María J. López-Huertas (Keynote Address**)**

The Integration of Culture in Knowledge Organization Systems

Abstract

Culture has always been implied in the knowledge organization (KO) and the Knowledge Organization Systems (KOSs). It has been said that the latter are cultural artifacts because they are expressions of a given culture at a given time. It is evident that awareness of the importance that may have the cultural factor in this context has been slow but constant over time. This paper intends to reflect on the role of culture in KO and KOSs and to look at the main highlights and contributions in the field from the first reactions on this issue to the present day. That gives us the chance to observe how this topic evolves over time. Finally, some actual proposals for integrating culture in KOSs are given with special emphasis in two different models for approaching the problem: one for the integration of subcultures in a main common culture and the other for the integration different cultures in a general KOS.

Culture is a complex and ambiguous concept. It is considered that its complexity is due to its ambivalence that originates in the effort to reconcile the liberty and the human regulatory limits, the ambivalence between the creativity and the norms that rule humans in society (Cardoso Rodrigues 2015). It is an evolving concept which adds difficulty in conceptualizing it. Because of these difficulties, scholars have not reached an agreement about what we mean by culture. However, it is not our aim to go deep into the general concept of culture, and for that, the historicist conception of culture will be followed from here on. According to this approach, culture would be "the intellectual, artistic and moral aspects of a civilization or a country. So, we can talk about occidental culture, Hellenic culture and Brazilian culture" (Cardoso Rodrigues 2015). The concept of culture is transdisciplinary and refers to phenomena that make up the collective beliefs and activities of groups of people. Discussions of culture commonly refer to shared values, language, history, collective memory, social attitudes, preferences, practices, etc. (Beghtol 2002). When we talk about culture, the scope may vary. It can be very wide if we refer to the cultures of the world (Occidental, Oriental, etc.) or it can be much more restricted if we are talking about different cultures coexisting in a country, for instance.

The impact of culture in knowledge organization (KO) has been repeatedly recognized in the field of Library and Information Studies (LIS) and the need for research on solving the problems that this fact poses is a hot issue in KO. Some research has been carried out on this issue, but they do not usually address how to handle categories representing a given field of knowledge in a real setting in order to create a knowledge structure be able of harmonize them all with the aim of constructing a more communicative system.

This study will reflect on the meaning of culture in KOSs, starting with the first general classifications where culture meant some deviations in the selected subjects to be represented and in the way they were classified. Later, scholars refer to it as bias in the classification systems. Then will be a short tour through time that allows seeing

how this issue was gaining importance until a clear awareness is detected. An account of outstanding contributions on this subject, in our view, is given at the time that an increased interest for the study of the indigenous knowledge is detected. Finally, some of the proposals that favour cultural integration in global KOSs will be discussed.

1 Culture did not always mean a desired feature in KOSs

The inclusion of cultural view-points in KOSs is now considered as a desired action to be taken when designing and constructing those systems. This presence is demanded by many scholars and has created a body of literature behind it. But, had the cultural point of view the same effect in KOSs in all instances?

Culture, knowledge organization (KO) and knowledge organization systems (KOSs) are tightly bound together in a way or another. Since the first bibliographic classifications were published to the actual systems, culture is something inherent to the act of designing and making a conceptual structure as a tool for information recovery whether its presence is conscious or unconscious. It can also be said that the incorporation of cultural features in KOSs have not always meant something positive.

More than a century has passed since the first classifications appear, and it can be said that they were exponent of cultural inputs.As a clear example, let us take class 2 of the UDC, before this class was completely reshaped, for a quick test. The first 8 subdivisions are referred to Christianity and the rest of them were all put together under the 29 subclass with the general name of 'No Christian religions', not to enter in the categorization which is made to refer to some churches which are grouped under the name of sects. The aforementioned categorization and organization of the religious knowledge was influenced by the culture where the author of the classification was raised in. This fact gave place, some decades after, to a common concern that can be summarized in the following: classifications are an expression of the way in which its creators see the world or KOSs are cultural artifacts that have a powerful influence on individuals within a given culture (Beghtol 2001). First classifications were created in a time where the field was speculative and not sensitive enough about the problems that may cause to ignore the socio-cultural aspects of potential users in systems that were called universal. This is an example of a negative inclusion of culture. It really means exclusion because it reflects only the Occidental vision in a system that pretends to be of universal use. It is exactly the opposite to the current idea of incorporating the cultures in an integrated way.

Now, let us give a jump to the arrival of the Internet. It is said that there are no cultural borders since we can move around the world, but does it mean that cultural differences has been taken into account when knowledge has been organized on the Web? I would say that yes, we can move around but most of the times using a single model of culture that it is again the Occidental one. We are witnessing again that Internet is a cultural product, and that knowledge organization has been considered as a cultural form of new media (Andersen 2008). The reasons that make it happen are

different from that mentioned in the case of classifications, but still the final result is the exclusion of less favored cultures or the domination of a given culture on others. These are cases in which the cultural perspective negatively affects systems that have been created for universal use.

There has been a concern among scholars regarding this problem that has finally arrived at the revision of classifications to minimize these unwanted results.

2 Highlights in the integration of the cultural point of view in KOSs

International networks, international cooperation, projects and learning, global information systems of any kind have evidenced a reality already known in KO but never perceived to be as demanding as it is nowadays: cultural warrant. This concept needs reformulation according this the new circumstances. There is a need for representing and organizing cultural differences in an integrated way not only in KOS, although it is a major concern here, but also in other settings as could be the case of systems for e-learning. Global systems made it possible the coexistence of different cultures. In fact, the Web crosses and defies cultural and linguistic boundaries around the world and points to new uses and new users of information. Given this situation, the need for cross-cultural research have been detected by many scholars and the impact of these issues in information systems requires research in order to face the problems posed by new global information systems (Hunter & Beck 2000). Universal access bears a great relation with the capacity of systems to integrate cultures in theirs structures. As Treitler (1996) argued, without the integration of cultural differences in information systems, universal access cannot be guaranteed.

Some authors, while recognizing that cultural issues are often neglected in information systems, point out that "much research has focused on the effects these systems hold rather than viewing systems as tools to be designed given an understanding of socio-cultural context. Emerging research in community information systems and archives has highlighted possible interactions between system design and ethnographic research" (Srinivasan 2007, 723). There is a call for developing systems based on ethnographic knowledge and for concrete proposals regarding the design of such systems. Other studies urge reflection about the theoretical concept of multiculturalism as a "dangerous slogan and not sufficiently critical as to tackle the rights of diversity and singularity even within a given (but not real) mono-cultural society [...] Research on KO must be open to a new paradigm in which Critical Theory and hermeneutics go together" (García Gutiérrez 2002, 517).

The sensitivity to the role of culture in KOSs is old in our field to the point that has been considered a long term research question in KO (Gnoli 2008). Maybe one of the first manifestations of this interest was the biases detected in the first bibliographic classifications that last until now, as it is claimed in López-Huertas (2008). A token of that is the contribution of Rebecca Green (2015) who studied how indigenous people in the U.S. are represented in the Dewey Decimal Classification. She analyzes how they

are grouped or dispersed in the classification, how they are categorized, that is under which label they are represented, and the terminology used.She focused in marginalization through ghettoization, historicization, diasporization and missing topics.

It is also evident that we have witnessed a progressive concern about the importance of the cultural integration in KOSs that has been much stressed since the beginning of the 21st century coming to be seen as a sign of quality of the systems (López-Huertas 2008), although the last decade of the 20th century was also active regarding this matter. An expression of that concern can be found in two International ISKO Conferences, one in Granada in 2002 under the theme Integration of knowledge across boundaries (López-Huertas 2002) and the other in Montréal in 2008 devoted to culture and identity (Arsenalult & Tennis 2008). I would say that, as a result, a renewed interest in these issues emerged among researchers.

The increased concern of scholars towards the need for the inclusion of the cultural factor in KOSs, together with cross-cultural character of global information systems culminated with new theoretical formulations in the last decade, as it will be shown below.

2.1 The cultural warrant

One of the main contributions along the way to incorporate cultural points of view in KOSs was the formulation of the concept cultural warrant. This expression was used to draw attention to the need to take into account socio-cultural characteristics of users for which information systems were created in the belief that different cultures need different kinds of information.Some authors claim that culture plays an important role in the perception and recall of information, that different cultures may have different understandings of information (Kim 2013). The expression of cultural warrant was coined by Lee with the meaning of "the influence of socio-cultural factors in the semantic relationships of classification systems" (Beghtol 2001, p.104). It means that any kind of KOS can be appropriate and useful only if it is based on the values and assumptions of that same culture. Beghtol´s idea of cultural warrant includes the concept of user warrant that refers to the collaboration of potential users in the development of information systems. It is justified on the assumptions that users pertain to a certain culture and that they act as representatives of a given culture when they participate and use KOSs. She claimed that KOSs are maximally appropriate and useful for users in some culture only if they are based on the values, beliefs and assumptions of that culture. This quality will decrease when these conditions are not met.

Beghtol's 2002 article develops and deepens the concept of cultural warrant (Beghtol 2002). She expressed that, due to the increased globalization of information resources, there is a need to protect cultural and information diversity. In order to facilitate the incorporation of cultural viewpoints, she introduced the concept of

cultural hospitality, taken from the concept of hospitality as a required attribute of the notations of the classifications. She claims that the problems of globalization for KOSs can be approach by broadening the concept of hospitality in two ways: By concentrating on techniques for adding new concepts to KOSs and by adding not only new concepts but also the addition of different cultural warrants that in turn may include different user warrants. That is, "we need to make each knowledge representation and/or organization system, which by definition is based on some cultural warrant, 'permeable' to other cultural warrants and to the specific levels and layers of individual user choice within each culture" (Beghtol 2002, p. 518).

2.2 Integration of cultures in KOSs turns in an ethic issue

Cultural and social differences are important part of reality and they should occupy a prominent place in KO, especially when looking at global information systems either specialized or general. The importance of cultural issues to KO goes beyond its objective importance, it is a question closely related to professional ethics. It is also a question of being aware of what could be behind global systems in the sense that those systems might be using standardized views and KO models that are designed to fit certain visions of the world that reflect views and beliefs of dominant economies and cultures. There might be different good final reasons for addressing cultural topics in KO, but there is one that cannot be overlooked and this is the responsibility for us to watch over the information needs in non dominant cultural and economic regions or groups by representing them in global information systems. Users belonging to these areas have the right to access to information in an understandable way for them, and to be aware of it and to respond by creating the media to allow such a communication is an ethical question for KO researchers and professionals.

For these reasons, the idea of designing and constructing global KOSs that integrate the cultures to which they address goes beyond theoretical or methodological considerations directed to improve the retrieval systems. It has to do with responsibility of those who make these systems in order to get KOSs which are representative and fair for their users. So, we can understand that the concept of cultural, user warrant and cultural hospitality is tightly bound to that of ethics. It is openly expressed by Beghtol when she says that there is a need for providing "information globally, locally in any language, for any individual, culture, ethnic group or domain, at any location, at any time" (Beghtol 2002, p. 507). In fact she is concerned by the design, construction and maintenance of global information systems based on ethical principles and, in that scenario socio-cultural aspects play an important role. She arrives at the concept of ethical warrant for globalized KOSs that is based on three assumptions: "KOSs should be based on ethical principles, the ethical context(s) of cultural globalization should influence the design of ethically based KOSs and any discussion contains ethical preferences that may or may not be as explicit as is desirable" (Beghtol 2002, p.513). The absence of that causes biased representations that have been well documented in

the field, in special in cataloguing and classification practices and methodologies to recognize and avoid such biases are required. Lee (2015) reflects on the relationship between ethics, KO and culture arriving at the conclusion that the cultural issue raises ethical issues in KO

The ethical approach to KO is a current research question that is gaining attention among the specialists. I would say that the inclusion of a session and round tables on that matter in the International ISKO Conference held in Granada 2002 was an important point of departure. Since then, Ethics has been present in all ISKO Conferences to the point that it has been chosen as the topic in 2009, 2013 and 2015 Milwaukee Conference on Ethics on Knowledge Organization, organized by the Knowledge Organization Research Group and the Center for Information Policy and Research of the School of Information Studies at the University of Wisconsin-Milwaukee. Papers presented in this Conference has been recently published in the volume 42 (2015) of Knowledge Organization.

It can be said that the ethical approach to KO is considered today as a new core in the domain, a key component of KO that is actually supported by a new emergent cluster of authors (Smiraglia 2015).

3 A renewed interest in indigenous and local knowledge

A direct result of the vivid interest aroused by cultural and ethical issues is a renewed concern to get to know indigenous and local knowledge. Both actions are close related because you need to know the local culture in order for it to be represented and organized in information systems. There are a wide range of approaches to local cultures that goes from areas with oral traditions to regions with literary traditions. So, studies on indigenous knowledge at different levels and realms are emerging. There are contributions about how to manage indigenous knowledge (written or oral), how to organize it (Rao 2006, Kargbo 2005, Muswazi 2001, Espinhero de Oliveira 2002, Liew 2004 and Doyle 2006), how to carry out indexing activities using controlled languages in indigenous cultures (Monajami 2003) and how to construct controlled vocabularies for indigenous knowledge (Amaeshi 2001). Liew (2004) argues that the Maori language can be reconciled with worldwide use in digital libraries. Another attempt to have global systems accommodate the peculiarities of local environments is that described by Rolland & Monteiro (2002). The indigenous knowledge in India has been addressed by Rao (2006), although his emphasis lays on pointing out its importance for society in general and the need for documenting it. He defines it as a local and tacit knowledge that is unique of a given culture and claims that it is the basic component of any country knowledge system. He also identifies the characteristics of the indigenous knowledge and the types of it and states that is the key resource for social development and global issues. It is recognized as public knowledge. He suggests that this knowledge needs to be documented in order to make

it available and to facilitate due recognition to its holders. The knowledge organization structure of Taiwan's aboriginal cultures has also been object of study.

4 Some of the proposals that favour cultural integration in global KOSs

As it can be seen from the previous paragraphs, there is a deep concern regarding the need for cultural integration in global KOSs. This interest has given place to the formulation of theories where to support it, but unfortunately we do not have many examples that show how to do it. It is the aim of this section to give an account of the main proposals to our knowledge that would allow the construction of KOSs ethically founded and culturally representative.

4.1 Theories and methods favouring cultural integration

Cardoso (2015) suggests theories and methods that can meet the needs posed by cultural integrated KOSs. As a general frame, he states that the chosen theories should consider knowledge dynamism and be flexible so as to allow the continued hospitality of conceptual elements in the system. Cognitive based theories are also recognized to be of great help in doing this task. He mentioned five theories and methods that will help in accomplishing cultural integration: Cognitivism, Poly-representation, Domain Analysis, Faceted classification theory and Integrative levels theory.

The cognitive approach can collaborate in the improvement of communication between the system and the users' information needs. It will help in understanding the human cognitive mechanism in the process of information acquisition and its subsequent transformation into knowledge.

The principle of Poly-representation (Ingwersen, 1996) suggests that a representation of information according to the multiple users' need, problems and their states of knowledge. This statement deserves some comments. I would say that actually the application of the concept of poly-representation goes beyond the scope of the user, although in origin may have this sense due that Ingwersen belonged to this school of thought. However, it was soon taken to express an exhaustive representation of the relevance of each concept to be included in conceptual structure after applying discourse analysis to identify relevant textual elements for a given concept (López.Huertas 1997). This approach might be also useful for managing multicultural structures.

Domain analysis helps in the understanding of the domain through the eleven methods proposed by Hjørland (2002). This theory will help to understand and to identify the cultural structures in any culture, making possible the real understanding of them.

The Ranganathan facet theory and the Integrative levels theory will support aspects of the knowledge structuring related to practical questions, logic, norms and theory. The first one will help in the systematization of dynamics domains though its rules, canons, the continuous hospitality and its facet system. The second one will collaborate

as a model by contributing with its vision of systemic and interconnected elements that is how culture is conceptually understood by specialists. Cultural elements are interconnected and each element depends on state that others assume. Inside the system, there are rules so no element transgresses its limits to avoid the imbalance of the whole.

4.2 Changes in structural principles for KO

Some authors have studied the fundamental principles of classifications based on the Western logic to indicate what has to be changed in order to construct KOSs that meet cultural warrant. Hope Olson (2002) is an example of this trend. She addresses the cross-cultural issue and points out that the essential principles for KO in the Western world, such as mutual exclusivity, teleology and hierarchy, hinder multicultural inclusion in KOSs. She makes a deep reflection on the work Primitive classification by Durkheim and Mauss where logical classifications developed in the Western culture, inspired in Greek philosophers, and classifications made by primitive cultures that do not follow this pattern. Instead, the logic of primitive classifications is derived from social classification, arriving at the conclusion that primitive classifications do not meet the Western logics principles. Especially interesting is the reflection on the hierarchical principle because it is found to be an obstacle for cultural integration, claimed by Olson here and later developed by López-Huertas (2013) as it will be shown below. Olson finally claims that organizing knowledge based on different structural principles would favor cross-cultural understanding and enhance KO. She suggests other kind of structures to represent cultural knowledge and points that those structures should have contradictions, deviations and overlapping. To give an example of this approach, she uses her proposal to organize the knowledge of feminist culture which is "frequently a circle with variants including a spiral and a web" (Olson 2000, 8).

It seems to be quite clear that we have to move to conceptual structures not based on hierarchical logic in order to accommodate the cultural perspective in KOSs. That is to say, at least, that the designer of these systems needs an open mind in order to abandon traditional logics in favor of other solutions when needed.We can even say that it is a trend suggested elsewhere. An example of that can be seen in the content of the special issue of the journal Knowledge Organization, published under the title "Paradigms of knowledge organization: The tree, the net and beyond" (2013). We can find here different approaches explaining the move from hierarchies to other forms of KO in order to fit new needs.

4.3 Multicultural semantic warrant for global understanding

Cultural integration has much to do –I would say that it is the main issue- with the construction of conceptual structures where users from different cultures are familiar with the representation and the organization of concepts in those systems. The naming of categories takes the most important role here because one main goal would be to

look for categories that are shared by the cultures for which the information system is made to reach. At the same time, the categories have the potential to organize knowledge, so are a key element in the construction of information systems.

If different cultures are to be represented in global KOSs, a deep knowledge of them is required for later integration. That is, knowledge generated inside them that reflects how a given topic is perceived and addressed to in a particular cultural area. One of the best ways to do it is by analyzing the content of the publications produced in that area.

The following is based on the results of several studies that show the representation of the same specialized, contextual knowledge in different cultures, the differences imposed by each culture and some suggestion for trans-cultural categorization. Two different situations are going to be discussed: the integration of subcultures, that use the same language, in a primary culture and the integration of several different cultures. From here, we can talk about two models for cultural integration: 1. Integration of subcultures that belong to a given cultural area, as it is the case of the Spanish, Cuban and Uruguayan cultures that belong to the Occidental and 2. Integration of different cultures as it is the case of the Occidental, the Hindu and Eastern Asian.

Model 1. Integration of subcultures that belong to the same primary culture. In this case, Gender Studies was the specialty chosen to carry out the research. In order to know how this topic is perceived and addressed to, specialized publications issued in Spain, Uruguay and Cuba were identified and later indexed. The extracted vocabulary was treated separately and later processed in order to get a primary structure for each culture. Then, a common broad structure could be built, as it can be seen in Figure 1:

Figure 1. Integrated structure of Spain, Cuba cultures and Uruguay for Gender Studies
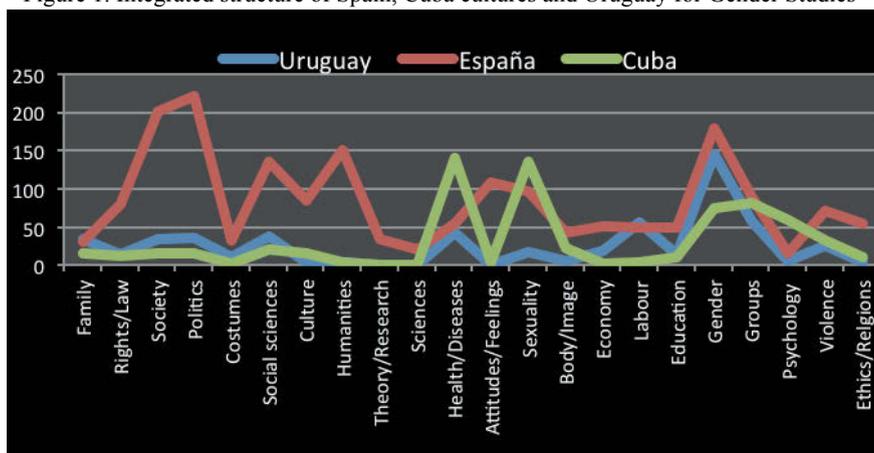
This structure includes the main categories identified for the three regions and the weight that they have in those cultural areas. According to this, cultural integration in this model should have a conceptual structure that represents all of the identified classes, no matter that one of them is not representative of any particular culture, and has to go as deeper in the description as is required by any culture.

Model 2. It is referred to systems that have to integrate different cultures. The intention is to show that intercultural categories could be shared in a considerable extent, that the citation order that said categories receive in each culture is incompatible with a common structure and that the harmonization of the categories in a structure based on the meaning of categories could be an answer for building a structure able to communicate the cultures represented by those categories. Our goal here is give an idea about how to organize a common structure at the first steps of development because the categories at hand do not allow going any further.

Our example is concerned with Western, Hindu and Eastern Asia cultures. The topic chosen for the study is musical instruments. In this case, the point of departure is a number of categories identified for each region, based on Western dictionaries definitions (López-Huertas 2013) and on classifications of music representative of the Hindu and Eastern Asian cultures (Kartomi 1990). It is understood here that concepts are the units for knowledge representation and organization, understanding units related to semantic holism. Units are formed by characteristics according to which knowledge should be categorized and organized.) Many of the theories on concepts refer to characteristics defining the concept, called by Dalhberg knowledge elements, as essential elements for concepts definition. So, identifying these characteristics (knowledge elements) for a particular concept (knowledge unit) is a main goal for knowledge organization (Dalhberg 2011).

A comparison of categories is demanded in order to find out for them to be integrated in one scheme. If we pay attention to the literal translation of the categories, we find that the Hindu and Asian categories do not match with those found in the occidental culture. This was the case of Major and Minor limbs, Male and Female instruments, etc. However, a closer semantic analysis of categories allows discovering similarities between the three cultures. That is, if we look at the meaning of Female instruments, for instance, which means big instruments, we have the category Size which is in the Occidental scheme as well.So, if we apply this analysis to the example above, we found that 50% of the categories are shared by the three cultures, 10% are partially shared and 30% of the categories had no equivalence in either culture. This fact provides a basis for considering the integration. Regarding the citation order of categories found in the three schemes, the situation is quite different because there is no coincidence in the citing order of neither culture (López-Huertas 2013). This is due to the fact that the order of citation is much influenced by believes and customs which are responsible for assigning value or importance to the categories to be ordered in the

classification. As a result, the final structures have little in common. It is also in relation to the kind of music and the instruments related to it that identifies each culture in this case. For this reason, subordination needs to be avoided as much as possible. In principle, when subordination within a class takes place, it should be done by using categories shared by the cultures represented in the SOCs. For instance, material and physical characteristics subclasses, which are shared by the three cultures, could also be used for further subordination in other subclasses when needed. We believe that, by doing this, communication problems are expected to be reduced. Following this procedure the following first step classification emerges:

Figure 2. First level integrated structure for Musical Instruments
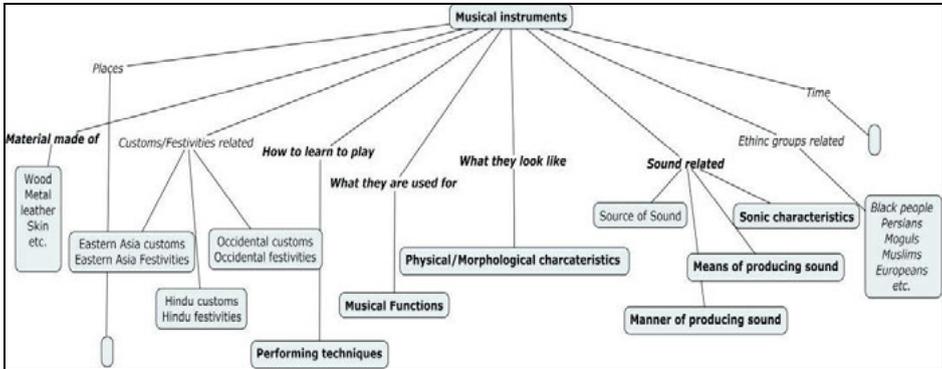
These tags have the function of organizing the knowledge and acting as information recovery and navigator keys. Place and time appear only in the Occidental case, so it is convenient to wait for more information to develop them. Categories in bold face are those completely shared. Categories from Eastern Asia are in italics- No subordination has been used for arranging categories under the sound related one.

Three of them (the most representatives) were further developed: Sound related, Musical functionsand Physical/Morphological characteristics as it follows in the same order:

Figure 3. Development of Related to Sound Category
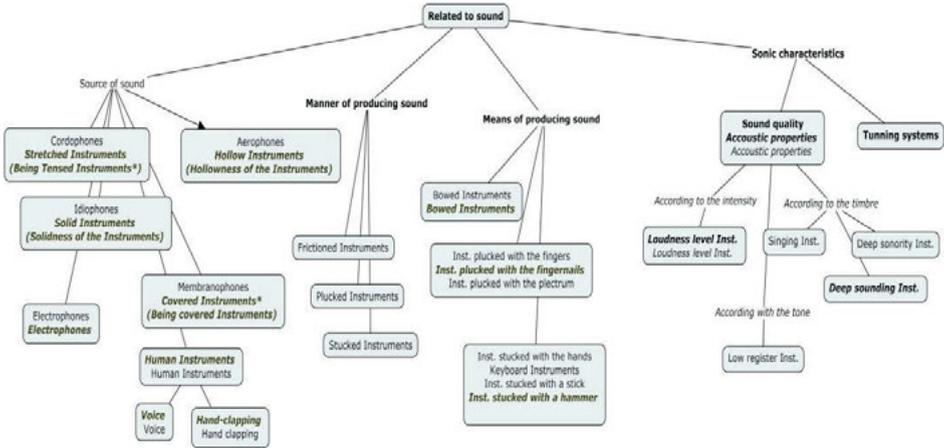
We can see in Figure 3 that there are four general categories subordinated to Sound. In red are the completely shared categories. When different wordings occur, these are given below the red one. In italics bold are the Hindu categories, in italics Eastern Asia categories and in black the Occidental categories. Stretches instruments* in Hindu do not only design cordophones, but also stretched-skin instruments. The case of covered instruments* is similar. It means that something covers an opening or hollow. It does not include certain membranophones such as the free kazoo type.

Figure 4. Development of Musical Functions category
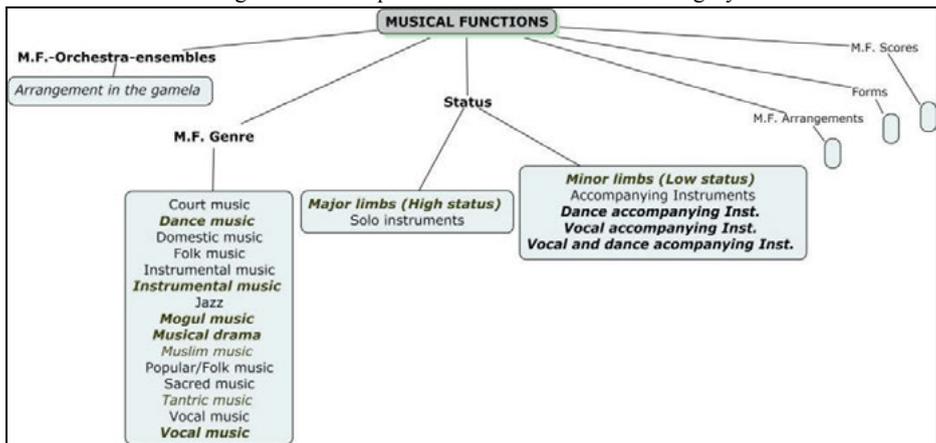
By now, six subcategories formed the Musical Function category (Figure 4). Only three of them (M.F. Orchestra/ensembles, M.F. Genre and M.F. Status) could be developed because we only have information related to the Occidental culture for the rest of them.

In Figure 5, an example of the development of the Morphological characteristics is given. This category in Hindu and Easter Asia classifications is not much developed, although it is mentioned in the description of some instruments. The scheme below only includes categories in referred to in those aforementioned classifications. These are in italics (Eastern Asia), italics bold (Hindu) and black (Occident). The shared categories are in bold. Size is in bold although is formally mentioned in two cultures (Eastern Asia and Occident), but it is supposed to be found also in the Hindu culture when more data are at hand.

Figure 5. Development of Morphological Characteristics category
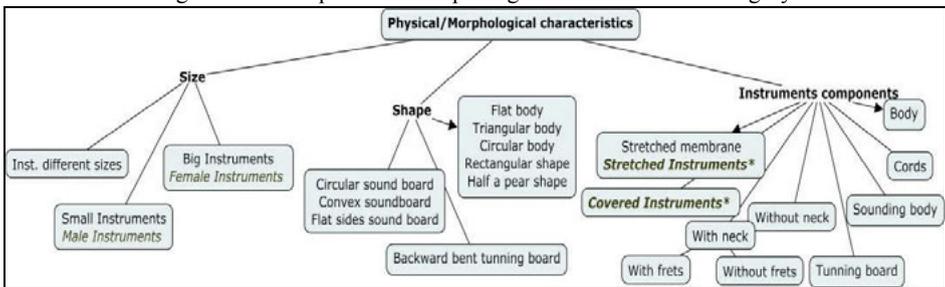
In a similar line of thought, Neelameghan and Iyer point that the global systems "have several impediments such as cultural bias, misinterpretation of concepts and non-existence or non-acceptance of ideas of one group by people of other cultures or faiths" (Neelameghan & Iyer 2002, p. 539). At the bottom of this claim, there is a need for representation elements that are common to all cultures for which the information system has been created, a need to identify categories shared by those cultures that mitigate the problem of communication across cultures. They study the site Mysticism in World Religion, where six religions were compared to show the possibility of finding these common elements. In this case, you will find categories common to all religions or a list of categories representing the six religions that allow for a search of information to the users of any of those religions (Neelameghan & Iyer 2002).

5 Conclusions

Awareness of the need for the integration of cultures in global systems is lately much demanded by KO scholars. It has been a slow but progressive concern that has given place to important contributions that have provided a point of departure to meet this demand.

There are contributions suggesting general theories to address cultural integration. However, there is a need for more research on real settings that face actual problems and that could offer solutions to those problems.

A deep knowledge of how the subject is represented (categorized) and organized in each of the cultures included in the structure is needed in order to find common categories to take into account to build an integrated structure.

Building the structure based on the meaning of categories no matter what they mean literally seems to be a good choice for cultural integration because it allows harmonizing the cultures involved. Potentially, it would increase communication between users of said cultures and the system.

It is expected that not shared categories are found. They also can be included in the KOS by representing them in the same way: according to the meaning of said categories

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