, commercial companies and the public" (Samuels, 1998: 41). Sponsored by the American Association of Museums and with technical support provided under contract with the research libraries at the University of California at Berkeley and Cornell University, MDLC proposed to leverage donated funds to create a digital resource of museum materials to distribute through licensing to educational customers as well as to commercial customers such as publishers and art merchandisers.

Revenue generated from site and commercial licensing would be used to sustain MDLC services and to help fund museum digitization initiatives. MDLC hoped to distinguish itself from stock agencies such as Corbis by working to raise the profile of museum intellectual property and by returning a bigger portion of revenues to museums. In the long term - possibly ten years time - it anticipated that licensing to homes would permit museums to tap into a "financial gusher" (Samuels, 1999: Interview). In the shorter term, museums would benefit through working collectively, with MDLC acting as a broker to find money to assist in digitization, possibly by issuing challenge grants or through sponsorships.

June 1998 marked the beginning of a twelve month planning phase in which MDLC was to seek funding as well as develop policy and a business plan with the assistance of a core group of twenty museums. According to the project web site, museum membership was to open in the fall of 1999. Like AMICO, MDLC planned to create a testbed database of museum images to make available to colleges, universities, libraries, and school systems (MDLC, 1999: Web). Unlike AMICO, MDLC planned to deal with the issue of "critical mass" by focusing on public domain content devoted to nineteenth-century North American culture from a diverse range of institutions. Returning revenues to museums would theoretically make this possible.

MDLC, however, was unable to attract financial support from foundations to cover its start-up costs, estimated at $750,000, and by 2000 the American Association of Museums cancelled the project. The former head of MDLC speculates that the commercial market for archival images is limited, while the largest potential market, the schools, require an overlay of contextual information to make the content more meaningful (Samuels, 2000: Interview).

Research Libraries Group (RLG)

Since its founding in 1974, the Research Libraries Group (RLG) has been providing electronic access to information pertinent to research and learning (RLG, 1999: Web). RLG is a not-for-profit corporation with 160 members including archives, museums, universities and colleges, national and public libraries as well as independent research collections. For many years, RLG has provided a variety of computerized services to its members including copy cataloguing and has shown a particular interest in databases pertaining to "archives, special collections, manuscripts, rare books, museum objects, art works, and other rare or unique cultural material" (RLG, 1999: Web). Unlike the other initiatives previously described, RLG has a sizable institutional base and an established technical infrastructure. RLG also has extensive experience in overseeing collaborative projects between cultural institutions.

In 1999, RLG identified three new strategic priorities for the period 2000 to 2003: online (digital) cultural materials content creation and delivery; long-term retention of digital information; and a new paradigm for international resource sharing (interlibrary lending and document delivery). Planning for the Cultural Materials Initiative (which replaced an earlier, more narrowly focused initiative, the Museum Resources Service) was initiated in 1999 with a grant from the Ford Foundation.

By August 2000, thirty-seven of RLG's members had joined the Cultural Materials Alliance, primarily academic libraries but also museums, archives and historical societies from both North America and Europe. RLG's intent is to create a critical mass of research-quality digital content reflecting member collections, with an emphasis on image-based surrogates of unique and rare "heritage" materials from "illuminated medieval manuscripts, to political posters from the former Soviet Union, to Charlie Chaplin movies, to World War II bombers" (RLG, 2000: Web). RLG will also continue as the distributor of AMICO.

The new service, which is expected to take shape between 2000 and 2003, is primarily targeted at the academic, cultural and education communities with the commercial market as a secondary objective. Access details are still being worked out, but RLG plans to develop special tools to facilitate academic use. The project is expected to be self-sustaining with revenues reinvested in the initiative and possibly returned to members (Gill, 2000: Interview). Although Alliance members do not pay additional fees to contribute content to the initiative, RLG does charge hefty membership fees, significantly higher than AMICO charges its contributors. An additional difference between RLG and AMICO is that although Alliance members are permitted to mount their contributions on their own Web site, they are urged to make the pooled resource their primary means for distributing digital material to schools and other communities and to refrain from entering into other initiatives that might jeopardize the financial viability of the Alliance (RLG, 2000: M.S.). AMICO, following the MESL model, places no such restrictions on its members.

Image Directory

A fourth American initiative, the Image Directory, originated within a publishing house, Academic Press. The Image Directory billed itself as:

> ...the most comprehensive on-line resource of information on art images from museums and collections from around the world, ... an accurate and authoritative database on an extraordinary range of work (Academic Press, 1999: Web).

The Directory was based on the model of *Books in Print,* the union list that provides information about all current books. Just as publishers routinely provide information about their products, Academic Press hoped that museums would supply the Image Directory with information about their collections and new acquisitions.

Like other site licensing initiatives, the Image Directory hoped to serve the university and research library community, Academic Press's traditional market, by assisting scholars to locate a diverse range of images and providing accurate information. Additionally, it would be targeted at the commercial market, including publishers, advertisers and graphic designers, where it would act as a locator or union list. The Image Directory planned to provide access not only through site license, but also by time, by search and in print. Rights and reproduction restrictions would be added to core descriptive fields to encourage potential buyers to contact museums in order to license images from their collections (Bentley, 1997: 48). Museums would retain the revenue from these transactions; Academic Press would reap the rewards of selling access, drawing on its long-established experience in supplying encyclopaedias, dictionaries and other resources to the academic field. Unlike AMICO, there would be no fee for participation; museums would be responsible for the preparation and proofing of content only. Since its goal was to act as a union list, rather than as a high resolution image bank, it accepted information from a wide range of museums and was willing to accept textual information alone where digital images were unavailable.

Although market studies indicated interest in the initiative and although museums were willing to participate in principle, Academic Press decided to cancel the proposed Directory when start-up costs proved higher than anticipated and museums slower in contributing information. The company was also uncertain about the revenue stream as the art history world has little money to spend. Since the project was proving quite expensive, Academic Press feared that universities would resist the price they would have to pay for the company to make any money (Bentley, 2000: Interview). Christine Sundt, Visual Resources Curator at the University of Oregon and one of the initiators of the project, believes the timing of the initiative was problematic as museums were only beginning to grapple with digital images, but she remains convinced of its validity. By acting as a finding aid rather than as an image provider, she believes the project could overcome one of the barriers in the teaching of art history while keeping costs low, both for contributors and users (Sundt, 2000: Interview).

Consortia Issues

The primary objective of these various initiatives has been to increase access to museum content. Museums have long worried that only small portions of their collections are ever exhibited. Digital technology seems to provide a way to counteract this limitation. The ability to disseminate authoritative content to educational users, whether in universities or other schools, as well as to the public through libraries, is also seen as a way for museums to further their educational missions. The Musée d'art contemporain, for example, welcomes AMICO as an opportunity to work with universities and other galleries (Zeppetelli, 1999: Interview). Consortia efforts provide an additional way for potential users to locate and obtain images. Ideally, museums participating in consortia will also benefit though access to each other's content and expertise and by sharing approaches to standardization and digitization. Also, ideally, museums will gain a better understanding of the needs of the educational community. Although these goals are admirable and although the desire to generate new revenue through increased licensing is understandable, a number of issues remain.

The first issue pertains to the demand for museum images within universities. Slide librarians concur that access to museum images is desirable, but as the Mellon analysis of MESL pointed out, the content supplied by university slide libraries to academic staff and the content supplied by MESL was quite different. MESL was an experimental project that provided access to a very limited data set inadequate for teaching purposes. The newer initiatives promise to resolve the issue of critical mass by incorporating large numbers of museum images, but as Professor Failing of the University of Washington points out:

> To achieve the critical mass needed to serve the needs of a diverse program like ours (it's mid-size; 12 faculty; includes Native American, African, Chinese and Japanese art history as well as pre-Modern and Modern Western. Each faculty member teaches five classes each year) would be a formidable accomplishment--and difficult to achieve without consulting faculty (Failing, 1999: Correspondence).

Slide librarians, themselves often university lecturers, have pointed out that no two professors teach the same subject the same way, even in introductory art history courses. Images used in teaching vary from professor to professor. As a result, slide collections have tended to grow eclectically. In addition, many professors teaching today approach art history from the perspective of contemporary theory. There is less emphasis on the formal characteristics of individual art works and more emphasis on feminism, post-colonialism or other theoretical constructs. Images are drawn from many sources and are not restricted to the monuments of the history of art. Even contemporary advertisements or magazine covers may be captured in slide form through copy photography. Professorial requirements also change and there is a need for slide librarians to respond quickly. Thus, museum images accessible through site licensing cannot be seen as a replacement to local resources; rather, they act as a supplement (Bien, 1999: Interview).

A study conducted for AMICO confirms these findings. Its members provide a large diverse database, often with numerous works by a given artist or culture. These works can complement teaching collections, but alone are insufficient for teaching purposes. In addition, museum records may not contain the data that academic users want. Museum catalogue records were designed to support museum operations and often lack the contextual information desired by professors. Physical description is emphasized, while interpretation, style, subject, analysis, relationships are less often present. In addition, terminology may correspond to museum usage rather than academic practice. In a speech given at the 2000 CIDOC conference, the AMICO principals identified a number of challenges, some of which are:

> Link museum information with resources from other cultural heritage domains;
> Integrate museum information with other sources;
> When information is used for new purposes, discuss needs with users and add categories that enhance usability;
> Adapt museum documentation practices to meet user needs (Bearman and Trant, 2000: Speech).

Another factor influencing demand is the extent to which digital resources can be used in universities. As the Mellon study pointed out, not only will classrooms need to be wired, but there is also a need for technical support for professors as well as recognition for their efforts in developing suitable curricula. Interviews with representatives of a number of art history departments showed a wide variation in university infrastructure and attitudes. Whereas the administration at the University of Victoria has provided digital projection in two art history classrooms and has encouraged online teaching, both Concordia and Carleton Universities are reliant on older technologies (Bien, Stevenson, McDonald: Interviews). Many slide libraries are cash-strapped and dependent on copy photography and gifts to increase their collections. The current low standing of humanities disciplines such as art history within universities also acts as an impediment to technological change. As the cost of rewiring is significant, it tends to be done during new building initiatives or major renovations (Albrecht, 1999: Interview).

Even if classrooms are rewired, there is a reluctance among many professors to move online, given the learning curve, the length of time required to develop online curricula and the lack of recognition for their efforts on the part of universities (Besser and Yamashita, 1998: Web). At the University of Maryland, for example, Professor Sally Promey spent two hundred hours to develop a course in American Art incorporating MESL and auxiliary digital images (Albrecht, 1998: 53). In addition, many professors are comfortable with the current, low-tech approach that allows them to spread images out on light tables and move them around for purposes of comparison. Even when administrators promote technology, as at the University of Victoria, there is reluctance among staff who are already extremely busy with their various responsibilities (McDonald, 1999: Interview).

Other staff may be concerned about image quality, a function not only of the digitization process, but also of the technology used to transmit and deliver images. There is some debate within universities about the importance of image quality. With the increased emphasis on theory and context within art history and the reduction in individual object analysis, some professors are less concerned about image quality. Others, however, stress its continued importance. According to MESL participant Sally Promey of the University of Maryland:

> My sense is that some kinds of course content can be served by a range of resolutions--but other critical functions depend on communicating as much visual information as possible--and this means high-res, good projection, ability to zoom in without pixelation, etc. I think we should look to electronic technologies for more rather than less--and I also believe that many of those who teach visual culture will hesitate to make the switch until they see these sorts of advantages and want them for their own classrooms and research (Promey, 1999: Correspondence).

Professor Promey and a number of other MESL professors have continued to incorporate digital materials in their teaching. It may be that technical impediments will diminish over time, as well as professorial reluctance. The match between museum content and teaching needs is likely to remain imperfect, however, requiring additional sources of content.

A related issue pertains to the long-term viability of this type of initiative. Longevity was an issue raised in contract negotiations between universities and AMICO, as universities wish to ensure that they have permanent access to digital resources. Although site licensing was initially proposed as a way to generate revenue, the Mellon analysis of MESL and AMICO's experience suggest that this type of initiative can only survive if museums are willing to subsidize it. This casts doubt on the potential of such initiatives to fund digitization within participating museums. As we have seen, of the four museum initiatives of this type in North America, only two survive and of these, one is still in its early stages.

RLG has the advantage in having a solid institutional base and years of experience in developing and disseminating digital resources. Unlike Academic Press, which is also well established, RLG is required to recover costs rather than to generate profits. Where RLG may experience difficulties is in the diverse nature – from medieval manuscripts to World War II bombers - of its proposed resource. Although it plans to create a "critical mass", it is not clear who its market will actually be. As companies such as Corbis and Getty have found, customers don't necessarily want more of a product just because it is easier and faster to find (Selling Stock Online, 2000: Web). AMICO's database, on the other hand, is targeted at a well-defined audience, art history students, and has attracted three hundred subscribers. AMICO's vulnerability may lie in its lack of institutional base and its reliance on an outside distributor, although it has been able to minimize costs in this fashion. Still, it is hard to see how either product will suit the needs of school children and libraries, given the limitations in museum data identified by AMICO, not to mention the lack of financial resources facing both institutions.

The existence of other models for information distribution may also challenge the economic viability of these initiatives. Increasingly, digital images are being made available at no cost on the Web. This chapter has already mentioned a number of museums that have mounted their catalogues online. In addition, there are numerous large scale national or state initiatives such as the Library of Congress' American Memory or the California State University Image Consortium. Increasingly, universities and libraries are working to make their digital resources freely available. For example, the College Art Association and the Digital Library Initiative announced in 1999 their intention to sponsor the Academic Image Cooperative, a programme intended to offer sets of screen-sized digital images for unrestricted educational use by students, teachers and the general public (Baron, 1999: VRA List).

As well, a number of commercial firms with extensive experience in supplying slides tailored to academic needs are now providing digital products as well. For example, Saskia, a well-known supplier of cultural documentation, now licenses its images for network use on the basis of annual renewal fees or in perpetuity. Images can be used across campus and can be incorporated with other image resources (Saskia, 1999). Some textbook manufacturers are also following suit. As an incentive to selecting its art history textbooks in survey courses, one publisher now offers the right to the electronic use of images included in the texts. Achieving a critical mass for these courses is simplified, as are conditions of use (Failing, 1999: Correspondence). Textbook sales for survey courses at the University of Washington alone are impressive, with approximately 300-400 students per quarter for Western surveys and 200-300 for non-Western. Publishers are understandably eager to reach an agreement.

Costs to museums are also an issue. AMICO museums, for example, not only cover the costs of digitization and text preparation, but they are also obliged to pay annual fees (as much as $5000 US) and forego any revenues. Membership in RLG is even more expensive, although those members that join the Cultural Materials Alliance do not pay to contribute their content. The cost to photograph and digitize a 3-D object, according to the US National Parks Service, is $57.15 and $25.15 to $27.15 for a 2-D object (Hitchcock, 1999: Interview. See Appendix 1 for a more detailed price breakdown). Although the cost of digitization may not be excessive for some museums, it will be problematic for others, especially if large numbers of images are to be processed. Perhaps even more challenging is the time expended by museum staff. Digitization initiatives, as we saw in the last chapter, are labour-intensive. As we also saw, in some museums it is easier to get money for technology than it is to get people to do the work. Added to the labour involved in digitization efforts is the time required to prepare the data in the appropriate format and to transmit it along with the images.

Even more time-consuming is the need to seek permission for works not in the public domain. This is particularly an issue with contemporary art museums as artists frequently retain copyright in their own work. Where this is the case, museums are obliged to contact each artist or artists' rights organization to obtain permission to disseminate an electronic image. In some cases, permission will be readily given. In other cases, it may be difficult to locate the artist, permission may be denied or fees levied. Sometimes clearance is only given for a limited period of time, such as a year, and renewals will be required. The nature and use of the digital resource and whether it is free may also affect the willingness of rights' holders to comply (Futernick, 1999: Interview). The importance of seeking permission from the copyright holder prior to releasing a digital image on the Web or through a site license should not be minimized. With the renewed interest in intellectual property, copyright holders are becoming increasingly litigious.

An example of the challenges facing museums with contemporary art collections can be seen in a recent controversy involving three provincial museums in Quebec - le Musée d'art contemporain, le Musée des beaux-arts de Montréal and the Musée du Québec - and an artists' rights organization, the Regroupement des artistes en arts visuels or RAAV. With a grant of $1.35 million from the Quebec government and contributions from each institution of $330,000, the three museums have undertaken a "projet documentaire", one aspect of which would create an "educational" Web site displaying 20,000 images of contemporary works of art (Gérin, 1999: C9). Several months prior to the launch of the Web site, the museums contacted approximately 500 of an estimated 2700 artists to seek permission to mount images of their works on the Internet free of charge.

Although the majority of artists who were contacted agreed to the proposal, the president of RAAV objected, claiming that artists should be paid an annual fee for the use of their intellectual property. The rate established by the Paris-based Conseil international des auteurs des arts graphiques et plastiques for a cultural site is $17.80 per work, but the Quebec visual artists association has proposed a lower price, $8.90 per work. RAAV dismisses the educational exemption claimed by the museums, pointing out that everyone in the project is getting paid except for artists, without whom the museums would not even exist. At the time of writing, both parties had appealed to the provincial government (Gérin, 1999: C9)

Also problematic is the issue of standards, not only for these initiatives, but also for future collaborative endeavours within the museum field. As *Introduction to Vocabularies: Enhancing Access to Cultural Heritage Information* diplomatically writes in its comparison of archival, library and museum documentation, the museum approach "has not universally adopted authority control as basic practice" (Lanzi, 1998: 12). Put more bluntly, there is little consistency across museums and even within some institutions. With the exception of a number of countries such as the United Kingdom and Canada, museums have not adopted common field structures that would permit easy merging of their data. This problem became apparent during MESL:

> Though the MESL data dictionary tried to ensure that museums mapped their collection management records into common fields, there was a great deal of irregularity in how these records were retrieved as part of user searches. MESL didn't even begin to tackle the enormous problem of

> differing approaches to controlled vocabulary within a field (Besser and Yamashita, 1998: Web).

How are the various initiatives dealing with these issues? All hope to draw on existing standards initiatives within the museum field, incorporating products such as Getty's *Art and Architecture Thesaurus* and the *Union List of Artists' Names* into search tools. AMICO members have developed a shared data specification, while RLG will draw more extensively on the CIDOC Conceptual Reference Model (RLG, 2000: Web). AMICO is exploring uses of term lists for authority control in data entry and looking at ways to enhance reference vocabularies and thesauri. Bearman and Trant favour placing vocabularies and thesauri between the user and the databases rather than enforcing consistency in data values from diverse sources. AMICO data distributed by RLG will, apparently, be collated, edited and enhanced by the consortium, although as membership expands, this will prove costly and time-consuming.

A study conducted by the Canadian Heritage Information Network in 1995 to examine the use of the Art and Architecture Thesaurus as a standard vocabulary tool confirms this cautionary note. This study compared AAT terms with records from three participating museums. Data in six CHIN fields (Object Name, Object Type, Material, Technique, Culture and School/Style) were matched with the corresponding AAT facets. With the exception of the Culture fields, the match was over 80%, reaching well over 90% for object name. The study concluded that the match was sufficiently high that the AAT could be used as a front-end retrieval tool. However, it also recommended that museums use the AAT locally to standardize their own data (Dunn, 1995: 67). Additionally, terms commonly found in Canadian museums, but not in the AAT, were to be contributed to the Getty as candidate terms.

A more recent application of the AAT as a search tool in Canada's large shared database, Artefacts Canada, reinforces the need for a more balanced approached. Searches for simple terms often turned up seemingly unrelated objects; for example, a search for "stained glass" turned up bags with glass beads and artifacts with stains. Similarly, a search on "hat" produced a result set headed by "adze" records. Why? The AAT gives "beaver" as a type of hat, while the term "beaver" also pertains to a brand of adzes (Dunn, 1999: Interview). Some of these problems can be resolved through a more selective use of the thesaurus within the search engine. Nonetheless, it is likely that similar discrepancies would exist in other shared museum databases. The use of vocabulary tools in search engines must be balanced by efforts to achieve consistency within the data itself.

A fourth issue pertains to site licensing. In recent years, access to scholarly electronic information has become a subject of controversy within universities. The number of suppliers of electronic information is increasing and universities have sought to simplify the contracting process. They have also become increasingly wary of paying for access on an annual basis without receiving access to the information on a permanent basis. Too many publishers have abandoned back files, leaving universities with nothing to show for their years of payment (Bearman and Trant, 1998: 12). In addition, electronic journals, once seen as a means of cutting costs, are proving to be more expensive (Okerson, 1996: Web).

As a means of protecting themselves, universities have formed their own licensing consortia and have developed strict guidelines regarding licensing practices. The AMICO licence requires universities to monitor local use; after all, museums have carefully guarded access to their high quality images for years. Universities, however, are reluctant to make this commitment, which may mean that AMICO will be obliged to provide a more limited data set or look to technical means such as watermarking to prevent infringements (Bearman and Trant, 1998: 11). They are also reluctant to pay annual fees without a guarantee of perpetual use to materials accessed during their years of subscription. This poses a problem to museums, especially for material whose copyright is held by artists or artists' estates. In many cases, museums must pay annual fees for usage or provide annual assurances to copyright holders. As a result, AMICO is not in the position to license these resources for more than a year at a time (Bearman and Trant, 1998: 12). Other universities object to the cost, especially while the resource is in its infancy, and to the practice of basing licensing fees on the number of students (Stephenson, 1999: Interview).

A final question pertaining to site licensing is its value in increasing the efficiency of museum management of intellectual property and preparing for movement into a commercial market. While site licensing does promise to increase access to educational institutions and may increase the demand for museum intellectual property in scholarly publications, it is not yet clear how it will assist museums in entering the broader commercial market. Will commercial users be willing to pay for access to these resources either through subscriptions or pay-per-use? Can museums provide the 24-hour turnaround time generally demanded by advertisers and other corporate users? How can copyright clearance be facilitated? How will these services compare in efficiency to Art Resource and Bridgeman, organizations that know the market and live or die on their success? From the viewpoint of profitability, creating massive digital resources may not pay off. Jim Pickerell, editor of *Selling Stock Online,* thinks that success lies in understanding and meeting the needs of the customer (Pickerell, 1999: Interview). Creating a digital resource based on public demand and internal needs and services may be more cost-effective than an exhaustive approach to digitization.

Licensing Issues

This chapter began with a description of the underlying assumptions that have influenced museum thinking about technology in the last decade. Put simply, these assumptions have portrayed technology as the guarantor of new audiences, both real and virtual, and as a means to generate new revenues through the licensing of content. This viewpoint has been accompanied by a sense of urgency, the belief that museums must act quickly or else be overwhelmed by demand or dispossessed of their rightful dues by external forces. Though by no means universal, these assumptions have coloured their approach to information, reinforcing the tendency to view information as a commodity to be controlled and, if possible, sold. In so doing, they have shaped museum thinking in ways that are not necessarily in their best interest nor in the best interests of their public. Museums would be better served by a more critical view that balances costs with benefits, experimentation with evaluation and short term goals with long term, institution-wide strategic thinking.

One of the objectives of this chapter was to throw light on the market for museum images. As we have seen, there is revenue to be earned through the sale of museum images. Digital technology has resulted in increases in demand, but this increase is nowhere near as large as initially predicted. Demand tends to be highest for a relatively small number of popular favourites.

Delivery of this service tends to be labour-intensive. Requests for more obscure images, for unusual uses, for specialized views as well as the time involved in administration cut into profits. A recent publication by the Canadian Heritage Information Network, *Best Practices in Administering Museum Intellectual Property,* provides some insight into streamlining rights and reproduction operations. In the future, as digital files become more acceptable, online delivery of images may offer some relief. Unless museums are willing to give up control over the use of images from their collections, however, there will always be a need for some degree of human intervention. With the exception of Getty and Corbis, who are banking on high return to turn a profit, this service-oriented approach is also favoured by the more specialized stock agencies that cater to the needs of publishers and other specialized clients. Given the ambiguity surrounding copyright for many museum holdings and the increased possibility of legal actions over misuse, the need for care will remain. In this, as in many museum activities, sound collections management practices are essential.

This new form of utopianism may also influence our relationship with other public institutions such as universities and libraries. As we have seen, many academics are deeply concerned about the impact of the high cost of images on scholarship. One of the main benefits of the MESL project, according to participants, was the opportunity to collaborate with other museums and with universities. The two institutions shared many common interests, but as one of the project principals explained, there was one major difference. Whereas the core values of museums towards information were property and custodianship, the core value of universities was access (Stevenson, 1999: Interview). One of the negative results of this emphasis on information as intellectual property has been that much more effort has been focused on issues of control than on examining peoples' real needs.

This emphasis on control can be seen in RLG's Cultural Materials Initiative. In the interests of ensuring the financial viability of its initiative, RLG is urging its members to limit other third party agreements and to make the initiative their primary vehicle for the distribution of digital content to the educational and general use communities. In response to a query regarding the implications for museum obligations to distribute their own cultural digital content as widely and freely as possible, RLG writes:

> We imagine some institutions will choose to offer a basic view of their own materials broadly and at no charge, while at the same time the RLG cultural materials resource can provide value-added, chargeable access to a higher-quality, integrated view of these materials (RLG, 2000: Web).

If museum records do not provide much of the information required by university staff and students, it is likely that these shortcomings will be more apparent with schools and public libraries. For museums to satisfy the needs of schools, there will be a need for close collaboration. Given the financial hardships that these institutions have faced over the past decade or so, this spirit of collaboration will be better developed in a situation of equality rather than in a vendor/customer relationship. An additional reason against charging these institutions lies in the increased differences in access to museums between rural and urban students and between schools in prosperous and less prosperous neighbourhoods, as discussed in Chapter Four. From the perspective of the public sphere, technology should be used in ways that promote equality rather than undermine it.

This emphasis on control can have an insidious effect on museums' educational role in other ways. The *Art Newspaper* has reported on several occasions that smaller museums, particularly in the US, have prevented artists from sketching objects on temporary exhibition. For example, a spokesman for the Walters Art Gallery in Baltimore recently stated:

> We don't allow sketching of works of art on loan because of our strict interpretation of the loan agreements. Certain lenders are very touchy about sketching and they worry about people reproducing their works (Greenberg, 1999: 17).

Other institutions such as the San Francisco Museum of Fine Arts have had bans on sketching in temporary exhibitions, citing concerns of violating copyright. Although some of these institutions have since reviewed their policies following complaints by artists and enquiries by the *Art Newspaper*, these prohibitions seem to violate the spirit of a centuries' old tradition under which artists learned their trade or developed new work by copying other artists.

A second example of the spirit of control taken to extremes can be seen in this copyright declaration by the Museum of Natural History in London:

> I undertake, if required, to provide the Natural History Museum with copies of all photographs or electronic images that I take of Natural History Museum specimens and their labels.
>
> I cede Copyright and Publication Right in all such photographs or electronic images of specimens, labels and associated data belonging to the Natural History Museum to the Trustees of the said Museum.
>
> I will obtain written permission from the Natural History Museum and pay the required fee before any such photograph or image is reproduced or copied in any way, including digital scanning (Kimsey, 1999: List).

It is not uncommon for museums to ban photography in their galleries. In one sense, this permission can be seen as a way to allow some photography under controlled circumstances, but the notion that even label information pertaining to scientific specimens must be protected by copyright seems a real violation of the museum spirit, not to mention a legal tradition that has always placed facts in the public domain.

These issues are significant. Apart from their professional impact, they have broader societal implications. In recent years, in an attempt to respond to new challenges posed by digital technologies, many Western countries, as well as the World Intellectual Property Organization, have undertaken revisions of intellectual property law. One of the objectives of copyright is to balance the rights of creators and copyright holders with the rights of the public. The degree of consensus achieved in the print world has been thrown into question by technologies that, on the one hand, make it easy to copy and disseminate information in ways that jeopardize the rights of copyright holders and, on the other hand, make it possible to limit heretofore legal forms of public access. The stakes are high in the debates surrounding legislative revision. According to the International Intellectual Property Alliance, a trade group representing motion pictures studios, music distributors, publishers, etc. and one of the dominant voices, copyrighted material contributed more than $400 billion to the 1998 US economy and was that country's single most important export (Mann, 1998: Web). As copyright terms are extended in countries such as the US and the UK and as governments contemplate anti-piracy legislation or laws that might copyright databases of public domain facts, there are many who fear that here, too, the scale is tilted in favour of ownership and control at the expense of public access.

The champions of public access in recent years have been libraries and the educational community, institutions that are particularly sensitive to the balance of interests in copyright, being both “creators and consumers of scholarly communication” (National Humanities Alliance, 1997: Web). Museums, too, are creators and consumers of intellectual property. To fulfil their public mandate, museums require copyright legislation that promotes the responsible use of intellectual properties, respects the economic interests of creators, but also promotes the free exchange of ideas. In these important debates, there is no room for gold rush thinking.

Chapter 7 - Conclusion: Museums, Technology and the Public Sphere

> *Machinery does not reform society, repair institutions, build social networks, or produce a democratic culture. People must do those things, and the Internet is simply one tool among many* (Agre, 1998a: Web).

In the world of the Internet, the latest and most important manifestation in a series of technologies aimed at disseminating digital information, we are all essentially neophytes. In spite of rapid technological change and the phenomenal speed with which the Internet has been adopted, its future remains unclear. We know it will affect our lives and institutions, but we don't know how. Technology clearly offers museums an important new way to fulfil their responsibility to disseminate information. At the same time, it imposes heavy demands on already reduced resources. Whatever its eventual impact on our institutions and society, the Internet presents a new opportunity to define our public role.

Drawing on the work of Jürgen Habermas, this thesis has argued that principles of equality and access are important in maintaining a healthy public sphere and hence, a healthy democratic society. The commitment to serving a universal public, although imperfectly realized, was gradually recognized as an important objective of museums in nineteenth-century Britain. Under the financial pressures of recent decades, however, notions of equality and access have been overshadowed as Anglo-American museums have increasingly looked to a paying public to generate revenue. This trend can also be seen in museums' approach to digital information, where early expectations of financial returns, coupled with the high costs of creating and maintaining digital resources, have resulted in a tendency to view information as a commodity. By means of case studies, this thesis has argued that digital information does not represent an important new source of revenue. Moreover, charging for access to information sets up barriers between museums and educational institutions that should be their collaborators: universities, schools and libraries.

This thesis began with the notion of the public sphere, defined by Habermas as the "realm of our social life in which something approaching public opinion can be formed", a realm that is universally accessible and that mediates between society and state (Habermas, 1974: 49). Habermas views the act of congregation and free discussion as an essential component of a democratic society and looks to "the supportive spirit of cultural traditions and patterns of socialization" in maintaining community (Habermas, 1992: 453). In Habermas' later works, he places particular emphasis on democratic communication, stressing the importance of participation and shared debate as well as a sense of solidarity with one's fellow human beings and the community at large.

Habermas speaks of the importance of cultural institutions and community activities in maintaining a healthy public sphere. This belief in the importance of participatory community life corresponds with the best impulses of museums. Chapter Three's examination of museums in eighteenth- and nineteenth-century Britain, the period and place identified by Habermas with the birth of the public sphere, traced the development of the notion of an inclusive public. Although the movement towards universality in museums may have been erratic and imperfectly realized, it formed part of a broader cultural movement that led to public education and the universal franchise. One hundred years later, the objective of inclusiveness, although still elusive, remains an important goal, both from a societal and an institutional perspective. In Stephen Weil's vision, the museum of the near future will be an institution that makes its strength as a communicator available to its supporting community in pursuit of communal goals (Weil, 1997b: 260). Other writers, such as Elaine Heumann Gurian, speak of the museum as one of the few public spaces in which people from diverse backgrounds can gather together for peaceful exchange (Weil, 1997b: 266).

Yet, as seen in Chapter Four, museums find themselves in a world where government funding cuts and the desperate search for new revenues make the Janus-faced nature of the market ever more apparent. Chapter Four explored the issue of commercialization from the perspective of Canadian museums with references as well to British and American institutions. Both Canadian and British museums have traditionally relied on government support and have been hard hit in recent years. Circumstances are somewhat different in the United States with its longer tradition of private sector support, but there, too, the balance between market and mission is in question.

This thesis recognizes that the marketplace can encourage creativity and discipline as well as a greater responsiveness to the needs and interests of the public. The diversification of funding sources experienced by Canadian museums in recent years is also a healthy development. Yet if the need becomes too great, services are gradually transformed into commodities and every aspect of the museum is examined for its potential to generate revenue. Under these conditions, the goal of universality becomes ever more distant. At a time when the disparity between rich and poor is at record heights, the notion of the public is narrowed to those who can pay. Citizens become consumers and institutions that have traditionally encouraged social mobility - universities, libraries and schools - are scrutinized for their ability to pay. The stories told within museums are increasingly those that satisfy corporate interests.

The tension between mission and market in the past decade is apparent in museums' approach to new technology. Threaded through the discussion of its potential to enhance museum communications has been a persistent sub-theme: the notion that digital information represents a new source of revenue. Proponents have seen digital information as a way to compensate for lost government funding; others, more modest in their expectations, have sought to subsidize the cost of digitization or other technological initiatives; still others espouse the view that museums deserve to make money out of their own intellectual property. Whether that property happens to be in the public domain or not seems irrelevant in this new, market-oriented world. Whatever the rationale, issues of copyright and control have predominated, overshadowing any real debate on the ethics of charging. Each new technological development has excited visions of plenty: CD-ROMs, micro payments and other forms of e-commerce, licensing and site licensing and, more recently, portals and MP3. In many cases, museums have sought to replicate facilities offered (only sometimes successfully) by highly capitalized private sector firms.

Chapters Five and Six explored the relationship between technology and the museum public. In the first of these case studies, I examined the commercialization of digital information, drawing on the varied experiences of the Canadian Museum of Civilization in its attempts to generate revenue from digital images, the Internet and standalone products. Chapter Five demonstrated that little revenue has in fact been generated by CMC's numerous and varied initiatives, although CMC's extensive digitization initiative has resulted in a better knowledge of its collections and increased consistency in its digital records. Issues identified by the chapter include the importance of further research into the needs of virtual visitors and the cost effectiveness of the Internet as both a marketing tool and as a means to disseminate information. Based on CMC's visitor surveys, there is little evidence, in that museum at least, to support the common assumption that virtual visits result in physical visits. Similarly, the chapter questioned the term 'virtual museum', pointing out that an average CMC visit of 4.3 hours is a considerably different experience than a Web session, typically measured in minutes.

Chapter Five also discussed the troubling lack of resources for research and cataloguing in Canadian museums. In the so-called Information Age, it seems, money is available for technology, but the actual process of creating information is more problematic. The chapter identified the need for long term planning to prioritize the documentation not only of artifacts and specimens, but also of other holdings, including archival material, publications and audio-visual resources. Many institutions, such as the Canadian Museum of Civilization, have seen a reduction in cataloguers and rely heavily on students or other temporary staff. Chapter Five discussed the importance of basic documentation standards and questioned the assumption that technology alone will compensate for a lack of consistency between museums' records. It also raised the issue of a need for leadership in the area of standards.

The final case study, Chapter Six, explored the licensing of intellectual property from three perspectives: the stock agency, museum rights and reproduction departments, and museum consortia. The purpose of this chapter was to puncture what I call the myth of the gold rush: first, the belief in technology as a guarantor of new audiences, both real and virtual; second, that the Internet will unleash pent-up public demand for museum images which will result in significant new revenues flowing into institutional coffers; and third, that outside forces stand poised to capitalize on museum content should museums lag in their conquest of new markets. This case study examined the validity of these claims by exploring the market for museum images. It also identified issues pertinent to the creation and dissemination of digital information.

The first portion of the chapter examined the demand for museum images from the perspective of stock agencies such as Corbis. Interviews with museums that have licensed works to Corbis demonstrated that few royalties have been received from Corbis to date, throwing into doubt the company's early claims of a mass audience for museum content on the Internet. Some museums, however, have streamlined their licensing operations and increased sales by collaborating with smaller agencies specializing in the commercial distribution of art images.

In the myth of the gold rush, images posted on the Web are easily downloaded to paying members of the public or offered by means of site licenses. Industry analysts interviewed for the purpose of this thesis sounded a cautionary note. They stressed the importance of understanding client needs and questioned, from a business perspective, the mass digitization of images aimed at the general consumer whose needs are difficult to anticipate. Even the best-edited stock agency files generate most of their revenue from 5% of their images; others derive their income from as little as 1% (Selling Stock Online, 2000: Web). Today's agencies have experienced greater success by targeting advertisers, graphic designers, corporate communications, publishers, multimedia and web site developers rather than consumers. One challenge of servicing the commercial market is the fast turn around time expected by these customers, many of whom, with the exception of publishers, are interested in images that fulfil cliché concepts in new ways. Although digital images are becoming more popular with the commercial market, traditional media such as transparencies remain important. Industry analysts project the long-term need for human intervention in locating special images and in negotiating fees.

While demand for museum images has increased over the last decade, museum rights and reproduction representatives report that growth has not met the heady heights anticipated by technology proponents. Other factors, such as the culture of the Internet, the cost of administering rights and reproduction services, the existence of alternative sources of free images, and the slower adoption of digital image delivery temper the vision of significant new revenue. The current demand for transparencies far outweighs the demand for digital images and, as with stock agencies, most of the revenue is generated by a small core of images, often 'iconic' works of art such as Impressionist paintings. Compared to other sources of revenue, such as gift shops or restaurants, profits are small, although interviewees stressed the importance of their service to institutional mandates. Some customers, however, such as art historians and academic publishers, worry that the high price of museum images will stifle scholarship. Others query the practice of claiming copyright in images of objects in the public domain. The 1998 ruling by a New York court in the case of Bridgeman versus Corel has added substance to the latter critique.

This case study also explored the demand for museum images from the perspective of four collective initiatives established in the last half of the 1990s: the Art Museum Image Consortium, the Museum Digital Library Initiative, the Research Libraries Group's Cultural Materials and Academic Press' Image Directory. These projects, of which only AMICO and RLG's Cultural Materials Initiative still survive, were aimed at bringing museum content primarily to universities through site licenses, but also eventually to schools and libraries. Some also planned to service the commercial market through a combination of site and individual licences. Collective endeavours such as these provide an additional way for museums to disseminate their information, to share content and, potentially, to develop common approaches to standardization and digitization. However, early expectations that they would generate revenue have proved unfounded, primarily because of the costs to museums of supplying content and, in the case of AMICO, the need to subsidize consortial activities.

A number of issues exist pertaining to these site licensing initiatives, the first of which is the level of demand for museum content. At present, schools and libraries seem a dubious marketplace, given their budgetary problems and the nature of the information supplied which is largely derived from structured catalogue records. Universities are a more likely audience, but given diverse local teaching needs, museum records can only supplement and not replace local resources. Other issues pertinent to demand, that may dissipate over time, include the extent and quality of the technical infrastructure within classrooms and the willingness of professors to move online, given the time required to develop special curricula and the lack of university recognition for their efforts. University reluctance to commit to short-term contracts with no guarantee of long-term access to digital resources may also affect the market for museum images. Other competing models for image distribution, such as numerous large scale library initiatives that provide free access, cooperative initiatives or the increased commercial availability of digital images tailored to match teaching needs, are an additional factor. Finally, costs to museums, including the expense of digitization and of clearing copyright for works not in the private domain, have been higher than anticipated. Acknowledging the importance of providing access to museum content, it is not clear that site licensing is fulfilling its early promise to revolutionize the management of museum intellectual property. Nor is it clear how these initiatives will prepare museums for a movement into the commercial market as originally promised.

Although Chapter Six throws doubt onto the potential of museums to generate significant new profits from digital information, it by no means denies the importance of the Internet as a means to disseminate information and to serve a more diverse clientele. Nor do these findings diminish the importance of indirect financial benefits that can arise such as strengthening membership, streamlining administrative functions or facilitating visits. Nonetheless, direct efforts to generate revenue such as charging for access or imposing elaborate e-commerce facilities are unlikely to pay off. This thesis argues that the emphasis on control of intellectual property has tended to overshadow issues of access, at the expense of museums' public mission. As familiarity with the Internet increases, there is a need to broaden debate, to explore what it means to be a public institution at a time when information is increasingly visible and increasingly commodified.

Moreover, this pursuit of revenue may create false expectations on the part of government and other funding bodies as well as museum managers. It may also detract attention from important issues related to making efficient, long-term use of information resources to meet the diverse needs of the public.

In this thesis, I have argued that Habermas' notion of the public sphere, with its emphasis on democratic communication, provides a rationale for museums' continued efforts to serve a universal public and can illuminate issues of access pertaining to digital information. The following recommendations will be made from the perspective of promoting equality and access to museums and their digital resources. Other recommendations will deal more generally with issues identified in this thesis.

Policy Recommendations: Government

Education

One of the major threats to the public sphere in recent decades has been the assault on public education. Although the issue is beyond the scope of this thesis, I feel it merits mention both because of its importance to the public sphere at large and also because of its impact on the ability of the museum to reach a universal public. As I demonstrated in Chapter Four, cuts to school funding in Canada have increased disparities in service between rural and urban students and between schools in prosperous and less prosperous urban neighbourhoods. Cuts to public education increase inequities at a time when knowledge and skills are more important than ever to social and economic well-being.

The first recommendation of this thesis, therefore, is that government renew its commitment to public education. In the context of museums, should significant new funds become available - and this thesis recognizes the competing claims by other important elements of society - activities that promote collaboration between museums and with other educational institutions, as well as those that further the cause of inclusion and openness, such as educational outreach programmes and travelling exhibitions, are natural targets for national support. Also important is the strengthening of educational programmes within museums and the elimination of fees charged for school visits.

Education is more than just the dissemination of information, however. It is also dependent on the creation of knowledge - the ability to conduct research, the documentation of collections, and the scholarly development of curatorial staff. As Chapter Four demonstrated, the physical and intellectual infrastructure of Canadian museums is suffering. Buildings are in need of refurbishment while activities essential to the care of collections, such as preventive conservation and documentation, are languishing. Acquisition is limited, as is the ability to research collections. These problems are particularly acute in Canadian museums, but similar difficulties exist in British museums, especially in those institutions dependent on local government support and in parts of the country such as Scotland. American museums also report that scholarship has taken a back seat to public programming (Cuno, 1997: 6). As we move to a knowledge-based economy, those activities that support the scholarly and custodial functions of the museum remain important.

The educational role of the public museum also depends on its ability to present information independent of partisan economic and political interests. As we saw in Chapter Four, museums' increased reliance on corporate funding is influencing its choice of exhibition subjects and the nature of the information presented. Recognizing that museums can never be neutral ground, a renewed commitment by government would assist museums in re-establishing the balance between mission and marketplace, allowing them to benefit from the efficiencies of the marketplace while maintaining professional standards. Also important is a recognition of the continued importance of the arm's length principle.

The Physical and the Virtual

Many writers have debated the relationship of the virtual and the physical in recent years. Some have argued that the Internet will bring more people into museums while others have feared the contrary. The Internet has been viewed as a way of providing access to the roughly 80% of collections in storage, yet most would agree that the impact of the virtual object cannot compare with the physical. One of the real strengths of museums is the social nature of visits; for example, the Canadian Museum of Civilization reports that 92% of visitors come in groups of two or more (Graham, 2000: Interview). Apart from the various commercial benefits realized by a community through increased tourism - the city of Glasgow, for example, estimates that 90% of its income from tourism relates to its museums and galleries - there are the less tangible benefits that occur when parents have a place to bring their children, when two people stop to discuss an exhibition label or when an individual can be alone in a public place (Museums Journal, 1998a: 18). Museums improve the quality of life within a community and play a role in confirming and extending visitors' beliefs. The Internet has a hard time emulating this social function.

An additional reason to consider the relationship of the physical and the virtual is the cost of creating and maintaining digital resources and the threat that museums will stop doing certain things in order to scale up their digital programmes (CLIR, 2000: 21). An example of this was the decision early in 2000 by the Boston Museum of Fine Arts to close its extensive and diverse slide library in order to expand access to digital information about its collections via its Web site and AMICO. In its announcement, the Museum cited its commitment to photographing its own collections and developing an international presence on the Web (Allen, 2000: M.S.). The slide library annually served approximately 1000 educators teaching art history to an estimated 15,000 to 30,000 individuals in such institutions as public schools, community centres and homes for the elderly. The nearest comparable service is at New York's Metropolitan Museum (Temin, 2000: C1). This may be an extreme example of resources being funnelled into digital initiatives, but at a time when digital technology is creating unparalleled opportunities for information distribution, there is a risk that the quality of physical access will be undermined. The decision to halve the hours of opening of the busy library at the Royal Ontario Museum is an additional example of a loss of physical access to information.

Early in 2000, the Canadian government allocated $70 million for the creation of digital resources in the cultural field; similarly, in August 1999, £50 million of National Lottery money were allocated to make information available in a digital format through the UK's New Opportunities Fund (NOF, 1999: Web). Percentage of collection online is now included as a performance indicator for the UK's national museums (Roberts, 2000: Interview). Supporting the creation of digital information is an important investment for governments, and may reduce the tendency to funnel resources away from other mandated activities, but this thesis recommends that governments look at the support of digital initiatives within the broader context of museum funding. Funding for digital programmes is often of a short-term, project-oriented nature which raises questions about the ability of institutions to provide the long term funding required for the maintenance of digital resources. There is also a risk that technology will be looked at as an end in itself, rather than as a tool to assist museums in fulfilling their mandates.

Looking at technology as a tool rather than as an end in itself may also increase the likelihood that technology dollars are used wisely. As we saw in Chapter 5, the Canadian Museum of Civilization has undertaken a massive digitization initiative in recent years and has mounted its catalogue, accompanied by tens of thousands of images on its Web site. Staff have reported that this project has improved collections management by increasing familiarity with the collection, by providing an opportunity to assess the condition of artifacts and by spurring efforts to improve data quality. As best as can be measured, the Web catalogue receives approximately 8% of the traffic on the site and has had little impact on image licensing (Alsford, 2000: Interview). This may improve somewhat when the catalogued is positioned more prominently in a redesign of the site.

The Smithsonian's National Museum of American History has opted against creating an online catalogue of its collections; rather, it creates digital resources as part of its exhibition programme. Funds for digitization are allocated within exhibition budgets and electronic products are subjected to the same scrutiny as other activities. Who are they for? Why are they required? How will success be measured? Curriculum materials accompanying each exhibit correspond with national standards and are available in both electronic and hard copy formats (Spiess, 2000: Interview). Each museum must decide which approach best suits its own circumstances and its own priorities, but where resources are limited, there is a greater likelihood of relevance when technology projects are initiated within a broader set of institutional objectives.

Policy Recommendations: Museums

Charging

A central tenet of public museums is that access should be open to all, irrespective of income. In recent years, admission fees have become increasingly common, as museums have sought to compensate for lost government support. In the UK, one of the objectives of the Labour government has been the provision of free admission to the national museums. In Canada, this issue has received much less debate, especially in recent years, and it seems unlikely that there will be a government initiative in this area. Where admission fees do exist, this thesis recommends that a period be set aside each week to permit free access to those who cannot pay, along with reduced rates for children, the elderly, the unemployed and the disabled, as advised by the UK's Museums Association (McLean, 1997: 160).

One of the goals of this thesis has been to dispel the notion that digital information represents a significant new source of revenue for museums. During the funding crunch of recent years, activities previously considered as public services have been scrutinized for their ability to generate new funds. This thesis suggests that the dividing line between auxiliary (catering, retailing, facility rentals, parking, publications, special events) and mission-critical may provide the most logical break between revenue generation and subsidization. This may reduce the erosion of principles of universality, while relieving some of the morale issues that have arisen from a perception that professional standards and the ethos of public service are under attack. Clearly, this division cannot always be possible. As we have seen, many museums increasingly rely on revenue from general admission or from ticket sales for special exhibitions. To the degree possible, however, auxiliary activities should be seen as the source of revenues, while the goal of universality be maintained in mission-critical activities.

Given the centrality of communication to the function of the museum and the importance of information to a healthy public sphere, this thesis recommends that museums provide free access to information on the Internet. The Internet is an important tool in providing services to a broad public. Moreover, as I have argued in this thesis, the business model that would see digital information as a major new source of revenue is flawed. Apart from the Wall Street Journal, there are few instances of financially successful subscription services on the Internet. This is not too say that museums should cease their licensing activities, as these represent an important but labour-intensive community service. It is recommended, however, that museums support scholarship wherever possible by distinguishing between commercial and academic uses.

Where cost recovery is essential to create an educational resource from pooled information and where sufficient demand exists, site licensing also remains a valid activity. However, I would argue strongly against site licensing as "the primary vehicle for the distribution of digitised cultural content to the educational and general use communities" as recommended by RLG's Cultural Materials Alliance Statement of Intent (RLG, 2000: M.S.). As we have seen in Chapter Six, there are reasons to doubt that this is the most effective dissemination model, both from an educational perspective and from the point of view of revenue generation. Given the diversity in museum publics and missions, it is hard to see how any one service can play that primary role, especially as there are benefits to be derived from digital resources acting as extensions of localized museum activities such as exhibitions. Finally, from the perspective of equity and access, site licensing discriminates between those who can pay and those who cannot at a time when social inequities are already at record levels. Where museums programmes are financed by tax dollars, this discrimination is especially hard to justify.

Critical Assessment

Although the future of the Internet is unclear, museums are not completely in the dark. Over the past few years they have accumulated considerable experience, thus positioning themselves to take advantage of this important technology as it evolves. In numerous articles and conference presentations, museum professionals have provided examples of creative applications. One lacuna is in the area of critical assessment, especially as regards public response. Most museums are so stretched by programme delivery that they lack the resources to conduct user analysis. The mystique of the Internet also tends to inhibit critique, especially where the Internet seems to provide a cheap or convenient solution to a problem. Why bother to produce a print publication if information can just be put up on the Web? Similarly, Web stats seem to offer dramatic proof of success and lend credence to the notion of the 'virtual' museum. Regardless of the problems associated with web stats, being able to claim millions of hits provides justification for further investment.

There are also methodological problems in measuring the success of institutional Web sites. Response to online surveys is self-selected, while focus groups are time-consuming and also incomplete. The analysis of log files, which is a logical way to measure and evaluate Web site usage, has been described 'as an art disguised as a science' and is not a trivial undertaking (Haigh and Megarity, 1998: 4). Due to limitations in log file data and analysis software, as well as the inherent nature of the Web where such features as caches and spiders can greatly distort results, analysis must be conducted with extreme caution.

Nonetheless, the critical examination of Web use is important if museums are to make the best use of their resources and to improve access to their information. A combination of qualitative methods such as user observation, surveys and focus groups, as well as quantitative methods, such as log analysis, can provide some feedback on site content, navigation and style and assess user satisfaction, motivation and preferences. Surveys of visitors to the museum itself can also include questions about their use (or lack of use) of the Web. Knowing who doesn't visit the institutional Web site is as informative as knowing who did. Does the Internet really bring in new visitors? How effective a marketing tool is it? Does the museum site need more promotion? As we saw in Chapter Five's study of the Canadian Museum of Civilization, the answers can sometimes be surprising. For this reason, it seems logical that Web analysis be conducted in coordination with museums' broader programmes of evaluation or visitor studies. Not all museums possess the resources to conduct extensive analysis, but some measure is important. Institutions with larger resources can benefit the profession by publicizing their results. Data from outside the community about the average behaviour of Web users is also an important source (Nielsen, 1999: Web)

One institution that has combined log analysis and visitor surveys to help it shape its prize-winning site is the National Gallery of Art in Washington. Some of its findings are quite simple and relate to the positioning of features within its site. For example, it found that it could increase response to its user survey by positioning it higher up on a page. Similarly, it found that navigation was improved if it placed its site map with other 'help' features. Other findings had significant cost implications. One of the most expensive features of the site was a series of online exhibitions that employed a 'plug-in feature' to simulate virtual reality. (A plug-in is a type of software that must be downloaded from another site). Analysis of log files revealed that most visitors were deterred by the plug-in and that the drop-out rate of those who did download the appropriate viewer was high - only 5% viewed the entire exhibition. On the other hand, the attrition rate in online exhibits with no additional software requirement (and faster response times) was significantly lower, suggesting a way that the museum could cut costs and improve results. The unpopularity of plug-ins at this site suggests a further reason why museums should avoid erecting barriers to access such as fee structures (Johnson, 1999: Interview). This finding is borne out by other Web research (Nielsen, 1999: Web).

Web analysis can also provide some insight into the hit-and-run nature of the Internet, although again, it is important to recognize that results are only approximations. For example, roughly 90% of the visitors to the National Gallery site view only one page. The 10% of visitors who do use the resource view an average of ten to fifteen pages per visit (Johnson, 1999: Interview). Similarly, an analysis of a Smithsonian exhibition, *Ocean Pacific Online,* suggests that online visitors have much shorter attention spans than regular museum visitors. The term 'surfing' is quite accurate. Not only can online visitors drop in and out of an exhibition, but they are also unlikely to devote the focused attention promoted by reading (Gradwohl and Feldman, 1998: 185). This not only has implications for selecting and structuring information, but also for determining when to use the Internet. Some print publications may simply be more effective in transmitting certain types of information to a target audience (Waddington, 1999: Interview).

Interestingly, although the majority of the respondents to the National Gallery survey express satisfaction with the site, the only people to remark on a lack of information are those who say they visited for research purposes (Johnson, 1999: Interview). Meeting the needs of different types of users presents a further challenge for museums. Often, within the profession, we base our decisions on hypothetical users. If we were researchers, what would we want to see? But it can be difficult to see beyond professional norms. One of the strengths of the MESL project was its monitoring of user needs and satisfaction and its willingness to disseminate the results of its findings.

One other potential source of input are the people who handle queries from the public or who interact with the researchers - the reference librarians, if a museum is lucky, and the educators and curators. Although it is commonly believed that networked technology will eliminate the need for intermediaries, the contrary is true - most of the successful new Internet businesses are intermediaries (Agre, 1999a: Web). People such as reference librarians have important roles to play in responding to public needs and in shaping the institutions' understanding of the public. Unfortunately, very little in the way of professional literature exists that analyses queries - two exceptions being the National Museums of Scotland *Catechism* and the Getty's *Looking for Mr. Rococo* - and more work is required.

If we are to begin to understand this challenge and make the best use of our resources, then we need objective input regarding public needs. How does the public respond to online catalogues? Is it desirable to provide digital images of entire collections or does it suffice to provide a representative sample? How important is it for museums to develop shared catalogues or to be able to search across distributed databases? Which audiences are served by such facilities and do they have different needs? Should this be a national objective funded by government? The prevalent answer within the profession is yes, we need to digitize our collections because we only provide access to 15% or 20% of our artifacts (Lord et al., 1989: 18-20). Will the public be better served by searches that turn up 50,000 hits? Will we be able to manage our activities more effectively? There are as yet no clear answers to these questions, but we need to begin to test our assumptions, based on a critical examination of existing projects and a sharing of results.

Information as a Resource

In recent years, talk of multimedia, the Internet and intellectual property has tended to overshadow discussion of collections management. Discussions on the need for context and storytelling have pushed collections management out of the limelight, especially as the language of catalogue records is more geared to professional than public use. A positive view may be that the decades of effort invested in documentation and the availability of sophisticated collections management software have resulted in mastery of our holdings and reduced the need for discussion. Yet in Canada at least, as seen in Chapter Four, there is reason to fear that government cuts and the emphasis on public programming have resulted in a shift of resources away from collections management. While museums are able to attract money for digitization projects, there is little chance that sponsors will support basic documentation. As a representative of Corbis commented, 'Museums seem to be able to get money for technology, but they have a hard time getting it for people' (Hartke, 1999: Interview). Whatever the case, collections management remains essential if we are to provide access to our diverse holdings.

In the 1980s, collections management was aimed primarily at artifacts and specimens. Yet in recent years, we have begun to recognize the value of other holdings whether in print form, such as publications or archives, or in other media, such as photographs, film, video and sound recordings. There is a need to broaden management concerns to incorporate these diverse resources, developing long range plans to produce finding aids, where appropriate, either at the item or the collections level. We need to promote discussion within the community on the management and presentation of diverse information resources and also draw from the experience of libraries and archives, which have considerable experience in providing access to primary and secondary holdings. Developing institutional information plans that identify holdings, set objectives for information use, establish priorities, detail resources whether human, technical or financial, and set monitoring criteria is important if museums are to take advantage of the broad range of their information holdings (Orna, 1987: 8). Related to these plans are policies pertaining to intellectual property, access to information, electronic mail and privacy. Developing a written policy regarding the use of intellectual property, along with good collections management practices, are two ways that museums can streamline their licensing activities. Such a policy should identify responsibility for the function, address conditions of use, set pricing policies and establish best practices (TCI Management Consultants Limited, 1999: 3).

Standards

In recent years, the focus of standards debate has shifted to the Internet environment and, to a considerable extent, away from the level of individual databases. In addition to providing public access to their individual resources, museums continue to see benefits in sharing information about their collections. In the mid 1990s, the goal of centralized or 'union' catalogues was largely superseded by the notion of a distributed database environment in which multiple databases could be searched by a single query (Gosling and Gill, 1997/98: Web). However, a number of serious issues exist before a distributed environment will be able to approach the functionality of a centralized union database. Whatever the ultimate model, standards are essential.

As electronic resources on the Internet mushroom, the problem of locating information becomes more acute. The chaos of the Internet has spawned a multitude of metadata standards groups aimed at devising schemes such as the Dublin Core to assist in resource discovery. Museums have been represented in some of these activities through organizations such as CIMI. This involvement in the broader Internet community is extremely important, but should not overshadow the importance of more basic standards. As mentioned previously, museums do not possess common standards to govern the structure and content of catalogue records. Even within individual institutions, 'ad hoc' solutions are frequently preferred to a consistent, museum-wide approach (Sander and Perkins, 1999: 3).

Just as popular culture often portrays an implausibly high level of interoperability within systems that have arisen independently of each other - Jeff Goldbloom tapping into alien computers in *Independence Day*, for instance - so too, at a professional level, is there a risk that technology may be viewed as a magic bullet, deflecting attention away from fundamentals. Projects such as AMICO and Artefacts Canada rely on search engines employing vocabulary tools such as the AAT to reduce problems of terminology. The use of ANSI Z39.50 has also received considerable attention within the field. Although technology can certainly enhance retrieval, a balanced approach must also emphasize the importance of consistency, at least in key retrieval fields. As Chapters Five and Six demonstrated, there are reasons to doubt that technology alone will compensate for the lack of widely accepted standards.

The difficulties inherent in looking to a technological solution are heightened by constant and unpredictable technological change and the immense and confusing proliferation of standards from a variety of communities. A recent National Library of Canada publication listed over 90 relevant standards and was not comprehensive (Haigh, 1999:4). In this difficult environment, the basics of data structure, terminology and syntax remain important.

How then to encourage a more widespread use of standards? An article in *Sharing the Information Resources of Museums* states:

> One can ask why museums don't bother with standards when libraries have used them for years and can now pool and exchange information freely. There is an obvious answer: Museums have never had enough to gain from them (Light, 1992: 29).

One advantage of mounting museum catalogues on the Web is that it provides an additional incentive to standardize data. Knowing that the public will be searching museum records is a powerful argument in favour of devoting resources to clean-up. The benefits for the museum are internal as well as external.

Similarly, shared regional or national initiatives also provide important incentives toward standardization. CHIN's *Data Dictionaries* and the Museum Documentation Association's *Spectrum* have provided some measure of commonality within Canada and the UK. Canada's national database of collections, Artefacts Canada, provides a further motivation for maintaining consistent practices as does the collections database of the Scottish Cultural Resources Access Network (SCRAN). It is hoped that national standards initiatives will be promoted and refined and that, within Canada, budget cuts and the shift away from centralized to local collections management will not result in a loss of cohesion. Collaboration between national programmes as well as other collective initiatives is also important, as is participation in the Documentation Committee of the International Council of Museums (CIDOC), a professional body that promotes dialogue between museums internationally on the subject of standards.

In the United States, there is no common museum standard, although a number of specialist associations have a role to play in the area, among them the Museum Computer Network, the National Initiative for a Networked Cultural Heritage (NINCH), the Visual Resources Association and CIMI. A more complete list of these organizations can be found in the Getty Trust's *Introduction to Vocabularies*

(Lanzi, 1998: 61). The various site licensing initiatives also have the potential to promote standardization.

As discussed in Chapter Five, the demise of the Getty Information Institute (GII) in 1998 was a loss for standards development not only in the U.S., but also internationally. The GII's ability to promote collaboration and its commitment to research and evaluation gave it a unique advantage, one that volunteer organizations will find difficult to match, given the laborious nature of the task. The recent decision to transfer its vocabulary programmes to the Getty Research Institute is encouraging, as is the continued support of the *Object ID* project (McDonnell, 1999: Interview). The *Art and Architecture Thesaurus* is an extremely important international resource and a key component in efforts to promote standardization. Initiatives to continue to refine and enhance the vocabularies through specialist research and through collaboration with national programmes such as CHIN are necessary if the resource is to reach its full potential. Also important are the training and promotional initiatives that spur its adoption throughout the museum field.

An important new initiative, the Museums and the Online Archive of California (MOAC), is one of the first to link museum information with libraries and archives. MOAC's plan to implement and evaluate Encoded Archive Description (EAD), the standard archival finding aid maintained by the Library of Congress in partnership with the Society of American Archivists, also bears watching (Rinehart, 1999: Interview). Within archives, EAD is used to create collections-level finding aids as well as individual item records. In the absence of common cataloguing practices, collections-level records may provide one way that museums can share information, although again, adherence to common standards will be important. Only a few museum initiatives have explored this possibility to date.

Ultimately, however, people remain key to information-sharing. The people on the documentation frontline, the cataloguers, are in many cases the least paid people within museums. Many museums, in Canada at least, rely on students and part-time workers. Under these conditions, the development of best practices is essential. Given the impact of technical change, an institutional commitment to training and professional development is also important. Identifying and developing relationships with other professionals in the field promotes the diffusion of learning, key to the effective adoption of technology. For institutions committed to information-sharing, a willingness to contribute to standards development is also important. Only through the building of communities with common objectives will it be possible to reach the consensus required for standards to take root.

Building Communities

Much has been written on the potential of the Internet to build a more democratic society. It will, it is said, renew institutions, freeing them from their authoritarian pasts by promoting a decentralized form of communication. Society will see a corresponding decentralization of power. But this transformation is not inevitable. A museum does not become more relevant or more responsive simply because it has a Web site. Equal access cannot be assumed. Nor does the presence of technology necessarily transform patterns of user behaviour.

Phil Agre, professor of education and information sciences at UCLA, writes about technology in a manner that resonates with Habermas' notion of the public sphere. He suggests that the best starting point for thinking about ways to use the Internet is with communities of like-minded people. Whereas the Web has captured popular imagination, Agre views electronic mail as the most transformative aspect of the Internet. He also recommends that the Internet be viewed as one element in a broader continuum of communication media (Agre, 1998a: 231). Seen from his perspective, the Internet becomes more than just another means to present information, albeit a powerful one; it also becomes a means to promote dialogue with the public. Moreover, the Internet is seen, not as a utopian agent, but as one of a number of tools with which museums can meet their missions.

Much has been written about the Web as a marketing and administrative tool, as a means to provide logistical information and to inform the public of programmes. The Web is also a means to disseminate descriptive and contextual information about collections and to capture the substance if not the experience of exhibitions for people otherwise unable to attend. With half its members outside the Tri-state area and 20% of its 1998 members registering via the Web, the Metropolitan Museum of Art has a clear interest in enhancing its Internet presence (Maresca, 1999: Interview). Similarly, programmes that elicit the creation of new Web art, that invite people to participate in field research or to attend special events for Web devotees are other examples of creative community-building.

It is not my intention to repeat examples of successful initiatives that can be found elsewhere in professional journals such as *Spectra* or *Archives and Museums*

Informatics, but I would like to point out a type of initiative that draws on the power of electronic mail to enhance the information-sharing potential of the museum. For over five years, the National Museum of American Art has offered an online reference service, first on America Online (AOL) and later on the Internet. Initially, this service responded to about 100 queries a month, but as of 1999, monthly numbers increased to approximately 400, art-specific questions. Most are received during the school year, with the greatest number coming in February, Black History Month. The museum has not marketed this service, since staff support has been an issue, but was able to hire a full-time Reference Librarian in 1998. Numbers are also affected by visibility on the museum's site or on AOL (Stahl, 1999: Interview).

Reference service requests appear to be on top of traditional services. Although at this time statistical figures are not available to support this claim, Joan Stahl, the Online Reference Librarian, cites the fact that many who use the reference service do not know or frequent the museum. Many queries come through AOL and these are not typically people who are looking for the museum, per se, but people who find the online reference service in the course of trying to answer a question (Allen, 1999: Interview).

Stahl believes that this type of interaction with the public has the potential to make dialogue and access to information more democratic, although she points out that the museum administration must be open to that idea. She cites the many appreciative comments received daily by the museum, many of which indicate that the user did not know of the museum before using the Reference Desk. When the museum was able to provide secure transactions via America Online (the Smithsonian had a site on AOL for a few years), and Reference Desk users could become museum members with a few keystrokes, many did. Unfortunately, this option is not yet available on the museum's Web site (Stahl, 1999: Interview).

But community building is not solely a matter of interaction between museums and the public. Also important is the potential to build communication between museums. One of the most important aspects of the MESL project, as described in Chapter Six, was the sense of community created among participants 'who shared some significant goals and felt mutually responsible to one another and to the collaboration...MESL was thus, for many of us, about the collaboration as much as (if not more than) the database of images (Promey, 1999: Correspondence). The objective of sharing information among institutions can provide the catalyst for maintaining this collaboration. Traditionally, members of the Canadian Heritage

Information Network reported that participation not only raised the profile of collections management within institutions, but also promoted a culture of sharing and cooperation. This collaboration, as we have seen, is important if museums are to tackle the challenge of providing access to their information holdings.

Another important area for community building is in the relationship between museums, libraries, archives and universities. One of the unfortunate aspects of viewing information as a source of revenue is that it has encouraged museums to see these institutions as potential clients, rather than as potential collaborators. Yet these organizations share many common objectives. As elements in a continuum of heritage organizations, library and archival information holdings complement those of museums. A third reason to encourage cooperation is that museums stand to benefit through shared standards and best practices. Moreover, in the current battles over copyright, where the balance between ownership and public access is being decided, there is some strength in numbers. In the long run, museums have more to gain through promoting a culture of sharing (while respecting, of course, their responsibilities toward copyright holders).

The Public Sphere

This thesis has touched on a wide range of subjects. The link between a German philosopher, eighteenth- and nineteenth-century British institutions, and museum web sites is not, at first glance, an obvious one. But an important link exists. All have bearing on what it means to be a public institution at the turn of the twenty-first century. Just as British museums defined themselves as public institutions over the course of the nineteenth century, so do we stand in a period of transition where the role of our public institutions is being reshaped. Will public museums emerge as institutions that strive, in their own way, to serve as broad a public as possible or will they focus on those who can pay? Will the core activities of museums such as education or the dissemination of information be viewed as public service or as opportunities to recover costs? Habermas' notion of the public sphere reaffirms the importance of our commitment to a universal public. The public sphere is not a utopian vision or an imposed ideology; rather it lies at the heart of our political tradition. Just as human beings are always in a state of becoming, so are museums and so is our modern Western society. Our choices - individual, professional and collective - shape our present and our future.

How else to shape these choices if not through discussion and debate? Museums' role in the public sphere may be a modest one in comparison to the media or universities, but they contribute to patterns of learning and socializing that are important in building an equitable culture of communication. They provide an alternative voice to the one that blares from billboards and T.V. ads, not necessarily a better one, but a different one. In a society where voices become louder and more uniform, and where pay for entry means that some are excluded, there is a need for alternative and inclusive voices. Our professional choices, how we manage and disseminate something seemingly as arcane as digital information, can make a difference.

Appendix 1 - National Parks Service Estimate of Photography and Digitization Costs.

$ 3.00	Select and review item; check condition and see if suitable for reproduction
$40.00 for 3-D object ($8 - 10 for 2-D)	Photograph: equipment set up; handling; lighting; production of 4 x 5 transparency; storage and label; transportation to digitization firm.
$ 2.00	Catalogue image and produce caption
$ 0.15	Spot check 5 % of images
$ 9.00	Digitize at 3 resolutions; colour correction and grey scale; create appropriate metadata
$ 3.00	Inspect digital images and create metadata
Internal cost	Load into database and index
$57.15 for 3-D object; ($25.15 - $27.15 for 2-D object)	Total cost to photograph and digitize 3-D objects

References and Bibliography

AAM. 1997. Strategic agenda FY 1998-2000: A report to its membership from the American Association of Museums. *Museum News* (September/October): 66-78

AAM Panel. 1995. Hard money: Funders talk about funding for museums. *Museum News* (September/October): 32-63.

AAMD Roundtable. 1995. Art museums in a new medium. *Museum News* (November/December): 44-55.

ACNielsen and DJC Research. 1998. *The Canadian Internet Survey.* Available by subscription.

Adorno, Theodor. 1973. *Negative dialectics.* New York: Seabury.

Agre, Phil. 1997. The end of information and the future of libraries. *Progressive Librarian.*
http://www.libr.org/PL/12-13_Agre.html

---. 1998a. Building an Internet culture. *Telematics and Informatics,* vol. 15, no. 3: 231-234.
http://dlis.gseis.ucla.edu/people/pagre/internet-culture.html

---. 1998b. The Internet and public discourse. *First Monday.*
http://www.firstmonday.dk/issues/issue3_3/agre/

---. 1998c. Yesterday's tomorrow. *Times Literary Supplement* (3 July).
http://dlis.gseis.ucla.edu/people/pagre/tls.html

---. 1999a. *Information and institutional change: The case of digital libraries.* (7 June). Working paper.

---. 1999b. *The law of opposite numbers: Standards dynamics and the global logic of software.* (7 March) Paper presented at the eFlorida Conference on Electronic Government.

Ainslie, Patricia. 1996. The deaccessioning strategy at Glenbow, 1992-97. *Museum Management and Curatorship*, vol. 15, no. 1: 21-35.

Akiyama, Karen A. 1997. Rights and responsibilities in the digital age. *Visual Resources,* vol. XII, no. 3-4: 261-267.

Albrecht, Kathe Hicks. 1997-98. Educational use of networked museum information. *Spectra*, vol. 25, no. 2 (Winter): 33-39.

---. 1998. Networked museum images on campus: Applications and impact of the Museum Educational Site Licensing Project. *Visual Resources Association Bulletin*, vol. 25, no. 2 (Summer).
http://vr13.arts.ohio-state.edu/vrab/251/albrecht.htm

Alexander, Edward P. 1979. *Museums in motion: An introduction to the history and functions of museums*. Nashville: American Association for State and Local History.

Allan, D.G.C. 1973-74. The Society of Arts and Government, 1754 - 1800. *Eighteenth-Century Studies*, vol. 7: 434-452.

Allen, Nancy. 2000. *MFA, Boston Slide Library*. Posting to Visual Resources Association List (VRA-L), 18 April.

Alsford, Stephen. 1994. The Canadian Museum of Civilization stakes out a site in cyberspace. *Museum Management and Curatorship*, vol. 13, no. 4: 420-422.

---. 1995. "Adopt a Treasure" online auction: structure and process. Proposals submitted to the Artifact Adoption Programme Committee (16 October). Internal report.

---. 1996a. *Building the virtual museum*. Paper presented to the "Government on the Net" conference (5 November).

---. 1996b. *Trends from World Wide Web demographics and user surveys* (February). Internal report.

Alsford, Stephen and Fred Granger. 1987. Image automation in museums: The Canadian Museum of Civilization's optical disc project. *The International Journal of Museum Management and Curatorship*, 6: 187-200.

---. 1988. *The Canadian Museum of Civilization Optical Disc Project: A report.* Ottawa: National Museums of Canada.

Altick, Richard. 1978. *The shows of London.* Cambridge, Mass. and London: The Belknap Press of Harvard University Press.

Always, Joan. 1995. *Critical theory and political possibilities: Conceptions of emancipatory politics in the works of Horkheimer, Adorno, Marcuse, and Habermas.* Westport, Connecticut: Greenwood Press

American Strategy. 1999. Web site.
http://www.americanstrategy.org/home.html

Ames, Kenneth. 1994. Anonymous heroes: Background history and social responsibility. *Museum News* (September/October): 33-59.

Ames, Michael. 1995. Museums and the marketplace. *Museums Review* (Summer): 31.

Anderson, Maxwell. 1994. Perils and pleasures of the virtual museum. *Museum News* (November/December): 17-38, 64.

Anderson, Robert L. 1997. Creating a comprehensive museum-wide technology plan. *Spectra*, vol. 24, no. 4 (Summer): 30-32.

Angeles, Michael. 1998. Information organization and information use of visual resources collections. *Visual Resources Association Bulletin*, vol. 24, no. 3 (Fall).
http://vr13.arts.ohio-state.edu/vrab/253/angeles.htm

Angioni, Martin. 1998. Empire building. *The Art Newspaper*, No. 82 (June): 36.

Apple, R.W. Elected bodies with hardly a cultured bone. *New York Times* (Sunday, July 26): 126.

Archabal, Nina. 1998. Museums and sustainable communities. *Museum News* (September-October): 31-35.

Arendt, Hannah. 1958. *The human condition.* Chicago: University of Chicago Press.

Aronowitz, Stanley. 1993. *Is democracy possible? The decline of the public in the American debate.* In *The phantom public sphere*, edited by Bruce Robbins. Minneapolis: University of Minnesota Press.

Art Museum Image Consortium. 1999. Home page.
http://www.amico.org/home.html

Audley, Paul. 1994. Cultural industries policy: Objectives, formulation, and evaluation. *Canadian Journal of Communication*, vol. 19: 317-352.

Baca, Murtha, ed. 1998. *Introduction to metadata: Pathways to digital information.* Los Angeles: Getty Information Institute.

Bach, Claudia J. 1997. The higher education gateway. *Museum News* (September/October): 43-47.

Baele, Nancy. 1994. Perhaps we do need heroes in museums. *Ottawa Citizen* (8 May): B8.

Bailey, Martin. 1998. A shocking waste of a national asset. *The Art Newspaper*, No. 79 (March): 26.

---. 1998. Culture no richer under Labour. *The Art Newspaper*, No. 78 (February): 6.

---. 1999. London gets lion's share of foreigners. *The Art Newspaper*, No. 93 (June): 11.

Baily, Stephen; Peter Falconer; Malcolm Foley; and Margaret Graham. 1998. Charging for admission to museums and galleries: Arguments and evidence. *Museum Management and Curatorship*, vol. 16, no. 1: 355-369.

Baron, Robert A. 1997a. Copyright and fair use: The great image debate. *Visual Resources: An International Journal of Documentation*, vol. XII, nos.3-4: 233-259.

---. 1997b. The challenge to education. *Copyright law in the digital world: Fair use, education and libraries after CONFU.* (A Town Meeting in Portland, Oregon, September 27th, 1997).
http://www.pipeline.com/~rbaron/CHAL1.htm

---. 1996. The "Birth of the Museum" from an American perspective. *Museum Management and Curatorship*, Vol. 15, No. 2 (June): 203.

Baudrillard, Jean. 1983. The ecstasy of communication. In *The anti-aesthetic: Essays on postmodern culture*, edited by Hal Foster. Port Townsend, Washington: Bay Press.

Bazin, Germain. 1967. *The museum age*. New York: Universe Books, Inc.

Beagrie, Neil and Daniel Greenstein. 1998. *A strategic policy framework for creating and preserving digital collections.* Arts and Humanities Data Service.
http://ahds.acuk/manage/framework.htm.

Bearman, David. 1995. Information strategies and structures for electronic museums. In *Information: The hidden resource, museums and the Internet. Proceedings of the Seventh International Conference of the MDA*, edited by Anne Fahy and Wendy Sudbury. Cambridge: The Museum Documentation Association.

---. 1997. New economic models for administering cultural property. In *The wired museum: Emerging technology and changing paradigms*, edited by Katherine Jones-Garmil. Washington: American Association of Museums.

Bearman, David and Jennifer Trant. 1997. Museums and intellectual property: Rethinking rights management for a digital world. *Visual Resources*, vol. XII, no. 3-4: 269-279.

---. 1998. Economic, social, technical models for digital libraries of primary resources: The example of the Art Museum Image Consortium (AMICO). *The New Review of Information Networking*, 71-91.

---. 2000. Beyond Theory: The interplay between museum practice, data standards and educational users' expectations. *CIDOC 2000: Collaboration, Content, Convergence.* 22-26 August.

Benedict, Stephen, ed. 1991. *Public money and the muse.* New York and London: W.W. Norton and Company.

Benhabib, Seyla. 1992. Models of public space: Hannah Arendt, the liberal tradition and Jürgen Habermas. In *Habermas and the public sphere*, edited by Craig Calhoun. Cambridge, Mass: Massachusetts Institute of Technology.

Benjamin, Walter. 1970. The work of art in the age of mechanical reproduction. In *Illuminations.* London: Jonathan Cape Ltd.

Bennett, Tony. 1995. *The birth of the museum: History, theory, politics.* London: Routledge.

Bennett, Tony and John Frow. 1991. *Art galleries who goes? A study of visitors to three Australian art galleries with international comparisons.* Sydney: Australia Council.

Bentley, J. Scott. The image directory. *Spectra* (Spring): 48-49.

Berger, John. 1972. *Ways of seeing.* London: the British Broadcasting Corporation and Penguin Books.

Besser, Howard. 1995. *The Information SuperHighway: Social and cultural impact* in Brook, Jim, ed. 1995.
http://www.sims.berkeley.edu/~howard/Papers/brook-book.html

---. 1998a. *Optional readings for impact of new information resources: Multimedia and networks.*
http://www.sims.berkeley.edu/impact/f98/impactbibl.html

---. 1999. *Recent changes to copyright: Attacks against the public interest.*

Besser, Howard and Christie Stephenson. 1996. The Museum Educational Site Licensing Project: Technical issues in the distribution of museum images and textual data to universities. *EVA '96* (Electronic Imaging and the Visual Arts), ed. James Hemsley, 5:1-5:15. Hampshire, UK: Vasari Ltd.

Besser, Howard and Jennifer Trant. 1995. *Introduction to imaging*. Los Angeles: The Getty Art History Information Programme.

Besser, Howard and Robert Yamashita. 1998. *The cost of digital image distribution: The social and economic implications of the production, distribution and usage of image data*. Final report (July).
http://sunsite.berkeley.edu/Imaging/Databases/1998mellon/

Best, Steven and Douglas Kellner. 1991. *Postmodern Theory*. New York: The Guilford Press.

Besterman, Tristram. 1998. Saying what museums are for - and why it matters. *Museums Journal* (April): 37.

Bevins, Anthony. 1998. Museums given a £100m free ticket. *International Express* (July 28): 2.

Bien, Linda. 1997. Canadian visual resources and Canadian copyright. *Visual Resources*, vol. XII, no. 3-4: 421-434.

Black, Jeremy, ed. 1997. *Culture and society in Britain 1660 - 1800*. Manchester and New York: Manchester University Press.

Bolton, Bruce D. 1994. New rules for museum funding. *Muse* (Fall): 48-51.

Boodle, Camilla. 1997. Putting a high price on education. *Museums Journal*, vol. 97, no. 4 (April): 22.

Bourdieu, Pierre and Hans Haacke. 1995. *Free exchange*. Stanford, California: Stanford University Press.

Bourgon, Jocelyne. 1997. *Fourth annual report to the Prime Minister on the Public Service of Canada*. Ottawa: Privy Council Office.

---. 1998. *Fifth annual report to the Prime Minister on the Public Service of Canada*. Ottawa: Privy Council Office.

Boylan, Patrick. 1990. Museums and cultural identity. Museums Association presidential address 1990. *Museums Journal* (December): 29-33.

---, ed. 1992. *Museums 2000: Politics, people, professionals and profit.* London and New York: Museums Association in conjunction with Routledge.

---. 1992. Revolutionary France and the foundation of modern museum management and curatorial practice. Part I: From revolution to the First Republic, 1789-1792. *Museum Management and Curatorship*, vol. 11, no. 2: 141-152.

---. 1993. Survey highlights staff cuts in 50% of local authority museums as a result of reduced budgets for 1993/94. *Museums Journal* (November): 14-15.

---. 1994. *Une réflexion post-colloque sur les réformes récentes de quelques institutions nationales en France et du futur des structures de management et gestion des musées.* Colloque de Grenoble (janvier): 1-7.

---. 1995. Reflecting the state of the nation. *Museums Journal* (February): 24-25.

---. 1996. Revolutionary France and the foundation of modern museum management and curatorial practice. Part II: David and Vicq d'Azyr, 1792-94. *Museum Management and Curatorship*, vol. 15, no. 2: 117-131.

---. 1997. Les musées face à la décroissance. In *New trends in museum practice*, edited by Michel Coté and Lisette Ferera. Québec: Musée de la civilisation.

Boyte, Harry. 1992. The pragmatic ends of popular politics. In *Habermas and the public sphere*, edited by Craig Calhoun. Cambridge, Mass: Massachusetts Institute of Technology.

Braaten, Jane. 1991. *Habermas' critical theory of society.* Albany: State University of New York.

Braman, Sandra. 1996. Art in the information economy. *Canadian Journal of Communication*, vol. 21: 179-196.

Brewer, John. 1982. Part II: Commercialization and politics. In *The birth of a consumer society: The commercialization of eighteenth-century England.* London: Europa Publications Inc.

---. 1997. *The pleasures of the imagination: English culture in the Eighteenth Century*. New York: Farrar Straus Giroux.

Brewer, John and Ann Bermingham, eds. 1995. *The consumption of culture 1600 - 1800: Image, object, text.* London and New York: Routledge.

Brewer, John and Roy Porter, ed. 1993. *Consumption and the world of goods.* London and New York: Routledge.

Briggs, Asa. 1992. The later Victorian Age. In *Victorian Britain*, edited by Boris Ford. Cambridge: The Press Syndicate of the University of Cambridge.

British Library. 1998. *Strategic review consultation paper* (July). Working paper.

B.S.M. 1998. Aiming at the young professionals. *The Art Newspaper*, No. 84 (September): 19.

Buchwald, Cheryl Cowan. 1997. Canadian universality policy and the information infrastructure: Past lessons, future directions. *Canadian Journal of Communication*, vol. 22: 161-193.

Bulwer Lytton, E. 1833. England and the English. In *A History of English Country House Visiting*, by Adrian Tinniswood. Oxford: Basil Blackwood and the National Trust.

Bunch, Lonnie G. 1995. Museums in an age of uncertainty: Fighting the good fight. *Museum News* (March/April): 32-62.

Burlington Magazine. 1996a. Editorial: Getting and spending at the V&A. *The Burlington Magazine*, vol. CXXXVIII, no. 1121 (August): 499.

---. 1996b. Editorial: The future of the British Museum. *The Burlington Magazine*, vol. CXXXVIII, no. 1125 (December): 787.

---. 1997. Editorial: New initials, new strategies. *The Burlington Magazine*, vol. CXXXIX, no. 1135 (October): 667.

---. 1998a. Editorial: Access to museums. *The Burlington Magazine*, vol. CXL, no. 1139 (February): 75.

---. 1998b. Editorial: The V.&A. and its histories. *The Burlington Magazine*, vol. CXL, no. 1140 (March): 163.

---. 1998c. Editorial: Regional museums - treasures and travails. *The Burlington Magazine*, vol. CXL, no. 1141 (April): 235.

Burns, Maureen. 1998. Noble goals/harsh reality: Library of University of California images and current trends in copyright law. *Visual Resources Association Bulletin*, vol. 25, no. 2 (Summer).
http://vr13.arts.ohio-state.edu/vrab/252/s1burns.htm

Burton, Jane. 1997. Pixelated visions. *The Art Newspaper*, No. 76 (December): 4.

---. 1997. Money can't buy you a lovely web page. *The Art Newspaper*, No. 76 (December): 40.

---. 1997. Windows on the world. *The Art Newspaper*, No. 76 (December): 42-44.

Busch, Joseph A. 1997. Evolving institutional approaches to subsidizing end user access to research databases: A case study. *Archives and Museum Informatics*, 11: 39-46.

Calhoun, Craig, ed. 1992. *Habermas and the public sphere.* Cambridge, Mass: Massachusetts Institute of Technology.

Cameron, Duncan Ferguson. 1995. The pilgrim and the shrine: The icon and the oracle. *Museum Management and Curatorship*, vol. 14, no. 1: 47-55.

Canada Council. 1957. Opening Proceedings (May).
http://www.canadacouncil.ca/archival/ar41/index.htm

Canadian Conference of the Arts. 1997. *Sharing the dream: Report of the Task Force on Charitable Giving and the Arts.* Ottawa: Canadian Conference of the Arts.

---. 1997. *Arts in transition project: Report and discussion paper.* Ottawa: Canadian Conference of the Arts (October).

---.1998. *Preliminary findings of the working group on cultural policy for the 21st Century.* Ottawa: Canadian Conference of the Arts (January).

Cannon-Brooks, Peter. 1984. The nature of museum collections. In *Manual of Curatorship*, edited by J.M.A Thompson. London: the Museums Association/Butterworth.

Cannon-Brooks, Peter and C.A. Cannon-Brooks. 1993. Editorial: Tourism and the museum industry: Paymaster, pollutant and worse? *Museum Management and Curatorship*, 12: 123-126.

---. 1994. Editorial: Maintaining the physical and the intellectual integrity of museum collections. *Museum Management and Curatorship*, 13: 227-232.

---. 1994. Editorial: 'On babies and bath-water'. *Museum Management and Curatorship*, 13: 123-129.

---. 1995. Editorial: Art and power. *Museum Management and Curatorship*, vol. 14, no. 4: 333-337.

---. 1996. Editorial: 'He who pays the piper calls the tune': Sponsorship, patronage and the intellectual independence of museums. *Museum Management and Curatorship*, vol. 15, no. 4: 345-350.

Carlin, John W., 1999. Your past is disappearing: What museums should know about the 20th-century archives crisis. *Museum News* (January-February): 46-49.

Carpenter, Mikki; Linda Sorenson Colet; Kate Keller; and Erik Landsberg. 1997-98. Direct digital capture: decisions, decisions! conclusions??? *Spectra*, vol. 25, no. 2 (Winter): 28-32.

Carr, David. 1999. The need for the museum. *Museum News*, vol. 78, no. 2 (March-April): 31-57.

Carrington, Lucie. 1998. Attendances dip as fees rocket. *Museums Journal* (June): 7.

---. 1998. Profits elude museums as hotels rake in cash. *Museums Journal* (June): 9.

---. 1999a. Cossons seeks a third way. *Museums Journal* (January): 9.

---. 1999b. Tomorrow's world. *Museums Journal* (January): 27-29.

---. 1999c. The peacemaker's vision. *Museums Journal* (May): 30-31.

Caygill, Marjorie. 1981. *The Story of the British Museum*. London: British Museum Publications.

Cheney, Terry. 1994. *The Ontario museum visitor 1991: A review of information derived from the Canadian Arts Consumer Profile*. Working paper prepared for the Heritage Policy and Research Division of the Department of Canadian Heritage.

---. 1998. *The cultural revolution and the age of leisure 1970-1998. What Happened?* Framework for a presentation to the Standing Committee on Canadian Heritage (10 February).

Chong, Derrick. 1997. Hans Haacke on museum management. *Museum Management and Curatorship*, vol. 16, no. 3: 273-285.

Chouinard, Marie-Andrée. Bisbille autour des droits d'auteur. *Le Devoir* (21 avril): B8.

Clarke, Giles. 1994. Museum admission charges. *Curator* 37/1: 12-13.

CMC, 1993a. *A vision for the 21st century: Strategic plan 1993-1998* (June).

---. 1993b. *The Canadian Museum of Civilization to be a global resource*. Press release (12 September).

---. 1993c. Treasury Board submission. Partnering programme. Digimuse.

---. 1994a. Digimuse: A Treasury Board initiative. Unpublished internal report.

---. 1994b. The Canadian Museum of Civilization goes Digital. Press release.

---. 1994c. *Le Musée canadien des civilisations fait son entrée officielle dans le <<Cyber Space>>*. Press release (16 December).

---. 1994d. *Interactive information kiosk links media in one site.* Press release (21 February).

---. 1994e. The Heritage Kiosk Project at the Canadian Museum of Civilization. Internal document.

---. 1995a. *The Canadian Museum of Civilization: Museum for the global village.* Press release (23 February).

---. 1995b. Electronic Outreach committee (6 March).

---. 1995c. CMC Web Steering committee (5 December).

---. 1995d. Artifact adoption programme: Notes from a meeting held 1st September.

---. 1995e. "Adopt a Treasure" online auction: Structure and process. Proposals submitted to the Artifact Adoption Committee by S. Alsford (16 October).

---. 1995f. *New digital technology opens the door to the virtual museum experience.* Press release (June 29).

---. 1996a. CMC Web Steering committee (12 March)

---. 1996b. 3-D imaging and display meeting (27 September).

---. 1996c. Canadian Museum of Civilization is site of Canada's National Multimedia Institute. Press release (June 14).

---. 1996d. *CMCC's Cyberboutique: The virtual shopping experience.* Press release (5 January).

---. 1997a. Multimedia titles at the Canadian Museum of Civilization. Brochure.

---. 1997b. *The Canadian Museum of Civilization virtualizes reality!* Press release (May 29).

---. 1997c. Annual Report 1996-97. Ottawa: Canadian Museum of Civilization.

---. 1998a. *Canadian Museum of Civilization wins five awards for excellence at this year's American Association of Museums annual meeting.* Press release (May 20).

---. 1998b. *The Canadian Museum of Civilization presents a virtual reality tour of two ancient Egyptian tombs.* Press release (1 June).

---. 1998c. Use statistics, CMCweb from Statbot: 1996, 1997, 1998 to October.

---. 1998d. Heritage Committee Presentation. Speaking notes: Adrienne Clarkson and George MacDonald (5 May).

Cobb, Nina Kressner. 1996. Looking ahead: Private sector giving to the arts and the humanities. *The Journal of Arts Management, Law, and Society*, vol. 26, no. 2: 125-160.

Cohen, Kathleen. *California State University Image Consortium.* http://www.cdlib.org

Cole, Henry. 1884. *Fifty years of public work.* London: George Bell and Sons.

Colet, Linda Serenson; Kate Keller; and Erik Landsberg. 1997-98. Digitizing photographic collections. *Spectra*, vol. 25, no. 2 (Winter): 22-27.

Colley, Linda. 1992. *Britons: Forging the nation 1707 - 1837.* New Haven and London: Yale University Press.

Committee on Issues in the Transborder Flow of Scientific Data. 1997. *Bits of power: Issues in global access to scientific data.* Washington, D.C.: National Academy Press.

Conforti, Michael. 1986. Hoving's legacy reconsidered. *Art in America* (June): 19-23.

---. 1995. Museums past and museums present: Some thoughts on institutional survival. *Museum Management and Curatorship*, vol. 14, no. 4: 339-355.

---. 1997. The idealist enterprise and the applied arts. In *A Grand Design: The Art of the Victoria and Albert Museum.* New York: Harry N. Abrams.

---. 1998. South Kensington its origins. *Rotunda* (Summer): 18-20.

Conybeare, Clare. 1997. A question of trust. *Museums Journal* (June): 36-37.

---. 1998. Look who's talking. *Museums Journal* (May): 27.

Copps, The Honourable Sheila. 1997. Letter to a recipient of a Museum Assistance Programme (MAP) grant.

Corbetta-Noyes, Lorna. 1998. *Using digital images in the classroom: User survey report.*
http://www.rlg.org/home/disummary.html

Corel. 1999. *Corel Gallery. What's in the box?* Promotional Material.
http://www.corel.com/gallery_line/inside.htm#gallery130

Coren, Michael. 1998. Ontario Arts Council finally draws the line between arts and culture. *Financial Post* (23 July): 11.

Cossons, Neil. 1999. United Nations. *Museums Journal* (February): 32-35.

Coté, Michel. 1998. *Tourism and heritage: Towards new cultural encounters.*
http://www.chin.gc.ca:81/Resources/Icom/English/Collection/e_textem.htm
l

Council for Business and the Arts in Canada. 1989. *Annual CBAC survey of selected visual arts organisations* (August). Toronto: CBAC.

---. 1995. *Annual CBAC survey of public museums and art galleries.* Toronto: CBAC.

---. 1998. *CBAC annual survey of public museums and art galleries 1996-1997 (Revised).* Toronto: CBAC.

Crimp, Douglas. 1993. *On the museum's ruins.* Cambridge, Mass and London, England: The MIT Press.

Cunningham, Jack. 1997. Access at the top of Labour's list. *Museums Journal* (April): 24.

Cuno, James. 1997. Whose money? Whose power? Whose art history? *Art Bulletin*, vol. LXXIX, no. 1 (March): 6-9.

Dalglish, Brenda. 1999. Ads struggle to click on the Net. *The Globe and Mail* (25 March): T1-T5.

D'Arcy, David. 1996. Mergers and closures are the new proposals for US museums. *The Art Newspaper* (July/August): 15.

---. 1996. Up in smoke? *The Art Newspaper* (July/August): 15.

Davies, Maurice. 1997. Year of shattered dreams. *Museums Journal* (December): 36-37.

---. 1998. Feeling the pinch. *Museums Journal* (April): 21.

---. 1998. Paying for our heritage. *Museums Journal* (May): 21.

---. 1998. Too much data. *Museums Journal* (August): 19.

---. 1999. Library lessons. *Museums Journal* (January): 19.

Davis, Kate. 1994. What is public service? *Muse* (Winter): 32-35.

---. 1996. Public service and strategic marketing as audience development. *Muse*, vol. XIV/1: 46-49.

de Montebello, Philippe. 1997. Musings on museums. *College Art Association Newsletter* (March/April).
http: www.collegeart.org/caa/news/1997/2/musings.html

Dempsey, Lorcan; Rosemary Russell; and John Kirriemuir. 1996. Towards distributed library systems: Z39.50 in a European context. *Program: Electronic Library and Information Systems*, vol. 30, no. 1 (January).
http://www.aslib.co.uk/program/1996/jan/02.html

D'Entrèves, Maurizio P. and Seyla Benhabib. 1997. *Habermas and the unfinished project of modernity.* Cambridge, Mass: The MIT Press.

Department of Canadian Heritage. 1997. *Canadian content in the 21st century: Canadian voices in Canadian spaces.* Unpublished discussion guide.

---. 1998. *Heritage: Past is no mere prologue.*
http://www.pch.gc.ca/culture/report/HTM/10htm

---. 1998. New indemnification program aims to increase public access to Canadian heritage collections. *News Release* (2 November).
http://www.pch.gc.ca/bin/News.dll/View?Lang=E&Code=8NR110E

---. 1998. *Introduction: Making room for Canada's voices.*
http://www.pch.gc.ca/culture/report/HTM/2.htm

Department of Communications. 1994. Memorandum of understanding between the Department of Communications and the Canadian Museum of Civilization. Amendment (March).

Dickenson, Victoria. 1993. The economics of museum admission charges. *Curator* 36/3: 220-234.

Digital Equipment. 1998. *Millicent vendor profile: Canadian Museum of Civilization.*
http://www.millicent.digital.com/press_room/profiles/cmoc.html

DiMaggio, Paul. 1986. *Nonprofit enterprise in the arts.* New York and Oxford: Oxford University Press.

Dobrzynski, Judith H. 1997a. Glory days for the art museum. *New York Times* (October 5): 1-44.

---. 1997b. Art (?) to go: Museum shops broaden wares, at a profit. *New York Times* (December 10): A1-A16.

Dodds, Douglas. 1996. *Finding needles in virtual haystacks.* Unpublished paper, Arlis/UK & Ireland Conference (7 July).

Doering, Zahava D. and Andrew J. Pekarik. 1996. Questioning the entrance narrative. *Journal of Museum Education*, vol. 21, no. 3: 20-23.

Donovan, Kevin. 1994-95. Worknet computing in museums: Rethinking the traditional model of museum automation. *Spectra*, vol. 22, no. 3 (Winter): 27-31.

---. 1997. *The best of intentions: Public access, the Web, and the evolution of museum automation.* Paper delivered at the Museums & the Web Conference, Los Angeles (March).

Dorman, David. 1997. New developments shake up midwinter exhibits. *American Libraries* (April): 76-78.

Dubin, Steven C. 1996. The Barbie Exhibition: Show but don't tell. *Curator*, vol. 39, no. 1: 15-18.

Duncan, Carol. 1995. *Civilizing rituals: Inside public art museums.* London: Routledge

Dunn, Heather. 1995. *Testing a vocabulary standard against cataloguing practice in Canadian museums: Demonstrating the validity of the Art and Architecture Thesaurus as a vocabulary source or search tool for the Humanities National Database of the Canadian Heritage Information Network.* Ottawa: Canadian Heritage Information Network.

Dworkin, Ronald. 1985. Can a liberal state support art? In *A matter of principle.* Cambridge, Mass: Harvard University Press.

Dyer, Vicky. 1998a. Not all it seems. *Museums Journal* (August): 18.

---. 1998b. They were so bold. *Museums Journal* (April): 20.

East, H., B. Ajibade, and K. Leach. 1998. Charging for access to university-wide networked database services in British academia. *ASLIB Proceedings*, vol. 50, no. 10 (November-December): 297-307.

Educause. 1999. *Edupage* (January 14). Internet listserv.

---. 1999. *Edupage* (April 19). Internet listserv.

---. 1999. *Edupage* (July 9). Internet listserv.

Edwards, Edward. 1969. *Lives of the founders of the British Museum.* Amsterdam: Gérard Th. Van Heusden. Reprint of the 1870 edition.

Eley, Geoff. 1992. *Nations, publics, and political cultures: Placing Habermas in the nineteenth century.* In *Habermas and the public sphere*, edited by Craig Calhoun. Cambridge, Mass: Massachusetts Institute of Technology.

Engelsman, Steven. 1996. Dutch National Museums go 'private'. *Museums International*, No. 4 (October/December): 49-53.

Ess, Charles, ed. 1996. *Philosophical perspectives in computer-mediated communication.* Albany: State University of New York.

Ester, Michael. 1990. Image quality and viewer perception. *Visual Resources*, vol. VII, no. 1: 327-352.

---. 1994. Digital images in the context of visual collections and scholarship. *Visual Resources*, vol. 10: 11-24.

---. 1996. *Digital image collections: Issues and practice.* Washington: The Commission on Preservation and Access.

Evans, Marcus. 1996. Museums: Where does charity stop and commerce begin? *The Art Newspaper*, No. 59 (May): 4.

Evans, Sara M. and Harry C. Boyte. *Free spaces: The sources of democratic change in America.* New York: Harper & Row.

Fahy, Anne and Wendy Sudbury, eds. 1995. In *Information: The hidden resource, museums and the Internet. Proceedings of the Seventh International Conference of the MDA*. Cambridge: The Museum Documentation Association.

Failing, Patricia, 1998. Scholars face hefty fees and elaborate contracts when they use digital images. *The Chronicle of Higher Education* (29 May): B4-B5.

Falconer, Heather. 1997. Bastion of free admission says: We cannot carry on. *Museums Journal* (September): 5.

---. 1998. Where's the big idea? *Museums Journal* (January): 31-33.

Falk, John H., 1998. A framework for diversifying museum audiences. *Museum News* (September-October): 36-61.

---. 1998. Visitors: Who does, who doesn't, and why. *Museum News* (March/April): 38-43.

Feather, John. 1997. The power of print: Word and image in eighteenth-century England. In *Culture and society in Britain 1660 - 1800*, edited by Jeremy Black. Manchester and New York: Manchester University Press.

Falk, John H. and Lynn D. Dierking. 2000. *Learning from Museums: Visitor Experiences and the Making of Meaning.* Walnut Creek, CA: AltaMira Press.

Finn, Adam, Stuart McFadyen, and Colin Hoskins. 1994. Marketing, management, and competitive strategy in the cultural industries. *Canadian Journal of Communication*, vol. 19: 523-550.

Fisher, Rod. 1998. *Civil society and culture.* Council of Europe Round Table (1 April).

Fitzpatrick, James F. 1992. Museums and the politically correct: Censorship and funding. *Muse* (Spring): 30-34.

Flower, Henry. 1898. *Essays on museums and other subjects connected with natural history.* London: MacMillan and Co.

Fopp, Michael A. 1997. The implications of emerging technologies for museums and galleries. *Museum Management and Curatorship*, vol. 16, no. 2: 143-153.

Ford, Boris, ed. 1992a. *The Romantic Age in Britain.* Cambridge: The Press Syndicate of the University of Cambridge.

---. 1992b. *Victorian Britain.* Cambridge: The Press Syndicate of the University of Cambridge.

Foster, Hal, ed. 1983. *The anti-aesthetic: Essays on postmodern culture.* Port Townsend, Washington: Bay Press.

Foucault, Michel. 1980. *Power/Knowledge: Selected interviews and other writings 1972-1977.* New York: Pantheon Books.

---. 1986. Of other spaces. *Diacritics,* vol. 16, no. 1: 22-27.

Fowler, Bridget. 1997. *Pierre Bourdieu and cultural theory.* London: SAGE Publications.

Fraser, Douglas. 1997. Conservation area. *Museums Journal* (June): 31-33.

Fraser, Nancy. 1985. What's so critical about critical theory? The case of Habermas and gender. *New German Critique*, 35 (Spring/Summer): 97-131.

---. 1992. *Rethinking the public sphere: A contribution to the critique of actually existing democracy.* In *Habermas and the public sphere*, edited by Craig Calhoun. Cambridge, Mass: Massachusetts Institute of Technology.

Freeman, Carla Conrad. 1989. Visual collections as information centers. *Visual Resources*, vol. VI, no. 1: 349-359.

---. 1990. Visual media in education: An informal history. *Visual Resources*, vol. VI, no. 1: 327-340.

Fulford, Robert. 1996. Curators in cyberspace. *Canadian Art* (Fall): 80-84.

Fuller, Peter. 1992. Fine arts. In *Victorian Britain*, edited by Boris Ford. Cambridge: Cambridge University Press.

Gardner, Elizabeth. 1992. Moving the photo business online. *Internet World*, vol. 5, no. 17 (17 May): 11-13.

Garment, Leonard; Joan Rosenbaum; Geoffrey Platt; Claudine K. Brown; Wendy Steiner; Frederic R. Kellogg; David Levy; Margaret Jane Wyszomirski; and John Brademas. 1996. Fixing it: Repair and revival of the National Endowment for the Arts. *Museum News* (September/October): 34-41.

Garnham, Nicholas. 1992. *The media and the public sphere.* In *Habermas and the public sphere*, edited by Craig Calhoun. Cambridge, Mass: Massachusetts Institute of Technology.

Gauthier, Michelle. 1995. Museum libraries: An endangered species? *Muse* (Fall): 50-53.

Gendreau, Ysolde, Axel Nordemann, and Rainer Oesch, eds. 1999. *Copyright and photographs: An international survey.* London, The Hague and Boston: Kluwer Law International.

Gere, Charlie. 1997. Corbis et orbis. *The Art Newspaper*, No. 72 (July/August): 27.

Gérin, Marie-Eve. 1999. Droits d'auteur électroniques: Les artistes visuels y tiennent. *La Presse* (26 April): C9.

Gerrard, Richard. 1997. "The wired museum: Emerging technology and changing paradigms": A review. *Archives and Museum Informatics*, 11: 191-195.

Gill, Tony. 1997-98. The Dublin Core metadata element set. *Spectra*, vol. 25, no. 2 (Winter): 40-46.

Goldhaber, Michael H. 1997. The attention economy and the Net. *Firstmonday*, issue 2, no. 4.
http://www.firstmonday.dk/issues/issue2_4/goldhaber/index.html

Goldner, George and Neil MacGregor. 1997. Are UK museums today more interesting places to direct? *The Art Newspaper*, no. 67 (February): 9.

Goode, George Brown. 1901. *A memorial of George Brown Goode, together with a selection of his papers on museums and the history of science in America.* Washington: Government Printing Office.

Gosling, Kevin and Tony Gill. 1997/98. The nation's collections: Are we virtually there? *Information* (MDA), vol. 2, no. 2.
http://www.open.gov.uk/mdocassn/info22.htm

Gradwohl, Judith and Gene Feldman. 1998. *Going electronic: A case study of "Ocean Planet" and its on-line counterpart.* In *The virtual and the real: Media in the museum*, edited by Selma Thomas and Ann Mintz. Washington: American Association of Museums.

Graham, Karen. 1997. Audit and evaluation report - fall/winter visitor survey 1996-97.

---. 1998. 3D - Virtual reality theatre. Front end evaluation results (November 17-24).

Grant, Alice and Diane Lees. 1994. Out of the cupboard. *Museums Journal* (November): 21-23.

Gravelle, Michael. 1998. *An open letter to Ontario's heritage community.* Unpublished letter from the Ontario Liberal Party's culture and heritage critic (August).

Green, David. 1998. *Fair use education: Copyright and fair use town meetings 1997-98.* Final report. (25 June).
http://www-ninch.cni.org/News/Curr...ounce/TownMeeting-FinalReport.html

---. 1999. Best practices in networking cultural heritage resources: Where to start? *Spectra*, vol. 26, no. 1. (Spring): 10-11.

Green, Heather. 1999. 'Twas the season for e-splurging. *Business Week* (18 January): 40-42.

Greenberg, Sarah. 1999. Pencils poised? *The Art Newspaper*, No. 88 (January): 17.

Greengard, Samuel. 1998. Three masters turn to digital archiving. *Photo District News* (August): 41-43.

Griffiths, John. 1998. Friends stump up the cash to save Bowes. *Museums Journal* (August): 6.

---. 1998. Schmoozing in the galleries. *Museums Journal* (December): 32-33.

Groys, Boris. 1994. The struggle against the museum; or, the display of art in totalitarian space. In *Museum culture: Histories, discourses and spectacles*, edited by Daniel J. Sherman and Irit Rogoff. Minneapolis: University of Minnesota Press.

Gunther, Albert E. 1975. *A century of zoology at the British Museum through the lives of two keepers 1815 - 1914.* London: Wm. Dawson & Sons Ltd.

Haacke, Hans. 1986. Museums, managers of consciousness. In *Hans Haacke: Unfinished business.* Cambridge, Massachusetts and London, England: M.I.T. Press.

Habermas, Jürgen. 1974. The public sphere: An encyclopedia article. *New German Critique* 3: 49-55.

---. 1983. Modernity - an incomplete project. In *The anti-aesthetic: Essays on postmodern culture*, edited by Hal Foster. Port Townsend, Washington: Bay Press.

---. 1990. What does socialism mean today? The revolutions of recuperation and the need for new thinking. In *After the fall: The failure of communism and the future of socialism*, edited by Robin Blackburn. London: Verso.

---. 1992. Further reflections on the public sphere. In *Habermas and the public sphere*, edited by Craig Calhoun. Cambridge, Mass: Massachusetts Institute of Technology.

---. 1995. *Structural transformation of the public sphere.* Cambridge, Mass: Massachusetts Institute of Technology.

Haddock, Miranda Howard. 1998. Creating a visual catalog for the visual resources library, Western Michigan University, or a funny thing happened on the way to the Internet...we catalogued the collection. *Visual Resources Association Bulletin*, vol. 25, no. 2 (Summer).
http://vrl3.arts.ohio-state.edu/vrab/252/s1haddock.htm

Haigh, Susan. 1999. *Connectivity, content and collaboration: The Canadian Digital Library experience.* Draft. Ottawa: National Library of Canada.

Haigh, Susan and Janette Megarity. 1998. Measuring Web site usage: Log file analysis. *Network Backgrounder* 57.

Hall, Virginia M.G. 1997. Fair use or foul play? The digital debate for visual resources collections. *Visual Resources Association Bulletin*, vol. 24, no. 4 (winter).
http://vr13.arts.ohio~state.edu/vrab/242

Hansard. 1834. *Parliamentary Debates*, 3rd. Ser., vol. XXIV, cols. 118-119.

---. 1839. *Parliamentary Debates*, 3rd. Ser., vol. XLVIII, col.91.

---. 1840. *Parliamentary Debates*, 3rd. Ser., vol. LXXVI, cols. 1075-1081.

Harling, Philip. 1996. *The waning of 'Old Corruption': The politics of economical reform in Britain, 1779-1846.* Oxford: Clarendon Press.

Harmon, Amy. 1998. Sad, lonely world discovered in Cyberspace. *New York Times* (August 30): 1-22.

Harpring, Patricia. 1999. Can flexibility and consistency coexist? *Spectra*, vol. 26, no. 1. (Spring): 33-35.

Harrison, Brian. 1982. *Peaceable kingdom: Stability and change in modern Britain*. Oxford: Clarendon Press.

Harrison, Julia D. 1993. Idea of museums in the 1990s. *Museum Management and Curatorship* 13: 160-176.

Harvey, David. 1990. *The condition of postmodernity.* Cambridge, Mass: Blackwell.

Harvey, Simon. 1998. Is the new order working? *Museums Journal* (April): 13.

---. 1998. Scots services' survival is on a knife-edge, says SMC. *Museums Journal* (February): 5.

Hazen, Dan; Jeffrey Horrell; and Jan Merrill-Oldham. 1998. *Selecting research collections for digitization.* Washington: Council on Library and Information Resources.

Henneberger, Melinda. 1998. Something different at the Arts Endowment: Optimism. *New York Times* (August 30): 16.

Hewison, Robert. 1987. *The heritage industry: Britain in a climate of decline.* London: Methuen.

---. 1995. *Culture and consensus: England, art and politics since 1940.* London: Methuen.

Higgins, Reverend Henry. 1883-84. Museums of natural history. *Proceedings of the Literary and Philosophical Society of Liverpool* (73rd Section).

Higham, K.R. 1998. *The politics of culture in Canada: Creating an environment for maximising human development.* Canadian Cultural Research Network Colloquium (3-4 June).

Hitchcock, Tim. 1997. Demography and the culture of sex in the long eighteenth century. In *Culture and society in Britain 1660-1800*, edited by Jeremy Black. Manchester: Manchester University Press.

Hodsoll, Frank. 1996. Public funding for the arts - past, present, and future. *The Journal of Arts Management, Law, and Society*, vol. 26, no. 2: 115-124.

Hoffman, Barbara. 1997. Fair use of digital art images and academia: A view from the trenches of the Conference on Fair Use (CONFU). *Visual Resources*, vol. XII, no. 3-4: 373-392.

Hohendahl, Peter. 1974. Jürgen Habermas: "The public sphere" (1964). *New German Critique*, 3: 45-48.

Hoke, Donald. 1995. The case against federal funding. *Museum News* (September/October): 44-45.

Holub, Robert C. 1991. *Jürgen Habermas: Critic in the public sphere.* London: Routledge.

Hooper-Greenhill, Eilean. 1992. *Museums and the shaping of knowledge.* London and New York: Routledge.

---. 1991. *Museum and gallery education.* Leicester, London and New York: Leicester University Press.

---. 1988. Counting visitors or visitors who count? In *The museum time-machine: Putting cultures on display*, edited by Robert Lumley. London and New York: Routledge.

Houghton, Walter E. 1942a. The English virtuoso in the seventeenth century (I). *The Journal of the History of Ideas* (January): 51-73.

---. 1942b. The English virtuoso in the seventeenth century (II). *The Journal of the History of Ideas* (April): 190 - 219.

Howitt, William. 1840. *Visits to remarkable places.* London: Longmans, Brown, Green and Longman.

Hudson, Kenneth. 1975. *Social history of museums.* London and Basingstoke: The MacMillan Press Ltd.

---. 1987. *Museums of influence.* Cambridge: Cambridge University Press.

Hughes, Gordon. 1989. Measuring the economic value of the arts. *Policy Studies*, vol. 9, no. 3 (Spring): 33-44.

Hunter, Michael. 1983. *Elias Ashmole 1617-1692: The founder of the Ashmolean Museum and his world.* Oxford: Ashmolean Museum.

---. 1985. The cabinet institutionalized: The Royal Society's 'Repository' and its background. In *The origins of museums: The cabinet of curiosities in sixteenth- and seventeenth-century Europe*, edited by Oliver Impey and Arthur MacGregor. Oxford: Clarendon Press.

Hutchison, Robert. 1990. The artistic importance of the arts. *Policy Studies*, vol. 11, no.1 (Spring): 52-55.

Image Directory. 1999. About the Image Directory. http://www.imagedir.com/ID_Demo/about.htm

Impey, Oliver and Arthur MacGregor, eds. 1985. *The origins of museums: The cabinet of curiosities in sixteenth- and seventeenth-century Europe*. Oxford: Clarendon Press.

Information Highway Advisory Committee. 1997. *Preparing Canada for a digital world: Phase II conclusions and recommendations* (23 April).

Information Technology Advisory Panel. 1983. *Making a business of information: A survey of new opportunities*. London: Her Majesty's Stationery Office.

Institute of Museum and Library Services. 1999. *Libraries and the digital divide*. Internet Press Release (July 8).

Jackman, Hal. 1998. Why the OAC is adding non-artists to its panel. *The Globe and Mail* (31 July): 21.

Jameson, Frederic. 1983. Postmodernism and consumer society. In *The anti-aesthetic: Essays on postmodern culture*, edited by Hal Foster. Port Townsend, Washington: Bay Press.

Janes, Robert R. 1993. Glenbow deaccessioning. *Muse* (Fall): 4.

---. 1994. Beyond strategic planning: The Glenbow example. *Muse* (Winter): 12-16.

---. 1996. Museums and organizational change. *Museum Store* (Winter): 53-80.

Januszczak, Waldemar. 1986. No way to treat a lady. *The Guardian* (15 February): 11.

Jenkins, Ian. 1992. Archaeologists and aesthetes in the sculpture galleries of the British Museum 1800-1939. London: British Museum Press.

Jenkins, Richard. 1992. *Pierre Bourdieu.* London: Routledge.

Jones, David. 1997. Striking a balance. *Museums Journal* (July): 29-30.

Jones-Garmil, Katherine, ed. 1997. *The wired museum: Emerging technology and changing paradigms.* Washington: American Association of Museums.

Kainz, Alana. 1994. Museum poised to launch history into cyberspace. *Ottawa Citizen* (June 11): G1.

Kamegai-Cocita, Sharon. 1998. From theory to practice: Developing diversity. *Museum News* (May/June): 52-57.

Kaplin, Lewis A. 1998. Memorandum opinion. The Bridgeman Art Library, Ltd., plaintiff, against Corel Corporation, et ano., defendants. United States District Court, Southern District of New York (13 November).

Karim, Karim H. 1996. *Digitizing heritage information: American and European approaches.* Ottawa: International Comparative Research Group, Department of Canadian Heritage.

---. 1997. *Content policies for information and communication technologies: An international review.* Ottawa: International Comparative Research Group, Department of Canadian Heritage.

Karim, Karim H.; Sandra Smeltzer; and Yohanna Loucheur. 1998. On-line access and participation in Canadian society. *Knowledge-based economy and society* *pilot project.* Ottawa: International Comparative Research Group, Department of Canadian Heritage.

Kaufman, Jason Edward. 1994. The digitised image: Bill Gates's mega-database of world art. *The Art Newspaper* (December): 1-2.

---. 1996. How fares the digital revolution? *The Art Newspaper*, No. 60 (June): 6.

Keane, John. 1988. Despotism and democracy: The origins and the development of the distinction between civil society and the state. In *Civil society and the state: New European perspectives*, edited by John Keane. London: Verso.

Kellner, Douglas. 1990. *Television and the crisis of democracy.* Boulder, Colorado: Westview Press.

Kelly, Robert F. 1992. Museums as status symbols III: A speculative examination of motives among those who love being in museums, those who go to "have been" and those who refuse to go. *Visitor Studies: Theory, Research, and Practice*, vol. 4: 24-31.

Kelly, Thomas. 1966. *Early public libraries: A history of public libraries in Great Britain before 1850.* London: The Library Association.

---. 1970. *A history of adult education in Great Britain.* Liverpool: Liverpool University Press.

---. 1973. *A history of public libraries in Great Britain 1845 - 1965.* London: The Library Association.

Kemp, M. 1989. A loss of balance: The trustees and boards of national museums and galleries. *Burlington Magazine*, vol. 131, no. 1034 (May): 355-357.

Keshet, Amalyah. 1997. Fair use, fair trade, and museum image licensing. *Visual Resources*, vol. XII, no. 3-4: 281-289.

---. 1997/98. Added value: Just what is it we sell? *Spectra*, vol. 25, no. 2 (Winter): 18-22.

Kimsey, Lynn S. 1999. Natural History Museum copyright declaration. Nhcoll-l list.

King, Elspeth. Stirling the brave. *Museums Journal* (November): 33-34.

Kingsley, Charles. 1848. The National Gallery. *Politics for the People* (6 May): 5-6.

---. 1848. The British Museum. *Politics for the People* (1 July): 183-185.

Kirkham, Pat. 1992. *The applied arts: Design, craft and trade.* In *The Romantic Age in Britain*, edited by Boris Ford. Cambridge: The Press Syndicate of the University of Cambridge.

Knell, Simon. 1994. On the march. *Museums Journal* (November): 38.

Knight, Charles. 1851. *Knight's excursion-train companion.* London: Charles Knight.

Kodak. 1996. Kodak completes sale to Danka Business Systems of office imaging sales, service and facilities management. Press release.
http://www.kodak.com/US/en/corp/pressReleases/pr19970103-01.shtml

Kohl, Allan. 1997. Prospects for a public domain art image resource in an era of digital technologies. *Visual Resources*, vol. XII, no. 3-4: 291-296.

Koven, Seth. 1994. The Whitechapel Picture Exhibitions and the politics of seeing. In *Museum culture: Histories, discourses and spectacles*, edited by Daniel J. Sherman and Irit Rogoff. Minneapolis: University of Minnesota Press.

Kreidler, John. 1996. Leverage lost: The nonprofit arts in the post-Ford era. *The Journal of Arts Management, Law, and Society*, vol. 26, no. 2 (Summer): 79-99.

La Relève Task Force. 1998. *First progress report on La Relève: A commitment to action.* Ottawa: Privy Council Office (March).

Lanzi, Elisa, 1998. *Vocabularies: Enhancing access to cultural heritage information.* Los Angeles: The J. Paul Getty Trust.

Lawson, N. 1992. *The view from No. 11: Memoirs of a Tory radical.* London: Bantam Press.

Lewis, Geoffrey. 1984. Collections, collectors and museums: A brief world survey. In *Manual of curatorship*, edited by J.M.A Thompson. London: the Museums Association/Butterworth.

---. 1984. Collections, collectors and museums in Britain to 1920. In *Manual of curatorship*, edited by J.M.A Thompson. London: the Museums Association/Butterworth.

Lewis, Justin. 1990. *Art, culture and enterprise.* London and New York: Routledge.

Lewis, W.S. and A. Doyle Wallace. 1965. *Horace Walpole's correspondence with the Countess of Upper Ossory.* New Haven: Yale University Press.

Light, Richard. 1992. Standards for sharing museum information. In *Sharing the information resources of museums*, edited by D.A. Roberts. Cambridge: Museum Documentation Association.

Lindstrom, Richard W. and Mary S. Woodley. 1999. Irresistable metadata: Guidelines for usage of Dublin Core metadata in online exhibitions. *Spectra*, vol. 26, no. 1. (Spring): 19-23.

Lockard, Joseph. 1997. Progressive politics, electronic individualism and the myth of the virtual community. In *Internet culture*, edited by David Porter. New York & London: Routledge.

Lord, Barry; G.D. Lord; and J. Nicks. 1989. *The cost of collecting: Collection management in UK museums.* London: HMSO.

Lufkin, Martha. 1998. Wholesomeness in the dock. *The Art Newspaper*, no. 77 (January): 6.

---. 1999. The end of museum monopolies. *The Art Newspaper*, no. 89 (February): 8.

Lumley, Robert, ed. 1988. *The museum time-machine: Putting cultures on display.* London and New York: Routledge.

Lunau, Carol et al. 1998. *Virtual union catalogue pilot project final report.* (24 June).

Lunau, Carrol and Turner, Fay. 1997. *Issues related to the use of Z39.50 to emulate a centralized union catalogue.* Paper prepared for the ARL Access Committee (April).
http://www.nlc-bnc.ca/resource/vcuc/ezar12.htm

---. 1998. *The need for an international Z39.50 profile for searching virtual catalogues.* (19 October).

---. 1998. *Virtual Canadian union catalogue pilot project final report.* (24 June).

Lusaka, Jane; Susannah Cassedy; and John Strand. 1996. Whose 800-lb. gorilla is it? Corbis Corporation pursues museums. *Museum News* (May/June): 34-37.

Lusaka, Jane and John Strand. 1998. The boom - and what to do about it. *Museum News* (November/December): 55-60.

Lyman, Peter and Howard Besser. 1998. Time and bits conference background paper. Working paper for *Time and Bits: Managing Digital Continuity* conference.
http://www.gii.getty.edu/timeandbits/tbpaper.html

Lynch, Clifford A. 1997a. The Z39.50 information retrieval standard. Part I: A strategic view of its past, present and future. *D-Lib Magazine* (April).
http://www.dlib.org/dlib/april97/04lynch.html

---. 1997b. Building the infrastructure of resource sharing: Union catalogs, distributed search, and cross-database linkage. *Library Trends,* vol. 45, no. 3 (Winter): 448-461.

---. 1997c. The uncertain future for digital visual collections in the university. *Archives and Museum Informatics*, 11: 5-13.

MacDonald, George. 1989. *A museum for the global village.* Hull: The Canadian Museum of Civilization.

---. 1994a. *Digital equipment of Canada press event* (10 June). Executive director's speaking notes.

---. 1994b. Dynamics of culture and identity, and the potential of interactive technologies to engage users of cultural institutions. *Spectra*, vol. 22, no. 1: 6-9.

MacDonald, George and Stephen Alsford. 1991. The museum as information utility. *Museum Management and Curatorship*, vol. 10: 305-311.

---. 1994. Towards the virtual museum. *History News* (September/October): 8-12.

---. 1995a. Museums and theme parks: Worlds in collision? *Museums Management and Curatorship*, vol. 14, no. 2: 129-147.

---. 1995b. Museums 2000: The new millennialism. Part One. *Museums Review* (Spring): 21-24.

---. 1995c. Museums 2000: Museums for a new century. Part Two. *Museums Review* (Summer): 34-36.

MacGregor, Arthur. 1985. The cabinet of curiosities in seventeenth-century Britain. In *The origins of museums: The cabinet of curiosities in sixteenth- and seventeenth-century Europe*, edited by Oliver Impey and Arthur MacGregor. Oxford: Clarendon Press.

MAGNETS. 1997. Museums and galleries new technology study. Final report (November).
http://www.vasari.co.uk/magnets/

Malaro, Marie C. 1998. *A legal primer on managing museum collections.* Second Edition. Washington and London: Smithsonian Institution Press.

Mann, Charles C. 1998. Who will own your next good idea? *The Atlantic Monthly* (September).
http://www.theatlantic.com/issues/98sep/copy.htm

Marinez, Katherine. 1998. RLG's cultural heritage initiatives. *Spectra*, vol. 25, no. 3 (Spring).
http://www.rlg.org/digital/spectra.article.html

Marsan, Giulia Ajmone. 1998. London's free museums come top. *The Art Newspaper* (January): 11.

Mathias, Peter. 1979. *The Transformation of England: Essays in the economic and social history of England in the eighteenth century.* London: Methuen.

May, Kathryn. 1997. PS plan gets top approval. Deputy Ministers sign on to ambitious strategy for rebuilding morale, stopping brain drain. *Ottawa Citizen* (19 October): A1.

---. 1998. Sick and tired: Public Services hierarchy makes managers ill study finds. *Ottawa Citizen* (1 June): A1.

McAvity, John. 1995. Budget surprises: More bad news for museums. *Museums Review* (Summer): 4.

---. 1997. Where have all the travelling shows gone? *Muse*, vol. XV/3: 4.

---. 1998. *Overview of the Canadian museum community.*
http://www.chin.gc.ca:81/Resources...English/Collection/e_texte_ji.html

McAvity, John and Candace Stevenson. 1997. Annual report 1996-1997. *Museogramme* (July/ August): 6-11.

McClellan, Andrew. 1994. *Inventing the Louvre: Art, politics and the origins of the modern museum in eighteenth-century Paris.* Cambridge: Cambridge University Press.

McClung, Patricia and Christie Stephenson. *Images online: Perspectives from the Museum Educational Site Licensing Project*, vol. 2. Los Angeles: The J. Paul Getty Trust.

McGuigan, Cathleen; Maggie Malone; Janet Huck; and Shawn Doherty. 1985. A word from our sponsor. *Newsweek* (25 November): 96-98.

McGuigan, Jim. 1996. *Culture and the public sphere*. London and New York: Routledge.

McKendrick, Neil, ed. 1974. *Historical perspectives: Studies in English thought and society in honour of J.H. Plumb*. London: Europa Publications.

---. 1982. Part I: Commercialization and the economy. In *The birth of a consumer society: The commercialization of eighteenth-century England*, edited by Neil McKendrick, John Brewer and J.H. Plumb. London: Europa Publications.

McKendrick, Neil; John Brewer; and J.H. Plumb. 1982. *The birth of a consumer society: The commercialization of eighteenth-century England.* London: Europa Publications Inc.

McLaren, Karlene M. 1997. Copyright: Fair use or foul. *Visual Resources*, vol. XII, no. 3-4: 343-352.

McLean, Fiona. 1997. *Marketing the museum*. London and New York: Routledge.

McMichael Canadian Collection. 1998. A clear vision for tomorrow: An advertising feature. *The Globe and Mail* (7 December): C5.

McMillan, Sam. 1997. Content is king at Corbis Corporation. *Communication Arts* (March/April): 139-146.

Metro, Judy. 1997. Money, power, and pictures of art. *Art Bulletin*, vol. LXXIX, no. 1 (March): 15-16.

Middleton, Victor. 1997. A new breed. *Museums Journal* (August): 33.

Milstead, Jessica and Susan Feldman. 1999. Metadata. *Online*. (January/February): 33-50.

Mintz, Ann. 1998. Demographic trends, strategic responses. *Museum News* (May/June): 47-67.

Mintzberg, Henry. 1999. Henry Mintzberg in Conversation. *Ideas*. Toronto: Canadian Broadcasting Corporation (5-6 May).

Mirapaul, Matthew. 1999. Museums turn to Internet to share collections. *The New York Times on the Web* (28 January).
http://www.nytimes.com/library/tech/99/01/cyber/artsatlarge/28artsatlarge.html.

Moen, William E. 1998. *The CIMI Profile Release 1.0H: A Z39.50 profile for cultural heritage information* (November).
http://www.cimi.org/documents/HarmonizedProfile/HarmonProfile1.htm

Monroe, Dan L. 1995. Federal funding of museums: The reality. *Museum News* (November/December): 50-51.

Morton, Alan. 1988. *Tomorrow's yesterdays: Science museums and the future.* In *The museum time-machine: Putting cultures on display*, edited by Robert Lumley. London and New York: Routledge.

Mosco, Vincent. 1996a. *Myth-ing Links: Power and community on the Information Highway.* Annual Davidson Dunton Lecture. Ottawa: Carleton University.

---. 1996b. *The political economy of communication.* London: Sage Publications.

---. 1998. The socio-cultural implication of a knowledge-based society: A perspective research survey. *Knowledge-based economy and society pilot project.* Ottawa: Department of Canadian Heritage (March).

Murdock, Graham. 1993. Communications and the constitution of modernity. *Media, Culture and Society*, vol. 15: 521-539.

---. 1997. Citizens, consumers, and public culture. In *The political economy of the media.* Cheltenham, England: Edward Elgar.

Museum Digital Library Collection. 1999. Plan.
http://www.museumlicensing.org/site/docs/plan.html

Museum of Modern Art and Tate Gallery. 2000. *Two of the World's Preeminent Art Institutions—MoMA and Tate Gallery—Form Partnership to Launch Unprecedented Cultural Internet Venture.* Press Release (17 April).

http://www.moma.org/docs/press/2000/fF_P002,c8458,.htm

Museums and Galleries Commission. 1999. *Museum focus: Facts and figures on museums in the UK.*
http://www.museums.gov.uk/museums/index.html

Museums Journal. 1994. Museums should cruise the information highway. *Museums Journal* (November): 7.

---. 1997. Comment: Make history not money. *Museums Journal* (June): 5.

---. 1998a. Comment: Proof at last. *Museums Journal* (May): 18.

---. 1998b. News & analysis: Regions brave it out. *Museums Journal* (September): 6.

Nagel, Lina. 1999. Using standards in the documentation of museum collections: Categories for the Description of Works of Art, Object ID, and other standardization tools. *Spectra*, vol. 26, no. 1 (Spring): 36-39.

National Research Council. 1997. Profile: Museum collections in 3-D. Information sheet.

Naylor, Gillian. 1992. Design, craft and industry. In *Victorian Britain*, edited by Boris Ford. Cambridge: The Press Syndicate of the University of Cambridge.

Negroponte, Nicholas. 1998. Beyond digital. *Wired* (December): 288.

New Opportunities Fund. 1999. New Opportunities Fund launches £50m nof-digitise programme. Press Release (26 August).
http://www.nof.org.uk/tempdigit/index.html

Nielsen, Jakob. 1998. Predictions for the Web in 1999. *Alertbox* (27 December).
http://www.useit.com/alertbox/981227.html

---. 1999. Web research: Believe the data. *Alertbox* (11 July).
http://www.useit.com/alertbox/990711.html.

Nightingale, Julie. 1997. Training for the top. *Museums Journal* (August): 35.

---. 1997. Business sponsorship plummets by £8 million. *Museums Journal* (May): 16.

---. 1997. Goodbye to capital gains. *Museums Journal* (June): 38-39.

---. 1997. Hard times on campus. *Museums Journal* (July): 19.

---. 1998. Still one of us? *Museums Journal* (May): 24-25.

---. 1999. A clear way ahead. *Museums Journal* (February): 36-37.

Norris, Susan. 1997. Where commerce meets culture. *Museums Journal* (December): 39-41.

Nunberg, Geoffrey. 1998. Will libraries survive? *The American Prospect*, 41 (November/December 1998): 16-23.

Oder, Norman. 1998. Cataloguing the Net: Can we do it? *Library Journal* (1 October): 47-51.

O'Doherty, Brian, ed. 1972. *Museums in crisis*. New York: Art in America, Inc.

Okerson, Ann S. 1996. Buy or lease? Two models for scholarly information at the end (or the beginning) of an era. *Daedalus; Journal of the American Academy of Arts and Sciences*, vol. 125, no. 4 (Fall): 55-76.
http://www.library.yale.edu/~okerson/daedalus.html

Ontario Ministry of Citizenship, Culture and Recreation. 1998. Changing times: Municipal restructuring and heritage. *Bulletin* 5 (August).

---. *Community museums policy for Ontario.* Museum and Heritage Organization Programs.

Oppenheimer, Todd. 1997. The computer delusion. *The Atlantic Monthly* (July): 45-63.

Orna, Elizabeth. 1987. *Information policies for museums.* Cambridge: the Museum Documentation Association.

---. 1994. In the know. *Museums Journal* (November): 24-27.

Orosz, Joel. 1990. *Curators and culture: The museum movement in America: 1740 - 1870.* Tuscaloosa and London: The University of Alabama Press.

Pantalony, Rina Elster. 1999. *Protecting your interests: A legal guide to negotiating Web site development and virtual exhibition agreements.* Ottawa: Canadian Heritage Information Network.

Pateman, Carole. 1983. Feminist critiques of the public/private dichotomy. In *Public and private in social life*, edited by Stanley I. Benn and Gerald F. Gaus. New York: St. Martin's Press.

---. 1988. The fraternal social contract. In *Civil society and the state: New European perspectives*, edited by John Keane. London: Verso.

PDNews. 1997a. Corbis appoints new VPs. *Photo District News* (November): 14-15.

---. 1997b. Corbis looks at royalty-free business. *Photo District News* (September): 22-24.

---. 1997c. Corbis suspends Ansel Adams CD. *Photo District News* (July): 21.

---. 1998a. More gains for Getty. *Photo District News* (July): 12-13.

---. 1998b. Stock photo customers going digital. *Photo District News* (November): 19-20.

---. 1998c. Getty reports quarterly results. *Photo District News* (November): 20.

Pearce, Susan, ed. 1995. *Art in museums.* London and Atlantic Highlands, NJ: Athlone

Peters, John D. 1993. Distrust of representation: Habermas on the public sphere. *Media, Culture and Society*, vol. 15: 541-571.

Plumb, J. H. 1974. The public, literature and the arts in the eighteenth century. In *The emergence of leisure*, edited by Michael Marrus. New York: Harper and Row.

---. 1982. Part III: Commercialization and society. In *The birth of a consumer society: The commercialization of eighteenth-century England.* London: Europa Publications Inc.

Pointon, Marcia, ed. 1994. *Art apart: Art institutions and ideology across England and North America.* Manchester: Manchester University Press.

---. 1997. Pricing or prizing potential in the 1990s. *Art Bulletin*, vol. LXXIX, no. 1 (March): 17-20.

Policy Studies Institute. 1989. Museums. *Cultural Trends,* 4: 1-24.

---. 1990. *Cultural Trends*, 8.

Porter, David. 1997. *Internet culture.* New York & London: Routledge.

Porter, Roy. 1997. The new eighteenth-century social history. In *Culture and society in Britain 1660 - 1800*, edited by Jeremy Black. Manchester and New York: Manchester University Press.

Posner, Michael. 1999. Guggenheim head sees glowing future for museums. *The Globe and Mail* (30 April): A16.

Poster, Mark. 1997. Cyberdemocracy: Internet and the public sphere. In *Internet culture*, edited by David Porter. New York & London: Routledge.

Postman, Neil. 1992. *Technopoly: The surrender of culture to technology.* New York: Vintage Books.

Prentice, Richard; Andrea Davies; and Alison Beeho. 1997. Seeking generic motivation for visiting and not visiting museums and like cultural attractions. *Museum News*, vol. 16, no. 1: 45-70.

Punter, David. 1992. Romantics to early Victorians. In *The Romantic Age in Britain*, edited by Boris Ford. Cambridge: The Press Syndicate of the University of Cambridge.

Raboy, Marc. 1997. *Communication policy and globalisation as a social project.* Conference on Communication, Citizenship and Social Policy (1-3 October).

Raboy, Marc; Ivan Bernier; Florian Sauvageau; and Dave Atkinson. 1994. Cultural development and the open economy: A democratic issue and a challenge to public policy. *Canadian Journal of Communication*, vol. 19: 291-315.

Rees-Mogg, William. 1985. Introduction. *40th annual report and accounts 1984/85.* London: Arts Council.

Renzetti, Elizabeth. 1998. Coalition fights arts group changes. *The Globe and Mail* (30 July): A15-A17.

Research Libraries Group. 1996a. *RLG strategy for 1996-2000: A time of challenge* (January).
http://www.rlg.org/strat/fullstrat.html

---. 1996b. Q & A with Peter Lyman. *RLG News*, issue 39 (winter).
http://www.rlg.org/rlgnews/news39.html

---. 1998a. Bringing art museum images to the classroom and desktop. *RLG News*, Issue 46 (Spring).
http://www.rlg.org/rlgnews/news46a.html

---. 1998b. *The AMICO library and testbed: Museum images for education and research.*
http://www.rlg.org/amicolib.html

---. 1999. *A new RLG service: Museum resources* (20 January).
http://www.rlg.org/strat/projmusres.html

---. 1999. What RLG does. Last updated 7 September.
http://www.rlg.org/rlg.html

---. 1999. Museum resources. Last updated 7 September.
http://www.rlg.org/strat/projmusres.html

---. 2000. Cultural Materials Alliance Statement of Intent. December 17, 1999. Annotated March 24, 2000 and July 24, 2000.

Rheingold, Howard. 1993. *The virtual community: Homesteading on the electronic frontier.* Don Mills, Ontario: Addison-Weslesy Publishing Company.

Rice, Danielle. 1997. Modern art: Making people mad. *Museum News* (May/June): 53-58.

Riley, Gresham and Stephen Urice. 1996. Art museum directors: A shrinking pool? *Museum News* (May/June): 48-64.

Robbins, Bruce, ed. 1993. *The phantom public sphere.* Minneapolis: University of Minnesota Press.

Roberts, D.A., ed. 1990. *Terminology for museums. Proceedings of the second conference of the Museum Documentation Association.* Cambridge: The Museum Documentation Association.

---. 1992. *Sharing the information resources of museums.* Cambridge: Museum Documentation Association.

Roberts, Helene E. 1994. Second hand images: The role of surrogates in artistic and cultural education. *Visual Resources*, vol. IX: 335-346.

Robinson, Franklin W. 1995. The moral dilemma of American art museums. *Museum News* (March/April): 42-43.

Rockenbach, Barbara. 1998. Towards an understanding of image ethics. *Visual Resources Association Bulletin*, vol. 24, no. 3 (fall).
http://vr13.arts.ohio-state.edu/vrab/253/rockenbach.htm

Rodda, Jenni. 1997. The Icon Project: Slides and digital images as research tools. *Visual Resources Association Bulletin*, vol. 24, no. 1 (Spring).
http://vr13.arts.ohio-state.edu/vrab/241/rodda.htm

Roosen-Runge, Peter H. 1998. *The virtual display case: Making museum image assets safely visible (2nd Edition).* Ottawa: Canadian Heritage Information Network.

Rosenbaum, Lee. 1996. Leonardo in d-drive. *Art in America* (September): 25.

---. 1998. Art lovers cool to lures of CD-ROM's. *The New York Times on the Web* (23 July).
http://search.nytimes.com/search/daily/bi...July%7E23,1998%7Eand%7E%22art%7Elovers%22

Rosler, Martha. 1997. Money, power, contemporary art. *Art Bulletin*, vol. LXXIX, no. 1 (March): 20-24.

Rothenstein, John. 1962. *The Tate Gallery.* London: Thames and Hudson.

Royal Commission on National Museums and Art Galleries. 1929-30. *Interim Report*, vol. 1, VIII.

Royle, Edward. 1971. Mechanics' Institutes and the working classes, 1840-1860. *The Historical Journal*, xiv, 2: 305-321.

Ruiz, Christina. 1996. V&A in brave act of patronage. *The Art Newspaper*, no. 60 (June): 14.

Ryan, Mary P. 1992. *Gender and public access: Women's politics in nineteenth-century America.* In *Habermas and the public sphere*, edited by Craig Calhoun. Cambridge, Mass: Massachusetts Institute of Technology.

Samis, Peter S. 1998. The evolving state of the art CD-ROM: The National Museum of American Art and *Les Impressionistes. Archives and Museum Informatics*, vol. 12, no. 1: 3-16.

Samuels, Geoffrey. 1996. The site licensing solution. *Museum News*, (May/June): 54-72.

---. 1997. *The Museum Licensing Collective - A business plan development proposal.* Working draft (15 May).

---. 1998. The Museum Digital Licensing Collective: Serving all museums. *Museum News* (May/June): 41-64.

Samuelson, Pamela. 1996. The copyright grab. *Wired* (January). http://www.wired.com/wired/archive/4.01/white.paper_pr.html.

---.1997. Confab clips copyright cartel. *Wired* (March). http://www.wired.com/wired/5.03/netizen.html.

---.1998a. Database debacle. *Wired* (February). http://www.wired.com/archive/6.02/netizen.html?pg=4.

---.1998b. Fair use of fair license? *Wired* (May). http://www.wired.com/wired/archive/6.05/netizen.html?pg=2.

---1998c. Maximum copyright, minimum use. *Wired* (March). http://www.wired.com/wired/archive/6.03/netizen.html?pg=8.

---. 1998d. *Legally speaking: Does information really want to be licensed?* http://www.sims.berkeley.edu/~pam/papers/acm_2B.html.

Sander, Margaretta B. and John Perkins, eds. 1999. *A model for museum information management.* Working Draft (6 March).

Saskia Ltd. 1999. *Digital Images* (Spring).

Schaefer, Mary T. 1998. Critical examinations of problems in electronic information dissemination and storage. *Information Retrieval and Library Automation*, vol. 34, no. 5 (October): 1-6.

Schertz, Peter J. M.; Jennifer Jaskowiak; and Margaret McLaughlin. 1997. Evaluating an interactive art museum. *Spectra*, vol. 25, no. 1: 33-37.

Schiller, Herbert I. 1989. *CULTURE Inc: The corporate takeover of public expression*. New York: Oxford University Press.

---. 1989. Pitchers at an exhibition. *The Nation* (10 July): 37-57.

---. 1991. Public information goes corporate. *Library Journal* (1 October): 42-45.

---. 1996. *Information inequality: The deepening social crisis in America.* New York: Routledge.

Schlesinger, Marissa. 1997. Digital information and the future of museums. *Spectra* (Summer): 17-20.

Schmidt, J. 1982. Jürgen Habermas and the difficulties of enlightenment. *Social Research*, vol. 49, no.1: 181-208.

Schuster, Mark. 1991. *The audience for American art museums.* Research Division Report #23, National Endowment for the Arts. Washington: Seven Locks Press.

Schwartz, Gary. 1998. *No fair: Long-term prospects for regaining unencumbered use.* Paper presented at the Town Meeting on Copyright and Fair Use offered at the annual meeting of the College Art Association, Toronto, Canada (February).
http://www.pipeline.com/~rabaron/ttm/SCHWARTZ.htm

Scottish Museums Council. 1997. *The impact of local government reorganisation on Scottish Museums.*

Seidman, Steven, ed. 1989. *Jürgen Habermas on society and politics.* Boston, Mass: Beacon Press.

Selling Stock Online. 1997a. *Sales activity at Corbis*, no. 66 (4 March)

---. 1997b. *Rights control*, no. 108 (16 November).

---. 1998a. *Subjects that sell*, no. 115 (6 January).

---. 1998b. *Selling on the Web*, no. 126 (6 March).

---. 1998c. *New life for niche marketers*, no. 127 (6 March).

---. 1998d. *Textbooks in your future*, no. 128 (6 March).

---. 1998e. *Corbis buys digital stock*, no. 130 (6 March).

---. 1998f. *Pricing clinic - discounting*, no. 133 (20 March).

---. 1998g. *New copyright legislation*, no. 144 (26 May).

---. 1998h. *Graphic design: USA survey*, no. 166 (27 August).

---. 1998i *Models sue RF providers*, no. 181 (4 December).

---. 1998j. *100,000 images on a single disc*, no. 185 (3 December).

---. 1999a. *Impact of major agency consolidation*, no. 188 (6 January).

---. 1999b. *Photographer percentages*, no.186 (9 January).

---. 1999c. *Bridgeman loses copyright claim*, no. 198 (9 February).

---. 1999d. *Random thoughts 3*, no.202 (9 February).

---. 1999e. *Getty Images reports e-commerce success*, no. 204 (24 February).

---. 1999f. *Bullet proof model releases*, no. 207 (15 March).

---. 1999g. *E-commerce*, no. 208 (15 March).

---. 2000. *Future Shock*, no. 305 (May).

Sharp, Lindsay. 1998. *Making museums more creative*. Paper delivered to the 1998 American Association of Museums conference.

Shaw, Roy. 1987. *The arts and the people*. London: Jonathan Cape.

Shelton, Nancy. 1998. Digitizing and storing images for teaching: A Website for introduction to the visual arts. *Visual Resources Association Bulletin*, vol. 25, no. 2 (Summer).

http://vr13.arts.ohio-state.edu/vrab/252/s1shelton.htm

Sherman, Daniel J. 1989. *Worthy monuments: Art museums and the politics of culture in nineteenth-century France*. Cambridge, Mass. and London: Harvard University Press.

---. 1994. Quatremère/Benjamin/Marx: Art museums, aura and commodity fetishism. In *Museum culture: Histories, discourses, spectacles*, edited by Daniel J. Sherman and Irit Rogoff. Minneapolis: University of Minnesota Press.

Sherman, Daniel J. and Irit Rogoff, eds. 1994. *Museum culture: Histories, discourses, spectacles.* Minneapolis: University of Minnesota Press.

Sherman, Jason. 1998. S.O.S.: A message in a bottleneck. *The Globe and Mail* (17 August): A9.

Shimmon, Ross. 1998. Finding a third way. *Museums Journal* (November): 24.

Sledge, Jane and Mary Case. 1995. Looking for Mr. Rococo: Getty Art History Information Program Point of View workshop. *Archives and Museum Information*, vol. 9, no. 1: 124-129.

Smith, Charles Saumarez. 1993. The practice of research at the Victoria and Albert Museum. *Museum Management and Curatorship*, 12: 349-359.

---. 1997. Museums and the metropolis. *Museum Management and Curatorship*, vol. 15, no. 3: 259-269.

Snow, Maryly. 1997a. Digital images and fair use web sites. *Visual Resources Association Bulletin,* vol. 4, no. 4 (Winter).

---. 1997b. The pedagogical consequences of photomechanical reproduction in the visual histories: From copy photography to digital mnemonics. *Visual Resources*, vol. XII, no. 3-4.

Sola, Tomislav. 1992. Museum professionals - the endangered species. In *Museums 2000: Politics, people, professionals and profit*, edited by Patrick Boylan. London and New York: Museums Association in conjunction with Routledge.

Solkin, David. 1993. *Painting for money: The visual arts and the public sphere in eighteenth-century England.* New Haven and London: Yale University Press.

Solomon, Deborah. 1998. As art museums thrive, their directors decamp. *The New York Times* (August 2): 1-35.

Sone, Kendra. 1997. MoD indecision prolongs the agony over cutbacks. *Museums Journal* (May): 19.

Sorkow, Janice. 1997. Pricing and licensing for museum digital content. *Archives and Museum Informatics*, 11: 165-179.

Stam, Deirdre C. 1993. The informed muse: The implications of 'the new museology' for museum practice. *Museum Management and Curatorship*, 12: 267-283.

---. 1997. How art historians look for information. *Art Documentation*, vol. 16, no. 2: 27-30.

---. 1997. A web-based model for providing access to museum information. *Spectra* (Spring): 18-23.

Stanbridge, Alan. 1998. *Big is beautiful: The spectacularization of culture and the perils of paternalism*. Canadian Cultural Research Network Conference (3-4 June).

Statistics Canada. 1993-94. Heritage institutions 1993-94 revised tables. Culture Statistics. Education, Culture and Tourism Division.

---. 1995-96. Heritage institutions 1995-96. Dissemination tables from Statistic Canada's *Survey of Heritage Institutions 1995-96*.

---. 1998. Heritage institutions. *The Daily* (9 March).

Stephenson, Christie. 1998. The evolution of the MESL project. In *Delivering digital images: Cultural heritage resources for education*, edited by Christie Stephenson and Patricia McClung. The Museum Educational Site Licensing Project, vol. 1. Los Angeles: The J. Paul Getty Trust.

Stephenson, Christie and Patricia McClung, eds. 1998. *Delivering digital images: Cultural heritage resources for education*. The Museum Educational Site Licensing Project, vol. 1. Los Angeles: The J. Paul Getty Trust.

Stevens, Louise K. 1996. The earnings shift: The new bottom line paradigm for the arts industry in a market-driven era. *The Journal of the Arts Management, Law and Society*, vol. 26, no. 2: 101-113.

St. Pierre, Margaret and Jeff Tanara. 1997. The CIMI interoperability testbed. *Spectra*, vol. 25, no. 1: 42-48.

Stratton, Jon. 1997. Cyberspace and the globalisation of culture. In *Internet culture*, edited by David Porter. New York & London: Routledge.

Stuart, Anne, 1998. Culture shock. *CIO Web Business Magazine* (June). http://www.cio.com/archive/webbusiness/060198_museum_print.html

Suffield, Laura. 1996. Entrance charges scrapped at leading Australian museum. *The Art Newspaper*, No. 61 (July/August): 14.

Sundt, Christine L. 1998. The quest for access to images: History and development. *Advances in Librarianship,* vol. 22: 87-106.

Tam, Pauline. 1995. Museum experiment views collections electronically. *Ottawa Citizen* (June 30): E6.

---. 1996a. Bidders can Net culture during on-line auction. *Ottawa Citizen* (January 25): A2.

---. 1996b. Virtual Vision. *Ottawa Citizen* (March): A1-A2.

---. 1996c. Putting the past on-line: Is the museum's future virtually assured? *Ottawa Citizen* (March 16): B1-B2.

Tassé-Goodman, Gisèle. 1994. *A guide to copyrights.* Ottawa: Industry Canada

Taylor, Bradley. 1996. Chenhall's Nomenclature, the Art and Architecture Thesaurus, and the issues of access in America's artifact collections. *Art Documentation*, vol. 15, no. 2.

Taylor, Charles. 1990. Modes of civil society. *Public Culture*, vol. 3, no. 1 (Fall): 95-118.

Taylor, Mark. 1998. Two into one will not go. *Museums Journal* (November): 24.

Taylor, Melissa. 1999. Integrating museum information. *Spectra*, vol. 26, no. 1. (Spring): 43-44.

TCI Convergence Limited. 1998. *Best practices study of museum CD-ROM production*. Ottawa: Canadian Heritage Information Network.

TCI Management Consultants Limited. 1999. *Current state and best practices in management of museum intellectual property*. Ottawa: Canadian Heritage Information Network.

Teather, J. Lynne. 1983. *Museology and its traditions: The British experience, 1845 - 1945.* A thesis submitted for the degree of Doctor of Philosophy at the University of Leicester.

---. 1990. The museum keepers: The Museums Association and the growth of museum professionalism. *Museum Management and Curatorship*, no. 9: 25-41.

---. 1992. Museum-making in Canada (to 1972). *Muse* (Summer/Fall): 21-29.

Temin, Christine, 2000. MFA halts slide program to educators. Museum focus now turning to digitizing images for Web. *Boston Globe*, March 28: C1.

Thatcher, Margaret. 1993. *The Downing Street years.* New York: Harper Collins.

The/Marketing/Works and Phase 5 Consulting Group. 1999a. *Like light through a prism: Analyzing Commercial Markets for Cultural Content.* Ottawa: Canadian Heritage Information Network.

---. 1999b. *Museum intellectual property marketing report.* Ottawa: Canadian Heritage Information Network.

Thom, Ian. 1995. In-house and out: The pros and cons of contract workers. *Muse* (Summer): 40-42.

Thomas, Rachel. 1998. Mass disposal an option in review at Swansea. *Museums Journal* (February): 11.

---. 1998. Government's stance on free entry lacks conviction. *Museums Journal* (April): 5.

---. 1998. The learning curve. *Museums Journal* (June): 29-31.

---. 1998. Trust status creeps up agenda. *Museums Journal* (October): 5.

---. 1998. Brighter future for Bucks. *Museums Journal* (October): 11.

Thomas, Selma and Ann Mintz, eds. 1998. *The virtual and the real: Media in the museum.* Washington: American Association of Museums.

Thompson, J.M.A., ed. 1984. *Manual of curatorship.* London: the Museums Association/Butterworth.

Tinniswood, Adrian. 1989. *A history of country house visiting.* Oxford: Basil Blackwood Ltd.

Tomkins, Calvin. 1997. The importance of being elitist. *The New Yorker* (November 24): 58-69.

Trant, Jennifer. 1998. Standard issues. *Archives and Museum Informatics*, vol. 12, no. 1: 1-2.

Treasury Board of Canada. 1993. Treasury Board manual. Information and administrative management component. Privacy and data protection. Native claims research. Section 6.11 (1 December): 18.

Underwood, Lynn. 1999. The Solomon R. Guggenheim Museum's experience in the Consortium for the Interchange of Museum Information's Dublin Core metadata testbed project. *Spectra,* vol. 26, no. 1. (Spring): 32.

Vergo, Peter, ed. 1989. *The new museology.* London: Reaktion Books Ltd.

Vetter, Jill. 1989. Standards? Wake up and smell the coffee. *Spectra,* vol. 26, no. 1. (Spring): 12.

Walker, David. 1998. New TSI contracts pose tough terms. *Photo District News* (October): 22-25.

Wallace, Mike. 1995. On the warpath. *Museums Journal* (June): 32-34.

Walsh, Kevin. 1992. *The representation of the past: Museums and heritage in the post-modern world.* London and New York: Routledge.

Walsh, Peter. 1997a. Art museums and copyright: A hidden dilemma. *Visual Resources*, vol. XII, no. 3-4: 361-372.

---. 1997b. The Web and the unassailable voice. *Archives and Museum Informatics*, 11: 77-85.

Washburn, Wilcomb E. 1996. Education and the new elite: American museums in the 1980s and 1990s. *Museum News* (March-April): 60-63.

Waterfield, Giles. 1991. *Palaces of art: Art galleries in Britain, 1790 - 1990.* London: Dulwich Picture Gallery.

---. 1994. *Art for the People: Culture in the slums of late Victorian England.* London: The Lavenham Press.

Wayling, Paul. 1998. Make room for postgraduates. *Museums Journal* (April): 23.

Webster, Frank. 1995. *Theories of the Information Society.* London and New York: Routledge.

Weeks, Jane. 1997. Lights, action, cash in? *Museums Journal* (April): 26-28.

Weil, Stephen E. 1995. *A cabinet of curiosities: Inquiries into museums and their prospects.* Washington and London: Smithsonian Institution.

---. 1996. The Distinctive Numerator. *Museum News* (March/April): 64-65.

---. 1997a. Museums in the United States: The paradox of privately governed public institutions. *Museum Management and Curatorship*, vol. 15, no. 3: 249-257.

---. 1997b. The museum and the public. *Museum Management and Curatorship*, vol.16, no. 3: 251-271.

---. 1997c. Romance versus realism: A reflection on the nature of museums. *Museum News* (March/April): 52-67.

---. 1998a. Courtly ghosts, aristocratic artifacts: The art museum as palace. *Museum News* (November/December): 44-49.

---. 1998b. Getting what you wish for. *Museum News* (September/October): 25-29.

West, Bob. 1998. The making of the English working past: A critical view of the Ironbridge Gorge Museum. In *The museum time-machine: Putting cultures on display*, edited by Robert Lumley. London and New York: Routledge.

West, Richard. 1995. Cultural rethink. *Museums Journal* (June): 30-31.

Wetton, Cathy. 1996. *Economic impacts of the exhibit "Empires Beyond the Great Wall - the Heritage of Genghis Khan"*. Final report (11 June) Victoria: Royal British Columbia Museum.

White, Derryll. 1997. The new frontier: Has a museum renaissance begun? *Muse*, vol. XIV/4-XV/1: 56-88.

Wiedenhoeft, Kurt W. 1997. Copyright, digital images, and the Internet. *Visual Resources Association Bulletin*, vol. 24, no. 2 (Summer).
http://vr13.arts.ohio~state.edu/vrab/242/s5wiedenhoeft.htm

Williams, Raymond. 1958. *Culture and society, 1780 -1950.* London: Chatto

---. 1961. *The Long Revolution.* London: Chatto.

---. 1980. Advertising: The magic system. In Problems *in Materialism and Culture.* London: Redwood Burn Ltd.

Winseck, Dwayne. 1998. *Pursuing the Holy Grail: Information Highways and Media Reconvergence in Canada.* Unpublished paper, Canadian Communication Association Annual Conference (31 May to 3 June).

Wolf, D.P. and Mary Burger. 1991. More than minor disturbance: The place of the arts in American education. In *Public Money and the Muse*, edited by Stephen Benedict. New York and London: W.W. Norton and Company.

Woroncow, Barbara. 1997. Whose agenda is it anyway? *Museums Journal* (November): 38-39.

Zimmer, Annette and Stefan Toepler. 1996. Cultural policy and the welfare state: The cases of Sweden, Germany, and the United States. *The Journal of Arts Management, Law, and Society*, vol. 26, no. 3: 167-193.

Zimmerman, Loy. 1997. Copyright, fair use, and the academic slide collections: A curator's view. *Visual Resources Association Bulletin*, vol. 24, no. 2 (Summer). http://vr13.arts.ohio~state.edu/vrab/242/s5zimmerman.htm

Zolberg, Vera L. 1994. *"An Elite Experience for Everyone": Art Museums, the Public, and Cultural Literacy.* In *Museum culture: Histories, discourses and spectacles*, edited by Daniel J. Sherman and Irit Rogoff. Minneapolis: University of Minnesota Press.

---. 1995. Museum culture and the threat to national identity in the age of the GATT. *The Journal of Arts Management, Law, and Society,* vol. 25, no. 1: 5-16.

Zorich, Diane M. 1999. *Introduction to managing digital assets: Options for cultural and educational organizations.* Los Angeles: The J. Paul Getty Trust.

Interviews

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