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Cultural Infrastructure: The Story of How Classification Came to Shape Our Lives
(Extended Abstract)

1 Introduction

Classification is ubiquitous. It is present in almost every aspect of your life. There is the classification of your race on your birth certificate and, ultimately, the classification of the cause on your death certificate. In between you may be paid according to your job classification and the American Time Use Survey Activity Lexicon will classify how you spend your unpaid time. We also have classifications for mental disorders, for planets, for hurricanes, even for snowflakes. Of course we are most familiar with bibliographic classifications, the Dewey Decimal Classification, the Library of Congress Classification, and the Universal Decimal Classification paramount among them. What does this ubiquity mean for us and where did it come from? This paper will trace a brief history of the common structure of these classifications and their manifestations and ramifications in our world.

2 The Emergence of Classification as We Know It

Ernest Cushing Richardson declares that " the history of theoretical classification only begins with Aristotle, or perhaps Plato, ..." (1930, 49) Knowledge must go back into the mists of time and there was probably some epistemic infrastructure before Aristotle. However, in 4th century BCE Athens, humanity's infrastructure climbed out of the warm, rich waters of ancient philosophy, grew legs, and walked on land in the form of logic. The evolution of logic and of classification, as I have discussed elsewhere (Olson 1999a), can be traced back to Parmenides's notion of discrete categories, Plato's dialectical progression, and Aristotle's step to full-blown classification by bringing together categories in progression to form hierarchy. While Aristotle's content included entities that we might find amusingly antiquated (such as generative slime), structurally his classifications look much like classifications of the 21st century. Our classifications have the same characteristics of mutually exclusive categories, linear progressions, and hierarchies that we find in Aristotle's.

3 Classificatory Tentacles Reach Beyond Philosophy

The same three attributes have characterized classification for millennia in the culture derived from the ancient Athenians. The 12th century French scholastic mystic, Hugh of Saint Victor used them to create a classification for works to be read in the pursuit of knowledge through the seven liberal arts to the study of theology. He used classification in the service of education which aimed at becoming one with God.

The Renaissance Man, Francis Bacon, also developed a classification of works, but used it to define the state of knowledge of his time. His unique contribution was to identify the gaps as well as the knowledge, thus defining a research agenda for his time (Olson 2004). Denis Diderot and Jean Le Rond d'Alembert championed Reason as the path to happiness. To do so they redefined knowledge in their classified *Encyclopedie* based on

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Baconian principles (Olson, Nielsen, and Dippie 2002). Samuel Taylor Coleridge never completed his *Encyclopedia Metropolitana*, but managed to critique Diderot as the Anti-Christ at the same time that he applauded the French Encyclopedists' use of Bacon. Coleridge's focus was on classification as method – not really so far from Reason.

G.W.F. Hegel and the Scottish Common Sense School of philosophy were both reactions against Hume's seemingly arcane complexity and both influenced American bibliographic classification (Olson 2004a). Hegel was the major, though indirect, influence on Melvil Dewey while Charles Cutter was influenced by the Scottish Common Sense philosophers.

Emile Durkheim and Marcel Mauss in their *Primitive Classification* employed classification as a measure of the advancement of culture (Olson 2000). They measured the classifications embedded in other cultures against that of western, Athens-derived culture presuming the latter to be the most advanced. They labeled anything different as "primitive", notably Australian Aboriginal culture, North American Zuñi and Sioux cultures, and Chinese Taoist-derived culture. They, in turn, influenced other ethnographers and sociologists such as the himself influential Claude Levi-Strauss.

An examination of Michel Foucault's *The Order of Things* completes the historical tracing of classificatory structure (Olson 1999). This early Foucault book does not question the attributes of classification, but it does serve as an analysis of the discourses that are carried in these epistemic structures – all still bearing the same characteristics.

The varying purposes, ideologies, and institutional roots of these instances demonstrate that the pervasive nature of classification and its three structural characteristics has developed over a long history. Many saw the power of classification as a tool to use toward an end.

4 Classification Pervades Our Lives

How do classifications affect our lives? In the US standard certificate of live birth, race is included for the mother and the father, though not for the infant. The choices include white, Black or African American, American Indian or Alaska native (filling in the enrolled or principal tribe), Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese, other Asian, native Hawaiian, Guamanian or Chamorro, Samoan or other Pacific Islander, or other. In a separate question, the mother and father need to indicate whether or not they are Hispanic. If they are Hispanic, they need to choose: Mexican, Mexican-American, Chicano; Puerto Rican; Cuban; or other Spanish/Hispanic/Latino. In choosing from the original list of races, the mother or father is really just selecting from a largely unstructured list with just a hint of hierarchy. The list has historically been controversial and its selectivity suggests the influence of social and political concerns over the years.

A powerful example of the practical implications of a highly structured classification comes from the International Classification of Diseases (ICD) applied by physicians to

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record causes of death worldwide and used by the World Health Organization to track epidemiological data. In the ICD, AIDS was first identified as a gay disease (called things like GRID – gay-related immune disorder). Lack of a stable code made tracking the beginning of the AIDS epidemic virtually impossible. All of this is now crucial in tracking a potential bird flu pandemic. What is noted on a death certificate is what goes into the statistical tracking of disease. Early instances of human transmission of bird flu in Thailand were found propitiously because WHO staff chanced to be on the spot. The result is the current careful monitoring worldwide. The process of updating the ICD is, then, crucial. For example, avian influenza in humans has been given its own number now, before any pandemic begins that will require tracking a large volume of cases (ICD-10 Updates).

Many of us are familiar with the job classifications that can be used to assess equity or to express other institutional values and determine rewards. The American Time Use Survey's Activity Lexicon includes time spent on paid labor, but focuses more on time spent on other activities. When you read that women still put more hours into housework than men, in all likelihood that data comes from the American Time Use Survey. In the Lexicon, which is really a classification scheme, housework includes interior cleaning; laundry; sewing, repairing, and maintaining textiles; storing interior household items, including food; and other housework. The broader category of household activities also includes food preparation, taking care of animals, lawn and garden work, and vehicle repair among other activities. Shopping, including grocery shopping, is under a completely separate list of activities with the heading "consumer purchases." So if you look at just housework it will not include food preparation, if you look at household activities it will not include grocery shopping. Obviously the way housework is calculated then depends upon the allocation of space in the classification scheme. The American Time Use Survey and its lexicon were developed by the Bureau of Labor Statistics at the behest of Congress to trace unpaid work. The allocation of activities within the classification becomes potentially important with policy decisions and the allocation of tax dollars.

The Diagnostic and Statistical Manual of Mental Disorders (DSM) of the American Psychiatric Association is another example (see Cooper 2004 and Spiegel 2005). What is in the DSM is a mental disorder; what is not is not – at least in practical terms for psychiatrists, patients, and insurance companies. Three instances demonstrate the widely varying social, personal, political, and economic impacts. First, Robert Spitzer, who chaired the committee for DSM-III, felt that homosexuality should not be considered a mental disorder. As a result he redefined what a mental disorder is to exclude homosexuality. Being gay or lesbian was no longer defined as being mentally ill. Second, in regard to pre-menstrual syndrome (PMS) questions arose as to whether it is something natural and, therefore, should not be considered a mental disorder, or does designating it as a disorder allow it to be taken more seriously. Third, inclusion in the DSM affects insurance ramifications. For example, treatment for Post Traumatic Stress Disorder is now covered by the US Veterans' Administration because it was added to DSM-III. These examples show that inclusion is double-edged and has far-reaching practical impact.

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Various natural phenomena are subject to classification. We were recently treated to an intense public interest in planetary classification with the demotion of Pluto from the ranks of planets. In question was the basis on which to define the closed category "planet" so that it will be mutually exclusive from other celestial entities.

Hurricanes are currently ranked by wind speed and the height of storm surge on the Saffir-Simpson "classifications." However, that leaves out factors that affect danger and damage levels. For example, the length of time that high wind affects a place makes a difference as does the amount of rain. One suggestion for revision amounts to a faceted classification of several variables (Senkbeil and Sheridan 2006).

The Meteorological Classification of Snow Crystals classifies according to the shape of the crystal. The classification is useful in measuring snowfall since not all snow crystals will have the same water content (Canada. National Centre for Atmospheric Research 1998, 17). Although conventional wisdom has it that every snowflake is different, the MCSE, divides them into eight main classes which are then divided more specifically. The classic snowflake with six points in a flat structure is classified as P1a where "P" stands for "plane crystal," "1" for "regular crystal developed in one plane" and "a" for "hexagonal plate." This arrangement not only reflects the structure of the crystal but reflects the structure of a standard classification scheme.

All of these classifications and many more, along with the bibliographic classifications so familiar to us, permeate our lives. Sometimes they focus our knowledge and other times they limit it. It is important that we identify and understand our classifications and the classificatory structure that is such a powerful tool in our lives.

5 Where next?

The subject of this workshop is "Classification in Our Daily Lives: Historical Roots, Current Offshoots, and Nascent Alternatives." I have introduced some historical roots and current offshoots and their ramifications for our lives. In looking at nascent alternatives, I believe that we need to first understand and then think outside of the characteristics of Athenian-derived classification to adapt it and/or to find new structures. Classification is, afterall, our epistemic infrastructure.

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