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"Informatica: Mastering Information Through the Ages" by Alex Wright, Head of UX at Google News, provides an excellent exploration of the history of information systems, from early tribal societies and the ice age to the medieval age, the renaissance, the reformation, the modern age and finally the 21st century. The book is an updated second edition of the 2007 "Glut," retaining its informative sub-title. Organised under 13 headings, the book takes readers on a transformative journey through history, from ancient civilisations' rudimentary methods of storing knowledge to the sophisticated digital age of today.

The proliferation of intellectual works, spanning ancient civilisations like Egyptian, Babylonian, Greek, Roman, Chinese, Indian, Mayan and Aztec, along with contemporary efforts and the democratisation of information through the World Wide Web, has generated an increased need for information management. This surge in information quantity and diversity has resulted in an information overload or information tsunami, the author notes.

Throughout the book, Wright explores the innate human tendency to sort and categorise things, emphasising that this practice has been ingrained in our nature since ancient times. By delving into the creation, storage, curation, communication and preservation of information, the author draws readers back to early information systems, such as how the Zuni people of the North American Southwest organised themselves based on unique skills and roles and classified the world around them.

As a librarian, I have my preferred chapters and sections in the book. One of them is the chapter on "Family trees and the tree of life" – taxonomies. In this chapter, the author takes us back to our high school biology class, revisiting the taxonomies of plants and animals. While we may not use the scientific and Latin nomenclature of flora and fauna, or categorise them into kingdom, phylum, class, order, family, genus and species, the author argues that humans, from preliterate times to the present day, still employ similar strategies of classification, moving from the general to the specific. According to Wright, taxonomies serve as valuable tools for discovering similarities, clustering items and distinguishing objects, evident in various contexts. From the biblical narrative of Adam naming animals to anthropological groupings based on ethnicity, race, tribes, colour and gender, as well as the categorisation of life and surrounding objects and even the genealogy of Greek gods, taxonomies play a crucial role in organising and understanding our world.

In support of folk-classification, the anthropologist Brent Berlin's work is cited, wherein he posits that the human inclination to classify is an "ancient trait". The book further acknowledges Berlin's research on the folk classification systems present in diverse cultures, such as the Aguaruna tribe of Ecuador, who recognise a minimum of fifty distinct classes of palm trees. Folk taxonomies are also

explored as survival mechanisms - those who can identify which plants are edible and which are poisonous, or discern which animals pose greater danger, exhibit a more effective coping mechanism. The author provides context and discusses how our inherent inclination to classify has influenced the ways in which we categorise information and knowledge throughout history. Wright notes that taxonomies and nested categories are ingrained deeply within us and remain integral to our information systems – they may evolve and morph but never truly vanish.

Wright adeptly discusses the taxonomy of the natural world introduced by Swedish botanist Carl Linnaeus, which aimed to understand, make sense of and organise knowledge about the world. The book illustrates humans' natural classification instincts, supported by binary discrimination and lateralisation of the human brain, ultimately leading to taxonomic thinking. Through insights from prototype theory, particularly Eleanor Rosch's theories, Wright reinforces his arguments. Notably, the work draws a parallel between Bloom's classification system and Linnaeus' taxonomy, both seeking to categorise and organise information hierarchically to comprehend the complex world around us.

Central to the book's narrative is the interplay between folk-classification, an informal and traditional way of organising things and formalised taxonomies, structured and systematic classifications. Wright effectively demonstrates how these two methods have coexisted harmoniously, mutually supporting and enriching each other throughout history.

Moreover, the book emphasises that humans not only categorise things into mutually exclusive neat groups but also employ network-like information systems with various dynamic facets. Hierarchies and networks have coexisted since time immemorial, continually improving over the ages and incorporating schemes, information and communication technologies. The profound impact of the internet on information management takes centre stage, showcasing how networks have revolutionised the way we represent, disseminate, preserve and access information.

In the chapter discussing "The Ice Age Information Explosion," the author delves into how various cultures utilised external symbols, such as stones, shells, ivory and wearable ornaments, to convey messages, communicate meaning and disseminate information. This marked the transition into the subsequent age of information, which saw the emergence of alphabets, writing and literacy.

Moving on to the chapter titled "The Age of Alphabets," Wright, chronicles and examines the evolution of writing across different civilisations, including Egyptian hieroglyphs, the Greek alphabet, Mayan, Arabic, Chinese, Uruk, Sumerian and Roman or Latin alphabets, all of which played a pivotal role in shaping human civilisation. Notably, the Greeks took writing to a new level, employing it not just for recording commercial transactions but also for documenting affairs of government administration, justice, philosophy, mythology and poetry. Additionally, the Greeks established libraries like those in Antioch, Pergamon and, of course, the renowned Great Library of Alexandria, which housed hundreds of thousands of papyri scrolls.

Within the section titled "The Knowledge Bureau," the author underscores the development of writing and the emergence of institutions that collected and preserved records in the form of collections. The book chronicles the potential earliest-known bibliographic record dating back to approximately 2300 B.C. This meta-document comprises a list of other documents and includes title pages and basic colophons, offering descriptions of each tablet such as author and subject information. The collection of tablets also marks the inception of Sumerian tablet libraries as far back as 3000 B.C.

Wright observes that following the invention of the printing press, by the 16th century, books could be mass-produced, allowing a broader audience to access them. This accessibility was previously restricted to aristocrats, feudal lords and religious institutions. An illustrative instance of this transformation was Martin Luther's Reformation in Germany, a movement that subsequently spread across Europe. This marked a transition from an oral to a symbolic culture. This brought about what Wright refers to as the "Encyclopaedic revolution," a novel concept aimed at providing readers with a

summary (condensed, gist) of the information abundance. An exemplar of this idea is Diderot's Encyclopedia from the 18th century. The proliferation of books and their accessibility to the general public posed a challenge to traditional aristocratic authorities.

"Informatica" pays tribute to the instrumental role of libraries and librarians in shaping information organisation. The visionary ideas of Paul Otlet, Vannevar Bush and Ted Nelson, who conceptualised semantic links between documents, are highlighted. Otlet's early realisation of the limitations of traditional cataloguing systems paved the way for the concept of "réseau," envisioning interconnected content across works.

Wright's work further delves into the historical origins of information management, touching upon significant milestones such as the invention of the printing press by Gutenberg, which revolutionised the dissemination of knowledge. The book recognises the challenges faced throughout history in systematically organising and accessing recorded knowledge, leading to the creation of various classification systems like Cutter, DDC, LC and UDC, which have significantly shaped the way we navigate and comprehend information.

The book gives emphasis to the role of libraries in offering conceptual and technical solutions as well as tools to identifying, selecting, storing, retrieving, evaluating and using books and other collections. As Wright discusses the main purpose of library catalogues was initially limited to inventorying the library's holdings. However, the widespread use of the printing press and the industrialisation of institutions led to the expansion of library collections, necessitating a change in libraries' roles. They began creating lists of their holdings not only for their own use but also for patrons to identify available books on specific subjects and by particular authors.

The author acknowledges early librarian pioneers such as Sir Anthony Panizzi who introduced innovative cataloguing methods at the British Museum Library in London. Panizzi aimed to provide users with efficient access to the right books, editions and related materials. Wright also discusses the works of Charles Cutter and Melville Dewey furthered these efforts in the United States, focusing on improving book discoverability through cataloguing and classification systems. The Dewey Decimal Classification scheme gained global recognition, while the Library of Congress Classification scheme also gained prominence.

Within the library circles, as Wright discusses, in Europe, Paul Otlet envisioned semantic connections between documents, laying the groundwork for modern web concepts. His work predated Vannevar Bush's ideas about the web. Similarly, S. R. Ranganathan, an Indian librarian, introduced faceted classification to provide diverse access points to information. Wright also notes the work of Seymour Lubetzky who advocated for cataloguing standards rooted in theoretical principles to accommodate growing library collections.

Wright pays homage to visionaries who foresaw the interconnectedness of information, such as Eugene Garfield, Vannevar Bush, Doug Engelbart, Paul Otlet, Ted Nelson and Tim-Berners Lee. Additionally, the updated version of the book acknowledges the significant contributions of Claude Shannon and Suzanne Briet in the fields of information theory and documentation, respectively.

In *Informatica*, Wright also observes the rapid and transformative technological changes that have occurred since the first edition in 2007. He highlights the rapid proliferation of applications like YouTube, Twitter, TikTok and WhatsApp, alongside the advancements in artificial intelligence (AI). Moreover, the staggering number of over 56.5 billion webpages distributed across 1.92 million websites as of January 2022 serves as evidence of the exponential growth of data and information. These developments have profoundly influenced the way we create, co-create, organise, comprehend and utilise information.

In the concluding chapters of the book, Wright delves into the epistemological, social and political challenges posed by traditional, top-down methods of information creation and management,

characterised by taxonomies and hierarchies vis-à-vis the bottom-up, social, and collaborative approaches, represented by folksonomies and networks. The author's central argument is that hierarchies and networks, fixity and fluidity, and top-down and bottom-up approaches should not be seen as conflicting forces; rather, they coexist and synergise, playing complementary roles in shaping the ever-evolving information landscape.

The book features valuable appendices, chapter-specific footnotes, a bibliography and an index. I highly recommend it.