

Subjects in Doubt: The Ontogeny of Intersex in the *Dewey Decimal Classification*

Melodie J. Fox

1075 N. Honey Creek Parkway Wauwatosa, WI 53213,
<melodie.j.fox@gmail.com>

Melodie J. Fox earned a PhD in information studies, focusing on knowledge organization, with a minor in gender studies, at the University of Wisconsin-Milwaukee's iSchool, the School of Information Studies, where she was a member of the KOrg knowledge organization research group. She also holds an MLIS from UWM and an MA in English from the University of Illinois at Chicago. She currently serves as Reviews Editor for *Knowledge Organization*. Her research interests include the social consequences of classification, ethics in knowledge organization, epistemology, ontology (in the philosophical sense), intersectionality, and gender studies.



Fox, Melodie J. "Subjects in Doubt: The Ontogeny of Intersex in the *Dewey Decimal Classification*." *Knowledge Organization* 43(8): 581-593. 31 references.

Abstract: A concept that has experienced significant change in the *Dewey Decimal Classification (DDC)* is "intersex people," historically known as hermaphrodites or the condition of hermaphroditism. The classification of the concept of intersex has changed in 14 out of the 23 editions of the *DDC*; it has changed in every edition since the twelfth. It has had its own class, been completely removed, re-added, and removed again. It has been moved around, made more specific, made more general, and become a facet. Why has this particular concept experienced so much change, and what does this mean to our libraries' collocative integrity? Why is the understanding of the concept so unstable? Is it the domain itself or the interference and dissonance of popular with scientific understandings? This piece specifically investigates the ontogeny of the concept of intersex/hermaphrodite enriching the discussion by connecting it with epistemic authority and concept theory.

Received: 21 August 2016; Revised: 19 October 2016; Accepted 20 October 2016

Keywords: intersex, people, sexual concepts, hermaphroditism, sex, class, *DDC*

1.0 Introduction

As Tennis (2012) demonstrates with the subject ontogeny concept of "eugenics," scientific and social advancement can change how a concept is viewed. Eugenics was first considered biological knowledge, and then moved toward philosophical and social construction in the *Dewey Decimal Classification (DDC)*. Similarly, another concept that has experienced significant change in the *DDC* is "intersex people," historically known as hermaphrodites or the condition of hermaphroditism. In previous research (Fox 2014, 2016), the legal and medical epistemic influence on the classification of women, intersex, and trans people in the *Dewey Decimal Classification* were examined at four specific points in time. A limitation of those studies was that the selected timeframes were dictated by the concept of "woman." However, in the course of that research, it was recognized that the ontogeny of the concept of intersex/hermaphro-

dite had experienced far more change, disruption, and class-jumping in the classification beyond those four timeframes and deserved a closer look. The classification of the concept of intersex has changed in fourteen out of the twenty-three editions of the *DDC*; it has changed in some fashion in every edition since the twelfth. It has had its own class, been completely removed, re-added, and removed again. It has changed names, made more specific, made more general, and become a facet. Why has this particular concept experienced so much change, and what does this mean to our libraries' collocative integrity? Why is the understanding of the concept so unstable? Is it that it lands at the intersection of several domains, that there is confusion within the domain, or interference and dissonance of popular and scientific understandings? This piece specifically investigates the ontogeny of the concept of intersex/hermaphrodite, enriching the discussion by connecting it with epistemic authority and concept theory.

For clarity, the view of a concept used here corresponds with the view outlined in Hjørland (2009, 1526-27) that concepts are “pragmatic constructions” that serve as “signs representing functional equivalent classes of things. What is to be considered equivalent depends on purpose, interests, and theoretical perspective.” To be sure, conflicting meanings that coalesce into a concept are commonplace; the idea is that the concept/word(s) serves as a placeholder for our minds and nuanced changes to the concept are ignored for the sake of stability—Platonic ideals and particulars, for example. Also, many words can signify the same concept. However, the changes to the concept of intersex were too significant to ignore by classificationists and were not necessarily linear or evolutionary.

At a high level, the concept itself, “intersex” was not misunderstood in itself—people understand what it is by definition, enough to keep a somewhat consistent conceptualization—but rather, its place in the wider world was misunderstood, or at least in the wider classification. The purpose, interests, and theoretical perspectives surrounding intersex found in the literature changed rapidly enough and were at odds enough to render the concept unstable. Thus, in terms of concept stability, we can see how intersex has “dynamically constructed and collectively negotiated meanings” classified “according to interests and theories. Concepts and their development cannot be understood in isolation from the interests and theories that motivated their construction” (Hjørland 2009, 1523). What are these motivations that led to changes in twelve straight editions? First, the methodology is described, then a history of the concept is provided, then the concept’s positions in the twenty-three editions of the *DDC* are delineated, and finally the epistemic and ontological implications of the findings are discussed.

2.0 Methodology: ontogeny and intersex

The study of ontogeny, or “the life of a subject over time” (Tennis 2007, 1351), can help demonstrate how classificationists understood the concept of intersex over the last century. The shaky scientific and social understandings of the concept described in the literature are mirrored in its journey through the *DDC*. To capture this journey, a multi-faceted methodology was designed to capture empirical data from the classification, as well as the historical, and epistemological conditions surrounding the concept of intersex.

2.1 Literature

First, a broad literature review on the concept of intersex people was conducted, focusing on 1871 to the present, the timeframe during which the *DDC* was conceived and

maintained. The literature review included primary sources, particularly legal and medical discourse such as medical, legal, and sexology journals; medical jurisprudence and anatomy textbooks; search results of literature (fiction and nonfiction) indexed in WorldCat; and secondary texts by sex and gender scholars including prominent scholars of intersexuality such as Alice Dreger (bioethics/medical humanities), Kristina Karkazis (bioethics), Julie Greenberg (law), Elizabeth Reis (history), Suzanne Kessler (psychology), and Anne Fausto-Sterling (biology), including first-hand testimonials of intersex people contained within these works. These scholars were chosen not only because of the variety of disciplinary angles, but also because their work focuses on the American, late nineteenth- and twentieth-century context that corresponds with the lifespan of the *DDC*. The purpose of the literature review was to seek clues to both the epistemological and ontological foundations of the concept, as described in the following section.

2.2 Theoretical considerations: epistemology and ontology

Epistemology, the study of knowledge, examines who can “know,” who “creates” knowledge, what authority and interests they possess, and what it means to how a concept is understood. KO research took an epistemic turn in the mid-1990s, as researchers began to recognize the social influences on classification and began to examine how knowledge was legitimized for classification purposes. Mai (1999) describes this modern-to-postmodern shift in KO research and issues a call to action for research agendas to include epistemic approaches, a call that has been heeded. Influential research regarding the social context of classification has diagnosed knowledge organization systems (KOSs) as snapshots of their generation and resulting biases of the classifier (for example, Foskett 1971), of their disciplines (for example, Hjørland 1997), or of the dominant classes in society (for example, Olson 2007).

A relative of epistemology is ontology or the study of what “is” or “exists,” and the specifications for determining something that exists. Ontology has multiple meanings in knowledge organization research, originating from the seemingly divergent fields of computer science and philosophy (Martínez-Ávila and Fox 2015). Both disciplines relate it to existence; however, on the computer and information science side, math and logic are used to determine the explicit characteristics that make up a concept, whereas philosophy investigates what it means to “be” and how those characteristics are decided through reason. Here I refer to it in somewhat of a hybrid sense in that if epistemology reveals how people decide how knowledge is legitimized at specific points in time, ontol-

ogy provides embodiment of that knowledge, whether through literature or other means. Hjørland (2014, 369) writes, “any kind of knowledge (whether scientific or not) is based on ontological and epistemological presumptions. By implication, research and practices (as well as specific systems) in the field of classification research and knowledge organisation (KO) must also be based on epistemological assumptions (either explicit or implicit).” Here, the goal is to seek out both the explicit and implicit assumptions related to the concept of intersex and how those assumptions manifest in the classification.

Intersex people as a concept surely “exist;” however, they are not the thing being classified, rather the literature about them is being classified, and that literature provides the perception of how the concept should be considered. If the literature ontologically portrays them as mythic beasts or as ordinary people with atypical bodies, epistemology examines who and how these understandings came to be and underlying power relationships that can encourage or limit agency. Thus, ontology can be represented through literary warrant, a term originally coined by Hulme in the early twentieth century that concerns concepts as they semantically appear and are named and portrayed in the literature (Beghtol 1995). Beghtol (32) also distinguishes between literary warrant and consensus, which she describes as “how the topics in a particular literary warrant are arranged,” further explaining the difference as literary warrant concerning the naming and consensus concerning the structure. Thus, literary warrant would relate to ontology, as it draws from what “exists,” and consensus would relate to epistemology, as it looks at how experts from the field structure knowledge, based on their “opinions and judgments.”

Thus, epistemology and ontology become an “inextricably interwoven” circle according to Kleineberg (2013, 341) (viscious or virtuous, depending on the viewpoint). Considering literary warrant as the set of things that “exist” from which the classification is based, the collection then should to some degree reflect how the topic is perceived in the literature. Thus, the ontology (what “is”) helps determine the epistemology (how we know what “is”). In other words, what we see in the literature can dictate how we are expected to perceive the topic. Examining subject ontogeny, then, reveals the products of those epistemic theories and interests in combination with the ontological evidence provided through warrant. Concurrently, it can show what we consider epistemic authorities in creating knowledge about the subjects.

2.2.1 Epistemic agency of intersex people

If agency relates to how knowledge is formed and legitimated, it is important to review how much agency intersex

people have had in defining themselves. Historically, intersex people have been treated with suspicion or fear, and have experienced extraordinary measures to culturally and medically force them to “normalize” their sex. In the middle ages, hermaphrodites held a mythical quality until science began to attempt to explain the phenomenon. Yet, without the ability to surgically explore the body, decisions about a person’s sex (remaining ambiguous was not an option) were made based on the external properties and personality traits. Both medical and legal discourse throughout history show evidence of others trying to “decide” the sex of the intersex person, using criteria from voice tone, skin texture, predilections for types of toys and activities, color preferences, body hair, sexual orientation, to try to tip the scales when one sex or the other did not obviously prevail (Dreger 1998; Fox 2014; 2016). Historical writings on intersex people are rife with speculation by physicians, lawyers, judges, and other authorities musing, puzzling, and arguing over the sex of a person who has no voice or say in the matter. This discourse was found in medical and legal journals, newspaper articles, medical jurisprudence textbooks, legal dictionaries, and case law.

The ontology of what constitutes an intersex person generally relates to the values of the epistemic authority, and the epistemic agency rarely falls with the individual. Aristotle’s criteria, for example, were based on sexual interaction: “It is to be considered in which member he is fittest for copulation; if he be fittest in the woman’s, then he is a woman; if in a man’s, then he is a man,” but must swear which “secret part” he uses so that it is known how to judge him in the eyes of the law (*Of Hermaphrodites*). Thus, knowledge around intersex people epistemically most frequently originates with them as objects rather than knowing subjects.

2.3 Vocabulary and classificatory location

Part three of the methodology traced the vocabulary and classificatory location for the concept “intersex” used throughout the twenty-three editions of the *DDC*. Despite an agreement at a pediatric endocrinology conference in 2005 to call intersexuality “disorders of sexual development” or sometimes “disorders of sexual differentiation” (DSDs) (Reis 2009, 153), “intersex” is currently still the most widely used term regarding humans, although the medical community also considers it too ambiguous for their classification purposes and some parents find it offensive because of the connotations of being neither male nor female (Greenberg 2012, 92). Intersex advocates do not like DSD because of the word “disorder,” although Reis (2009, 154) suggests that DSD stand for “divergence of sexual development” to recognize it as variation rather than defect. Accordingly,

throughout this paper, I will be using “intersex” to refer to the concept itself, as it is the most widely used in interdisciplinary research, although I must use “hermaphrodites” as it is reflected in the language of the classification or in historical understandings. Although they are somewhat treated as synonyms in this paper, I recognize the nuance between the terms.

Figure 1 shows usage of the three major terms in Google’s Ngram Viewer, which shows instances of words or phrases occurring in Google’s digitized corpus. While Ngram has its limitations, it can provide a general idea of published usage of specific terms. Clearly hermaphrodite has a wider usage, with the term intersex increasing starting in the 1920s with a more or less steady presence until the year 2000, when it experiences a significant increase. Hermaphrodite spikes around 1890 and drops and levels out with approximately the same usage between about 1910 to the present. However, Ngram viewer cannot disambiguate between human and animal hermaphroditism; thus, a good portion of the results for hermaphrodite could stem from the domain of zoology. The spike in intersex occurred in the mid 1990s.

The terms “intersex” and versions of “hermaphrodite,” (hermaphroditism, hermaphroditic) were sought in the relative index of each edition of the *DDC* from the first edition of 1876 to the twenty-third and current edition from 2011. The numbers and class names to which the index pointed were then identified. Primary and secondary sources showed that very few variations of the term existed; thus, a limited amount of terms needed to be sought. Since the term “intersex” was rarely used until the 1930s, some other related terms, like teratology, or the study of congenital defects, were also examined, but only

if the “see also” references clearly pointed to them, as those terms are broad and can refer to a number of conditions. References to hermaphroditism clearly in zoology were omitted; however, general classes that referred to it abstractly without distinguishing between human physiology, botany, or zoology were retained in the analysis, especially if it was the only available class for the concept. Though it might not be the class to which human intersex people belong, at times it was the only available class.

Because of the principle of hierarchical force, which dictates that subtopics within a class should have something in common, the rhetorical space or context surrounding the term itself was examined for epistemic clues as to how the term is to be interpreted (Fox 2014; 2016). Rhetorical space relates to Beghtol’s notion of “consensus,” but with a more critical eye: it is where “it matters who is speaking and where and why, and where such mattering bears directly upon the possibility of knowledge claims, moral pronouncements, descriptions of ‘reality’ achieving acknowledgement” (Code 1995, x). Thus, the allied topics provide important insight into how consensus is perceived by the classification editors in combination with the literary warrant upon which they are ostensibly making their decisions.

Tennis (2007, 90-91) outlines the type of changes that typically occur when a scheme changes: 1) structural changes, where the syndetic structure changes or new values are added; 2) word-use changes, where the terminology for the same concept shifts; and, 3) textual changes, which are related to warrant, where the documents or other evidence suggest that the works no longer match the class. These types of changes are also identified in the analysis below.



Figure 1. Google Ngram Viewer occurrences of intersex synonyms.

3.0 History of the concept of “intersex”

Intersex people have been vigorously studied as far back as Aristotle, but as with much knowledge of the human body, have been poorly understood for most of that history. In order to understand the context into which the *DDC* entered the conversation, it is important to provide the historical backdrop. The point of this history is to show how the epistemology impacts ontology, which impacts real life for human groups. Changes in epistemic outlook reveal how people are seen and treated. Intersex people are a human group, subject to oppression given the lack of agency that has left them dispossessed throughout the years. Dreger (2004, 5) notes that although people do not choose non-standard bodies, they are often treated “as if they had intentionally violated a social norm.”

Because the terms can get conflated, it is necessary to first provide definitions for some terms relating to other aspects of sex and gender. “Sex” refers to physical genitalia, and “gender” refers to the presentation of a gender identity, masculine or feminine or something else, which may or may not match the physical sex of a person. Sexual orientation, which often gets lumped together with gender identity, is not related, as sexual attraction is not tied directly to the genitalia that people possess or how they present their gender. It is important to note that these terms are dynamic. In the United States, recent controversies over trans people have led to sex being defined by the US government as “internal sense of gender” rather closer to the notion of gender identity than physical sex (Shulevitz 2016).

In any case, intersex people have physical characteristics of both sexes in varying degrees and thus may or may not fit into a singular male or female identity. In the majority of cultures, it is difficult to comprehend the notion of intersex, as it defies our binary culture where activities are overtly or covertly restricted or based on sex, such as marriage, bathroom use, clothing, athletic competition, some occupations, and the like. Popular understandings of intersex vary widely, and it is often conflated with sexual orientation and sexual identity, or even concepts of “third sex” evident in some cultures.

In its current, formal understanding, “intersex” is an umbrella term that refers to a range of congenital conditions resulting in sex organs that vary from what is considered standard or “normal.” The variation can at times render physical sex difficult to differentiate into one of the binary categories (male/female) that our culture demands. People who are intersex may manifest at birth, causing confusion when sex assignment is made, or they may begin to present at puberty, or if the variation is internal and does not impact their external appearance, they may never know. People who are intersex may or may not experience gender identity confusion, and many may not

even be aware of their condition until a surgery or infertility uncovers it. Because of the imprecision of defining what is “abnormal,” the range of conditions associated with the term, and privacy associated with genitals, estimates of how many intersex people exist are hard to pin down. Blackless et al. (2000), which tends to be the definitive study, estimate that 1-2 babies out of every 1,000 live births have some kind of genital variation, but the threshold of what constitutes abnormal can vary from physician to physician.

Until recently, the term used was “hermaphrodite,” (at times called “doubtful sex” or “ambiguous sex”) and researchers sought a “perfect” hermaphrodite, meaning a human with two full sets of working genitals, one male, one female, modeled after the Greek god Hermaphroditus. Anyone who did not have two perfect sets of genitals (which is everyone, since it does not exist) is classified as a male or female pseudohermaphrodite, depending on what sex was most visibly evident, according to observers. The term “intersex” was coined around in the 1920s and was used in sex differentiation research in the 1950s, but as something distinct from “true hermaphroditism,” which by then referred to people with both types of gonadal tissue (but not two working sets of genitals). Intersex still is the most commonly used formal term, as DSDs has not popularly caught on except in medical communities. Despite that the term hermaphrodite is clearly considered outdated and offensive when used towards humans, still carrying baggage of freak shows and monsters, it is still in popular usage. In formal use, it refers to self-fertilizing plants and animals.

3.3 What’s behind it, and what are the consequences?

Dreger (2004) notes that the drive to “normalize” the appearance of such variances, such as surgically altering genitals or surgically separating conjoined twins, nearly always originates from discomfort or pity from observers, including parents, not from those who have the conditions themselves. Some fears have been driven by difference, some by morality, some by just wanting things to fit into the neat categories that are easily comprehended. Some of the suspicions of perversion come from the belief that intersex people could effectively have sex with themselves by using both sets of genitals. In the eighteenth and nineteenth centuries, out of fear of homosexual relationships, physicians recommended that the intersex person choose a partner of the opposite sex of their appearance (that the doctor felt they were), and even recommended castration to curb homosexual desire (Reis 2009, 69). While many intersex people identify with a “prevailing” sex, like the rest of the population they may be sexually oriented in a vari-

ety of ways, so genitalia is not a marker of sexual attraction.

In the twentieth century, sexologists, endocrinologists, urologists, and surgeons controlled the conversation about the fate of intersex babies. Sexology was a new field, founded by John Money, a psychologist whose academic work focused on intersex and trans people, not without controversy. Although surgical intervention took place earlier, since the 1950s, the standard of care was to surgically alter the genitals based on a physician-determined prevailing sex as quickly as possible. The focus on the observers rather than the child comes through frequently: one physician in 1926 called the birth of an intersex baby a “family calamity” and that “it would be a good thing if the child died,” because he was afraid the child would be teased by other children (cited in Reis 2009, 86). Another piece recommended doctors “place great emphasis on a rapid decision on sex assignment within a day or so after the child’s birth. After that the legal problems of sex change and the social problems of ambiguity among relatives and friends are compounded,” even recommending that it be done “before the parents are aware and they are presented with a united decision,” as a “child’s confidence in his gender identity will stem from his parents” (Young et al. 1971, 81, 86). Then, the child was raised as whatever sex the physician decided upon, and this change was concealed from the child under the theory that the child would naturally slide into the behavior and orientation of the new sex. Money (1976, 153) wrote: “surgery is, without exception, imperative. The success of masculinizing corrective surgery is proportional to the size of the organ to begin with.” In other words, the smaller the penis, the more important it is to “normalize.” However, the treatment is accompanied by problems that occur whenever sensitive and complex systems are surgically altered: numbness, insensitivity and other discomfort with intercourse caused by the repeated surgeries, which caused more problems than it solved. Much research has shown that despite their varied genitals, intersex people have little problem finding ways to have satisfying sex. It is when their genitals are surgically “normalized” that it becomes problematic (see the intersex testimonials in Dreger 1999).

Are intersex people suffering or wanting to be fixed? More recently, through the efforts of the Intersex Society of America and other grassroots efforts, more popular attention has been paid, intersex people have been treated with more empathy by the public, and the medical field is beginning to find new ways to manage intersex children without immediately resorting to surgery. Regardless, surgery and shame still tend to be the reactions of the external observers, and the label of “hermaphrodite” with its circus-freak connotations in the popular imagination has been hard to shake. An assumption exists that because

one has unusual anatomy, the person must be suffering and we need modern medicine to save them from this suffering. However, Dreger (2004, 67) reports that “many people left to grow up with unusual anatomies report being comfortable with their bodies. They consider themselves normal, and when someone bothers to test them for psychopathology, they come up healthy at about the same rate as the general population.” Conflicting his later research, Money’s doctoral dissertation from 1952 expresses how remarkably well-adjusted intersex people are, and Clifford (1983), describing children with cleft palates asks repeatedly, “why are they so normal?” calling into doubt the clinical focus on normalizing, suggesting that the children will turn out just fine without surgical intervention. However, even today, the Boston Children’s Hospital (2016) believes “with proper medical management, most children with ambiguous genitalia will lead healthy and normal lives. Sex assignment and corrective surgery are necessary in allowing your child to lead a fairly normal life as a boy or a girl.” As we dive into the classification, this conflict among disease, disorder, variation, or social problem becomes clear.

4.0 Findings: intersex people in the *DDC*

Table 1 charts the representation of the concept of intersex in each edition of the *DDC*. The structural, name, and textual changes to the concepts will be discussed, grouping editions together by similar themes.

4.1 Editions 1-12

The 1876 edition of the classification was the first edition, only 42 pages long, with 30 of those pages dedicated to the classification and index. Despite the relatively small amount of index terms, “hermaphrodites” made it into the index, thus suggesting that literary warrant called for it. The reference to the class “Physiology” in medicine rather than “Biology,” indicates that it referred to humans. By the second edition of 1885, after which use of the *DDC* in libraries had expanded wildly, a change occurred and the index now pointed to 573.7 “Biology/natural history of man/craniology,” or the study of head measurement similar to phrenology. It is unclear why it would be referred to that class, unless zooming out to the larger class it classes together concepts related to measurement and deviations from those measurement norms. It is located between “Monstrosities,” “Dwarves & monsters,” and “Color in man,” all classes that show deviations from bodily and racial norms of the time. According to Dewey’s principles of classification, allied topics appeared next to each other within a class, which then suggests that intersexuality is deviant. It could be that that index direction is in error, be-

Edition	Year	Editor	Index subject	Number	Class name
1	1876	Melvil Dewey	Hermaphrodites	612	Physiology
2	1885	Melvil Dewey	Hermaphrodites-man	573.7	Craniology
3	1888	Melvil Dewey	Hermaphrodites-man	573.9	Monstrosities (see also congenital defects or deformities)
4	1891	Evelyn May Seymour			
5	1894	Evelyn May Seymour			
6	1899	Evelyn May Seymour			
7	1911	Evelyn May Seymour	Hermaphrodites-man	573.9	Monstrosities (see also congenital defects or deformities)
8	1913				
9	1915	Jennie Dorkas Fellows			
10	1919				
11	1922				
12	1927			612.608	Hermafroditism
13	1932	Jennie Dorkas Fellows	Hermaphrodites in man	573.9	Monstrosities (see also teratology, congenital defects or deformities)
			Hermaphrodites in nature	577.824	Properties of living matter/sex in nature/sexes/ hermaphrodite
14	1942	Constantin Mazney	Hermaphroditism-general physiology	574.167	Physiologic and structural biology - Natural History
15	1951	Milton J. Ferguson	Absent from classification		
16	1958	Godfrey Dewey	Hermaphroditism- general physiology	574.167	Biophysiology/Sexual Reproduction/ Hermaphroditism
17	1965	Benjamin P. Custer	Hermaphroditic reproduction	See reproduction	Reproduction- man 612.6
					Medical science man 611.6
18	1971	Benjamin P. Custer	Hermaphroditism-pathology	574.216.67	Pathological physiology/ hermaphroditism
			Hermaphroditism-physiology	574.166 7	Physiology/ sexual reproduction/ Hermaphroditism
19	1979	Benjamin P. Custer	Hermaphroditism- pathology	574.216 67	Pathological physiology/ hermaphroditism
			Hermaphroditism- pathology-human-general medicine	616.694	Sexual disorders- class here male sexual disorders
			Hermaphroditism- pathology-human-geriatrics	618.976 694	Specific diseases of adults 65 and over
			Hermaphroditism- pathology-human-pediatrics	618.926 94	Specific diseases of infants and children up to puberty
			Hermaphroditism- pathology-human-public health	614.596 94	Reporting of morbidity of specific diseases
			Hermaphroditism- pathology- human-statistics	312.396 4	Statistics on populations/illness/other various specific characteristics
20	1989	John P. Comaromi	Hermaphroditism	574.166 7	Physiology/ sexual reproduction/ hermaphroditism
			Hermaphroditism-Human medicine	616.694	Sexual disorders/ Hermaphroditism
21	1996	Joan S. Mitchell	Hermaphroditism (Biology)	571.886	Physiology/reproduction, development, growth /hermaphroditism
			Hermaphroditism (Human) medicine	616.694	Sexual diseases/ hermaphroditism

Table 1. Instances of intersexuality in all editions of the DDC.

(continued on next page)

Edition	Year	Editor	Index subject	Number	Class name
22	2003	Joan S. Mitchell	Intersexuality Medicine	616.694	Sexual disorders/ hermaphroditism
			Hermaphroditism Biology	571.886	Miscellaneous topics in reproduction
			Hermaphroditism Humans Medicine	616.694	Sexual disorders/ hermaphroditism
			See also Genital Diseases— humans		Class here diseases of the male genital system, diseases of the prostate gland
23	2011	Joan S. Mitchell	Intersex people	T1—086 75	People by miscellaneous social attributes/ Transgender and intersex people/intersex people
			Intersex people Labor economics	331.5	Workers by personal attributes other than age Including transgender and intersex people, retired people
			Intersex people Psychology	155.33	Sex psychology/ psychology of people by sex or gender, including display of behavior characteristics of both sexes or genders (androgynous behavior); intersex people, transgender people, transgenderists, transsexuals. Class here adults by gender or sex...gender identity, gender role, sex differences, sex role, the sexes; comprehensive works on psychology of men and women, of males and females.
			Intersex people Social services	362.897	Social problems and services/miscellaneous groups of people/transgender and intersex people including female-to-male transgender people, male-to-female transgender people. Class here transgenderists, transsexuals.
			Intersex people Young people Social services	362.78	Social problems and services/transgender and intersex young people, young people by sexual orientation, young people in intrafamily relationships
				362.785	Transgender and intersex young people Including female-to-male transgender young people, male-to-female transgender young people. Class here transgenderists, transsexuals. Subdivisions are added for transgender and intersex young people together, for transgender young people alone.
				306.768	Sexual Relations/ Sexual Orientation –Transgenderism- Intersexuality/ Transgenderism and intersexuality Including female-to-male transgender people, male-to-female transgender people. Class here transgenderists, transgender people, transsexuals.
				306.768 5	Intersexuality Class here intersex people
			Hermaphroditism and Hermaphroditism Biology	571.886	Reproduction-development-growth/Miscellaneous topics in reproduction/ hermaphroditism
			Hermaphroditism Medicine	616.694	Sexual disorders/ Intersexuality: Class here hermaphroditism, comprehensive medical works on sex differentiation disorders.
			See also Genital Diseases— humans		

cause in the third edition of 1888 it moved to the next subclass over, “Monstrosities,” which is likely where it was originally intended to be placed.

The classes within “Natural history of man,” including “Monstrosities,” reflect the nineteenth century obsession with difference of any type. Popular with privileged classes were “curiosity cabinets” in which they placed items that were wonders of the natural world; freak shows abounded at traveling fairs and circuses to exacerbate the differences and distance between them and the norm. Despite the insulting language of the class, the see-also reference for “monstrosities” led to more medical classes: “Congenital defects” (613.91) is under “Personal hygiene/hygiene of offspring” and contains see-also references to “Monstrosities” and “Orthopaedic surgery.” “Congenital defects” are allied with “Inherited mental disability,” “Transmitted diseases,” and “Stirpiculture,” which is eugenics, or the breeding of humans to achieve a desirable result. Thus, the defects also indicate that it is something both undesirable and medically fixable. The other see-also reference, “Deformities” (617.3), shares a class title with “Orthopaedic surgery,” which mentions that “for convenience” all deformities should be classed there, even those not solvable by surgery, and includes such subclasses as club foot, Siamese twins, and extra fingers and toes. The implication is that such conditions should be normalized, even if they do not pose a health problem, which, according to Dreger (2004) can result in catastrophic mistakes.

No changes occurred in the next four editions, and in the seventh (1911) through twelfth editions (1927), a new term was added (with Dewey’s simplified spelling): 612.608 “Hermaphroditism,” and it was the first time the concept had its own class title, rather than just a reference in the relative index. It was positioned as a subclass of “Reproduction and generation—development.” This addition reflects the theory of bisexuality that was popular in the 1920s, unrelated to our current usage as a type of sexual orientation. The theory stated that all embryos started as hermaphroditic, and would eventually develop into one sex or the other, but when the development process was corrupted the infant would be born intersex (Reis 2009, 84). The term is allied with “Consanguinity-incest,” and next to “Natural selection-darwinism” and “Proportion and determination of sexes” (which had a see-also reference to “Sexes in nature-sexuality”). The position next to incest suggests that it is unnatural and shameful. It also is the first reference to a condition rather than to a group of people, although the “hermaphrodites-man” reference to “monstrosities” still existed. This separation indicates the split between popular and medical understandings of the concept.

4.2 Editions 13-17: absence

Starting with the thirteenth edition (1932), the concept undergoes a structural or name change in every subsequent edition to date. This likely is a result of changes in the literature, different interpretations of the concept, and possible dissatisfaction with the term’s position with every move. The thirteenth edition was the last to treat hermaphrodites as monstrous, but “Hermaphroditism” disappeared and a class for hermaphrodites appeared under “Properties of living matter,” and it was allied with male, female, and neuter but was unspecific to humans. In the next four editions, which all had different editors, the idea of intersex people as a human group faded in favor of a general physiological phenomenon that occurred in plants and animals. The fourteenth edition (1942) removed any class for humans, and the relative index directed hermaphroditism away from monstrosities, although the class still existed and it was allied with the class to where hermaphroditism is being referred: 574.167 “Physiologic and structural biology-natural history.” “Natural history” does not have an obvious subclass for hermaphroditism and constitutes a dead end.

The fifteenth edition (1951) of the *DDC* famously and controversially was sheared in size by half. The goal was “to meet the needs of the greatest number of libraries,” which meant that it became far more broad. They eliminated “overelaboration” and removed numbers with no associated books, and even removed excess punctuation and words like “etc.” (xx-xxi). Hermaphrodites did not survive this edition, perhaps as an “overelaboration,” and an intrepid cataloger could instead try “Human teratology” or “Study of human anomalies, deformities, monstrosities.” They might find a place if they tried the old class “Natural history of man” which had been renamed “Physical anthropology” and possessed a scope note that referred catalogers seeking teratology to see 611.012, which was “Abnormal formation and congenital malformations.”

The sixteenth edition partially restored the previous size. Even though the term hermaphroditism was back in the index (with a reference, not a class of its own), it was once again not distinguished among human, plant or animal. It was newly directed to sexual reproduction, but more as an abstract phenomenon in general physiology, not necessarily meaning human hermaphrodites as in previous editions.

In the seventeenth edition (1965), “Hermaphroditic reproduction” is the only term remotely related to intersex in the index. However, hermaphroditic reproduction refers to animals and plants that can self-fertilize such as barnacles, snails or orchids. Human intersex people cannot self-fertilize, and frequently the variation in their or-

gans makes it impossible to reproduce. Thus, classing human hermaphrodites under hermaphroditic reproduction seems like the concept of intersex people is in effect still absent from the classification. Although the index says, “See reproduction,” “Reproduction-man” only includes male and female divisions (intersex do not fit into those categories) and developmental periods, which again constitutes a dead end.

4.3 18th-21st Editions: a turn toward pathology

The 1971 edition was the first time the concept had its own class since “Hermaphroditism” was removed in 1932 and it had not one, but two classes dedicated to it, one in “Pathological physiology” and one in “Sexual reproduction.” Although the overt insult of being a monstrosity was long eliminated, pathology, or the study of the causes and effects of disease established the subtler connotation that intersexuality as a disease to be fixed through medicine. To be sure, some types of intersex conditions are life threatening and need intervention, such as congenital adrenal hyperplasia (CAH); thus, literature about genital variation unrelated to these formal conditions would likely end up in sexual reproduction.

In Benjamin Custer’s three terms as editor (1965, 1971, and 1979 editions), he worked to restore the “integrity” of the subject, which in practice meant that he criticized and eliminated some of Dewey’s efficiency shortcuts (along with his simplified spelling), which by 1979 resulted in a more philosophically accurate but convoluted and complex classification that caused dismay among users (see Hinton’s 1966 review of the 1965 edition). This is evident in the number of options for hermaphroditism in the nineteenth edition, where it includes separate references to classes for Geriatrics, Pediatrics, Public Health, Pathology, and Statistics. Though it is called a disorder in the structure, in the references to geriatrics and such, it is considered a “Disease.” The increase in specificity led to a scattering across the collection. With this edition came the first reference to “Sexual disorders,” male sexual disorders to be exact, as the scope note says, “class here male sexual disorders” and female sexual disorders were classed in gynecology. Why would a topic of sex determination be associated with male sexual disorders? The easiest explanation is that women’s sexual disorders are classified within gynecology. However, the phallocentric focus of intersex research certainly has been noticed, in that a boy living with an atypically small penis will bear too much of a burden and thus must be surgically and socially transformed into a female (Kessler 1990, 25). The focus on penises could lead a cataloger to believe it is a male phenomenon.

In the twentieth edition of 1989, Comaromi’s team dialed back the number of references to just two actual

classes: one in sexual reproduction (which is general) and one as a sexual disorder (referring specifically to humans). The allied classes in sexual disorders are “Impotence and fertility” (in male and female, but not intersex), “Male climactic disorders,” and “Hermaphroditism” with no scope note. The twenty-first edition (1996) with Mitchell as editor, retained Comaromi’s class number of 616.694, but with a name change from sexual disorder to sexual disease. The physiological entry structurally changed to combine reproduction development and growth.

4.4 22nd-23rd editions: acknowledgement and a pragmatic turn

The twenty-second edition (2003) was the first that included the term “Intersexuality” in the index, although it points to the same class named “Hermaphroditism” in “Sexual disorders” originating in the twentieth edition (1989). The name “Sexual diseases” for that class only lasted one edition, but perhaps as a compromise for changing it back to a disorder, a see-also reference now pointed to “Genital diseases-human.” Otherwise, the same physiological class still existed, but now structured under “Miscellaneous topics in reproduction,” allied with “Parthenogenesis, regeneration, metagenesis,” instead of “Reproduction-development-growth,” which thus places it firmly outside of human topics.

For a pragmatic, in-depth analysis of intersex in the twenty-second edition, see Christensen (2011) who looks at hierarchy and rhetorical space in how actual libraries classed specific titles related (or dismally unrelated) to the subject of intersex but wind up next to each other on the shelves. Can intersex be taken seriously when it is shelved next to a book on pornography? The fit with nearby titles can reveal the biases, ignorance, or indifference of the classificationist body or classifier. Christensen recognizes the tension between recognition of a new understanding of a concept and the lag before it has a class of its own, so to speak. Christensen also points out the social understanding of intersex as an appendage of the LGBTIQ (Lesbian, Gay, Bisexual, Transgender, Intersex and Questioning) movement, which then has the unintended consequence of considering both transgenderism and intersexuality sexual orientations rather than marginalized populations. This is an example of the drawback of pragmatic epistemology, in that the theories and interests of the LGBTIQ movement define the concept. The point Christensen makes is that the philosophical integrity, both ontological and epistemological, of the subject can vary wildly from the classificatory options for the subject and can result in some absurd matchups in practice. Christensen ends the paper by recommending a revision to 305.3 “People” by “gender or sex” and adding sex-

ual orientation to it. Though *DDC* editors acknowledged the recommendation, the paper was published prior to finding out the outcome in the next edition.

Much thought went into the twenty-third and current edition (2011), with the editors seeking feedback on the topics of intersexuality, transgenderism, and asexuality through publishing a white paper, releasing a proposed draft, and asking for input via the Dewey blog (<http://ddc.typepad.com>). The result was a complete structural and name-change overhaul, with a variety of classes with “intersexuality” in the title and term “hermaphroditism” mentioned in the index but minimized. This was the first time intersexuality was found outside of the 570 “Biology” or 610 “Medicine” classes, which suggests textual changes in the literature with additions in psychology and several in sociology. The scope notes are detailed and specific as to whom the class refers.

Generally speaking, intersex people are included in classes as a miscellaneous group of people and are tethered to transgender people. The marginalization and social aspects of intersex people are acknowledged; however, they are classed under social problems. The class “Intersexuality,” which contains no modifiers (young, psychology, labor, service), unfortunately is a subclass of “Sexual orientation” (which it is not), and is adjacent to “Sexual and related practices,” which includes such topics as “Masturbation,” “Oral sex,” “Sadism,” “Masochism” and “Transvestism.” This returns the concept to the lurid, sexualized connotations of previous conceptualizations and inaccurately sexualizes it. The biological and medical entries remain, and the scope note for the medical class includes for the first time the term “Sex differentiation disorders,” which is almost, but not quite the official term of DSD.

Also new, in this edition is the addition of a facet: T1—086 75, which once again lumps intersex and transgender together and also makes gathering a challenge. Christensen (2011, 203) describes in detail the decision-making process for this edition, which will not be repeated here, other than to mention that the decision to make intersexuality a subclass of sexual orientation rather than as a sex or gender (classes and a facet existed for “People by sex or gender”), was consciously made by the *DDC* editors to acknowledge the alliance with the LGBTIQ movement in their fight against discrimination rather than a structurally more accurate placement under “People by sex or gender.” Here is an example of what the editors believed to be a pragmatic decision: users would be more likely to search for the concept along with other letters in the acronym rather than where they ontologically belong.

Out in the world, intersex advocates have challenged what surgeons considered “correction” as mutilation and called for a moratorium on surgery. The Intersex Society of America (ISNA), with the goal of creating “a world

free of shame, secrecy, and genital mutilation for intersex people” was founded in 2008 to provide recognition and subjectivity for intersex people (<http://www.isna.org>). Dreger (1998) sees the “Age of Surgery” changing to “the Age of Consent,” but a stigma still afflicts intersex people. Many consumer medical resources are directed toward parents and patients, and medical discourse emphasizes the anguish of parents in the face of social gender pressure. The National Institute of Health’s MedlinePlus guide for intersex (<https://medlineplus.gov/ency/article/001669.htm>) was updated in 2015, treating it with much more sensitivity than in previous editions, with such statements as “More recently, the opinion of many experts has shifted. Greater respect for the complexities of female sexual functioning has led them to conclude that suboptimal female genitalia may not be inherently better than suboptimal male genitalia, even if the reconstruction is ‘easier.’” The first intersex television character portrayed as a regular kid rather than a freak or joke appeared on the show *Faking It* on the MTV network in 2014. Through the media and the internet, the concept of intersex is gaining more widespread recognition as regular, everyday humans rather than pathologized as freakish hermaphrodites.

4.0 Conclusion

As expected, the journey of the concept in the *DDC* parallels that of intersex people in the scientific, sociological, and popular imaginations. Evident in the classification are the epistemic objectification and just plain confusion over how to consider intersex people. Broadly speaking, in its fourteen moves, the concept of intersex starts in physiology, then shifts to monstrosity, to pathology or disease, to reproductive disease, to sexual disorder, to sexual diseases, and lands as a social group (and socio-psychological problem). It starts as a human group (hermaphrodites) and gradually shifts to a condition that happens to humans (hermaphroditism), with an inaccurate stopgap as a process (hermaphroditic reproduction). The split between physiology and medical science show the tension between scientific knowledge, which presents it as a variation, and medical science, which presents it as a problem to fix, and ultimately recognizes the social aspects of the phenomenon, despite some continued confusion.

If the same confusion is evident in the literature, and warrant provides ontological basis for including the terms in the classification, it is important to look at the ontological characteristics and which epistemic authority dictates how the terms are being used. Epistemically, intersex people have been beholden to others’ impressions of them until more recent times when they have different portrayals in the literature as well as more empathetic voices and the opportunity to tell their stories themselves. The 47 years the

concept spent classified in “monstrosities” reflects the view of someone uncomfortable with the notion, as it is unlikely anyone who was actually intersex would classify oneself as a monster. Hjørland (1992, 177) writes that “a subject description of a document is in one or another way an expression of the epistemological potentials of the document, such as these appear to one who describes the subject.” If the potentialities of a document include descriptions of intersex people in clinical medical terms, but also uses descriptions such as “unfortunate” or “freaks” or write how it would be preferable for a child to die, how can a classifier distinguish between intersex people as a group of unfortunate human monstrosities vis-à-vis a condition distinct from the human groups it afflicts?

Hjørland (1992), in identifying issues with conceptualizing the “subject,” cites the phenomena that Patrick Wilson calls an “agnostic conception of ‘subject,’” where determining the subject is impossible, for various reasons, one of which is because the writing on the subject is ill-defined. Consequently, the classification becomes ill-defined. But Hjørland also describes how pragmatic epistemic approaches can alleviate this problem of accuracy (but acknowledges the limitations). If a classifier classifies to anticipate a user need, expects a user to search a certain way, then they catalog it in a way that corresponds with that need. Hjørland (2009, 1520) cites Rey in the pragmatic approach that “concepts … should be defined in relation to the work we want them to perform for us.” In terms of intersex, what kind of work do we want the concept to do for us? But what if the writing does not have clarity in that regard, or the work it does for us is not ontologically accurate, such as the example of classing intersex as a sexual orientation? Pragmatic subject theory “makes an important contribution to perception of central properties of the concept of the subject by pointing out its means-goal nature (and thus repudiating the view of subjects as ‘inherent qualities;’ which can be useful, but gives outsize influence to the users to define the term (Hjørland 1992, 182). Who has more influence: the users, the works, the classificationist or the human subjects?

With this kind of instability, what happens to collocative integrity? What library would actually renumber and reshelf this frequently? Although some numbers remain relatively constant, specific topics come and go and names change as the worldview changes. The books placed into classes referenced for one edition or classes that disappear are lost to serendipitous discovery. Although intersexuality as a subject changed in 14 out of 23 editions of the *DDC*, it is unlikely it has come to rest. The point here is that we will see that the domain that encompasses the concept is confused as well: the domain shifts from myth and monster to physiology, to monstrosity, to condition, to disease, to disorder, to variation to social group. If the domain is

confused and this confusion is evident in the literature, how do classifiers stand a chance?

References

Aristotle. 1793. “Of Hermaphrodites.” In *The Works of Aristotle: A New Edition*, ed. J. Urhquhart. London, UK: Author, 301-2.

Beghtol, Clare. 1995. “Domain Analysis, Literary Warrant, and Consensus: The Case of Fiction Studies.” *Journal of the American Society for Information Science and Technology* 46: 30-44.

Blackless, Melanie, Anthony Charuvastra, Amanda Derryck, Anne Fausto-Sterling, Karl Lauzanne and Ellen Lee. 2000. “How Sexually Dimorphic are We? Review and Synthesis.” *American Journal of Human Biology* 12: 151-66.

Boston Children’s Hospital. 2016. *Disorders of Sexual Differentiation Symptoms & Causes*. <http://www.childrens hospital.org/conditions-and-treatments/conditions/disorders-of-sexual-differentiation/symptoms-and-causes>.

Christensen, Ben. 2011. “Interfiling Intersex: How Dewey Classifies Intersex in Theory and Practice.” In *Serving LGBTQ Library and Archive Users: Essays on Outreach, Services, Collections and Access*, ed. Ellen Greenblatt. Jefferson, NC: MacFarland, 201-11.

Clifford, Edward. 1983. “Why are They so Normal?” *Cleft Palate Journal* 20, no. 1: 83-4.

Code, Lorraine. 1995. *Rhetorical Spaces: Essays on Gendered Locations*. New York, NY: Routledge.

Ferguson, Milton, ed. 1951. *Decimal Classification: Derived by Melvil Dewey*. 15th ed. Essex County, NY: Forest Press.

Dreger, Alice D. 1998. *Hermaphrodites and the Medical Invention of Sex*. Cambridge, Mass: Harvard.

Dreger, Alice D, ed. 1999. *Intersex in the Age of Ethics*. Frederick, MD: University Publishing Group.

Dreger, Alice D. 2004. *One of Us: Conjoined Twins and the Future of Normal*. Cambridge, Mass: Harvard.

Foskett, A. C. 1971. “Misogynists All; A Study in Critical Classification.” *Library Resources & Technical Services* 15: 117-21.

Fox, Melodie J. 2014. “Medical Discourse’s Influence on Gender Classification in Three Editions of the Dewey Decimal Classification.” In *Knowledge Organization in the 21st Century: Between Historical Patterns and Future Prospects: Proceedings of the 13th International ISKO Conference, May 19-22, 2014. Krakow, Poland*, ed. Wieslaw Babik. Wurzburg: Ergon Verlag, 228-5.

Fox, Melodie J. 2016. “Legal Discourse’s Epistemic Interplay with Sex and Gender Classification in the *Dewey Decimal Classification*.” *Library Trends* 64: 687-713.

Greenberg, Julie. 2012. *Intersexuality and the Law: Why Sex Matters*. New York, NY: NYU.

Hinton, Francis. 1966. "Dewey 17: A Review." *Library Resources & Technical Services* 10: 392-401.

Hjørland, Birger. 1992. "The Concept of 'Subject' in Information Science." *Journal of Documentation* 48: 172-200.

Hjørland, Birger. 1997. *Information Seeking and Subject Representation: An Activity-Theoretical Approach to Information Science*. Westport, CT: Greenwood Press.

Hjørland, Birger. 2009. "Concept Theory." *Journal of the American Society for Information Science and Technology* 60: 1519-36.

Hjørland, Birger. 2014. "Is Facet Analysis Based on Rationalism? A Discussion of Satija (1992), Tennis (2008), Herre (2013), Mazzocchi (2013b), and Dousa & Ibekwe-SanJuan (2014)." *Knowledge Organization* 5: 369-76.

Kessler, Suzanne J. 1990. *Lessons from the Intersexed*. New Brunswick, NJ: Rutgers.

Kleineberg, Michael. 2013. "The Blind Men and the Elephant: Towards an Organization of Epistemic Context." *Knowledge Organization* 40: 340-62.

Mai, Jens-Erik. 1999. "A Postmodern Theory of Knowledge Organization." In *Knowledge, Creation, Organization and Use. Proceedings of the ASIS Annual Meeting*, Washington, DC, Oct.31-Nov.4, 1999, eds. Marjorie M. K. Hlava and Larry Woods. Medford, NJ: Information Today, 547-56.

Martínez-Ávila, Daniel and Melodie J. Fox. 2015. "The Construction of Ontology: A Discourse Analysis." In *Ontology for Knowledge Organization*, eds. Hur-li Lee and Richard P. Smiraglia. Wurzburg: Ergon Verlag, 13-37.

Money, John. 1976. "In Re: Sex Rearing and Sexual Orientation." *The Journal of Sex Research* 12, no. 2: 152-7.

Olson, Hope A. 2007. "How we Construct Subjects: A Feminist Analysis." *Library Trends* 56: 509-41.

Reis, Elizabeth. 2009. *Bodies in Doubt: An American History of Intersex*. Baltimore, MD: Johns Hopkins.

Shulevitz, Judith. 2016. "Is it Time to Desegregate the Sexes?" *New York Times, October 15*. www.nytimes.com/2016/10/16/opinion/sunday/is-it-time-to-desegregate-the-sexes.html.

Tennis, Joseph. 2007. "Scheme Versioning in the Semantic Web." *Cataloging & Classification Quarterly* 43 nos. 3/4: 85-104.

Tennis, Joseph. 2012. "The Strange Case of Eugenics: A Subject's Ontogeny in a Long-Lived Classification Scheme and the Question of Collocative Integrity." *Journal of the American Society for Information Science and Technology* 63: 1350-9.

Young, Hugh. H., A.T.K. Cockett, Robert Stoller, Franklin L. Ashley and Willard E. Goodwin. 1971. "The Management of Agenesis of the Phallus." *Pediatrics* 47 no. 1: 81-7.