

Chapter 3

Collection Spaces and Management, Virtual and Physical, in the User Environment

ABSTRACT

Today's sophistication dictates that we assimilate all the critical functions that assure the viability of the collection under one comprehensive concept of "collection management." These individual processes not only have to be developed to a high sophistication on their own, but also be integrated into a comprehensive system complete with supporting technologies and guiding methodologies. In a diverse library collection, these core processes of collection management would be broken down into the following workflows coordinated together: content management, physical space management, and virtual space management. Management of a physical space encompasses its space management, collection layout, and the physical and efficient access to the stacks. Content management—this overarching purpose and vision of the entire collection is what some library professionals confuse as the sole component of collection management—is controlled through content selection including purchasing and weeding, quality control of the shelving order, and the institution's indexing system for information access. The elements of management most important to the virtual space management are data-portal access to the content, maintenance of the information technology infrastructure, and the database model and its management system used to store and manipulate the data in its electronic form. Surveyed in this chapter is a selection of those important and driving technologies and changes.

INTRODUCTION

It is a natural process of the human mind to collect and organize sensory data and use it to develop adapted conceptualizations of the world around us. The discrete storage of this sensory data in the individual is limited, and the mind cannot always recall the stored data in an accurate way—details, perhaps minor but none-of-the-less important, become lost in the process. Humanity's natural genius for languages was at first adequate to overcome the individual's imperfections in memory (i.e. data storage). Communication allowed a sort of diversified and defused network repository, and as this common knowledge was recalled and transmitted among a close-knit group of people, say a prehistoric hunter-gather village, the collective knowhow of the community could act as a sort of checksum, if we were to borrow a similar term from computing, to verify the validity of the data as it spreads throughout the small human network. A less technical analogy would be that if prehistoric 'Bob' saw prehistoric 'John,' his neighbor, attempting to hitch his beast of burden behind his cart, Bob would quickly remind him of his error—the beast goes in front of the cart, for it will not function in the manner in which he currently has it—or perhaps denounce his lunatic neighbor to the local priestly-class as a spawn of the Great Evil so-and-so fit for the communal sacrifice. Much like today, neighbors throughout history have not always liked each other; I definitely do not care for mine and would perhaps welcome an opportunity to denounce them to a 'local priestly-class for the communal sacrifice.' Either way, the error would be identified by this common human networking of information, and through language and not writing, the memory would be rectified.

Given the fundamental importance spoken language plays in human society, our past counterparts' ability to memorize was quite impressive in comparison to ours today, as most forms of storytelling and cultural transmissions were

oral—writing and record-keeping being mostly the prevue of monastics, traders, and what little that passed for governments. As the millennia went by, and communities developed sophisticated technologies and skills from primitive divisions of labor, along with more diversified social orders to leverage these changes, it became necessary to support the basic human network with more permanent methods of record keeping other than the traditional oral transference. Cave drawings, pictographs, basic and universal symbols, sometimes leading to the establishment of basic writing systems, all became humanity's way of creating information artifacts in aid of the individual's memory abilities and data storage. As computer engineers, neuroscientist, and psychologist researching artificial intelligence in computers discovered, transmitting the comprehension of even the most basic human knowledge is extraordinarily complex in nature, and its recording requires creation and storage of many millions of information artifacts supported by billions of data artifacts. Where communities and civilizations developed writing systems, an abbreviated and virtual form of local inter-cultural communications, those information artifacts usually took the form of text stored into a solid medium such as papyrus, wax and clay tablets, animal skins, stone, wood, and in the case of the Chinese, paper. Collecting and preserving these information artifacts became extremely important to the community for various reasons. Communal lore masters and shamans turned into the default overseers of these information artifact collections as specialist scribes and copyist—as they usually played this role when the spoken word was the sole median and were the closest thing early man had to an 'intellectual' field. Through hundreds of generations of gradual social, political, and cultural development, men such as Plato and Aristotle, when developing a large and ecliptic collection of scrolls at the Academy and Lyceum near Athens in the 4th century B.C.E., or the royal record-keepers of the local lord/king developed into the very distant harbingers of the

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