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Imperialism and Indexing:
The Case of Julius O. Kaiser's Systematic Indexing

Abstract
The late 19th and early 20th centuries were a time when a number of pioneering knowledge organization systems (KOSs) originated. They were also a time when various forms of imperialism influenced social, political, and economic life in the countries where these KOSs were developed. Adopting a case study approach, this paper examines the influence of imperialism on one pioneering KOS of this period – Julius Otto Kaiser's method of Systematic Indexing (SI). The study describes the institutional milieux in which Kaiser originated SI and gave it its canonical form – the Philadelphia Commercial Museum (PCM) and the Joseph Chamberlain's Tariff Commission (TC). Evidence is presented to show that both institutions were involved in projects of economic imperialism and that these projects affected their knowledge organization (KO) practices. Then follows an examination of the semantic content and syntactic structure of SI for traces of imperialist influence. Analysis reveals that most traces of imperialist thought in the semantic content of SI occur in its treatment of countries as subjects and that this treatment does not differ significantly from that found in other contemporary KOSs. Evidence is presented that the syntactic structure of complex subject headings in SI was influenced by KO practices at the PCM, which were animated by the economic imperialist assumptions, but that similar structures can be found in another contemporary KOS with no manifest ties to imperialism. It is concluded that the motivations for certain semantic elements of SI reflect by imperialist presuppositions but that its syntactic features are not uniquely or inherently associated with imperialist ideology. Depending upon the analytical perspective that one adopts, then, SI both is and – paradoxically – is not an imperialist KOS.

1. Introduction

Viewed from the perspective of the field of knowledge organization (KO), the half-century between 1875 and 1925 is notable as a period when a number of librarians and documentalists made seminal contributions to bibliographical classification and subject indexing: to cite but a few of the best-known examples, the American librarian and library entrepreneur Melvil Dewey (1831-1931) launched his Decimal Classification; his fellow countryman Charles Ammi Cutter (1837-1903) both set the foundations for modern cataloging theory and practice with the publication of his *Rules for a Dictionary Catalog* and created his own influential bibliographic classification scheme, the Expansive Classification; the Belgian documentalist Paul Otlet (1868-1944) elaborated, within the framework of the Institut International de Bibliographie that he co-founded with the Belgian statesman Henri La Fontaine (1854-1943), the Universal Decimal Classification, a new version of the Decimal Classification that made extensive use of elements of faceting; while, in England, the librarian James Duff Brown (1864-1914) set forth an innovative bibliographical classification, the Subject Classification, that, unlike its congeners, sought to emphasize "concrete subject[s]" (Brown 1906, 8-9) over disciplines as a basis for its organization, and the special librarian Julius Otto Kaiser (1868-1927) developed a new method of indexing based on the principles of faceting *avant la lettre* known as Systematic Indexing (Gnoli 2020, 18-19, 42). In considering how the pioneering knowledge organization systems (KOSs) that

emerged during this period came to take the form that they did, historians of KO can take two complementary approaches to historical analysis: internalist and externalist (cf. Dousa 2013a, 6-7). An *internalist* approach assesses the development of KOSs purely in light of the theoretical and practical discourse of KO as it was articulated in the past within the information professions and is codified in present-day KO: in other words, it trains its attention primarily on the inner intellectual history of early KO, seeking to uncover the dynamics of development and change within the particular professional fields in which it was cultivated and assessing the results in light of current norms of KO theory and practice. An *externalist* approach, on the other hand, takes into account the broader social and cultural milieux in which the creators of these early KOSs worked and which informed – sometimes explicitly but often implicitly – the form and content of the KOSs that they elaborated. Both approaches, it should be stressed, are methodologically legitimate and each can yield useful and interesting lessons for students of the history of KO.

In this paper, I adopt a form of the externalist approach to explore the connections between the design of early KOSs and a major ideological force in the social, political, and economic life of the period in which they were developed – namely, imperialism. Now *empire* – in its most general sense, the exertion of control, be it formal or informal, by a powerful state over other territories lying beyond its frontiers, the resources of those territories, and/or their populations[1] – was hardly a new phenomenon, for empires of various sorts had existed in a number of places around the world since ancient times. Nevertheless, *imperialism* – that is to say, the complex of "actions and attitudes which create or uphold" empire (Howe 2002, 30) – was an especially salient feature of late 19th- and 20th-century social, political, and economic life. There existed several land-based empires, in which a dominant state held power over contiguous territories extending over a wide area, such as the Austro-Hungarian Empire, the Russian Empire, and the Ottoman Empire (Howe 2002, 50-55; Roberts & Westad 2014, 815-816). There were also a number of seaborne empires in which a central power held sway over territories scattered around the world: by the beginning of the 20th century, the most extensive of these, the British Empire, controlled approximately one fourth of world's land surface area (Ferguson 2004, 240) across five continents, while other European powers, such as France, Germany, Belgium, the Netherlands, and Italy; Meiji

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[1] Most definitions of empire add further specifications regarding the nature of control and the means by which this control is acquired: see, e.g., Howe 2002, 30 ("An *empire* is a large composite, multi-ethnic or multinational political unit, usually created by conquest, and divided between a dominant centre and subordinate, sometimes far distant, peripheries" [emphases his]) and Andreski & Bullock 1988, 409 ("In general, the extension of the power of a state through the acquisition, usually by conquest, of other territories; the subjugation of their inhabitants to an alien rule imposed on them by force, and their economic and financial exploitation by the imperial power"), both of whom stipulate that empire typically involves conquest and more-or-less direct political control of the ruled by the rulers. Such is, indeed, the case for many paradigmatic examples of empires in which the dominant center exercises formal control over the territories under its power. However, definitions adding these stipulations cannot easily accommodate instances of *informal* empires, in which the territory under control does not become formally part of a political unit directly ruled by the dominant power but is nevertheless subject to the latter economically, culturally, or in some other way (Gotteland 2017). Thus, in order to leave sufficient conceptual space for the notion of informal empire, we prefer to prescind from the specification of political control or conquest here.

Japan; and the United States of America held possessions in Africa (France, Germany, Belgium, Italy), Asia and the Pacific Islands (France, Germany, Japan, United States), and the Caribbean (United States) (Hobsbawm 1994, 57-59; Roberts & Westad 2014, 826-832). The imperatives of economic expansionism, state rivalry and the desire for political prestige among one's peers, considerations of military strategy, and belief in the need to "civilize" other peoples inevitably deemed racially or culturally inferior to one's own nation or *ethnos* all impelled the great European, Asian, and American powers to seek out overseas territories during this period (Howe 2002, 76-103; Roberts & Westad 2014, 824-826) and to engage in the form of imperialism known as *colonialism*, which involves "maintaining a sharp and fundamental distinction … between the ruling nation and the subordinate (colonial) population, … always entail[ing] unequal rights" between the ruler and the ruled (Andreski & Bullock 1988, 410; cf. Howe 2002, 30-31). It is little wonder, then, that one prominent historian has dubbed the period between 1875 and 1914 as "the Age of Empire" (Hobsbawm 1994).

In light of the pervasiveness of imperialism in the late 19th and 20th century, it is natural for historians of KO to ask to what degree imperialist assumptions shaped the contours of the KOSs developed at that time. There are, in principle, at least two methodological paths that one can follow in such an endeavor. On one hand, one can survey a number of different KOSs from the period in question and seek to uncover traces of imperialism in them. On the other, one can take a case study approach and focus one's attention on one KOS, considering whether the institutional context of its origins and the historical circumstances of its development were implicated in imperialist ventures in any way, as well as examining closely its content and form for evidence of imperialist influences. Each of these two methodological approaches has its own particular virtue: a survey of different KOSs brings with it a greater breadth of evidence, while a case study of a single KOS allows for greater depth of analysis albeit within a more limited terrain. Insofar as the latter approach is more amenable to an externalist historical analysis, it is the one that I have adopted here.

The purpose of this paper is to examine how imperialism affected the content and structure of one pioneering KOS developed at the turn of the century—Julius Otto Kaiser's method of Systematic Indexing (SI). Originally developed in the context of special libraries as a method of indexing pieces of information drawn from different documents within a card file (Dousa 2014a), SI was based on the premises that (1) all indexing terms could be assigned to one of three categories – *Concretes*, *Countries*, and *Processes*; (2) terms drawn these three categories were to be combined into "statements" (Kaiser's preferred term for compound subject strings) constructed according to a highly limited set of patterns – [Concrete]—[Process], [Country]—[Process], and [Concrete]—[Country]—[Process] (var., [Country]—[Concrete]—[Process]); and (3) that the resultant statements would be alphabetically arranged in a card index (Kaiser 1911, §§ 73, 298-302, 385-386, 389, 393-395). Today, Kaiser's system is generally acknowledged to be one of the first KOSs to use general categories as the basis for structuring compound subject strings and so to employ a technique that would later become hallmarks of facet analysis (e.g., Dousa, 2011; Gnoli 2020, 19; Sales 2014; Sales & Guimarães 2013; Svenonius 1978). For our purposes, there are two reasons

that make it a singularly appropriate object for a case study examining the influence of imperialism on early KOSs. First and foremost, as we shall see below, Kaiser developed his method of indexing within institutions whose primary *raison d'être* was to support imperialist initiatives, primarily in economic matters. Since his method of indexing was created within contexts conditioned by imperialist imperatives, it is certainly worth inquiring whether imperialism left any notable traces on it. Second, unlike most other contemporary KOSs, SI did not consist of a fixed inventory of terms (as in a subject heading system) or classes (as in a bibliographical classification system). Kaiser (1911, §§ 114, 318, 418-419) firmly believed that any index should limit its indexing terms to ones representing subjects of interest to the institution for which it was being created and preferred to derive indexing terms directly from the documents whose pieces of information were being incorporated into a given card index: his method of SI thus mandated imposing consistent formal structures – patterns for compound subject strings – upon content – terms derived from documents in light of specific institutional interests – that would, in principle, vary across different implementations of SI. The strongly formal nature of SI allows us to pose the intriguing question whether the form, as well as the content, of a KOS could be shaped by imperialist ideology and, if so, whether one can speak of imperialist indexing structures.

Such, then, are the methodological lineaments of this study. In what follows, I first describe the institutional background in which Kaiser created and developed SI, showing that the culture of the institutions at which he originated the scheme and perfected its canonical version were heavily implicated in imperialism. Then I examine both the content and form of SI for traces of imperialist presuppositions, focusing particularly upon its treatment of the category of Countries, and making comparisons, where appropriate, with other contemporary KOSs. Finally, I conclude with some reflections on the nature of imperialist influence on the formal elements of SI and what it means for our assessment of Kaiser's method of indexing as a KOS.

2. Two Imperialist Contexts for SI: The Philadelphia Commercial Museum and Joseph Chamberlain's Tariff Commission

In the introduction to his fullest exposition of SI, Kaiser (1911, §§ 20-21) described the genesis of his system as follows:

> The first draft of this scheme of indexing was worked out in Philadelphia in 1896-7 and after some years of constant application involving an index of some 50,000 cards it was re-written in light of experience gained. It was in subsequent years applied to three different indexes, all more or less technical. … During these years I have had ample time and opportunity of testing the system in all its bearings, but although many improvements have been added, the scheme is essentially the same as drafted at the beginning.

Kaiser wrote these words in 1911, when he was working as librarian of the Tariff Commission in London. Other sources allow us to specify his career trajectory during the years in which he devised and elaborated SI. In 1896, after having spent several years working as a musician and teacher in Australia and Chile (Dousa 2013b), Kaiser took up

library work at the Philadelphia Commercial Museum (PCM), where he served for three years as librarian and chief of the Bureau of Translation until 1899 (American Society of Mechanical Engineers 1928). In the latter year, he crossed the Atlantic to take up a similar position in London at the Commercial Intelligence Bureau, Ltd., an organization whose information service was established along similar lines to the Bureau of Information at the PCM (Dousa 2013a, 125-131; Heindel 1968, 193): there, he applied his indexing system to the first of the "three different indexes" that he implemented after leaving Philadelphia. Kaiser remained with the Commercial Intelligence Bureau, Ltd., until 1903, when he moved to British Westinghouse, Ltd. (Dousa 2013a, 131-138). During his tenure as librarian there, he developed the second of the three indexes. In 1904, he again changed jobs, becoming librarian of the Tariff Commission (TC) recently formed by the British politician Joseph Chamberlain, a position that he would hold until 1911 (American Society of Mechanical Engineers 1928). It was during his time at the TC that Kaiser elaborated his indexing system yet further and published his books *The Card System at the Office* (1908), in which he discussed document classification and the constitution of card index systems in general, and *Systematic Indexing* (1911), a full account of the tenets and techniques of SI (Hercules Powder Company 1927; cf. Dousa 2013a, 181-188).

Of the four different institutions in which Kaiser elaborated his method of indexing, two are of especial importance for understanding the background of SI. The first of these is the PCM, which, by Kaiser's own account, was the place where he first outlined the techniques of SI. The second is the TC, where Kaiser worked up his system into the form codified in *Systematic Indexing*: it was the implementation of SI in the card index system of the TC that served as the immediate basis for his description of his indexing method (Dousa 2013a, 187-188). Accordingly, we shall do well to consider these two institutions in turn.

2.1. The Philadelphia Commercial Museum

When Kaiser began his work at the PCM, it was a relatively new institution, only three years removed from its origins. It had been founded in 1893 by William Powell Wilson (1844-1927), a professor of botany and director of the School of Biology at the University of Pennsylvania, in the wake of the Columbian Exposition at Chicago held in the same year (Conn 1998, 533, 535-536; Muddiman 2014, 270-271). Impressed by the range of exhibits at the Exposition, Wilson, a specialist in economic botany, decided to acquire some of them and bring them back to Philadelphia where they would serve as the basis for a permanent exhibition of "the varied products of the world which illustrate the commerce of the United States with foreign countries" (Philadelphia Museums [1897], 15). Receiving financial support from the local municipal authorities, he was able to procure some twenty-five boxcar loads of material from over forty countries that formed the nucleus of a hereafter rapidly expanding collection (Conn 1998, 535-536; Muddiman 2014, 270-271). Although the exhibition of museum exhibits of raw materials and manufactures from around the world was a core function of the PCM, "its scope and function", according to one contemporary commentator, "extend[ed] far beyond those usually associated with museums" (Betts 1900, 223): in his view, "it might be more aptly be termed a center of intelligence on all matters

appertaining to international commerce". To this end, the PCM comprised not only museum space and concomitant laboratories for the analysis of products but also a Bureau of Information "comprising a library, an enquiry and intelligence bureau, and publication and translation services" (Muddiman 2014, 271). It was at this Bureau of Information that Kaiser first developed SI.

In order to understand the mission of the PCM, it is necessary to consider the broader context in which the museum arose. The early 1890s were a time when, as the American frontier was closing, statesmen, businessmen, and intellectuals in the United States increase-ingly came to perceive the need for the United States to undertake economic expansion abroad (LeFeber 1998 [1963], 62-196). Significantly, as early as 1890, Secretary of State James Blaine was formulating the issue of economic expansion in terms that drew an analogy with imperial conquest, even as he repudiated any ambitions for a formal empire:

> We are not seeing annexation of territory …. I feel sure that for a long time to come the people of the United States will be wisely content with our present area and not touch upon any scheme of annexation. At the same time I think we should be unwisely content if we did not seek to engage in … annexation of trade" (Blaine's Reciprocity Views, 1890).

A grave economic downturn in 1893 and a subsequent four-year depression only sharpened American appetite for the "annexation of trade" abroad, as government officials and members of the business community reached a consensus that "foreign markets were necessary for the prosperity and tranquillity of the United States" (LaFeber 1998 [1963], 150) and sought to carve out markets for American products in Latin America, Asia, and the Pacific (Brogan 1985, 450-451; LaFeber 1998 [1963], 186-193, 301-311). Overlaid with a drive to expand the United States' naval power and the chauvinist conviction that American civilization was superior to that of "barbarian" peoples and should therefore be imposed upon them for their own good, this expansionist ethos would eventually lead in 1898 to full-fledged imperialism with the annexation of Hawai'i and the acquisition of formal rule over Puerto Rico, Guam, and the Philippines and informal control in Cuba in the wake of the Spanish-American War (McGreevey 2017; LaFeber 1998 [1963], 408-410). In the mid-1890s, however, the emphasis was on economic expansion. Needless to say, the PCM's mission of providing information about foreign products and markets dovetailed neatly with this expansionist program. This aspect of the PCM was not lost on contemporary observers. One American observer averred that goal of the institution was to promote "the general extension of the foreign interchange and commerce of the United States", while a British commentator averred that, "[i]ts sole purpose is to extend and push the export trade of the United States, especially in South America, the Orient, and Australasia" (The Philadelphia Commercial Museum 1899, 125). Viewed from this perspective, the PCM's mission can be characterized as one of supporting American entry into, and control of, markets abroad – that is to say, economic imperialism (cf. Conn 1998, 547-553).

The PCM's program of mapping out possibilities for American economic expansion abroad governed its organization of both its exhibits and its information files. The museum featured collections of both "raw products" and "manufactured articles" (Philadelphia

Commercial Museum, n.d., [1]). The manufactured goods were "arranged in lines of manufacture", while the raw materials were organized in accordance with two distinct principles: "[g]eographic arrangement of collections" and "[m]onographic arrangement of collections" ([1]). The purpose of "geographic displays" was to show "all the resources of each country by itself" while "monographic displays" were to "present for comparative study products of the same kind from nearly every country in the world" (Philadelphia Commercial Museum 1897, 75). The intent of this arrangement is manifest:

> [v]isitors [to the PCM] would learn that a commercial empire had two interrelated parts; such an empire could be located in specific places, or it could be achieved through specific products. … The geographic exhibits answered questions of "where" business could be conducted, while the monographic exhibits answered questions about "what" could be traded (Conn 1998, 542).[2]

The subject index file in the PCM's Bureau of Information, the chief users of which were staff members of the PCM tasked with writing specialized economic reports for clients (Dousa 2013a, 89-91, 103-106), was structured in a broadly analogous manner. As one contemporary journalist described it,

> In a large room … there is a complete card index of the latest information obtainable which may be of use to manufacturers, merchants, and others seeking such knowledge from various parts of the world. This bureau of information is so thoroughly systematized that it is very interesting to study the method employed speedily to answer inquires. Suppose that it is desired to know something of chicle, or chewing-gum. One of the officers will go to the cabinet and pull out the drawer labelled "Gums," and by the alphabetical arrangement lay open the card "Chicle," where will be found the page in La Revue colonial, where is a full description of the manner by which it is extracted from the sapodilla tree and fruit. The library number on the card will indicate the division of the library in which this periodical may be found. Or if it is desired to know what there is in print about a country, an adjoining cabinet has all the cards that are in the subject cabinet, but instead of being arranged by the articles, in it will be found everything that relates to the country alphabetically classified according to the subjects. A force of a dozen indexers are busily employed in reading and indexing from the latest commercial periodicals and consular reports, writing the cards in a dual arrangement of subject and country, so that answers may be made as speedily as possible to inquirers for the newest information on a given subject of commerce in its broadest sense. … There is also a special cabinet, in which specific subjects appear, such as tariff, constructions of recent public works, bridges, railroads, and many other items of general interest not included in the index of products (A Commercial Museum 1897, 1011).

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[2] A promotional brochure for the PCM gives the following illustrations of how geographical and monographic collections could be used to learn about these two aspects of trade (Philadelphia Commercial Museum, n.d., [1]-[2]):

> If, for instance, a merchant wishes to inform himself on Mexican trade, he will find in the Mexican department of the Commercial Museum samples of the henequen, maguey, sisal and other commercial fibres, the hides, wools, cotton, gums, resins, woods, ores, tobaccos, etc. of Mexico. Other countries are represented in the same way.
> If the merchant is interested in one particular line of raw products, such as wools, fibres, woods, tanbarks, gums, resins, etc., he will find monographic collections of all these in which the products of all the world are brought together for comparison.

From this description, it is evident that the subject index files were divided into three sections: one in which information was indexed by *kind of product*, one in which information was indexed by *country*, and one in which information was indexed by various *commercial subjects*. The first two of these divisions correspond exactly with the monographic and geographical exhibits, and it is significant they were considered to be the primary divisions of the subject index files, the third being treated as something of an afterthought (cf. Philadelphia Museums 1897, 18). Although it is unlikely that these subject index files represent a nascent version of SI (cf. Dousa 2013a, 119-121), there can be little doubt that Kaiser drew inspiration from their structure in elaborating his indexing methods: in particular, his insistence that, in a card index, the first, or head, term of every statement must be a Concrete or a Country (Kaiser 1911, §§ 390, 393, 415) appears to reflect the PCM's privileging of kinds of products and countries as the two main categories of subjects in its index files (Dousa 2011, 170; 2015a, 68; See Section 3.2 below).

2.2. The Tariff Commission

The second institution that played a determinative role in the shaping of SI was the TC. At first blush, its name – "Tariff Commission" – may suggest an official body convened by the British government to investigate a commercial topic highly relevant to economic policy and international relations alike. However, the TC for which Kaiser worked was not a governmental body but rather a privately constituted organization called into being by the protagonist of a fierce debate on the fundamentals of trade policy that roiled the British political landscape in the first few years of the 20th century. To understand the institution and its aims, it is necessary to consider the views of its founder, the prominent English statesman Joseph Chamberlain (1836-1914). An industrialist-turned-politician, Chamberlain began his political career as a radical social reformer, first as mayor of Birmingham and then as an MP (Member of Parliament) for the same city (Browne 1974, 26-43; Crosby 2011, 12-36). Originally a stalwart Liberal, he broke with his party in 1886 over the question of Home Rule for Ireland, which he firmly opposed on the grounds that it would lead inevitably lead to Irish separation from British rule (Crosby 2011, 62): for the remainder of his career he would hold with a bloc of fellow expatriates from the Liberal party known as the Liberal Unionists and would increasingly cultivate relationships with the Conservative party (Browne 1974, 50; Crosby 2011, 101-110; Marsh 1994, 308-364). Chamberlain's hardline position regarding Irish Home Rule was of a piece with another aspect of his political temperament – a deep commitment to the unity, and further development, of the British Empire. When, in 1895, he was offered a cabinet-level position in a newly formed Conservative government, Chamberlain chose to become Secretary of the State for the Colonies, a position that he would hold until 1903 (Browne 1974, 52). As Colonial Secretary, he was responsible for setting the policy of the British government vis-à-vis its empire as it reached its zenith (Browne 1974, 52-63; Crosby 2011, 111-113).

One of the central planks of Chamberlain's program was to strengthen the bonds of commercial unity of the British Empire by, in effect, turning it into a customs union (Browne 1974, 57; Ferguson 2004, 287). On this plan, "[w]ithin the limits of the empire there would

be 'free trade,' but each of its elements could impose whatever duties seemed suitable on the products of foreign powers" (Friedberg 1988, 48). This so-called system of "imperial preference" was intended to foster increased trade among the colonies of the British Empire and so to strengthen its internal economic relationships at a time when increased competition from rising powers such as Germany and the United States was challenging British commercial preeminence. Although Chamberlain's proposals for using tariffs as a means of consolidating the British imperial economy had a certain logic, they ran athwart of a longstanding policy of free trade that had achieved the status of political dogma in Great Britain (Dousa 2013a, 139-141) and, in light of this hard reality, his policy of imperial preference did not win the support of other key figures in the government (Browne 1974, 64; Friedberg 1988, 62-63, 119). Accordingly, in 1903, Chamberlain resigned his position in order to undertake a public campaign to win popular support for the idea of tariff reform. The centerpiece of this campaign was the development of "[a] general tariff [that] would protect home industries, offer preferential duties to the colonies on agricultural imports, allow for tariff bargaining, and raise revenue for old age pensions" (Trentmann 2008, 29). While the issues at stake were economic in substance, Chamberlain had broader goals in mind: as he put it, "I am a fiscal reformer mainly because I am an imperialist" (Chamberlain in Fraser 1994, 608).

In the final month of 1903, the TC came into being as part of Chamberlain's tariff reform campaign. Consisting of a number of "'leading representatives' of the major British industries and the Empire" under the chairmanship of the economist W.A.S. Hewins (1865-1931), the TC was charged with conducting an inquiry into the conditions of various British industries that would lead to the construction of a "scientific tariff" fulfilling Chamberlain's aims of strengthening both British home industry and commercial relations within the British Empire (Marrison 1996, 34). The TC carried out its investigations by drawing upon three primary kinds of information source: analysis of commercial literature, surveys of British businessmen carried out by means of questionnaires circulated through the mail, and the testimony of witnesses at hearings that held by the Commission (Dousa 2013a, 153-156, 163-167; Marrison 1996, 117-127). On the basis of this information, the TC's members – or rather, support staff hired by the Commission for the purpose (Marrison 1996, 128-129) – prepared reports on the various industrial sectors they had investigated. These industrial reports were intended to provide the foundation for a final report that would synthesize their conclusions and set forth the model schedules of Chamberlain's "scientific tariff" (Dousa 2013a, 153).[3]

Such, *grosso modo*, were the aims and methods of the TC. Kaiser's principal duties as librarian for the Commission consisted in organizing and administering its library, overseeing the indexing of the variegated pieces of information culled by its staff, organizing the card

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[3] Although the TC issued a number of industry reports between 1904 and 1909 (Marrison 1996, 453), it did not succeed in fulfilling its goal of framing a "scientific tariff", much less publishing a final report, though it continued to conduct research and put out memoranda into the early 1920s. For a brief overview of its ulterior history, see Dousa 2013a, 158-160.

index files in which this information was recorded and collocated, compiling the detailed back-of-the-book indexes for the published reports, and serving as liaison to the printing establishments that produced the TC's publications (Dousa 2013a, 168, 176-180). The documents in the library were classified by document type – e.g., "manuscripts, corre-spondence, press cuttings, periodicals, pamphlets, books" and so on (Kaiser 1911, § 185; cf. Dousa 2013a, 168-170; Kaiser 1908, §§ 75-79), while relevant information was abstracted and indexed by subject on cards in accordance with the method of SI. The TC's library featured multiple subject indexes housed in its card index files. These indexes formed a heterogeneous lot: some appear to have been established for general, long-term consultation, whereas others were created for short-term use in the preparation of individual reports (Dousa 2013a, 173-174). Interestingly, there was some variability in the strictness with which the different subject indexes adhered to the tenets of SI. Those intended for long-term use generally followed the rules of SI quite closely, while those that were associated with the compilation of the TC's reports tended to deviate to some degree from the norms of the method, typically "by simplifying the structure of index terms, lumping together categories of terms that would normally have been kept distinct, or departing from the recommended file structure" (174), as did the back-of-the book indexes for the reports, which followed a heavily modified form of SI adapted for book indexing that offered indexers greater freedom in the choice and formulation of index terms as well as in the kinds of terms that could serve as main entries and the kinds of subdivisions allowed (Kaiser 1911, §§ 591-620). Such divagations notwithstanding, it is apparent that the form of SI presented in *Systematic Indexing* reflects, for the most part, that used in the card index files of the TC.

3. Traces of Imperialism in SI
As the preceding sketches of the PCM and the TC have shown, the institutional contexts in which Kaiser first originated and then developed his method of SI were thoroughly imperialist in their ethos and activities. Both institutions were particular concerned with the economic dimension of empire, though in different ways: the PCM sought to support the informal economic imperialism of the United States by providing information that would aid American businessmen to penetrate new markets abroad, while the TC sought to collect and interpret economic data that could be used to guide British economic policy and strengthen economic ties between Great Britain and the various colonies of the far-flung British Empire. Having established the imperialist nature of the institutional contexts of SI's origin and development, I turn now to consider how the imperialism of these contexts left its traces in Kaiser's codification of his indexing method in *Systematic Indexing*. To facilitate the analysis, I distinguish between the semantic content – i.e., the (categories of) subject terms – and syntactic structure – i.e., rules for forming statements – of SI.[4]

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[4] In making this distinction, I follow, albeit loosely and *mutatis mutandis*, a distinction made by Svenonius 1978.

3.1 Imperialism and the Semantic Content of SI

I begin by examining Kaiser's prescriptions for the categories of terms to be used in SI, since these determined what could be represented by terms in a subject index and so defined the semantic content of SI. As noted earlier, Kaiser (1911, § 73) divided the terms used in an index into three categories: terms of Concretes, terms of Countries, and terms of Processes. Let us consider these in turn, beginning with Concretes, proceeding to Processes, and ending with Countries.

In *Systematic Indexing*, Kaiser offered two definitions of Concretes, pitched at different levels of generality (Dousa 2011, 162-163; 2013a, 402-404; 2015a, 65-66). At the broadest level, he averred, Concretes are "*things* in general, real or imaginary," knowable by observation and reasoning (Kaiser 1911, § 52 [emphases his]; cf. § 298). The characterization of Concretes as "real or imaginary" gives them a very ample ontological scope indeed:[5] in the parlance of present-day ontology, they comprise entities in general. Yet, for practical purposes, Kaiser favored a another, much more domain-specific definition of Concretes. Beginning with his initial identification of Concretes as things in general, he went on to state that "the … term *things* implies a substance, a concrete article. In business there is but one kind of articles – commodities having an exchange value" (§ 299; cf. Kaiser 1908, § 366). On this view, anything that could be the object of truck and barter would count as a Concrete. Kaiser (1911, §§ 299, 316, 326) went on to identify three different kinds of Concretes: *Movable Concretes* – essentially, objects that could be moved from location to location; *Immovable Concretes* – objects that formed part of the physical landscape of a locale and could not be moved; and the paradoxically named *Abstract Concretes* – essentially, human labor viewed in terms of exchange value.[6] This meant that, in indexing, terms of Concretes were, in practice, restricted primarily to terms for trade goods (Movable Concretes) – for example, "Cotton gin roller", "Dairy Cattle", "Indigo", "Timber", "Benzine Fuel", and so on (§§ 462, 491, 495, 508, 531); terms for physical features of countries (Immovable Concretes) – for example, "Railway", "River", and so on (§§ 499, 500) ; and terms for the workers who embody the energy of labor (Abstract Concretes) – for example, "Commercial Traveller" (i.e., salesman) and so on (§ 515).[7] One consequence of this semantic focus on Concretes *qua* commodities was that terms of Concretes typically were confined to objects of commercial interest and did not include vocabulary referring specifically to imperialist institutions. One is thus hard pressed to find traces of imperialism among Kaiser's terms of Concretes.

Processes, as Kaiser (1911) defined them in *Systematic Indexing*, refer to "the conditions attaching to [Concretes]" (§ 52) or to "the action which [a] concrete is undergoing or has

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[5] For a detailed discussion of possible interpretations of Kaiser's qualification of Concretes as "real and imaginary", see Dousa 2014a, 304, n. 6.

[6] For fuller discussion of these three subclasses, the first two of which appear to have been derived from the legal categories of movable and immovable property, see Dousa 2011, 163-164; 2013a, 404-408; 2015a, 66-67.

[7] The account given here is somewhat simplified for reasons of space. For a fuller survey of the terms of Concretes that Kaiser used as examples in his writings and in the indexes of the TC and a discussion of definitional "edge cases", see Dousa 2013a, 405-413.

undergone" (§3 44). Terms of Processes thus typically refer to physical or fiscal activities relating to commodities or, more abstractly, to the economic conditions hedging them: examples given by Kaiser include: the "Construction" of railways in Natal (§ 470), the "Cultivation" of ginger in Jamaica (§ 475), the "Manufacture" of rubber in Brazil (§ 481), the "Printing" of calico in Russia (§ 490), the "Improvement" of rivers in Tabasco, Mexico (§ 500), the "Customs regulation" of beer in Brazil (§ 482), the "Qualifications" of commercial travellers in China (§ 515), the "Demand" for paper in India (§ 307) and the "Trade condition" of soda nitrate in the United Kingdom (§ 451).[8] Here, again, the emphasis was on activities related to industrial or agricultural production and commerce that had no necessary ties to imperialism as such. Nevertheless, some terms of Process fell outside of this domain, such as "Education" in Peru (§ 346), "Immigration" to Brazil (§ 465), or "emigration" from Italy (§ 467). Interestingly, such non-commercial terms of Processes tended to occur in statements of the form "[Country]—[Process]", where the focal point was not a Concrete that was the object of the Process but the Country in which the Process took place.

Especially interesting for our purposes are the terms "Emigration" and Immigration", which, of course, refer to the movement of populations within and across national borders. In the late 19th and early 20th centuries, such population movements frequently had an economic dimension and involved translocations of people that had no direct connection to imperialism as such: for example, one need only think of the sustained emigration from Europe to the United States during that period. Nevertheless, at a time when settler colonialism – in general terms, the migration of people from the heartland of an empire to lands under its control where these settlers are accorded special privileges in virtue of their national origins vis-à-vis members of the native population (Howe 2002, 31) – was a well-known strategy of imperial expansion, immigration and emigration could be easily associated with imperialist colonialist policy.

Significantly, just such an association is found in many of the major bibliographical classifications of the late 19th- and early 20th-century. In the original edition of Dewey's Decimal Classification published in 1876, class number 325, itself a subdivision of the class "Political Science" (320) represented the class "Colonies and emigration" (Dewey 1876, 16): by the seventh edition, this class had been further subdivided into the subclasses "Immigrants and naturalization" (325.1), "Emigrants" (325.2), "Colonization" (325.3) and "In special countries" (325.4-9) (Dewey, 1911, "Sociology", unnumbered p. 2). Similarly, Charles Cutter, in the sixth expansion of his Expansive Classification published in the early 1890s, collocated the classes of "Colonies" (JR) and "Emigration and immigration" (JS) under the rubric "Political questions not otherwise provided for" of the main class "Civics, Government, Political Science" (J) (Cutter 1891-1893, 78-79), while James Duff Brown also brought the two classes together in his Subject Classification, issued in 1906, with "Emigration" (L083), "Pauper Immigrants" (L084), "Undesirable Immigrants" (L085), "Immigration, General" (L086), and "Colonization" (L087) forming a series under "Social and Political

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[8] For a more extensive survey of the kinds of terms falling under the category of terms of Processes, see Dousa 2013a, 433-446.

Science" (L) (Brown 1906, 158).[9] Perhaps the most detailed treatment of these classes is to be found in Otlet's Universal Decimal Classification, the first full schedules of which appeared in 1907. Following his source, Dewey's Decimal Classification, Otlet assigned the class number 325 to the subject "Colonization. Migration" (Institut International de Bibliographie 1907, "3 Sciences Sociales et Droit", unnumbered p. 11). This they subdivided by classes on "Immigration" (325.1), "Emigration" (325.2), "Active colonization. Colonial policy. Colonies and exterior possessions. Territorial concessions. Spheres of influence. 'Settlements'" (325.3), and "Passive colonization. Study of particular colonies" (325.4):[10] under the third of these subclasses, we find, *inter alia*, the further subclass "Colonial empire. Colonial imperialism" (325.36). Here, the conceptual link between population movement, colonialism, and empire is made fully explicit.

For many of Kaiser's contemporaries active in KO on both sides of the Atlantic, then, emigration and immigration were concepts that were tightly linked to colonization and, through this, to empire. In light of this, the presence of the terms "emigration" and "immigration" among terms of Processes could, at first blush, be interpreted as a subtle trace of imperialist presuppositions in the semantic content of SI. One must, however, exercise some reserve here. Issues of immigration to and emigration from colonies are, indeed, a concern of imperial governments. However, as noted earlier, the movement of populations is not confined to empires, and immigration and emigration are not inherently imperialist activities as such: everything depends upon the nature of the polity with which they are associated. Now neither of the statements pertaining to population movement that Kaiser cited in *Systematic Indexing* – immigration to Brazil and emigration from Italy – involved emigration from or immigration to an imperial power, and so, of themselves, they cannot be said to constitute an example of imperialist influence upon SI. Nevertheless, they do point to a potential for the formulation of statements about immigration and emigration that do relate

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[9] Because the Subject Classification's notation was not fully expressive of the hierarchical relations between classes and subclasses, the precise relation of "Emigration" and "Colonization" is best appreciated by considering the original typographical layout of this series of classes in Brown's classification schedule:

L—Social and Political Science
L
…
083   **Emigration**
084   Pauper Immigration
085   Undesirable Immigrants
086   Immigration, General
087   Colonization
…

As this extract makes clear, Brown considered "Emigration" and "Colonization" to be coordinate classes, closely related in virtue of their proximity to one another.

[10] By "active colonization", Otlet seems to have meant colonization viewed from the perspective of the colonizing power, while "passive colonization" entailed colonization viewed from the standpoint of the colonized territory.

to imperialism: all that was necessary to take this step was to attach the terms "immigration" or "emigration" to a term of Country denoting an imperial colony.[11]

This brings us to the final of the three categories of terms in SI, terms of Countries. According to Kaiser (1911, § 332), terms of Countries covered three different kinds of terms relating to geographical concepts. First and foremost, "[a] country is in most cases a political division of territory having an independent government, at least independent enough to frame its own customs tariff." Here, the criterion for considering a geographical unit to be a country was political sovereignty sufficient to direct its own commercial policy, embodied in the form of its customs tariff. Kaiser's proviso that, to qualify as a country, a political division of territory have a government "at least independent enough to frame it own customs tariff" is significant, for it clearly makes allowance for territories that have a sufficient independence to make their own economic policy but lack full political sovereignty – manifestly a condition characteristic of imperial colonies. This is borne out by the examples of countries of this type that he gives, which include both fully sovereign states (e.g., "United States of America", "United Kingdom") and colonial territories (e.g., "German South West Africa", "Dutch East Indies") (cf. Dousa 2011, 165). Another kind of geographical territory that Kaiser defined as falling under terms of Countries was continents, such as "South America" or "Europe" (Kaiser 1911, § 332), even though these landmasses are not politically defined territories. Finally, he stipulated that terms for Countries could also denote "a number of disconnected territories" (§ 332). The rationale for this is not far to seek. On one hand, such a definition allowed for the inclusion of far-flung geographical regions like "Australasia"; on the other, it made allowances for the coverage of non-contiguous territories, such as "Colonies" scattered around the globe. In sum, the first and third of these definitions are clearly consonant with imperialist geography and, at least in the case of the first, imperialist considerations clearly shaped the formulation of the definition itself.

Further traces of imperialism emerge in the examples that Kaiser gave in his instructions for the formulation of terms of Countries. The geographical units represented in an index could be either countries or subdivisions of countries. Kaiser (1911) stipulated that names of countries composed of multiple words were to be entered in direct order and without the use of prepositions unless the preposition was an essential part of the proper name (§ 340), though abbreviations could be used for the sake of economy (§ 339). Among the elements that could be abbreviated were "national adjectives": thus, "British" could be rendered as "Br", "French" as "Fr", "German" as "Ger", "Portuguese" as "Prt", "Spanish" as "Sp", "Dutch" as "Dt", "Dn" for "Danish", and so on. Insofar as such adjectives typically formed part of the names of colonial territories held by the country whose name formed the basis of the adjective, the assumption that they would be frequently used reflected the geographical realities of imperialism. The subdivisions of countries, on the other hand, were to be entered

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[11] Alternatively, one could have used the term "Colonization" as a term of Processes. However, there is no evidence for the use of this term in Kaiser's publications nor, to the best of my knowledge, in the surviving files from the TC's card index. The most likely explanation for the absence of the term from the Commission's card files is that political questions of colonization did not fall within the scope of the TC's inquiries, which were strictly focused on economic questions.

under the countries of which they formed part in accordance with the pattern "[Country], [Subdivision]" (§ 335), with the stipulation that individual states forming part of a federation were to be treated not as countries but as subdivisions (§ 336).

These rules affected the treatment of colonial territories in SI. On one hand, some colonies were treated as distinct countries, presumably because they had sufficient administrative and economic independence to have their own customs tariff: examples of such terms for colonies from the British Empire alone cited in *Systematic Indexing* are "B(ritish) C(entral) Africa" (§ 340), "B(ritish) E(ast) A(frica)" (§ 513) "Cape of Good Hope" (or "Cape Colony") (§ 340),[12] "Ceylon" (§ 514), "Comoro Islands" (§ 516), "Gold Coast" (§ 457), "Jamaica" (§ 457), "India" (§ 307), "Natal" (§ 470),[13] and "Trinidad" (§ 527), while those for colonies of other powers include "Dutch East Indies" (§ 332),[14] "G(erman) S(outh) W(est) Africa" (§ 332, 339), and the Portuguese possession of "Macao" (§ 332). On the other hand, some colonial territories were treated as subdivisions of the countries exerting control over them, presumably because they were too tightly coupled economically with the latter to be treated as independent countries: examples occurring in *Systematic Indexing* are "Japan, Formosa" (§ 495)[15] and "USA, Philipine [sic] Is(lands)" (§ 474).[16] These latter cases appear to have been relatively rare, with one notable exception. In order to allow indexers to indicate that a piece of information pertained not just to one colony of an imperial power but to its colonies in general, Kaiser allowed the use of the term "Colonies" as a subdivision of the country in question (§ 337): thus, for example, "U(nited) K(ingdom), Colonies" indicated the colonies of the British Empire, "France, Colonies" denoted the colonial possessions of France in general, and so on. This provision made it possible to make the distinction between an imperial power itself and the empire over which it presided: thus, for example, "U(nited) K(ingdom)" referred to the British Isles alone, while "U(nited) K(ingdom), Colonies" could

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[12] In *Systematic Indexing*, Kaiser gave the forms "Cape of Good Hope" and "Cape Colony" as acceptable alternative forms of this South African colony's name in *Systematic Indexing*; in practice, however, he used the latter, shorter form in the TC's indexes. For citations of occurrences in the TC's indexes, see Dousa 2013a, 366.

[13] Natal was a territory located in what is today southeastern South Africa. Sighted by Vasco da Gama on Christmas Day of 1497 (hence its name: "Natal" < "Terra Natalis", or, "Christmas land"), this territory was settled by the Portuguese in the 16th century for trading purposes. By the early 19th century, it had become an object of competition between Dutch settlers and the English. Annexed by the English in 1843, Natal became a crown colony of the British Empire in 1856 and continued in this status until 1910, when it became part of the Union of South Africa. Today, it forms the KwaZulu-Natal province of South Africa. See Natal 2007.

[14] Or, following Kaiser's rules for abbreviations, "Dt E Indies".

[15] "Formosa" is an earlier European name for Taiwan. Taiwan fell under Japanese control in the wake of the 1895 Sino-Japanese war and would remain a Japanese possession through the end of World War II. At the time when Kaiser was composing *Systematic Indexing*, it was "treated as an outlying territory … not brought within the full purview of the Japanese constitution" (Formosa 1910, 970).

[16] As noted in Section 2.1 above, the Philippine Islands were annexed by the United States of America in 1898, in the wake of the Spanish-American War. Occupied in the face of fierce native Filipino resistance in 1901, they continued to be an American insular possession until 1935, when they were granted the status of a commonwealth. They achieved full independence only in 1946.

be used to indicate the British empire as a whole or to some unspecified subset of colonies within it.

From the preceding review of the three categories of terms allowed in SI, it is apparent that traces of imperialist presuppositions are found most abundantly in terms for Countries. This is, perhaps, not surprising, for control over territory is a cardinal feature of empire and imperialism thus inevitably involves geographical interests. On the contrary, given that both of the institutions at which Kaiser originated and developed SI were deeply interested in foreign trade and that much of late 19th- and early 20th-century trade involved products derived from the colonial possessions of various empires, it would be unusual if such traces of imperialism did not occur in his indexing system. Yet, it should be noted that some of these geographical indices of imperialism can be found in other contemporary KOSs as well. The names of imperial colonies – places like British East Africa, German East Africa, Natal, or the Cape Colony – featured as a matter of course in the history and geography classes of contemporary bibliographical classifications,[17] for the existence of such colonies was a brute geographical fact of the time that simply had to be acknowledged in any enumeration of territories. At least some designers of bibliographical classifications were careful to distinguish explicitly between the United Kingdom and its empire in their schedules,[18] and

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[17] For example, the "Local List" of Cutter's Expansive Classification assigns "English East Africa" the class number 731; German East Africa, the class number 733; Natal, the number 747; and Cape Colony, the number 748 (Cutter 1891-1893, "Local List", 15-16); the seventh edition of Dewey's Decimal Classification assigns the class number 968.4 to Natal and 968.7 to Cape Colony, though it did not include entries for British East Africa nor German East Africa, both of which would have been subsumed under the "Central Lakes Region" of South Central Africa (967.6) (Dewey 1911, "Modern History", unnumbered page 11); Brown's Subject Classification included class numbers for British East Africa (O530), "Deutsch Ost Afrika" (O610), Natal (O750), and Cape Colony (O760), while the auxiliary "table of common subdivisions according to place" in Otlet and LaFontaine's Universal Decimal Classification assigned the notation (676) to British East Africa, (768.2) to German East Africa, (684) to Natal, and (687) to the Cape Colony. Examples of names of colonies enumerated in the schedules of these classifications could easily be multiplied – a fact that indicates just how deeply the facts of empire pervaded the general geographical presuppositions in late 19th- and early 20th-century North America and Europe.

[18] Here two examples will suffice. First, the "Local List" of Cutter's Expansive Classification contains two class numbers relating to England: 449 ("British Isles (Great Britain and Ireland) and Great Britain (England, Scotland, and Wales) and British Empire") and 45 ("England, England and Wales, British Empire"). Although both class labels confusingly mention the "British Empire" as a component unit, scope notes specify that, in geography classes, the number 45 refers to England alone, while 449 denotes the British Empire (Cutter 1891-1893, "Local List", 9). Second, the schedules of Brown's Subject Classification assign separate numbers to England and Wales together (U300), England alone (U301), the United Kingdom (V500), and the British Empire (V650) (Brown 1906, 219, 228). Interestingly, Brown went on to subdivide the class for British Empire in the following manner:

V

…
600   **British Empire**
650   **British Colonies**
651   Crown Colonies
652   Self-governing Colonies
653   Colonial Expansion
690   **Union of Anglo-Saxon Races**

the use of "–Colonies" as a subdivision to the names of countries was recommended in Cutter's seminal *Rules for a Dictionary Catalog* (Cutter 1904, 124) and incorporated into the America Library Association's early *List of Subject Headings for Use in Dictionary Catalogs* (A Committee of the American Library Association 1898, 198-199).[19] In short, the traces of imperialism in the semantic content of Kaiser's method of SI do not seem to have been appreciably greater than those found in other KOSs of his time.

3.2. Imperialism and Syntactic Structure in SI

I turn now to the syntactic structure of SI. As already noted in Section 1 above, terms of Concretes, Countries, and Processes did not occur in isolation but were articulated into statements, or compound subject strings, that could take one of three forms (Kaiser 1911, § 302, 385-386):

(1). [Concrete]—[Process]

(2). [Country]—[Process]

(3). [Concrete]—[Country]—[Process]
      (var., [Country]—[Concrete]—[Process])

Two features of the structure of these statement patterns are salient for our purposes. First, two of the patterns are dyadic, in that they contain only two members (Statement patterns 1 & 2), while one is tripartite, in that it and its variant consists of three members (Statement pattern 3). Second, two of the categories – namely, Concrete and Country – are syntactically interchangeable, for, in a dyadic statement, either can occupy the initial position of the compound subject string, while, in a tripartite statement, either can occupy one of the first two positions of the string (Kaiser 1908, § 114; 1911, § 386). Both the variation in statement structure and the intersubstitutability of Concretes and Countries raise questions about the architectonic principles underlying the formulation of statements in SI.

The inclusion of these classes in the Subject Classification may reflect Brown's patriotically inflected ambition to create a bibliographical classification "suited to the requirements of *British* libraries of all kinds and sizes" (p. 5 [emphasis mine –TMD]), for imperial concerns loomed large in the United Kingdom at the time that he was developing his scheme.

[19] Note that "Colonies" also occurs as a main term in the same subject heading list, with "See Also" references to names of colonies and names of countries having colonies and "Refer from" references from "Colonization", "Immigration", "Political Science", and "Sociology" (A Committee of the American Library Association 1898, 45). The "See Also" references indicate that other subject heading lists followed essentially the same policy as Kaiser did in using the proper names of individual colonies or the names of countries possessing colonies (presumably subdivided by "–Colonies"), while the "Refer from references" reflect the same kinds of presuppositions – association with immigration and political science – that contemporary bibliographical classifications show. It is also instructive to note that immediately following "Colonies" in this subject heading list was the term "Colonization", with "See" references to "Colonies" and "African Colonization", the latter term of which seems to have referred primarily to American schemes to repatriate slaves and their descendants to Africa (p. 3) .

The co-presence of dyadic and tripartite statement structures reflects, in part, an apparent inconsistency in Kaiser's inventory of categories for SI. In *Systematic Indexing*, Kaiser offered a theory to justify his choice of categories and the essential contours of this theory are revealing. His argument is partially ontologico-epistemological and partially logico-linguistic, for he claims that his categories reflect both the basic contents of human knowledge about basic constituents of the world and discourse about the world in the literature that is the object of indexing:

> Literature is a record, it is a *descriptive* record. … . What we record is what we *observe*, what we reason out. The subjects of our observing and reasoning are *things* in general, real or imaginary, and the conditions attaching to them. We shall call them *concretes* and *processes* respectively (Kaiser 1911, § 52 [emphases his])

> [F]rom the standpoint of knowledge literature is confined to the description of concretes of the conditions attaching to them, and for our purposes literature may be analysed into terms of concretes and terms of processes. They are the constant elements with which we have to deal. To put it into the simplest language we may say that literature names *things* and these things are *spoken of* or *described*. The knowledge conveyed by literature all has reference either to *things* or to *spoken of*, i.e. concretes and processes (§ 298 [emphases his]).

As the foregoing passages clearly show, this theory assumes the existence of only two primary categories – Concretes and Processes – as does Kaiser's theoretical justification for the relative position of the elements within the statement patterns: "processes are dependent upon concretes" (Kaiser 1911, § 574; cf. 1908, § 115). Yet, in other passages of *Systematic Indexing*, Kaiser (1911, § 303; cf. § 312) made it clear that he considered the tripartite statement to be the archetypical form of statement pattern: as he put it, "[a] statement strictly speaking must always consist of concrete, country and process". Similarly, some of his statements about the relative position of the elements within the statement patterns presuppose the existence of three categories: "we have given concretes and countries precedence over processes, for in concretes and countries we have something more definite to deal with" (§ 574; cf. § 384). In short, Kaiser propounded two variant versions of the categorial scheme underlying the formulation of statements: a dyadic one consisting of Concretes and Processes alone and a triadic one comprised of Concretes, Countries, and Processes (Dousa 2011, 168-169). Needless to say, it was necessary to reconcile these two different versions of the scheme if the underlying theory of SI was to maintain intellectual coherence.

At the level of statement structure, Kaiser accounted for the existence of both dyadic and tripartite statements in his indexing system by treating the former as reduced forms, or transformations, of the latter (Kaiser 1911, §§ 303, 322, 346; cf. Dousa 2013a, 485-487). While this explained the variation in statement structure, it did not resolve the underlying tension between a category scheme consisting of Concretes and Processes and one consisting of Concretes, Countries, and Processes. To harmonize these, it was necessary to account for the presence of the category of Countries in the tripartite scheme. This Kaiser sought to do by deriving the category of Countries from the category of Concretes. The manner in which he did so was the following. As we saw in Section 3.1 above, Kaiser subdivided the category

of Concretes into three subclasses: Movable Concretes, Immovable Concretes, and Abstract Concretes. In his words, the second of these subclasses, Immovable Concretes, "consists mainly of what is called physical features of countries", or, what we might call elements of physical geography: his examples of such Concretes included "land", "river", "resources", and "harbour" (Kaiser 1911, § 316). Kaiser claimed that Countries represent a special case of Immovable Concretes:

> Immovable commodities include one kind of special importance – *countries* in the political sense. Their peculiarity is to be sought not so much in their territories, but more especially in the authority exercised within each territory as expressed in their laws etc. In addition there are the peculiarities of the inhabitants as expressed in their language, customs and habits. For these reasons we are obliged to treat the political divisions called countries as a distinct class (§ 300 [emphasis his]).

Needless to say, this attempt to provide a theoretical justification for the inclusion of the category of Countries within SI's categorial system by educing it from the category of Concretes is unconvincing for a number of reasons (Dousa 2013a, 418-420, 449-450; 2015a, 67-68). For one thing, the derivation is circular, in that the concept of countries is already present in the Kaiser's definition of Immovable Concretes, which, as have just seen, were defined as "physical features of *countries*" (emphasis mine—TMD). For another, it makes a conceptual leap from physical geography (Immovable Concretes) to political geography (Countries) that seems unwarranted. Moreover, since, as noted in Section 3.1 above, Kaiser tended to equate Concretes with commodities, the derivation required that politically defined territories be viewed, implausibly, as a subset of commodity. Finally, it assumes that a category consisting of particular individuals bearing proper names (Countries) could be derived from a category of general concepts bearing generic names (Concretes). In short, Kaiser's rationale for deriving Countries from Concretes rested on very dubious theoretical foundations indeed.

Whereas one may question the soundness of Kaiser's theoretical justification for the inclusion of Countries within the categorial scheme of SI, there can be no doubt about his commitment to this category nor to the importance which he accorded it, for, within the structure of statements, Countries were intersubstitutable with Concretes, which, in his view, constituted "the main term[s] of … statements" (Kaiser 1911, § 313). It remains to ask why Kaiser was so committed to the inclusion of the category of Countries in his indexing scheme. Here it helps to consider the chronology of his development of the categorial system of SI. In the earliest publication in which he outlined the use of categories in indexing, *The Card System at the Office*, Kaiser (1908, §§ 113-115, 142) set forth the tripartite version of his categorial scheme without attempting to give any theoretical justification for it, while in his subsequent detailed treatment of SI in *Systematic Indexing*, he presented both the dyadic and tripartite versions of the category scheme while adopting a theoretical framework that favored the dyadic version. Interestingly, in his introduction to *Systematic Indexing*, Kaiser 1911 (§ 20) observed that, while "a good deal of material" in his earlier book had been "drawn from the original manuscripts" of SI that he had begun drafting in Philadelphia, he had written new chapters for his current volume "which made a more precise statement of the parts on

indexing possible". Now one of these new chapters – entitled "Literature" – is precisely the one in which he first limned the ontologico-epistemological version of the dyadic categorial scheme (§ 52) that would form the theoretical basis for SI. All this suggests that the earliest version of SI made use of a tripartite categorial scheme (albeit one that allowed for both bimembral and trimembral statements; cf. Kaiser 1908, § 115), while the dyadic scheme – with its focus on Concretes and Processes as primary categories – represents a later theoretical elaboration which Kaiser tried to harmonize – not entirely successfully – with the original tripartite version featuring Concretes, Countries, and Processes.[20]

Thus far, I have argued that the tripartite version of the categorial scheme represents an earlier phase in the development of SI than the dyadic one. This explains why Kaiser allowed for the presence of Countries, as well as Concretes and Processes, in his indexing system, even if they did not fit neatly into the dyadic theory that he had elaborated to justify his categorial system. However, it does not fully account for the intersubstitutability of terms of Concretes and terms of Countries within statements: why should Concretes and Countries have been allowed to occupy the same primary positions within both dyadic and tripartite statement patterns? I suggest that the explanation for this feature of SI lies in the knowledge organization practices of the milieu within which Kaiser originally developed his method of indexing – the Philadelphia Commercial Museum. Now as we saw in Section 2.1 above, the PCM's exhibits of raw products marketed as trade goods were organized in two different ways: geographic exhibits featured a variety of products from one country or region, while monographic exhibits collocated the same, or similar, products from various countries. We have also seen that the card index files in the PCM's Bureau of Information were arranged in precisely the same manner; as the assistant chief of the Bureau at the time that Kaiser worked there noted in one of the museum's publications,

> In classifying th[e] mass of information [sci. in the subject index], two systems are pursued—first, by countries, so that, if it becomes necessary to make a study of the commerce of a given country, we find everything relating to that country filed under that particular section; the other classification is by lines of goods, so that, if we desire to study any particular line, we can, under its proper heading, find all reference to these goods in every country where they are now imported or used, giving full information as to the volume of trade and all trade conditions. (C.H. Green in Philadelphia Commercial Museum 1897, 18).

The PCM's card index files were designed to provide rapid access to information about kinds of products ("lines of goods") that could be trucked or bartered – that is to say, commodities – and the countries in which commodities could be bought or sold. Significantly, the forms of the statements that Kaiser codified for SI, in which terms of Concretes or terms of Countries always occupied the initial position, were based on exactly the same assumption – namely, that the user of an index would be searching for information about a

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[20] It is noteworthy that, in his third and final presentation of SI, read at a conference of the Association of Special Libraries and Information Bureaux in 1926, Kaiser (1926, 22-25, §§6-7, 10-12, 14-15) set forth the dyadic version of his category scheme focused on the distinction between Concretes and Processes while surreptitiously mentioning the Countries but not discussing them on the grounds that "they do not lead to any difficulties".

Concrete or a Country (Kaiser 1911, §§ 384-385, 433). There is thus strong reason to believe that Kaiser's categories of Concretes and Countries are ultimately derived from the two principal categories underlying the PCM's card index files – kinds of products and countries – and that his privileging of these two categories within the forms of statements in SI likewise reflects the animating assumption of the Bureau of Information at the PCM – namely, that these two categories best reflect the kinds of subjects in which businessmen involved in foreign trade will have an interest.[21]

If the reconstruction of the development of SI's categorial system offered above is even approximately correct, then it is safe to conclude that Kaiser's insistence on the use of both Concretes and Countries as the main terms in statements as well as the interchangeability of terms of Concretes and terms of Countries in certain positions within the structure of statements reflect the influence of KO practices at the PCM, an institution that, as we saw in Section 2.1 above, took as its mission the propagation of information about foreign products and markets to support the economic expansion of the United States abroad. From such a perspective, there is ample justification to consider this feature of the syntactic structure of the statements in SI as a reflection of the imperatives of economic imperialism.

4. Concluding Reflections: Is SI an Imperialist KOS?

In this paper, I have explored the linkage between one KOS from the late 19th and early 20th centuries – Julius Otto Kaiser's method of SI – and a major ideological force in the socio-political life of that time, imperialism. I began by considering the two institutional contexts in which Kaiser originated his method and where he gave it its canonical form – the PCM and the TC. As we saw in Section 2, each of these institutions was involved in projects of what can be termed economic imperialism: the PCM sought to educate American businessmen about foreign products and markets and so to promote American commercial expansion into new markets in the hopes of establishing informal American economic control over them, while the TC undertook research into British trade conditions in with the goal of establishing a tariff régime that would offer "imperial preference" to British colonies and so consolidate internal economic relations within the British Empire. There can thus be no question that the aims of the PCM and the TC harbored, each in its own way, imperialist ambitions and concerns. After establishing the imperialist ethos of these institutions, I then examined Kaiser's protocols for SI, as expressed in his canonical exposition of his system in *Systematic Indexing* for evidence of imperialist presuppositions in his indexing scheme, distinguishing between its semantic content and its syntactic structure. As was shown in Section 3.1, the semantic content of SI, defined primarily by three categories of terms – terms

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[21] For a more detailed version of this argument, see Dousa 2013a, 467-472. It should be noted that, as observed in Section 2.1 above, the PCM's subject indexes included a subsidiary file dealing with miscellaneous commercial subjects such as "imports and exports, freight rates from all sections of the world, duties, trade regulations, systems of banking, and, in fact, every subject that has any bearing on commerce" (C.H. Green in Philadelphia Commercial Museum 1897, 18). It is not out of the question that this subsidiary file may be the ultimate basis of Kaiser's category of Processes. Cf. Kaiser 1926, 22, §§ 6-7, who intimates that index terms interpretable as terms of Processes were present in the PCM's index.

of Concretes, terms of Countries, and terms of Processes –, does feature traces of imperialist content in its selection of, and rules for formulating, terms, though this is distributed unevenly across the different categories: virtually all traces of imperialist content are concentrated for terms of Countries, while terms of Concretes and terms of Processes tend to encompass commercial themes that have no necessary connection with imperialism as such. In Section 3.2, I examined the most distinctive syntactic features of SI: the structure of the complex subject strings, or statements, that it prescribes; the primacy of terms of Concretes and terms of Countries as the main terms in statements; and the interchangeability of terms of Concretes and terms of Countries within the structural patterns of statements. I showed that, although Kaiser sought to justify the structure of his indexing system with a theory that recognized only Concretes and Processes as fundamental categories, he nevertheless found a roundabout, if ultimately unconvincing, way of incorporating a category of Countries into this theory. I also presented a reconstruction of the historical development of SI, according to which Kaiser's firm commitment to the category of Countries and their interchangeability with Concretes can be traced back to the indexing system in use at the PCM, which organized the subject index files by kind of product, or commodity type, and by country, or geographical location. Underlying this method of organization was the presumption that American businessmen interested in launching commercial ventures abroad would be interested in information about the kinds of products available in foreign countries or the foreign markets they might seek to enter. This assumption seems to have carried over into Kaiser's structuring of sentence forms in SI, with his privileging of Concretes and Countries as well as the intersubstitutability of the two categories within statements. These structural features, then, can also be viewed as symptoms of imperialist influence upon SI.

From the foregoing, it is clear that, because of the institutional contexts in which Kaiser originated and developed SI, his indexing system bears the imprint of imperialist pre-suppositions in both its semantic content and its syntactic structure. This raises a more general question about the nature of SI: should it be considered to be an imperialist KOS? At first blush, one may be tempted to reply in the affirmative, especially given the circumstances in which Kaiser created and developed his indexing system. However, upon closer con-sideration, matters reveal themselves to be much more ambiguous. In Section 3.1, we saw that, in terms of semantic content, the canonical form of SI does not seem to have had appreciably more imperialist subject matter than other major KOSs of the period. Like SI, all of them featured the names of imperial colonies in their respective inventories and made provisions for referring to the great contemporary empires, either directly by name or through appropriate subdivision of terms or subjects. What is more, whereas the terms of Concretes and terms of Processes cited as examples in Kaiser's writings tended not to refer to specifically imperialist entities or activities but rather to commercial commodities and activities in general, other major KOSs did sometimes refer to imperialist realia like colonies

or colonization.[22] In short, the semantic content of SI does not support the notion that Kaiser's indexing system *qua* KOS was an inherently imperialist one.

Similar considerations pertain regarding the syntactic structure of SI. As was argued in Section 3.2 above, Kaiser's decision to give terms of Concretes and terms of Countries pride of place as main terms in the statement structures that he stipulated and the interchangeability of these two categories of terms within these structures appears to have been based on the indexing system in use at the PCM, an institution whose régime of KO was intended to organize information in such a way as to support a program of economic imperialism. This may suggest to some that statement structures of the form "[Concrete]—[Country]—[Process]" and "[Country]—[Concrete]—[Process]" should be considered to be imperialist indexing structures – that is to say, indexing structures inherently tainted by imperialist presuppositions. However, before one gives assent to such a judgment, it is worth inquiring whether comparable subject structures occur in any other of the major KOSs of the period. As it turns out, this is indeed the case.

Perhaps the closest parallel to the intersubstitutability of terms of Concretes and terms of Country in SI is to be found in a KOS created by Charles Ammi Cutter, the Expansive Classification. This bibliographical classification, so named because it consisted of "seven tables of classification of progressive fullness designed to meet the needs of a library at its successive stages of growth" (Cutter 1898, 84), consisted of three components – the seven progressively expansive tables of general subjects, a small auxiliary table of forms, and a much more extensive auxiliary table enumerating geographical regions, continents, and countries that Cutter dubbed the "Local List" (Cutter 1891-1893, 7, 8, 130, "Local List"). The elements of each kind of table were represented by different systems of notation: general subjects, organized by department of knowledge or discipline, were represented by letters (e.g., "Jʀ" = "Colonies"), forms by single digits (e.g., "2" = "Bibliography of the subject"), and names of geographical entities by single digits or decimal extensions thereof (e.g., "45" = "England") (Cutter 1891-1893, 79, 127, "Local List", 9; cf. Dousa 2015b, 82-83). These could be combined according to certain syntactic rules. Numbers from the form table always served as subdivisions of a subject (Cutter 1891-1893, 127): for example, a bibliography of colonialism would be expressed as "Jʀ·2" (i.e., "Colonies—Bibliography"). Numbers from the Local List, however, could be deployed in two ways. On one hand, they could serve as subdivisions of a general subject: for example, the subject of English colonialism could be expressed as "JR45" (i.e., "Colonies—England"). On the other, they could themselves serve as main classes, subdivided by general subjects: for example, the subject of English

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[22] Here it is crucially important to remember that, unlike other contemporary KOSs, SI did not prescribe a fixed inventory of terms, like a subject heading list or schedule of classes, but stipulated that indexers derive their terms from the literature they were indexing, on the assumption that they would index only subjects of interest to them (See Section 1 above). Because the canonical form of SI set forth in *Systematic Indexing* drew many of its examples from the card index files of the TC and the primary goal of the TC was to examine the economic effects of foreign commerce on British industry in order to frame a model tariff for imperial preferences (See Section 2.2 above), it is perhaps unsurprising that most of its terms of Concretes and Processes dealt with terms relating to commodities, manufacture, and commerce rather than to vocabulary pertaining to specifically imperialist matters.

colonialism could be also expressed as "45JR" (i.e., "England—Colonies") (Cutter 1891-1893, "Subject divisions under Countries"; 1899, 48-49). Thus, the structure of class numbers involving countries could take the following forms:

1. [General Subject]—[Country]
2. [Country]—[General Subject]

For any given subject involving a country, a library could choose the first of these forms if it preferred to arrange its books by general subject and the second, if it desired to arrange them by country: Cutter (1891-1893, "Subject divisions under Countries", 1; 1899, 48-49), for one, envisioned that "college libraries and other specialized collections for serious research work" (Dousa 2015b, 96) would prefer the latter, especially for the fields of language and literature but possibly in other departments of knowledge as well.

Even a cursory comparison shows that the convertibility of General Subjects and Countries in the class number patterns "[General Subject]—[Country]" and "[Country]—[General Subject]" is directly analogous to the interchangeability of Concretes and Countries in statements of the forms "[Concrete]—[Country]—[Process]" and "[Country]—[Country]—[Process]": we thus have to do with a structural homology between SI and the Expansive Classification. At this point, it is instructive to take into account the context in which Cutter developed his bibliographical scheme. He created the Expansive Classification while serving at a librarian, first at the Boston Athenaeum and later at the Forbes Library in Northampton, Massachusetts (Miksa 1978, 110-112). The former was a subscription library with a strong orientation to high culture and literature that "functioned as a focal point for the … Boston-Cambridge intellectual community" (p. 110), while the latter was a public library: neither of them had any particular connection to imperialist thought or activity. Moreover, as we have just seen, Cutter considered the alternation between "[General Subject]—[Country]" and "[Country—General Subject]" in class numbers to be of greatest interest and advantage to college and research libraries wishing to collocate books on languages and national literatures. It is thus abundantly clear that the Expansive Classification made use of a syntactic structure directly analogous to the one in SI with absolutely no reference to imperialism at all. The fact that the syntactic alternation of the class number structures "[General Subject}—[Country]" and "[Country]—[General Subject]" is neutral and not at all inherently expressive of imperialist presuppositions strongly suggests that it is best not to consider the structural alternation in statement forms between "[Concrete]—[Country]—[Process]" and "[Concrete]—[Country]—[Process]" (or its analogue, the convertibility of terms of Concrete and terms of Countries in the forms "[Concrete]—[Process]" and "[Country]—[Process]") to be *eo ipso* an imperialist indexing structure. Such a conclusion is consistent with the general principle that it is semantic content, not syntactic structure, that determines the ideological orientation of a KOS (Dousa 2014b).

The question of the relation of SI to imperialism, then, ultimately confronts us with a paradox. On one hand, we have seen that Kaiser created, developed, and implemented his indexing system in institutions whose institutional cultures were undeniably imperialist in

tenor; on the other, we have also seen that SI is not notably more imperialist in its semantic content than contemporary KOSs and the syntactic structures of its statements are not, in and of themselves, inherently imperialist in nature. Is, then, SI an imperialist KOS? Here, I suggest, it is useful to revert to the distinction between internalist and externalist perspectives limned in Section 1 above. From the externalist perspective, which takes into account the broader social-cultural contextualization of KOSs, one is justified in considering SI to be an example of an imperialist KOS, in the sense that it was a KOS developed and implemented in institutional contexts informed by imperialist aims and presuppositions. It should be stressed, however, that such a judgment is based primarily on the contingent historical circumstances in which SI arose and the influence of imperialist presuppositions upon the formation of its semantic content and syntactic structure, not on the content or structure of the KOS itself. On the other hand, from an internalist perspective, which prescinds from external factors and focuses upon KOSs *qua* KOSs and seeks to situate individual KOSs within the development of KO theory and practice, one is justified in concluding that SI is not an example of an imperialist KOS, for its syntactic structure does not contain any elements that are, of themselves, inherently imperialist, while its semantic content is not primarily defined by, even if it does include some allusions to, imperialist subject matter. Paradoxically, then, SI both is and is not an imperialist KOS, depending upon the perspective from which one chooses to view it. Scholars of KO who decry the historical effects of imperialism and colonialism on world culture can take solace in the fact that the intellectual heritage of SI for KO – in particular, its innovative use of categories in the formation of statements – is not inherently imperialist in either form or content.

Acknowledgements

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