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DIVERSIFYING THE MEDIATION FUNCTION [THAT CONNECTS RESOURCES AND USERS]: AN INTRODUCTION TO THE CONFERENCE THEME:

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DOCUMENTS AND SOCIETY

People refer to an emerging 'information society' but, strictly speaking, that is an error. All communities depend on communication, which is the basis for interaction and collaboration. So all communities – all societies – are necessarily 'information societies.' A 'non-information society' would be a contradiction in terms. So to speak of an *information* society can only be a matter of degree.

Communities of humans and some advanced animals use gesture, language, and, in some cases, material objects to communicate. Dogs and cats document their territory by marking objects. Humans, of course, differ in their exceptional development of language and the far more extensive use material objects in communication. Over time social interactions and social control are increasingly through documents, which have become pervasive in our lives. We live in a 'documented society.'

New technologies and new techniques permit new forms of document and new possibilities for communication, interaction, and collaboration. Document genres have become more complex and more diversified. The new ways to mediate between people, between people and documents, and between documents are changing rapidly. The conference announcement refers to the Web to illustrate this growth in complexity:

-- Web 1: As a portal for reading documents;
-- Web 2: As a participation: The social Web; and
-- Web 3: An information ecosystem with linked records, and interacting documents.

These new developments constitute the conference theme.

IN RETROSPECT

Starting with gestures, language, and simple use of material signs, let us briefly consider some long-established innovative diversifications that are familiar to us and upon which we have become increasingly dependent.

Writing. Speech is transitory. The development of writing diversifies language use by making it permanent. The primary effect is to diminish the effect of time. There has been much discussion of the consequences of augmenting an oral world with writing. For example, how writing has weakened our natural memory by providing the means for creating an artificial one by making a record as an *aide-memoire*. We speak of a class of institutions that store writings (notably archives and libraries) as 'memory institutions'. It would be more realistic, I suggest, to think of them as components within a much larger memory infrastructure. Who can now imagine life without any writing?

Printing. The invention of printing diversified writing (and drawing) by allowing the extreme multiplication of copies of the writing, first from blocks and then using movable type. Much has been written about the invention of printing and of its profound consequences. The development of printing in Europe may have been motivated by the desire of the church to enforce standardized liturgy, but printing also facilitated the Renaissance, the Reformation, and the rise of modern science. The effect has been to make writing much more productive.

Telecommunications. Until modern times, telecommunication was achieved by a messenger running, riding, or sailing to deliver good news or bad news. We remember the battle of Marathon in 490 BCE by re-enacting the legendary running of Pheidippides to warn Athens. Telecommunications developed gradually in modern times with semaphore, telegraph, telephone, and, now, the Internet. The effect has been to diminish space and also time.

Document copying. In great contrast to the academic obsession with the impact of writing, the invention of printing, and telecommunications, the history of document copying has been very much neglected. Accurate, economical methods for copying documents were not developed until the beginning of the twentieth century. There have been three really important pre-digital copying techniques: Photostats, microfilm, and xerography.

-- *Photostats*, direct projection photography on to sensitized paper, became important in with the commercial development and marketing of photostat equipment in 1910, but it was originally invented in Paris, by René Graffin of the Institut Catholique to facilitate the editing of Syriac texts. His equipment was exhibited at the International Exposition in Paris in 1900. Photostat copying was rapidly adopted to replace making transcriptions by hand or with a typewriter. It was the dominant copying technique until the late 1930s.

-- *Microfilm* and its variants microcard and microfiche became important during the late 1930s, facilitated by the development of cameras (Leica, Contax, Recordak) and the availability of standard 35mm safety film. Banks and libraries were early adopters.

-- *Electrostatic copying*, better known as xerography, was designed to replace photostats and succeeded in the 1960s.

Any new mediation is likely to have consequences that were probably not expected. Photostats popularized photocopying and, in addition, the process itself encouraged interest in the use of photographic techniques for image enhancement and the restoration of damaged and illegible documents, A well know example is the used of ultraviolet light to read erased wiring on re-used medieval parchment (palimpsests). These techniques permitted the forensic analysis of false and fraudulent documents.

Consider a world in which printing existed but not copying machines. How much slower and more inconvenient your work and bureaucratic procedures would have be!

DOCUMENTS AND TECHNOLOGY

So what we find, when we look, is that there is a long and substantial history of new and diversifying mediations resulting from new technologies and new techniques before the existence of *digital* documents. We should remember that there is much more to a document than its technology. There is a phenomenological aspect. Documents are objects perceived a signifying something. The status of being a document is not inherent but attributed to (given to) an object. Meanings are always constructed by observers.

Cultural codes are required. Successful communication depends on some shared understandings, language in a broad sense. There are multiple media types as different types of expression have evolved: texts, images, numbers, diagrams, music, . . . And, of course, there are different physical media: clay tablets, paper, microfilm, punch cards, analog magnetic tape, and, now, multiple digital media. Every document has cultural, type, and physical aspects and a genre can be seen as a culturally-situated combination.

Becoming digital affects *directly* only one aspect, but the direct and indirect consequences are very extensive because a digital environment extends and amplifies prior mediations. It facilitates writing,

it provides new flexibility in printing, it improves telecommunications; and it makes copying easier. Paper documents can be scanned, digital genres can be sent electronically, and changes can be programmed or made at will.

THE TRANSITION TO DIGITAL DOCUMENTS

Digital technologies and electronic environments are entirely material and physical. (If you doubt that, disconnect the electrical power supply.) Even so, the adoption of this underlying technology brings unprecedented flexibility and, therefore, opportunities. As we consider the next step in the chain of new, diversifying mediations, we can also see them in relation to a retrospect on the older diversifications.

Looking back, we can see writing of language as a special case of recording. Looking forward we can see that digital technology enables the recording of everything.

We can see printing as the multiplication of texts, and digital technology as facilitating the reproduction of anything.

Telecommunications, in effect the transport of documents, becomes closer and closer to simultaneous interaction.

Document copying results in more than copies. It leads to the modification and analysis of resources copied. The analysis of large data sets is today of great interest.

Yet the move to digital technology and digital documents is more than an improvement in these different aspects or of individual genres because it is an environment in which different genres can be woven together – a new tapestry. But I do not need to develop this theme any further, because that is the purpose of the individual presentations throughout this conference. We have a rich program and so now I will stop.