29-6-08 Dear Birger, Maria, Claudio, Jack, and ISKO Colleagues, *Preliminary remarks.* This overview does not substitute a research paper. It is a short overview designed at enlightening some of my methodological and theoretical considerations while developing the map. ... *Overview (abstract).* 10 Pillars of knowledge is a systematic map of human knowledge. It presents, at a glance, the structure of knowledge and the meaningful relations among the main fields. It has different levels of abstraction (i.e., versions). The version presented in the scientific poster titled "10 Pillars of Knowledge: Map of Human Knowledge" is composed of 10 parts, which are divided into relevant categories; a total of 70 categories. This is crucial. The hierarchical structure is composed of 10 main categories (i.e., pillars or parts), and 70 sub-categories. It maps 150 main fields of knowledge. Note that the 150 fields are not part of the structure. 10 Pillars is based on theoretical and empirical studies. It is an ontology of knowledge rather than a subject classification scheme (but it can easily become a subject classification scheme). The map is adequate (i.e., covers all fields of knowledge) since it can represent all fields of human knowledge. In other words, every field of contemporary human knowledge can be represented (i.e., placed in at least one category) in the map. The map is systematic; namely its categories are exhaustive and mutual exclusive. *Methodology.* The structuring of the model was composed of two general phases. First, I formulated the 10 main parts, and then I zoomed into each part and formulated the categories and subcategories. Formulating the 10 pillar structure was based on rational analysis and philosophical considerations (see bellow). Formulating the categories and subcategories was based on an empirical study. The research methodology was the Grounded Theory (Glaser & Strauss, 1967). The Grounded Theory is a well known qualitative research methodology. The raw materials used for the empirical study were thousands of terms. These are names of fields and disciplines listed in approx. 20 resources; among them library classification schemes (LCC, DDC, UDC), websites of national academies of science, web directories and search engines (science.gov, Intute,) Encyclopedias (Wikipedia's list of academic fields, Propaedia (Encyclopedia Britannica), and the like. While analyzing thousands of terms it became evident that there are similarities and duplications, confusion, and divergence. The analysis resulted in nearly 600 fields and sub-fields. Note that the number of fields is problematic, since it depends on the definition of "field". The definition of "field" requires another discussion. Anyway, if it includes 190 country-based area studies (e.g., American Studies, Israel Studies), thousands of languages, hundreds of religions, and the like, it can exceed to several thousands. Then I analyzed the 600 fields and group them in 150-200 main fields. This was done by grouping all the related subfields under their main field. For example, I gathered all the medical sciences (e.g., Internal Medicine, Pediatrics) under the umbrella name "Medicine", all the biological sciences (e.g., Anatomy, Botany, Genetics) under the umbrella name "Biology", and so on. These 150-200 fields are the core of human knowledge. It was clear that in order to develop a basic map of human knowledge I can work with these 150-200 fields. I classified the fields according the 10 pillars, and started to develop 10 taxonomies; a taxonomy for every pillar. The fields were part of the taxonomies. In other words the taxonomies were composed of categories such as "Biology", and "Medicine". However, these taxonomies were not systematic. They were composed of general names, such as Social Sciences, Natural Sciences, the Arts, and names of specific (groups of) fields (e.g., Philosophy, Psychology). The confusion was inevitable. In order to resolve the inconsistencies I decided to differentiate between the categories of the map and the fields of knowledge. The fields are not part of the map. They are being mapped by the map. This paradigm shift paved the way to formulate the categories. It resolves another potential obstacle, namely, future disagreements and contradicting interpretations on the place of specific fields. Disagreements regarding the fields do not jeopardize the validity of the map, as long as every field can be placed in at least one relevant category, in the eyes of the beholder. I also decided to implement the Theory-Embodiment model at the pillar level. Therefore the first category in every pillar is Theory. This means that the Theory-Embodiment structures of the pillars are typologies (rational-based) while the 'Embodiment' categories (i.e., all the categories excepting the Theory categories) are taxonomies (empirical-based). The following scheme summarizes the process:

Phase 1: Formulating the 10 pillars (typology)
Phase 2 : Formulating the categories and subcategories
2.1. Collecting thousands of fields listed in relevant resources.
2.2. Analyzing thousands of fields. >> 600 fields.
2.3. Analyzing 600 fields. >> 150-200 core fields.
2.4. Developing 10 taxonomies by analyzing the 150-200. >> Dead-end

2.5. Paradigm shift (distinction between categories and fields).
2.6. Applying the Theory-Embodiment model at the pillar level. >> Theory categories.
2.7 Formulating the 'Embodiment (i.e., phenomena-based) categories >> 10 taxonomies.

Structure. Pillars. Human knowledge is composed of 10 pillars: 1. Foundations 2. Supernatural 3. Matter and Energy 4. Space and Earth 5. Non-Human Organisms 6. Body and Mind 7. Society 8. Thought and Art 9. Technology 10. History. This division is based on the explored phenomena. This means that the various fields of knowledge are grouped into 10 groups. Each group of fields is focused on a general common phenomenon. Note that the division of knowledge into ten groups is very practical for various purposes. Therefore, practitioners and scholars tend to adopt the 10 part division; for example DDC, UDC, and Propædia: Outline of Knowledge (Mortimer Adler, editor, Encyclopedia Britannica, 15th edition, 1975) are composed of 10 parts. [BTW, according to my conception of KO the 4 knowledge maps, DDC, UDC, Propedia, and 10 Pillars are part of KO (note, that the term "knowledge map" is applicable to various types of knowledge structures)]. While developing 10 Pillars I was inspired by the Propedia. Despite noticeable similarities these two systems differ by fundumental characteristics. The 10 part paradigm is not essential. I can easily divide pillar 8 (Thought and Art) into 3 pillars, Thought, Literature, and the Arts, and turn the 10 Pillars into 12 Pillars without affecting the Knowledge-Supernatural-Universe-Humans model (see bellow). Foundations studies human knowledge. Supernatural concerns mysticism and religion. Matter and Energy explores the basics of the physical world. Space and Earth explores our planet and outer space. Non-Human Organisms explores the non-human living world, or fauna and flora; while Body and Mind is focused on the human body and mind. Society deals with the various aspects of human social life. Thought and Art studies the products of the human intellect, and the arts. Technology explores the products of human creativity, which are designed to achieve practical aims. History encompasses human history. *Knowledge – Supernatural – Universe – Humans.* The order of the 10 pillars is not arbitrary. The 10 pillars are organized into four groups, which explore four general phenomena: knowledge (pillar 1), supernatural (pillar 2), universe (pillars 3-4-5), and humans (pillars 6-7-8-9-10). *Living world.* Non-Human Organisms (pillar 5) and Body and Mind (pillar 6) belong, from cultural and religious perspectives, to different phenomena. Non-Human Organisms are part of the universe, while Body and Mind is part of humanity. However, from a scientific perspective, Non-Human Organisms and Body and Mind are interrelated. They are part of the same general phenomenon, the Living World. *Knowledge-Supernatural-Universe-Humans (K-S-U-H)*: rationale. The K-S-U-H model is based on two philosophical grounds: the distinction between meta-knowledge (pillar 1) and substantive knowledge on the explored phenomena (pillars 2-10), and the fundamental division of all phenomena, which are subject to human exploration, into three general phenomena: supernatural, universe, and humans. ... *Meta-knowledge vs. phenomenon-based knowledge*. Human knowledge is composed of two distinctive kinds, meta-knowledge and phenomenon-based knowledge. Meta-knowledge is knowledge on knowledge while phenomenon-based knowledge is substantive knowledge on the explored phenomena. The Meta-knowledge of human knowledge is represented in Pillar 1, Foundations. Foundations explores the conditions of human knowledge; these are the philosophical, historical, sociological, methodological, and the mediating perspectives of human knowledge. Its rationale rests on philosophical grounds rather than on the phenomenological analysis of human knowledge. The necessity of a specific meta-knowledge section is derived, as a philosophical implication, from Kurt Gödel's Incompleteness Theorem (Gödel, 1931). From Gödel's theorem one can conclude that it is logically impossible to form an axiomatic system without assuming additional postulates. By accepting this implication, we realize that it is theoretically impossible to formulate a self-sufficient explanation based exclusively on the phenomenological analysis of human knowledge. Consequently, an additional meta-knowledge section, which in the model is titled "Foundation," is a necessary basis in the knowledge construction of the field. Meta-knowledge is knowledge on knowledge. The distinction between the meta-knowledge section and the substantive body of knowledge on the explored phenomena appeared in my previous mapping studies (see: Domain Analysis of Social Work, Knowledge Map of Judaism (Hebrew), and Knowledge Map of Information Science. *Supernatural, Universe, and Humans*. The division of knowledge to supernatural, universe and humans represents a philosophical tenet; namely, the fundamental distinction among God, the World, and Human. This fundamental distinction goes back to Greek philosophy. Order. The order of pillars 2-10 is not definite. This particular order of the 10 pillars (S-U-H) represents a humanistic approach. The last pillar, History, culminates the human experience. *Categories vs. fields.* Every pillar is composed of relevant categories. Every category presents the relevant fields. For example, Matter and Energy is

composed of three main categories, Theory, Principles, and Substances. The Theory category presents two fields, Philosophy of Physics, and Philosophy of Space and Time. Principles presents Physics, and Substances presents Chemistry. The distinction between categories of the map and fields of knowledge is essential. The hierarchical structure is composed of 10 pillars and 70 categories. The 150 fields are not part of the hierarchical structure. Physics, for example, is not part of the map. It is mapped (or classified) by the map. *Library of human knowledge.* Imagine that the Map mirrors a library. The pillars are bookcases, the categories are shelves, and the fields are books. The Library of Human Knowledge has an impressive collection of hundreds of books (i.e., fields). They are stored in ten bookcases (i.e., pillars), which are divided into relevant shelves (i.e., categories). *Theory – Embodiment.* Human knowledge follows a Theory - Embodiment structure. It is implemented within the map level, the pillar level, and the field level. At the map level, pillar 1 is the "theory" part of human knowledge and pillars 2 through 10 are the "embodiment" part. Pillar 1 includes meta-knowledge (i.e., knowledge about knowledge), or rather the "'theory" of human knowledge. Pillars 2-10 embody our knowledge of the supernatural, the universe, and human phenomena, which are the center of human exploration. At the pillar level, the first category, Theory, is the "theoretical" part of the pillar. It presents fields that are focused on the theoretical aspects of the explored phenomena (e.g., Philosophy of Knowledge, Philosophy of Science). The other categories embody our knowledge of the explored phenomena. All the pillars share the Theory – Embodiment structure, with one exception. Pillar 8, Thought and Art, is divided into three sections, Thought, Literature, and Non-Literary Arts; each one of them has its own Theory-Embodiment structure. At the field level, the theory" section is implemented in the theory of the field (for example, Philosophy of Medicine is part of the "theory" section of Medicine). The other sections embody our knowledge of the relevant phenomena. In the example of Medicine, these are Internal Medicine, Pediatrics, Surgery, and the like. Note that the map above does not zoom on the field level. *Theoretical contribution.* 10 Pillars of Knowledge has 4 main theoretical contributions to the field of Knowledge Organization: (1) The Knowledge-Supernatural-Universe-Humans model. It is embodied in the 10 pillar structure. (2) The distinction between categories of the map and fields of knowledge. (3) The Theory-Embodiment structure. It is implemented with the map level, the pillar level, and the field level. (4) All the categories of the map were forulated in this mapping study. ... All the best, Chaim Zins".

3-07-08. Many thanks for interesting discussion here. I would like to mention an example of a very practical problem when it comes to information science/knowledge organization terminology.The UDC editorial team of which I am a member is now preparing a revision of the field of Library and Information Science in the UDC - concepts of which are scattered between at least seven fields: 001 Knowledge, 002 Documentation, 004 Computer science, 005 Management, 007 Information Science, 01 Biography and 02 Librarianship. Solving problems by adding new concepts start to be almost impossible here. See http://universaldecimalclassification.blogspot.com/2007/10/library-and-information-science-in-udc.html. The general idea is that we would approach this bottom up trying to build a faceted classification proper and then we are going to look into how to fit this into UDC and where. Because of the nature of this topic we will certainly make sure that we do not rush and that we discuss many of these issues openly. So at some point we will probably inform about the progress and create a forum to review the proposal. Also in case it may be of interest and in case it slipped to your attention. Recently Bob Bater of ISKO UK pointed to the KIDMM discussion list (http://www.kidmm.org) - information about an article in Journal of Information Science that explains why the - Data-Information-Knowledge-Wisdom pyramid is contradictory: Martin Frické "The Knowledge Pyramid: A Critique of the DIKW Hierarchy" http://dlist.sir.arizona.edu/2327/01/The_Knowledge_Pyramid_DList.pdf. Kind Regards, Aida [Slavic]

6-12-08
Dear Friends and Colleagues, 10 Pillars of Knowledge: Map of Human Knowledge is on the Internet at http://www.success.co.il/knowledge/Map/Map.html Please feel free reflect.
All the best,

Chaim Zins

Dear Chaim, dear ISKO-colleagues, As I wrote erarlier, I find it important that we all reflect on which kind of research-based konowlege we use for constructing classifications. have put some questions for your

system at this place: http://www.dbstud.dk/k05pebr/knowledge//info.asp?subjectid=29. kind regards, Birger

6-14-08

Dear Birger, In response to your mail. 1. Knowledge Organization: Definition. The field of knowledge Organization (KO) is part (a subfield) of Information Science (IS). Knowledge Organization is the study of the ordering of knowledge in the universal domain. Knowledge in the universal domain is a set of signs that represent the meaning (or the content) of thoughts that the individual justifiably believes that they are true. It differs from knowledge in the subjective domain. Knowledge in the subjective domain is a thought in the individual's mind, which is characterized by the individual's justifiable belief that it is true. The field of Knowledge Organization explores the various forms, models and structures, as well as the various methods and techniques to organize (or order) knowledge that appears in textual documents, voice records, graphical images and photographs, digital media, and the like. Knowledge Organization does not explores the various forms and ways to organize knowledge in our minds. This study is part of Cognitive Sciences (CS). Interrelations. However, since the two domains are interrelated, KO explores the cognitive perspectives of organizing knowledge in the universal domain, while CS explores the ways that various forms (e.g., knowledge maps, classification schemes, ontologies) affect our cognitive structures. Related fields. KO is a broader field. It encompasses the fields of Classification Research (CR), Ontology Studies (OS), Information Architecture (AI), and the like. 10 Pillars. 10 Pillars of Knowledge maps the knowledge in the universal domain therefore it is part of KO. Question 1 If you have reflections please share them with me. Thanks

2. Knowledge 2008 Knowledge 2008 is an ongoing R&D project. Its main parts are 10 Pillars (knowledge map), and 3 applications of the map: (1) Portal (systematic access to top quality resources); (2) Encyclopedia (systematic access to Wikipedia); (3) Smart Search (systematic thesaurus for searching the Web (Google)). Each of the 4 parts has its informational rationale. Question 2 If you have reflections please share them with me. Thanks.

I will continue the discussion, and specificaly relate to 10 Pillars of Knowledge on Monday. Sincerely and all the best, Chaim Zins

6/15/08

Dear Chaim, I do not think that you address the question that I asked you in a former email: What principles, methods or insights from more than 100 years of research in Knowledge Organization (KO) is 10 Pillars based on? Or is it just based on common sense and your intuition? You could, for example, have chosen to base the main structure on the theory of integrative levels, starting with the physical world, continuing with the biological world and ending with the anthropological world, but evidently, this was not what you did, since your first groups are 1) knowledge 2) Religion and the supernatural. If you - as a member of our research community - have not based you system on any knowledge developed within KO, why should anybody, including our students read the literature of KO if this does not qualify for construction classification systems? I do not ask this question to tease but in order to try to take KO serious as a field with academic aspirations. kind regards, Birger

6/16/08

Dear Chaim, You answered my question by putting a lot of new questions, which in my opinion are not directly related to what I asked. You did, however briefly state: "Second, is the construction of classification systems should be based on knowledge developed within KO? - I do not think that this is a necessary condition. BTW, scientific discoveries, and scientific revolutions are not necessarily based on pervious knowledge." This is to acknowledge, in my opinion, that your system "10 Pillars..." is not based on research or knowledge from our field of Knowledge Organization. In contradiction to you, I find this very problematic. First, I would say that your new statment "scientific discoveries, and scientific

revolutions are not necessarily based on pervious knowledge" is for me absolutely wrong. I simply cannot understand how you can say so. Human knowledge has developed historically and every piece of knowledge depends on former knowledge. Whether new systems of classification and organizing knowledge is based on knowledge developed within our field is another matter. It may be that other fields, like conputer science or philosophy have been more furuitful. We however, are supposed to be researchers in KO, ie., we have the responsibility to try to develop this field, to consider which past contributions are helpful (if any). On the basis of such reflections to try to influence the further development of our field in a optimal direction. When you claim, Chaim, that you do not need to consider the principles behind your system "10 pillars..." from the perspective of research in Knowledge Organization, I may say, I find this as on among other signs of crisis in our field. You seems unable or unwilling to consider KO as a field with academic aspirations. It is my hope that you and other will realize that this is important and will try to work together in our community to advance our field. kind regards Birger

Dear Birger, - I stated my position, and ask you and our colleagues ti critically reflect. (1) No. I do claim that my map is based on research and knowledge from our field of Knowledge Organization. (2) If you disagree, maybe we should discuss first what is KO. It seems that we may find that we disagree on the meaning of "Knowledge Organization". It seems that my definition is broader. I believe that the praxis and the theory of KO exist thousands of years (not only 100 years). In contradiction to you, I find this very problematic. - As I stated above you mistakenly understand that I claim that my map is not within the framework of KO. It is. - I disagree. Many (not every) pieces of knowledge depend on former knowledge. Again, It seems that we first need to discuss the definition of "Knowledge Organization".According to my definition of KO my study and map are definitely part of KO.

- Dear Birger, I do not claim what you mistakenly claim that I claim. I do need to consider the principles behind 10 pillars... from the perspective of research in Knowledge Organization. I do consider KO as a field with academic aspirations. I do not see any crisis. However, I do think that we need to critically discuss the definition of "Knowledge Organization". I hope that you will change your position regarding my work if you will adopt my definition of the field. BTW, according to your definition of KO many of our ISKO colleagues do not study and practice KO. It is my hope that you and other will realize that this is important and will try to work together in our community to advance our field. - This is what I am doing - advancing our field. Looking forward to your response Sincerely and all the best, Chaim

Dear Chaim, you admit that your system is not based on research within our field of Knowledge Organization. In my opinion is Knowledge Organization (and classification) broad activities that all people do all the time. It is an activity which is mostly done by applying common sense and/or intuitive criteria. If you ask me: "What is Knowledge Organization" I would say it is the organization of concepts (and conceptions) according to relevant meaning relations (=semantic relations). Knowledge Organizarion is one among other disciplines studying this field. We belong to this field. We have to to consider "What is our specific role?". The problem is similar to, for example defining psychology. Psychology is on the on the one hand how everybody think, feels and acts. On the other hand it is a specific scientific discipline, which compete with other disciplines such as neurophysiology, sociology and literary studies about understanding and explaining human cognition, emotions and actions. If somebody claimed to be a psychologist and put forward a system to understand or measure human psychological processes it would not be acknowledged as a proper psychological contribution (understand from the perspective of a specific discipline) if it is just based on common sense knowledge. Of cause anybody, including psychologists and information scientists, are allowed to use common sense and to address problems without regarding the perspectives of their disciplines. So are you. BUT: it is problematic if the common sense/naïve/intuitive/non-scholarly arguments are mixed up with the scholarly arguments related to the scholarly discipline. It is confusing for our students how your system is related to the methods and principles taught in courses of KO. It is not just confusing for our students, but also for ourselves. If you communicate to our professional community about your system (10 Pillars....)and do not consider it relation to research and theory in KO, then it confuses in stead of contributing to clarification. When we teach KO in schools of Information Science, we have to specify what is the special contribution of KO. If our students meet - in our professional literature - writings and suggestions by researchers in KO that just

apply some general knowledge without relating this to research and theory in our discipline, they must be confused. We have to do a hard work. Whe have to analyze principles and methods behind different knowledge organizing systems, evaluate those principles and try to develop our field. Very few people in KO does so. This writing is an attempt to try to convince you, Chaim, and other members of our community, that this is simply neccessary. All the best Birger

Dear Birger, My work is based on research within the field of Knowledge Organization! You keep ignoring my arguments (why?). Please read my messages and relate to my arguments.You keep changing my statements (why?). In my previous message I claimed: I do claim that my map is based on research and knowledge from our field of Knowledge Organization. Nevertheless, you start your message bellow by:"Dear Chaim, you admit that your system is not based on research within our field of Knowledge Organization." Dear Birger, my work is within the field of Knowledge Organization. I will respond to your message bellow and relate to your other arguments by tomorrow. Please wait to my detailed response before responding to this short message. All the best, Chaim

6/23/08

This consideration suggests to me that by "KO" we actually mean two different things at a time: (1) the human activity and practice of making schemes, (2) the study of which are the best ways to perform 1, and why (not to speak of (3) an organization dealing with knowledge business). Maybe we would need two different terms for meanings 1 and 2. We use the term _knowledge organization_ in sense 2 after Dahlberg's works and indirectly after Bliss's works, so it has an academic tradition worth to be preserved. But I acknowledge that it does not sound like the name of a discipline, so that many people can understand it in sense 1. For sense 2, Eric de Grolier used _taxinomie_ (in French), citing an old term by Durand de Gros if I recall correctly. Personally I would prefer _taxology. A similar situation can be found in the biological sciences, where _taxonomy_ can be intended as biological KO in sense 2, _systematics_ as the compilation and learning of schemes of related organisms (ie our KOSs), and _classification_ as the act of classing an individual specimen according to existent schemes -- although I am afraid that even biologists are not consistent in using these terms... Claudio Gnoli

Dear Birger, please accept my apologies for the delay in my response. Claudio's message is a good trigger to continue our discussion. Obviously, the term "knowledge organization" has different meanings. Obviously we disagree on the meaning of the concept. Therefore one can say that there are at least 2 different academic fields with 2 different bodies of knowledge; Both are called "Knowledge Organization". By the way, in my study "Knowledge map of Information Science" I found 6 different conceptions of "Information Science". To differentiate between the 2 fields of KO let's call Birger's conception "KO1", and my conception "KO2". So Birger claims that 10 pillars of knowledge: Map of Human Knowledge is not part of KO1. I claim that 10 pillars of knowledge: Map of Human Knowledge is part of KO2. Evidently, we need (1) to discuss the meaning of "KO", and (2) to find out which conception reflects the mainstream of the field. I believe that my conception of KO represents the mainstream of the field. In reference to Cladio's 2 definitions: "(1) the human activity and practice of making schemes, (2) the study of which are the best ways to perform 1, and why." #1 is in accordance with my conception of the field. I disagree with #2 . KO is the study of all the ways (the best and the worst) to perform #1. To use your terminology I would say that KO is the study of #1; meaning KO is the study the human activity and practice of making schemes. Fields/disciplines differ by the explored phenomena. KO explores the ordering of knowledge in the universal domain. Therefore, I define KO as the study of the ordering of knowledge in the universal domain. Looking forward to your response, All the best, Chaim Zins

Dear Claudio, dear Chaim, dear ISKO list, I do not think that there should be different fields of knowledge organization (KO), I think they must be and should be related. After all, whether, for example, whales should be classified as fish or as mammals is common to all forms of KO. Questions of this nature is what constitute KO. Our field of KO is about library classification, bibliographic classification and KO in relation to information retrieval and Library and Information Science. How is our field based methodologically? How do we determine whether, for example, social psychology should be classified as a part of psychology or as a part of sociology (or both)? (or whales as fish or mammals?) My question to Chaim

was on what basis his system ("10 Pillars...") was classified the way it was? To place religion before physical sciences seems to me to oppose the principle of "integrative levels". I believe that dr.Zins system is not professional, it is not better than most tpeople outside KO could make just as well. If I am right: What are we trying to do in KO? In order to be a field based on research and research based principles, we should not just base new systems on common sense, but related to research on KO. .Zins, C., (2004) Knowledge Mapping: an Epistemological Perspective. Knowledge Organization, 31 (1), 49-54. is a paper published within the discipline of KO. How does that relate to Zins new classification "10 Pillars...". In my opinion it is not, and that is a serious problem for our field. If you go forth and back between theory and practival classification, both may benefit: Theory may be developed so that it is more relevant for practice and practice may benefit from knowledge derived from research and theory. So my question is: What are the differences between amateurs and professionals in our field? Should "10 pillars..." be regarded a professional or an amateur contribution? kind regards, Birger

6/24/08

I agree that we don't need two separate disciplines, and that the best strategy is to go "forth and back between theory and practical classification". I just say that we need two different terms in order to avoid confusion. Maybe simply: (1) KO systems = KOS (2) KO theory = KOT. Chaim's observation that #2 should also include the study of "bad" KO is also interesting. Indeed, analyzing and commenting existent systems, independently on their merits, and understanding why they developed as they did, can also be part of KO theory. By the way, I would not say that KO is *only* part of LIS. It developed within LIS historically, but I think it should be generalized to include KO in computer science, information architecture, book indexing, organization of archives, museums, institutions, maybe even monuments (see section 1 of my paper in the next issue of the journal "KO"; the whole issue deals with discussing the KO field itself). Thank you, Birger and Chaim, for this interesting discussion. Claudio Gnoli

Dear Birger, In response to your message: I do not think that there should be different fields of knowledge organization (KO), I think they must be and should be related. After all, whether, for example, whales should be classified as fish or as mammals is common to all forms of KO. Questions of this nature is what constitute KO. **- Agree** Our field of KO is about library classification, bibliographic classification and KO in relation to information retrieval and Library and Information Science. **- Our field is about all kinds of classifications, ontologies, etc. Library classifications are only part of KO.** How is our field based methodologically? How do we determine whether, for example, social psychology should be classified as a part of psychology or as a part of sociology (or both)? (or whales as fish or mammals?) **- Your questions are too general.** Please be more specific. You need to differentiate between cognitive processes and documented/recorded structures. Cognitive processes are in the subjective domain and they are part of Cognitive Science; While documented/recorded structures are in the universal domain, and they are part of KO. In addition, you need to differentiate between developing a structure and placing an item (e.g., whales) in the structure. The term "classification" has two meanings: (1) developing a structure, and (2) placing an item in the structure. My question to Chaim was on what basis his system ("10 Pillars...") was classified the way it was? To place religion before physical sciences seems to me to oppose the principle of "integrative levels". I believe that dr.Zins system is not professional, it is not better than most tpeople outside KO could make just as well. If I am right: What are we trying to do in KO?

Dear Birger, in your 4 line paragraph you make 5 different assertions: (1) 10 pillars... is not professional. (2) 10 Pillars... is not better than what most people can do. (3) "The Integrative levels" is the only logical & professional way to structure knowledge. (4) 10 Pillars... is not logical since it does not follow the principles of the "integrative levels" (5) If you do not accept Birger's conception of KO, you are not part of KO; namely Birger's conception of KO is the only acceptable conception for KO. Well, I disagree with your 5 assertions. If you'll ask me to elaborate my position, I'll be glad to do so. I think that I briefly explained the Knowledge-Supernatural-Universe-Humans model. If it is not clear, I will be glad to elaborate it. In order to be a field based on research and research based principles, we should not just base new systems on common sense, but related to research on KO. .Zins, C., (2004) Knowledge Mapping: an Epistemological Perspective. Knowledge Organization, 31 (1), 49-54. is a paper published within the

discipline of KO. How does that relate to Zins new classification "10 Pillars...". In my opinion it is not, and that is a serious problem for our field.

- Dear Birger, in your 5 line paragraph there are 2 arguments: (1) "In order to be a field based on research and research based principles, we should not just base new systems on common sense, but related to research on KO". First, It is true that an academic field should be based on research. Second, 10 Pillars is based on research on KO (according to my conception of the field). Third, there is no logical contradiction between scientific research and common sense. (2) , "C., (2004) Knowledge Mapping: an Epistemological Perspective. Knowledge Organization, 31 (1), 49-54. is a paper published within the discipline of KO. How does that relate to Zins new classification "10 Pillars...". In my opinion it is not". Both studies are within the field of KO as the study of the ordering of knowledge in the universal domain. If you go forth and back between theory and practival classification, both may benefit: Theory may be developed so that it is more relevant for practice and practice may benefit from knowledge derived from research and theory. **- I Agree** "So my question is: What are the differences between amateurs and professionals in our field?

Dear Birger, I do not understand your question. Practitioners in KO can be professional and can be amateurish. Scholars should be open minded and be ready to critically discuss their studies. Should "10 pillars..." be regarded a professional or an amateur contribution?"

Dear Birger, it seems that you do not understand the theoretical rationale of 10 Pillars of Knowledge: Map of Human Knowledge and its contribution to the field of KO. It seems that you are not familiar with the Grounded theory research methodology. I will elaborate the research methodology and the theoretical rationale and contribution to the field of KO by the end of the week. All the best, Chaim Zins

Dear Chaim, To be short: My point is 1) that I cannot see how your system "10 Pillars . . " relates to any kind of research in our field, however we chose to define that field . 2) That your research in KO (although focusing on the important field of epistemology) fails to relate to practice, for example, how to develop systems such as "10 Pillars. . . ". This lack of 1) research based practice and 2) practice-oriented research is in my opinion critical for our field. Why should anybody study KO and read our literature, if even we ourselves fail to do so? This is NOT dependent on whether we define KO one or another way or whether we find a particular proposal such as "theory of integrative levels useful". It is not dependent on whether or not you agree with my view of KO. Kind regards Birger

Dear Chaim, I shall do as you wish and provide a longer answer. I shall – of course - only response to points on which you expressed disagreement. 1. BH(1): Our field of KO is about library classification, bibliographic classification and KO in relation to information retrieval and Library and Information Science. CZ: - Our field is about all kinds of classifications, ontologies, etc. Library classifications are only part of KO. BH(2): There are many different communities today which in one way or another relates to Knowledge Organization. Library and Information Science, Computer science, philosophy of classification, communities focusing on specific tools or systems such as ontologies or "Topic maps". In any case, I find that your system "10 Pillars" fails to relate to research in any of these communities. 2. BH(1): How is our field based methodologically? How do we determine whether, for example, social psychology should be classified as a part of psychology or as a part of sociology (or both)? (or whales as fish or mammals?) CZ: - Your questions are too general. Please be more specific. You need to differentiate between cognitive processes and documented/recorded structures. Cognitive processes are in the subjective domain and they are part of Cognitive Science; While documented/recorded structures are in the universal domain, and they are part of KO. BH(2): I do not think, I need to make this differentiation. The system we are talking about is "!0 Pillars" It is in your words "documented/recorded structures [which] are in the universal domain" . This system is made by you and must reflect your cognitive processes. There is thus no need to discuss the differentiation you made. CZ: In addition, you need to differentiate between developing a structure and placing an item (e.g., whales) in the structure. The term "classification" has two meanings: (1) developing a structure, and (2) placing an item in the structure. BH(2): Yes, I agree. What you made in "10 Pillars . . ." was developing a structure and classifying some of Wikipedia's articles within that structure. What I asked for was your scholarly justification based on research within KO for what you did. BH(1): My question to Chaim was on what

basis his system ("10 Pillars...") was classified the way it was? To place religion before physical sciences seems to me to oppose the principle of "integrative levels". I believe that dr.Zins system is not professional, it is not better than most people outside KO could make just as well. If I am right: What are we trying to do in KO? CZ: - Dear Birger, in your 4 line paragraph you make 5 different assertions: (1) 10 pillars... is not professional. BH(2): Yes, I agree, and encourage you to demonstrate otherwise (2) 10 Pillars... is not better than what most people can do. BH(2): Yes, I agree, and encourage you to demonstrate otherwise (3) "The Integrative levels" is the only logical & professional way to structure knowledge. BH(2): No, I never said that. I only used this an example of research in KO you might have related to in developing "10 Pillars. . .". (4) 10 Pillars... is not logical since it does not follow the principles of the "integrative levels" BH(2): No, I never said that. I only used this an example of research in KO you might have related to in developing "10 Pillars. . .". There are other possibilities. In my opinion you failed to relate to any principles in KO. That what I am criticizing. (5) If you do not accept Birger's conception of KO, you are not part of KO; namely Birger's conception of KO is the only acceptable conception for KO. BH(2): No, I never said that. I said that I was unable to see how "!0 Pillars . ." relates to any research in KO, including your own CZ: I think that I briefly explained the Knowledge-Supernatural-Universe-Humans model. If it is not clear, I will be glad to elaborate it. BH(2): Yes, please explain the principles behind "!0 Pillars . . " and how the relate to research in KO. BH(1): In order to be a field based on research and research based principles, we should not just base new systems on common sense, but related to research on KO. .Zins, C., (2004) Knowledge Mapping: an Epistemological Perspective. Knowledge Organization, 31 (1), 49-54. is a paper published within the discipline of KO. How does that relate to Zins new classification "10 Pillars...". In my opinion it is not, and that is a serious problem for our field.

Dear Birger, in your 5 line paragraph there are 2 arguments: (1) "In order to be a field based on research and research based principles, we should not just base new systems on common sense, but related to research on KO". First, It is true that an academic field should be based on research. Second, 10 Pillars is based on research on KO (according to my conception of the field). BH(2): In my opinion you failed to say how.Third, there is no logical contradiction between scientific research and common sense. BH(2):What I am talking about is the difference between work done professionally and based on research and knowledge within a field versus work done without any basis in scholarship within a given field. "Common sense" is also important in scientific research, but it cannot substitute specialized knowledge. (2) , "C., (2004) Knowledge Mapping: an Epistemological Perspective. Knowledge Organization, 31 (1), 49-54. is a paper published within the discipline of KO. How does that relate to Zins new classification "10 Pillars...". In my opinion it is not". CZ: Both studies are within the field of KO as the study of the ordering of knowledge in the universal domain. BH(2): This is not an answer to my question. What I claim is 1) "!0 Pillars . . "does not reflect research based practice and 2) Your 2004 paper does not reflect practice-oriented research Your "research" and "practice" as reflected in that article and in "10 Pillars are simply not connected. "So my question is: What are the differences between amateurs and professionals in our field? CZ: - Dear Birger, I do not understand your question. Practitioners in KO can be professional and can be amateurish. Scholars should be open minded and be ready to critically discuss their studies. BH(2): Yes, and we are discussing the scholarly basis of your system, which I claim is simply missing. Should "10 pillars..." be regarded a professional or an amateur contribution?" CZ: - Dear Birger, it seems that you do not understand the theoretical rationale of 10 Pillars of Knowledge: Map of Human Knowledge and its contribution to the field of KO. It seems that you are not familiar with the Grounded theory research methodology. BH(2): Do you now claim that "!0 Pillars. . ."is based on empirical research using the methodology of Grounded Theory? I may have overlooked the paper in which you did so. CZ: I will elaborate the research methodology and the theoretical rationale and contribution to the field of KO by the end of the week. BH(2): Thanks, that might be a good start. What we really need is that we (our community of KO-researchers) together develop a fruitful research methodology and theoretical rationale. This implies also an open discussion of agreements and disagreements. All the best, Chaim Zins All the best, Birger

Dear Birger, Thanks for your response. In your colorful message you use the term "fail" six times, and you conclude it by admitting that an elaboration of the research methodology and the theoretical rationale will be a good start to a fruitful discussion. Dear Birger, may I ask that in our future correspondence you will refrain from making decisive assertions without even delving into the theoretical rationale of my work.

Your decisive assertions should conclude the discussion rather than substitute it. You keep dismissing my work over and over again by claiming that it is not part of KO, but you consistently ignore my arguments. This kind of arguing is not acceptable in a critical academic discourse. Therefore, let's agree to disagree. I believe that your conception of KO is problematic. I believe that it implies that the majority of our ISKO colleagues are not part of KO. Let's agree to disagree on the issue whether my map is part of KO. Now, let's focus on the real thing. By the end of the week I will briefly present (again) the theoretical rationale of my map. I will kindly request that in our future correspondence you will relate to my specific arguments. I open my work to a critical discussion, and hope that you will respect my call. Thanks and all the best, Chaim Zins

Dear colleagues, I see in this discussion a important point, and this is whether the elaboration of a conceptual structure, whatever it is, should be based on theoretical models and research. Leaving behind the proposal presented by Chaim, I believe that we cannot divorce theory from practice, I do not see 2 KO although the activity involved in both cases vary. In my opinion both should be related, the latter should reflect the advances gained by the research done on KO, eventhough if this theory is not generated within Library Science. The speculative approaches to the construction of classifications, etc. should not be valid any longer since we have theoretical general models for the domain (IS) since the half of last century and older theorectical cotributions devoted to KO. It is true that we can find nowadays KOS that are not following this pattern, it is true that we can see that theory and practice do not communicate often, nevertheless this should be avoided in my opinion. It happens in every field of knowledge that discoveries and research influence the instruments created to be used for a said domain. Chaim said that he´ll come out with a foundation for his 10 pillars of knowledge and this is just what we are looking forward to. All the best Maria Lopez-Huertas

Dear Chaim, In the "10 Pillars . . " you write: "Knowledge 2008: Map of Human Knowledge <http://www.success.co.il/knowledge/index.html> The Map of Human Knowledge is a product of a theoretical study and an empirical study. The empirical study was based on the Grounded Theory research methodology. The map was presented at the Ninth ISKO <http://isko.univie.ac.at/cms2/index.php> (International Society for Knowledge Organization) Conference in July 2006 in Vienna, Austria, and at the EVA/Minerva 2006 Conference on the Digitization of Cultural Heritage." However, the ISKO paper you are referring to is NOT about what you write here. It is about your study of Information Science. The other paper have I not yet been able to obtain. Perhaps you could send an electronic copy - if it is about "10 pillars.." In your publication list you do not have any references to research papers related to "10 pillars.." Is it true when you claim that "The Map of Human Knowledge is a product of a theoretical study and an empirical study? " If the answer is yes, can you provide the documentation, please? kind regards Birger

6/25/08

Dear Maria, Birger, and ISKO Colleagues, Thank you for your messages. Your messages encourage me to leave everything and write a short description of my work. I hope to finish it today and send it to the list. But first, I would like to make a few preliminary personal remarks: I am working on this R&D project on my own without any funding. It is an intellectual challenge. For me it is my most important scientific study. Since the study is not funded I need to consider my limited resources. I decided (1) to develop the map, (2) develop the Knowledge 2008 website (which is aimed at presenting the map, and demonstrating its applications), and (3) write two book, one for the general public, and one for the academic community. Unfortunately, I have limited resources. Therefore I had to decide what to do first: to build the building and then writing the explanations, or to write the explanations and then build the building. For practical reasons I decided to start with the building. Now I am going to explain it to the general public and the academic community. Dear Birger, I can understand your frustration. But you need to understand my limitations. I hope that I will be able to find the necessary budget (public or private) to accomplish this project. To be continued Thank you for your support. Chaim Zins