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Why Culture is Important in a World of New Technologies

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Abstract

Culture is concerned with the development of coherent viewpoints which bring a cumulative effect to otherwise isolated experiences of a group, making them feel special yet allowing others to have a parallel experience. Hence an Italian's culture links them with Dante and Petrarch, and yet they can respect an Indian's culture which links them with the *Vedas* and the *Mahabharata* .

Telecommunications have produced two roles for users: one, where they actively share information (telephones), which increases their viewpoints; and another where they are reduced to passive users of information broadcast by others (radio and television), which reduces viewpoints. Convergence could make the broadcast metaphor dominant. Culture is vital, as a source for continued multiple viewpoints, so that the quest for universal standards sees continued individual expression and uniqueness.

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1) Introduction

To understand the importance of culture in the context of new technologies, it is important to examine current definitions thereof. Most of these definitions are too narrow. First, sociologists and media theorists have focussed on mass media aspects of popular culture. Some have even claimed that technology in itself is value-free. As a result debates have often been limited to whether (or not) technology plays a role in culture. Second, the institutions in which culture is shown, such as museums, galleries and theatres remain the products of highly specialised, nationalistic definitions of culture.

This essay begins from the premise that technology offers enormous new insights into culture although it also poses many threats. It explores a wider international view of

culture, surveys visible culture, the role of uniqueness, invisible culture and collective memory, concluding that we need a deeper understanding of the term in order to have culture affect technology as much as the converse.

2) Definitions of Culture

Sociologists have focussed on behaviourist definitions of culture as “the ultimate system of social control where people act appropriately and monitor their own standards and behaviour,” as the “learned ways of group living and group responses to various stimuli,” or have described its content as “the values, attitudes, beliefs and customs of a society.”¹ These definitions overlook the importance of cultural objects which have a symbolic value in creating a collective memory for a nation or a civilisation. Psychologists and psychiatrists² who have tried to reduce artistic expression to universal aspects of consciousness have fallen into reductionist traps of trying to impose simplistic evolutionary laws on culture which undermine its enduring aspects. They overlook also that the universal appeal of great culture lies in its particulars. The tomb of Nefertari is precious as a particular monument, not for its tombness in general and as such is as precious a cultural monument today as it was in Egyptian times. Marxist analyses of culture typically emphasise relativistic aspects, frequently focus on low culture³ and try to explain everything in terms of economics, which is of limited value. Many painters who were financially successful in their lifetime are not remembered as the greatest painters, whereas numerous artists who had little or no economic success in their lifetime, are remembered as the greatest masters (e.g. Rembrandt, Vermeer, Van Gogh).

Media theorists have explored the interplay of culture and technology, which has led to emphasis of some aspects of culture. For instance, Marshall McLuhan became fascinated by new media through his studies in English literature. He noted that there were shifts in emphasis within the *trivium*⁴: i.e. one period gave a greater emphasis to grammar (structure), than to dialectic (logic), and rhetoric (effect), while other periods focussed on rhetoric (effect). He explained these changes through shifts from one media to another: from written manuscripts to printed books to radio and television. This became the focus of his Centre in Culture and Technology and inspired his phrase “the medium is the message.” Subsequent commentators often became so fascinated by the phrase that they focussed on technology in the form of mass media and gave less attention to culture.⁵

Armand Matellart (1991),⁶ in a fundamental book, explored the history of communications and demonstrated that contemporary authors focus too narrowly on the mass media aspects of communications. He stressed the importance of an historical viewpoint and argued that culture provided a key this larger view of communications. Ironically, one could apply the same criticism to his own definition of culture, which emphasises only dimensions of language, labour, and power (in the tradition of Habermas). It focuses too narrowly on isolated aspects of culture.

In the minds of some, culture is simply content and of interest only if it sells well. This tendency towards the “commoditisation” of culture has been explored by Innis and addressed by Babe⁷. This approach overlooks one of the fundamental paradoxes of high

culture. The greater the cultural objects or monuments, the less they are subject to so-called market realities. Saint Peter's in Rome, the church of San Francesco in Assisi, Leonardo's *Last Supper* are not for sale nor will they be. Indeed Italian culture, to the extent that it is defined by such towering examples of art and architecture, depends on their not being sold. A business is judged by how much it sells: the culture of a country is judged by how much it does not sell. Its greatness is measured by how much it collects and keeps intact. The reason why cities such as Florence and Rome are infinitely fascinating to tourists is precisely because they have kept so much. Towns such as San Sepolcro, which chose to sell their paintings to London have found that tourists now go to London to see Piero della Francesca rather than to San Sepolcro.

More recently Babe (1997)⁸ has provided a useful survey of cultural ecology, citing work in systems theory (Von Bertalanffy), linguistics (De Saussure), literary criticism (Barthes), to distinguish between three meanings of objects: i) intrinsic, ii) as psychic experiences and iii) as social constructs. Babe has pointed to the importance of meaning in objects through their roles as symbols⁹.

Culture is many things. Since the Renaissance we have used media to separate the different products of culture. Hence, paintings are stored in art galleries, drawings in drawing cabinets, objects in museums, and books in libraries. As a result the connections between them have often been lost. If all these media are translated into a common digital form, they will be accessible within a single framework. Scholars will thus be able to re-contextualize objects and show their interconnections. This is one major contribution opened by computers.

Within these institutions of culture, organisation was typically on nationalistic grounds. Galleries such as the Louvre, the Prado and "national" galleries organised their paintings by countries: French, Spanish, Italian, German etc. Libraries classed their books in terms of national literatures. Museums classed their objects in terms of civilisations which usually stemmed from a given country (Egypt, Greece, Rome). This pattern of organisation arose partly from the limitations of physical space, which required a commitment to a single linear arrangement of objects. It arose also from nineteenth century traditions which linked culture closely with nationalism and served in some cases to make (supposedly) superior national cultures a premise for international imperialism. Most art historians have continued to focus on the evolution of these national schools and styles. As a result the development of French art has typically been told in terms of its general spread around the world, and the rise of impressionism sounds like merely another aspect of cultural imperialism.¹⁰

There is a danger that the Internet will simply see a replay of these trends.¹¹ For instance, many persons who speak of virtual museums, have assumed that these will simply be electronic facsimiles of existing museums, and have therefore been worried whether virtual museums might undermine the value of or even threaten continued attention to the originals. This danger is not an inevitable consequence.¹²

3) National Culture and International Dimensions

The electronic nature of virtual museums introduces a number of new possibilities. First, in the case of great institutions such as the Louvre which are well documented, we can reconstruct their evolution over time, which helps us to visualise the changing functions of museums as they changed from cabinets of curiosities and symbols of personal power to records of a country's artistic heritage. Similarly, in the case of libraries, we can trace how they evolved from the personal collections of individuals, to national and even international repositories, as in the case of the British Library.

Second, great museums are much more than the repositories of a single culture. The Louvre has great French art but it also has major examples of Italian, German, Islamic, and Egyptian art. Thanks to historical dispersion, no physical museum can contain all the works of an artist. Virtual, or rather imaginary museums, as they are now called, can show images of all the works by a given painter, and thus provide digital versions of a traditional *catalogue raisonné*, with the added advantage that one can add or subtract marginal works by students, members of the studio, circle or school of the artist. Such imaginary museums can also help us to see commonalities between themes used by different artists in a region, a country or even globally. An imaginary museum on the theme of mother and child would show both secular and sacred examples of *Virgin and Child*. It would reveal that some themes are limited to a specific culture, whereas others are shared by cultures around the world, themes which Jung regarded as universal archetypes. Collections of such archetypes exist. In digital form they can be connected with cultural images of cultural artefacts in galleries and museums.

Such imaginary museums can also help us discern how a given culture gradually became aware of external cultures. For example, as art in France evolved into a distinctly French art in the course of the sixteenth century it began by reacting against Italian models using a visual repertoire of symbols drawing almost exclusively on the Judaeo-Christian tradition and the Greco-Roman pantheon of gods. Early encounters with the North American Indians were almost invariably perceived within the framework of this tradition. Accordingly the North American Indians were depicted as if they were variants of Apollo, Mercury and other ancient gods. In the nineteenth century, however, artists gradually became aware of different cultures as valuable on their own terms. French artists discovered Arabic culture in Africa and the near East, and oriental culture in the far East. Delacroix, for instance, went to North Africa and painted Arabic and Jewish scenes as worthy on their own terms. British artists began their own discoveries of art and archaeology in Africa, the near East, India and China. Owen Jones, for instance, concluded that Arabic ornament deserved a place of equal rank alongside ancient and mediaeval art¹³.

France, England, Germany and other countries established schools of archaeology in major historical centres such as Rome, Athens, Istanbul and Hanoi. Initially it seemed as if these schools were simply collecting examples of a common past. In retrospect, it is clear that these schools were to a certain extent cultural dimensions of the colonialist spirit, a theme upon which recent historians have dwelt at length. There is, however, another side to this story which has yet to be studied sufficiently. Gradually, these

schools provided evidence of cultures completely different from anything that had been known before. The *Ecole Française d'Extrême Orient* (Hanoi), led by Henri Parmentier¹⁴, uncovered the history of the great temple city, Angkor Wat, in Cambodia, studied it and appreciated its value as one of the sublime monuments of all time in ways that the Cambodians themselves had never done. In the twentieth century this spirit of appreciating other cultures on their own terms led to individuals such as the French Minister of Culture, André Malraux, who had a profound understanding of what is now almost too lightly termed “the other.” Lord Elgin (London), did more than cause the Greeks to lose their marbles: he saved them and his English colleagues brought new levels of scholarship to bear upon them. Gradually it became apparent that English, French, German, Italian and Greek scholars regularly reached different conclusions even in dealing with the same cultural monument such as the Parthenon.

So there is another story to be told other than the obvious one that these foreign schools were initially influenced by strains of cultural imperialism, namely the fascinating tale of how these centres of study led to an appreciation of foreign cultures in their own right, on their own terms. Typically computers have been treated merely as storage systems for images of objects in our museums and galleries. A greater challenge lies in using them to provide new ways of viewing this history: tracing how the study of individual cultural objects leads to a whole series of different interpretations and reconstructions which lead in turn to differing, competing, sometimes conflicting interpretations concerning the same object, which can in turn be subjected to more rigorous and universal criteria of scholarship. Computers are not just machines for reducing cultural objects into a single universally valid set of bits. They are tools for organising, making sense of the myriad opinions, theories, interpretations and reconstructions surrounding a single cultural object and helping us to evaluate the relative significance thereof. Computers may be machines for storing quantities of bits. Their deeper importance lies in providing new tools for discerning bits of quality.

4) Visible Culture

Western culture has had a strong bias towards the so-called fine arts, such as painting and sculpture, as if these expressions of culture which are continuously visible were more significant than the performance arts (theatre, film, music), which are only visible when they are being played. A westerner visiting a country where performance arts predominate, might well interpret a lack of western type painting galleries as evidence of a lack of culture. To do so would be to overlook the importance of other cultural expressions and their possible links with the visual arts.

Already in Antiquity, Horace, drew attention to an interdependence between different media such as poetry and art (*ut pictura poesis*). Scholars have found a similar interdependence between literature and art. An educated Westerner who sees a painting of a woman holding an apple next to a man under a tree, recognises this as a visualisation of a scene from Genesis in the *Old Testament*. An Italian knows that the literature of Dante's *Divine Comedy* inspired illustrations, fresco cycles and even theatrical plays. This interdependence and cross-fertilisation between different expressions of culture is

even stronger in the East where, for instance, the two great Indian epics, the *Mahabharata* and particularly the *Ramayana* inspired not only commentaries, but also live theatre, puppet theatre, music, dance, illustrations, paintings and major sculpture cycles throughout the Asian subcontinent (e.g. Angkor Wat, Borobodur)¹⁵.

Once again, in these cases, there is a problem of contextualisation. To an outsider looking at an Indonesian puppet theatre, it is simply a clever play of shadows using paper or wooden puppets. To an insider a given scene expresses the emotions of Vishnu or another god in a particular episode from the *Ramayana* or one of the *Gitas*. We tend to think of computers for scanning in sacred texts. We need to think of computers as new tools for making visible the connections between the permanently visible arts of writing, painting and sculpture and the more evanescent performance arts of theatre, puppets, dance and music. Xerox's *Gita Govinda*¹⁶ project marks one of the first important attempts to explore these applications of a computer. We need many more such efforts, not least in order to gain a better understanding of the historical interdependence of different art forms and also how these have shifted both in and across different cultures.

The *Ramayana* is an Indian epic and yet the shadow puppet renditions thereof are important aspects of cultural expression in Malaysia, the Philippines and Indonesia. Such examples are important also for other reasons. The *Ramayana* is high culture. The puppet plays are frequently low culture. There has traditionally been a vital interdependence and interplay between high and low culture, as has also been noted¹⁷ in the case of Italy, where the principle has been undermined through false oppositions between opera as snooty and street festivals as not.

5) Uniqueness

One of the key elements of great culture is uniqueness. In the 1930's, Adorno, who is said to have introduced the term "cultural industries", raised a great stir by discussing the role of art in an age of reproduction. The point is not as interesting as it may at first appear. A hundred copies or even a thousand photocopies do not diminish the value of the *Mona Lisa* or *the Last Supper*. Paradoxically these many copies in different forms of low art from coffee mugs to tee shirts and towels somehow increase the inimitable aura of the original. With persons it is said that familiarity breeds contempt. With culture (and cultured persons?) familiarity breeds esteem and greater mystery.

The challenge of universal standards has brought the question of uniqueness back to the fore. To communicate internationally we need global standards, which brings the risk of reducing everything to one mode of expression. As evidence, one might point to the way Hiltons around the world tend to look the same. Analysts such as Barber¹⁸ have claimed that this tendency towards homogenisation, which he terms McWorld, is evolving in tandem with another tendency towards increasing separatism, which he terms Jihad. Others would express this trend as a contrast between globalisation and glocalisation. The former Soviet Premier, Mikhail Gorbachev, has also drawn attention to this dual trend in his recent book on the *New [way of] Thinking* and argued that: "Every politics which aims to be democratic and humane and wishes to express the interests of their own

country and of the entire world, must observe most carefully the specifics of regional cultures, of national interests and the particularities of every state and people”.¹⁹

While these trends undoubtedly exist, it is important to recognise that there is not necessarily an either/or opposition between globalisation and uniqueness. The world of telephony offers an interesting case in point. We clearly need standards and uniform rules for telephones, yet every conversation on those telephones can still be different. The world of architecture offers a further case in point. Here again we need standards concerning the basic modules of construction, such as windows, doors and arches. A definition of these standards has been a prerequisite for every major style such as Norman, Romanesque or Gothic. Yet another essential characteristic of important styles is that we although can instantly recognise it as belonging to that style, every building is still unique. Chartres and Notre Dame are quite different. So too are the cathedrals of Burgos and Cologne and yet we recognise them instantly as Gothic architecture.

In England, there is a particular way of constructing houses using beams of wood interlaced with stucco, known as the Elizabethan style. Famous examples are found in York, Chester, Stratford on Avon and other historic towns. It is striking that the same construction principles generate recognisably distinct variations from city to city. This is equally true in Germany, where the same principle is termed *Fachwerk* and again produces unique variations in every city and town be it Munich, Bamberg, Nürnberg, Kassel, Göttingen, Hannover or Hamburg.

In the past years, Autodesk, the producers of one of the leading Computer Aided Design (CAD) packages, AutoCAD, have introduced the notion of industry foundation classes, whereby every architectural module such as a door or a window is treated as an object in the sense of object-oriented programming. Whereas earlier CAD programmes merely provided a tool for drawing modules such as doors, the new programme uses so called intelligent doors, whereby the door object has built into it information about its contexts. Hence if one is drawing a cottage, the programme will “know” that a cottage door has certain characteristics. If one is drawing a skyscraper, the door will “know” that it has very different characteristics from a cottage door.

The danger with this approach is that every door will have the characteristics as conceived by Autodesk designers in Sausalito, which would seem to be precisely the McWorld problem described by Barber and others. This danger does not, however, reflect any inherent limitations of computers or software. One simply needs to expand one’s notion of an object. Thus far the programme is only being fed information about standard doors, windows and other modules in a modern North American context. If one adds to the “door objects”, cultural and historical information, then a door in Venice will “know” that it has different characteristics than a door in Sausalito, and a door in fifteenth century Padua, will “know” its characteristics are very different again. The downside of this approach is that it adds an enormous amount of ballast to our notion of a “door object”. The wonderful upside of this approach is that we can have standardised doors and at the same time catalogue all the unique characteristics of each local variant.

We know from kitsch that not every combination of styles is felicitous, but we know from history that some of the greatest advances in style occurred when mature traditions met, cross-fertilised one another and produced hybrids which are of enduring value. In most cases these mixtures occurred when two cultures and/or styles met, such as Greek and Roman, the Hellenic and the Indian through Alexander the Great, the Christian and the Byzantine in Constantinople, or the Persian and Indian in Mughal art. In the most dramatic cases a number of cultures were involved as in the case of the Cappella Palatina in Palermo, at the time of Frederick II, where elements of Byzantine, Norman, Arabic and Jewish architecture combined uniquely. Other examples of such combinations are found scattered throughout Spain (Granada, Cordoba, Seville, Toledo, Las Huelgas).

Such examples provide us with an unexpected incentive for expanding our notion of door objects and other architectural modules to include cultural and historical particularities. Creativity is like a lego set. If we begin with only a very few pieces there is not much we can build. If we have an enormous repertoire of ingredients, there are a great number of things which we can build. The great advances in culture came not when rulers tried to impose the values of one culture to the exclusion of all others, but rather when individuals discovered that they could create more exciting structures by combining elements from different cultures. We need computers to record so-called universal standards. We also need them to record particulars around the world. Only in this way will we have a proper repertoire, albeit the real source for creativity remains with the individual.

In this imperative to record the particular as well as the universal, creativity is only one essential element. The major cultures of the world owe much of their greatness to the fact that they have a recorded tradition which stabilises the corpus but also ensures the possibility of a cumulative dimension, which is reflected in terms such as cultural heritage. Even so, there are many skills in the craft tradition relating to culture which remain oral, and which risk disappearing if they are not carefully catalogued and recorded digitally. In a larger sense of culture, this unwritten knowledge is typically in the hands of persons whose positions are not being replaced as they retire. Hence, while salespersons assure us of the new knowledge that computers can bring, we need to be mindful of a large repertoire of knowledge and skills which could readily be lost in the transition from book culture to electronic culture. In less developed countries where the ratio of oral culture is much greater this danger is proportionately much more acute. There are presently 6,500 languages in the world. Some pessimists predict that more than half of these could disappear in the next 50 years. The world languages project on the Internet is making us aware of these problems and could potentially be used to stem or even turn the tide. Comparative literature, for most persons is still limited to the major European languages such as English, French, German and Italian. It could extend to many other cultures.

6) Invisible Culture

Archaeologists such as Kubler favoured material culture because it is visible and easily recognized. Culture is about more than objects in museums. It includes customs: in one

society one is judged by the wittiness of conversation over dinner. In another it is considered rude to speak during meals. More subtle still are the domains for discussion. In one culture one is expected to ask a person's profession. In another it is considered rude to do so. Hence in a situation where one person thinks they are being polite by not being too inquisitive, the other person who was expecting to be asked might well interpret this intended sensitivity as intentional lack of interest. We are accustomed to think of computers as tools for answering questions. We need to think of them as tools for helping us to understand which questions can be asked, to learn about contexts when and where questions are not asked, of knowing that there are very different ways of asking the same thing.

If software continues to be dominated by one country and the so-called wizards of those programs all rely on the questions of that single country, many potential users of computers will inevitably be offended and it is likely that they will not use the programs. Or assuming they did use it and learned to accept this approach which was foreign to them, the world would be a less interesting place. In its early days the Internet was dominated by English. The rise of Unicode means that over ninety different character sets representing hundreds of languages are in use today. As the tremendous challenges of machine translation are slowly overcome, it will be possible to have access to materials in any language which, in addition to superficial convenience, will bring with it enormous dimensions of subtlety: differences in ways of asking questions, richer verbal constructions as in Arabic, or even tenses, such as the middle tense, which exists in Greek but not in English. Too often today we are told that a given operation is not possible because the computer program does not allow it, which means that a programmer did not consider that possibility. The limitation is not in the technology, simply in how it is arranged. We need software which reflects the full range of human existence, not the simplicities of a programmer's short cuts.

7) Collective Memory

The verb "to be" is one of the most basic verbs. It exists in most languages. In English the phrase "to be or not to be" means much more than an intransitive verb and its negation. It does so because it conjures up the additional phrase "that is the question" and plunges us into Shakespeare's *Hamlet*, with its many layers of associations. On the other hand, a phrase such as "in the middle of the path of my life," may well seem little more than nine words referring to mid-life crisis unless the person knows Italian and recognises this immediately as the opening stanza of Dante's *Divine Comedy*.

One of the measures of culture is in the richness of these citations. In the English tradition even a twentieth century author such as T. S. Eliot may cite Shakespeare and Dante, who in turn alluded to Greek and Roman authors and the *Bible*. A reference to David may awaken images of Michelangelo's sculpture, of Renaissance commentaries, mediaeval allegories and illuminations as well as the original passage in the *Old Testament*. Similarly painters are constantly including visual allusions to earlier paintings as, for instance, when a Salvador Dali plays on themes explored by Velazquez or

Leonardo da Vinci produces his own version of the *Last Supper* theme well known through earlier examples by Castagno and Ghirlandaio.

The effectiveness of such literary and visual allusions assumes a generally accepted corpus of literature and art. From the time of the Renaissance until the first World War, the contents of this corpus were generally accepted in the West. One could assume that an educated person would have read the *Bible*, some classical authors (Homer, Herodotus, Ovid, Virgil), and be familiar with at least the great literature of their own country: Shakespeare and Milton in England; Rabelais, Montaigne, Corneille, Racine in France, Dante, Petrarch and Boccaccio in Italy; Lessing, Goethe and Schiller in Germany and so on. Truly erudite individuals would have acquaintance with all of these authors. The twentieth century has seen a series of challenges to this tradition of a universally accepted corpus, to the extent that erudition in the traditional sense is nearly extinct. Not many persons turn to the Greek and Roman classics for bedtime reading. Instead, many are turning to various contending corpora which have emerged along political or gender lines. In the absence of a common heritage of literary and visual images and symbols, subtle allusions are lost, because one cannot assume any common basis. As a result, community in a cultural sense is being threatened.

Community clearly depends on individuals and will continue to do so. Rheingold has argued that the Internet is important for the creation of virtual communities, but purely as a communication tool. We would suggest that computers can potentially play a much larger role in this context. Imagine that the corpora of various societies are entered into programmes. Instead of merely searching for a given word or phrase, computers could be trained to search for all phrases which have some direct connection with the *Bible*, Saint Augustine, Saint Thomas Aquinas and Dante, or Shakespeare, Milton, Pope and Swift etc. to emulate what would be recognized by a typical scholar in fifteenth century Florence, sixteenth century London, eighteenth century Weimar or twentieth century Oxford. If one thinks of culture as chains of associations, then one could, eventually, reconstruct a history of associations and trace how the symbolic world expands from Homer through Augustine to Erasmus.

Such tools will be particularly useful in trying to understand radically different cultures, as for instance, when a Western scholar tries to imagine what was the corpus of an Indian scholar in the first century, a Chinese scholar in the Tang Dynasty, a Persian scholar in Shiraz of the ninth century, or a Japanese monk in the seventeenth century. To the extent that such reconstructions are possible one would wish to attempt the same in the case of oral cultures, such that one could for example have some idea of the mental and spiritual horizons of an Iroquois Indian, an Aztec, a Maui or an Australian Aboriginal. These cultural software programmes could show us which allusions each of these persons would/might/could typically recognise and thus provide new ways of understanding the history of ideas (mentalités).

In this context, Barber's vicious circle between trends towards sectarian views (Jihad) and global homogenization (McWorld), represents a possible but by no means necessary course. We have a choice. We can treat computers as we do telephones which use global

standards in order to let everyone express what they wish, or we can try to use them as televisions which broadcast a carefully controlled, at worst, uni-cultural message, in the image of American consumerism. This latter course would decrease understanding and widen the rift between the advanced nations and the developing countries. The more interesting choice is to use the computer as a tool for entering into cultures other than our own, as an instrument for multiculturalism.

Multi-culturalism is a fascinating concept. In Canada, it is a fundamentally positive term which sets out from a basic respect for other cultures. In Germany, some still see multiculturalism as a threat to their own values. Knowing that Turkish, Chinese or Indian traditions are very different from my own, does not mean that we have to follow all their rules in our own country. It simply helps us to have a certain sense of humour about the customs which we are tempted to take all too seriously at times and helps us recognise that there are other ways of doing things. In the past our history books were linked only to showing that our tradition was valid and useful. Our part of the map was civilised and free, the rest was not. We learned, for example, about the Renaissance in fifteenth and sixteenth century Italy, but were not told that at the same time that there were momentous achievements in China, India and Malaysia. The computer can help us in developing this new global history such that we see the synchronicity between a Saint Thomas Aquinas and a Rumi, between Christian Gothic architecture in the twelfth and thirteenth centuries and the achievements of Pagan and Angkor Wat in the East. Linear textbooks are most effective in showing a given version of history such as the fall of Constantinople. Computers can remind us that this was also the rise of the Ottoman Empire if seen from the other side. If we build into our programmes a commitment to all the points of view, then it becomes an expression for the developing world as much as the so-called developed world, for minorities everywhere, and not just the minorities who happen to wield power at the moment.

The communications sector is eager to sell more telephones, televisions, computers and devices linking persons throughout the world. To a certain extent this is a challenge of creating an infrastructure which permits connectivity. There is a fashion today to believe the key to future markets lies in controlling content, in trying somehow to buy the rights to everything including the so-called cultural industries. I have argued elsewhere that this is an illusory goal.²⁰ First, no single company and no consortium of companies can buy up the cultural heritage of great civilisations. Second, the real challenge is to encourage persons to use the new technologies to understand better their traditions and at the same time understand the interconnectedness of these traditions with those of others. Hence the business case lies not in using the technology to sell a single viewpoint, but rather in demonstrating that every culture and each individual can use the new technologies to provide their voice with a presence. In this light cultural differences are not an obstacle to be overcome, they are a key to success. In tolerant and tolerated difference lies strength and the future of sales. The more viewpoints the more content, the more content the more traffic, the more traffic the more business.

Some would claim that computers are rapidly leading to a new kind of cyber-culture where nationality, age, and gender, no longer play a role. The potentials of anonymity are

clearly fascinating as witnessed by various chat groups. But, it could be argued that this is merely an electronic manifestation of age old traditions of dressing up, at masked balls, at costume parties, at carnivals, which constitute a dimension of life rather than its totality. Dressing up is fun. But in many cases it makes perfect sense that I should represent myself as I am, in terms of gender, age and nationality rather than in disguise. Rather than aiming at a cyber culture which blurs individual differences we need to develop tools which allow us to see the world through the lenses of these individual differences, such that an Australian or American learns to see what aspects of experience an Indian, Chinese or Malaysian might emphasize. Computers should be tools for entering different viewpoints rather than weapons for forcing us to accept a single viewpoint.

Those of us who are internationals and have lived in various countries, have discovered that we do not lose our national roots. Often extensive travel makes us conscious a) that we are different from others and b) persuades to articulate reasons for why we prefer this approach. Often our friends are scattered throughout the world and frequently those closest spiritually are those who happen to be distant in physical terms. At the same time these relationships do not require us to abandon our nationality, our traditions and our customs. There is no need to become the same. There is simply a greater need to become conscious that ours is but one of many ways and to have a deeper respect for these alternatives as legitimate in themselves. In a sense, computers are merely a virtual form of international travel and as in the case of real travel, their virtual journies will challenge us to share viewpoints not to shed them.

8. Conclusions

Electronic media pose certain dangers but these dangers lie in the limited ways the technology is applied rather than in any inherent limitation of the technology as such. Computers have much more to offer than being storage mechanisms for cultural images to create virtual museums. They can help us trace the evolutions of international dimensions within a given national culture, understand links between visual and the performance arts and appreciate the relative role of each in different cultures. Electronic media can help us to record particulars as well as universals and in the process stimulate the elusive quality of uniqueness. They can help make us aware of invisible aspects of culture.

Cultures are about different answers, and also about different questions, different ways of approaching knowledge, different areas which are discussed while others remain tacit. Computers need to reflect such differences, so that they can become tools for helping us to see traditions from different viewpoints. Computers can help us to reconstruct the mental horizons of different cultures and understand the cumulative dimensions of a collective memory. Culture is about uniqueness and difference. If we build into our computers the variety of human experience, they will reflect that variety in all its glory, and provide us with examples for increasing that variety rather than straightjackets which stifle it. Computers are not just passive hard disks for storing facts. They are potentially active tools for world-building, which can be new worlds of the imagination such as *Myst* and *Riven*, but can equally be reconstruction of old worlds and the contextualisation of

these oft forgotten roots of our awareness. This is why culture is important, indeed vital. For if we do not build its many facets into our tools, the tools will limit our cultural horizons rather than expand them.

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Notes

¹ Corrado G.M. Letta, "What is Culture?" in: *Listen to the Emerging Markets of Southeast Asia*, Chichester: John Wiley and Sons, 1996, pp. 66-67. Cf. "Why is culture important?", p. 148.

² See, for example, Suzi Gablik, *Progress in Art*, London: Thames and Hudson, 1976. For a more nuanced view see Sidney and Ethel Blatt, *Continuity and Change in Art*: Hillsdale, N. J.: Lawrence Erlbaum, 1984.

³ Frederick Jameson, *Postmodernism or the Cultural Logic of Late Capitalism*, Durham: Duke University, 1991. This view has been challenged by Christopher Norris, *The Truth about Postmodernism*, Blackwell: Oxford, 1993. Low culture is definitely important. For a radical statement see McCracken xxxx . For a more general survey of the importance of material culture see George Kubler, *The Shape of Time*, New Haven: Yale University Press, 1962.

⁴ The mediaeval world identified seven liberal arts: a *trivium* (grammar, dialectic and rhetoric) and a *quadrivium* (arithmetic, geometry, music and astronomy).

⁵ For instance, McLuhan's successor at the McLuhan Program, Professor de Kerckhove, examines the effects of the internet on news, books and museums in that order in *Gekoppelde intelligentie*, Den Haag: SMO, 1997.

⁶ Armand Mattelart, *Mapping World Communication, War, Progress, Culture*, Minneapolis: University of Minneapolis Press, 1991. Cf. *Ibid.*, *The Invention of Communication*, Minneapolis: University of Minneapolis Press, 1996.

⁷ Robert E. Babe, *Communication and the Transformation of Economics: Essays in Information, Public Policy, and Political Economy*, Boulder: Westview Press, 1995.

⁸ Robert E. Babe, "Understanding the Cultural Ecology Model," *Cultural Ecology*, ed. Danielle Cliché, London: International Institute of Communications, 1997, pp. 1-23.

⁹ The symbolic side of culture is very important and much richer than the French structuralist heritage might suggest. For the philosophical dimensions see Ernst Cassirer, *Die Philosophie der symbolischen Formen*, Berlin: Bruno Cassirer: vol. 1: *Die Sprache*, 1921; vol. 2, *Das mythische Denken*, 1925; vol. 3, *Phänomenologie der Erkenntnis*, 1929. The three volumes were published in English translation as *The Philosophy of Symbolic Forms*, New Haven, Yale University press, 1955-1957. Cassirer explores the role of symbols in language, mythical thought and phenomenology of knowledge, while only alluding in passing to the role of art and culture. For a recent study of visual semiology, see: Göran Soresson, *Pictorial Concepts. Inquiries into the Semiotic Heritage and its Relevance for the Analysis of the Visual World*, Lund: Lund University Press, 1989.

¹⁰ Some of the recent attempts at a new (postmodern) art history have rightly criticised the limitations of narrow nationalistic approaches. Alas in the process they often overlook the positive strands of that same tradition.

¹¹ In one extreme scenario the Internet is simply a reflection of American culture (“We are the world” in the words of the recent film *Airforce One*), such that some French thinkers dismiss the Internet as an American plot.

¹² Cf. an earlier paper by the author: “Can Museum Computer Networks Change our Views of Knowledge”, *Museums and Information: New Technological Horizons, Proceedings*, Winnipeg: Manitoba Museum of Man, 1990, pp. 101-108 which suggests that computers can offer new approaches to the following: scale, context, variants parallels, history, theory and practice, abstract and concrete, static and dynamic.

¹³ See Barbara Keyser, “Ornament as Idea,” *Journal of Design History*, (in press).

¹⁴ For a popular account see: Michael Freeman and Roger Warner, *Angkor. The Hidden Glories*, Boston: Houghton Mifflin Co., 1990.

¹⁵ Gauri Parimoo Krishnan, Tan Huism et al., *Ramayana, a Living Tradition*, Singapore: National Heritage Board, 1997.

¹⁶ Ranjit Makkuni, *Museum of the Future. N-Dimensional Art, Project Gita-Govinda*, Palo Alto: Xerox PARC, [c. 1996].

¹⁷ Italo Sordi, *Teatro e rito. Saggi sulla drammatica popolare italiana*, Milano: Xenia, 1990.

¹⁸ Benjamin R. Barber, *Jihad vs. McWorld*, New York: Times Books, 1995.

¹⁹ Michail Gorbatschow, Vadim Sagladin, Anatoli Tschernjajew, *Das neue Denken. Politik im Zeitalter der Globalisierung*, trans. From Russian Helmut Ettliger, Munich: Goldmann, 1997. I am grateful to Dr. Ingetraut Dahlberg for this reference.

²⁰ “Why Computers are Transforming the Meaning of Education,” *ED-Media and ED-Telecomm Conference*, Calgary, June 1997, ed. Tomasz Müldner, Thomas C. Reeves, Charlottesville: Association for the Advancement of Computing in Education, 1997, vol. II, pp. 1058-1076.