DATA AND METADATA:

Externalizing the Inner TCBOK

By

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I. APPENDIX

Endorsement/Signature Page

Title: Data and Metadata: Externalizing the Inner TCBOK

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2 ABSTRACT

Brief Description: The Technical Communication Body of Knowledge (TCBOK) is a landmark project by the Society of Technical Communication (STC) to establish a body of disciplinary knowledge for technical communicators. The initiative has its roots in connecting academics and practitioners and professionalizing technical communication (TC).

Purpose: This report is aimed at infrastructural inversion – a way of externalizing the architecture and organization of the TCBOK classification system. Infrastructural inversion can help us find problems that are obscured from the surface and see existing problems with clear eyes.

Method: In order to achieve infrastructural inversion this article focuses primarily on the practical politics, materiality and texture, indeterminacy of knowledge, and ubiquity of the controlled systems that are intrinsic in the TCBOK (Bowker and Star, 1999).

Results: The TCBOK reflects the concurrent political and ethical environment of both the society and the profession. Decisions regarding the TCBOK design and development can support communities of practice that work toward professional consciousness and the professional status of TC. The TCBOK provides a place to negotiate that professional consciousness through user-mediation.

Conclusion: The TCBOK allows the STC to govern the profession of TC. The core elements of the TCBOK, its strongest premises, validate or reject discourse through social elitism. This governing isn't necessarily bad, but it can be dangerous. A body of knowledge without governance risks unruliness. Over-governance risks professional inequality through exclusion. Viewing the structure of a controlled system through a critical lens can identify overlooked problems, improve metacognition through methodology, and establish a vocabulary for critical analysis through metaphor and genre.

Academic/Practitioner's Takeaways: Contributing to research and development of the TCBOK is at the point of intersection between the cognitive process dimension and the knowledge dimension of Bloom's Taxonomy of Learning. It requires abstract knowledge at a metacognitive level, and higher order thinking skills necessary for TCBOK creation and production.

1 TABLE OF CONTENTS

3 INTRODUCTION

A body of knowledge (BOK) is a term used to represent the complete set of concepts, terms, and activities that make up a professional domain. The TCBOK is the corpus of what is known within TC. Saul Carliner (2012) explains that "bodies of knowledge refer to content with which all members of a discipline should be familiar" (52). A core premise of the TCBOK is that TC should be defined; that concepts, terms, and activities that make up our professional domain are known; and that it is appropriate to develop a body of knowledge – well known as a step toward formal professionalization. Carliner (2012) warns, "do not assume that that other technical communicators share the same beliefs about or interest in professionalizing the field" (49).

The STC initiated the TCBOK in 2007. It's taken on many forms in different versions of the development process. From a metacognitive perspective, the strategic needs of the TCBOK are exactly the core-competencies of TC. For this reason I have full faith in the ability of the TC community to fulfill the STC's project goals. This article is *not* a negative review of the STC's work on the project. It does apply a critical gaze to the inner structure using an analytic method for a fearless investigation of technical, social, political, and ethical issues of the TCBOK. The goal is to contribute to the best planned, designed, developed, delivered, mapped, managed, and usable professional BOK in the world.

This paper will focus on the necessary history for a complete conceptual understanding of the TCBOK. On a meta-level the article will focus on the TCBOK schemata, the grammars of genre, and the mapping of texture and terrain for social informatics. The method of infrastructural inversion is a way to look directly at the underlying structure of the TCBOK. Shifting the view from forward-facing elements to the infrastructure highlights aspects of the design that are more often overlooked. Through the four methods of infrastructural inversion: practical politics, materiality, indeterminacy, and ubiquity we can discuss strategic, rhetorical, and ethical issues related to the TCBOK (Bowker and Starr, 1999).

4 RESEARCH QUESTIONS

(1) What are the practical political motives of the TCBOK?

(2) What are economic motives of the TCBOK? What are their content strategies? What are their goals?

(3) What are the most indeterminate aspects of knowledge about TC? What can we glean from how they are determined?

(4) What other areas should be investigated for future research?

(5) What assumptions does the TCBOK make about TC as a profession, about professionalism, about professionalization? What is taken for granted? What elements of the infrastructure are visible, which are invisible, which are ubiquitous?

5 LITERATURE REVIEW

It is hard to trace back the original idea for a TCBOK. Johndan Johnson-Eiola and Stuart Selber (2001) perhaps were the first TC members who noted a BOK as being central to professionalism. Quite arguably the onus of the TCBOK stemmed from Kynelle-Hunt and Savage's (2003; 2004) seminal two-volume collection of problems facing the status of TC. The collection, titled *Power and Legitimacy in Technical Communication,* reported a poor survival outlook of technical communicators in the workplace in the absence of professionalism. In a chapter of this collection George Hayhoe (2003) wrote that all community members must develop a shared understanding of TC. Marjorie Davis (2004) also wrote a chapter comparing TC to related professions like business analysis, electrical engineering, and project management, finding the most prevalent element of professionalism were set standards for practice and a unified body of knowledge. Kenneth Rainey, Roy Turner, and David Dayton (2005) published an article regarding the core-competencies of technical communication. These core-competencies were vital to identity-making of TC. Competencies create a professional niche and provide the credibility for TC students and practitioners to have exclusive rights to professional occupations regarding the specific nature of their work.

Enter the TCBOK: The first coherent articulation of the TCBOK was from Hillary Hart (2006) where she called for a formalized body of knowledge, allegiance with professionals outside of TC, and a movement toward professional standards. From 2007-2009 the TCBOK process was in its preliminary stages of development. These stages were later chronicled by Coppola (2010) in a re-envisioning prologue followed by three phases: (1.) Establishing the framework for the TCBOK portal, (2.) Refining the framework for the knowledge portal, and (3.) Developing governance strategy and change management. This culminated in the TCBOK project charter (STC, 2009) and led up to the grand opening of the TCBOK to the public at the annual STC conference in Atlanta in 2009.

In *Mapping the Research Questions in Technical Communication*, Carolyn Rude (2009), asked "How do texts (print, digital, multimedia, visual, and verbal) and related communication practices mediate knowledge, values and actions in a variety of social and professional contexts?" (176) by mapping the research question Rude sets the course for research and development in TC as a discipline. Furthermore, as an informal arbiter for TC she established a precedent about the scope of its BOK. Essentially Rude's research question defines Technical Communication as both instrumental and empowered by the knowledge of how texts and related communication practices can be used to mediate knowledge, values, and actions to accomplish the task at hand and in a variety of different contexts. If the Body of Knowledge is a map of core competencies Carolyn Rude's research question for the field is the compass – affirming at the bear minimum that the body of knowledge has skin so to speak, albeit gelatinous at times, that separates what is in the body, from what is out. Geoffry Sauer, the Chairman of the E-Server Technical Communication Library; David Dayton, the Academic Liaison of the STC TCBOK Project; and Carolyn Rude (2010) discuss the connection of Rude's article to the topic in a lecture on the two paradigms of the TCBOK.

Another major contributor the TCBOK, Anne Jennings (2012) published an article recognizing guest-lecturing, mentoring, and internships as viable ways to assist the transition from college to a successful career in TC. Saul Carliner (2012) also added to the conversation about professionalization in TC, explaining three approaches to professionalization: *formal professionalism*, which views professionalism

as a step toward full occupational status, *quasi-professionalization*, where individuals actively participate in the occupational infrastructure without expectations of exclusive rights to perform work, and *contra-professionalization,* which also works outside the occupational infrastructure, sometimes bypassing or even undermining it completely. According to Joel Kline and Thomas Barker (2012), academic-practitioner collaboration creates a negotiated professionalism in the form of a community of practice, which can lead to professional consciousness and ultimately professional status.

More recent research has taken a social-based approach. Joel Kline and Konstanze Alex-Brown (2013) published an article about the social aspects of the BOK. Areas of study included the wiki as a social media platform, "social-capital" (281), and "communities of practice" (287). Founding members Craig Baehr and Hillary Hart (2013) became Co-Chairs of the TCBOK task force committee after publishing an article together called *Sustainable Practices for Developing a BOK*. Many issues were discussed, not least of which being collaboration between academics and practitioners. Baehr (2013) published another article, *Developing a Sustainable Content Strategy for a TCBOK* exploring specific elements of the TCBOK content management system, user-interface, and design. Nancy Coppola and Norbert Elliot (2013) explore the use of metaphor and genre in the TCBOK to enable understanding of TC by association. This review of the TCBOK will serve as the basis for insights and recommendations that respect TCBOK originators and makers, people who have begun or taken up the mission of the TCBOK along the way, it's important to honor both the leaders and those who carry the baton by keeping a commitment to the core ideas and visions that predate this work.

6 CONCEPTUALIZING THE TCBOK

The TCBOK is an important subject in and of itself. It represents the collective achievement of knowledge of a diverse professional group. According to Warren et al (1999) the TCBOK can never achieve full externalization of tacit knowledge, but it can offer a one-stop-shop for the major competencies of our discipline. The project charter explains it this way:

> *While the project is called TCBOK, the team is not creating a body of knowledge for the TC profession, but rather attempting to organize, make accessible, and connect together the plethora of information necessary to train for and practice within the profession. To accomplish this, the team is creating the architecture for a web-based portal that will provide access to TCBOK.* (STC, 2009, 9)

The TCBOK acknowledges its constraints and assumptions in the project charter. The STC assumes that the TCBOK will, "provide for STC members the benefits and career help one can find already for related professions, such as Project Management (via its Project Management Body Of Knowledge or PMBOK) and Business Analysis (via its Business Analysis Body Of Knowledge or BABOK)" (10). Whereas one of its constraints is that, "A possible outcome of the TCBOK project is development of a TC certification program, but that is not the goal of this project" (10). In keeping with the scope of the project charter this article acknowledges the logical progression from the TCBOK to TC certification, but will not suggest or recommend TC certification for the fulfillment of the TCBOK's goals.

The TCBOK is a stage for social interaction, it is a marketplace of ideas where paradigms can jockey for acceptance via discourse within the public sphere (Starke-Meyering and Duin, 2003). It is a mark on a map that centralizes our profession among others like the Usability Body of Knowledge or the Archivist

Body of Knowledge. Also, the TCBOK allows for exploration, examination, and development between and among other professions (Coppola, 2013, p. 270).

Joel Kline and Thomas Barker (2012) found the TCBOK functions as a unified corpus of the knowledge and competencies our domain, and delivers them in a manageable way such that anyone with the time and energy could acquire and internalize the knowledge, but still return to the externalized version for reference, or mediate it through co-use and peer-review into new externalized knowledge through a process called combination (Shultz et al, 2001). And finally, the TCBOK is a living document, and a metacognitive practice in what we preach, it's what Coppola (2013) describes as "a socio-cognitive act mediated by users, technical communication is best understood in terms of variables that are made meaningful in specific contexts" (272).

7 PRACTICAL POLITICS

One of the challenges in devising the TCBOK is project diplomacy. Projects require a formal organization, chain of command, and documentation to make sure deliverables are met on schedule. The TCBOK is a build-own-operate project where the benefits of any residual value remain with the STC. This scheme involves an up-front financial investment and long payback period. This creates an economic pressure for the STC to quickly monetize the TCBOK by selling its membership, journal articles, and perhaps one day their certification program to recover their investment.

The TCBOK employs a task force of volunteer contributors. Oversight is provided by key members of the task force that comprise a governance committee. Positions of the governance committee include a Co-Chair and Content Team Facilitator, Editor-In-Chief, Publications Team Facilitator, and Social Media and Engagement Team Facilitator. (TCBOK, 2015) The governance committee provides strategic oversight with, "The six strategic leads – Accessibility, Education, International, Publications, Technology, and Usability" (STC, 2009, 8)

From a practical perspective members of the task force must be subject matter experts (SME) in all-things-TC. Because of their gatekeeping duties they are analogous to Wikipedia administrators; they have role-based access controls that gives them privileges other users don't have. Originally all users of Wikipedia had the same privileges, when they adopted role-based access controls the co-founder Jimmy Wales (2003) framed it in a transcendent way that preserved a sense of egalitarianism even during of the exercise of authority,

> *I just wanted to say that becoming a sysop is *not a big deal*. I think perhaps I'll go through semi-willy-nilly and make a bunch of people who have been around for a while sysops. I want to dispel the aura of "authority" around the position. It's merely a technical matter that the powers given to sysops are not given out to everyone. I don't like that there's the apparent feeling here that being granted sysop status is a really special thing.*

The role based access controls used in the TCBOK are likewise framed as a technical matter. David Dayton (2010) explains:

> *At the top level we want to have an open-access Wikipedia for the field basically, but one that has, like Wikipedia does, an editorial committee of people who are keeping tabs on things, monitoring it, guiding it, but with input from lots of people, very democratic input. At a deeper level STC does want to generate revenue. They want to turn it into a publishing engine, but that's also an opportunity for academics.* (@45:14).

Any sanctioning is justified by the TCBOK's needs for sustainability. On the other hand sanctioning is downplayed by suggesting that the function of the architecture is instrumental. The project charter explicitly states that the TCBOK simply supplies the architecture to organize, store, and access information (STC 2009, 9). In this way the TCBOK keeps the collaborative benefits of user mediation without relinquishing ultimate control. TCBOK admins are also framed as a group of TC SMEs who were selected based on experience to represent the general TC community.

7.1 Issues of Professionalism

The Portal/TCBOK project was proposed in 2007 by current Co-Chair and Content Team Facilitator Hillary Hart. In the project charter TCBOK was deliberately separate in scope from professional certification, although a professional certification project could make use of the TCBOK. In the framing document of the TCBOK Davis and Hart (2008) start by saying, "First of all, a profession cannot be recognized as a profession until it is defined as such," initially the founders set out to share answers to the lingering question, "What do Technical Communicators do, anyway?", and create a place where all members of the TC community can find TC-related information spelled out to them. The TCBOK has a similar but separate purpose from certification in this sense and an autonomy to pursue their own exigent purpose. Meanwhile, the Certification Task Force is looking over the TCBOK shoulder. This can raise doubts about who is driving the vehicle, and how much indirect control the Certification Task Force actually exerts over the development of the TCBOK. This can be problematic when that power determines what is included or excluded from the TCBOK and thus who is included or excluded from formal professionalism.

If the TCBOK works it will greatly improve the viability of a professional certification program. Certification is often criticized for its subjective standards. In any regard, professional standards for what technical communicators do depends on the syntax of the TCBOK. Gerald Savage (2003) says, "professionalization is bound to have its undesirable costs for practitioners who lack formal training, for university programs and academics that fail to recognize the real needs of professional education and research, and for professional organizations that do not develop critical awareness of how professionalization actually occurs and accept the necessity of effective political work toward that end" (p. 162).

Saul Carliner (2012) found the word *occupation* is used to describe a profession with, "an exclusive, legal right to perform those jobs but also to control training for the access to doing that work and to control the way that work is performed and evaluated" (Carliner, 2012, 51). Occupational status is achieved by licensure from an authorized institute. This applies to doctors, lawyers, engineers, and also blue collar professions like commercial vehicle drivers, underwater welders, and plumbers. Components that

promote professionalization occur loosely in the order of education, professional activities, bodies of knowledge, professional organizations, and certification with professional status as the end in mind.

7.2 Ethics and Rhetoric

The language in the STC project charter (2009) shows STC's support for a transparent and democratic TCBOK, but it also shares their economic interest. Compared to other bodies of knowledge the STC has gone out of their way to represent user interests in the design process, but they also reserved the right to final approval. "Anyone may suggest content to be added, deleted, or changed within the TCBOK. However, the TCBOK Project Team is not obligated to fulfill any suggestions. In other words, this is not an open-source resource or Wikipedia type entity" (3).

I should preface this is *not* a derisive criticism, quite the opposite, but the TCBOK is crafted by design, arranged with intention, moderated with a strange fixation. That is perfectly normal for this type of craft. A totally democratic TCBOK, lends to disorder and has no contingency plan for ensuing chaos. Wherever there is economic competition for occupational status wardens must guard the inroads to professionalism. Professional ontologies can expect to undergo incursion. It's only natural for the STC to have an innate form of elitism. They have to protect their investment and they must use cogency to defend their society member's exclusive right to occupational status.

7.3 Representing the User

In May of 2008, during initial designs, Ginny Redish led a card-sorting activity that emphasized a user-focused approach to the TCBOK design.

> *Redish came to the meeting with a card set of more than 100 sticky notes (for example, indexing, agile development, usability) from individual maps of content topics that several of us had created over time. In this card-sorting activity, she asked us to arrange the sticky notes on a wall in any order that made sense to us. Divided into teams, each with one-third of the cards, we began to walk the wall, sorting, grouping, and labeling with liberal application of our sticky notes… In the Afternoon, Redish reminded us that we needed to move from a content focus to our user focus. This time, using our personas to role play, we walked the wall again, taking the perspective of our archetypal users.* (Coppola, 2010, 15)

The card-sort activity *see fig. 1* used twenty personas, with a core group of four: practitioners, managers, students, and instructors (17). Predictably, different personas rendered different schemata. The resulting task is to craft together the schemata of heterogeneous worlds. Scott Graham and Carl Herndl (2011) found that contradictions in definition, meaning, and understanding of knowledge in that schemata is an ineluctable part of how those heterogeneous worlds meet and interact. If the members of the organization "confront the incommensurable epistemologies that exist," (145) then they can establish a transformative metadiscourse for developing new definitional topoi and episteme in TC. In this way the wiki platform is ingenious, because it allows this positive confrontation through user collaboration in many ways that print bodies of knowledge do not.

Fig. 1
Card Sort and Affinity Diagraming

8 MATERIALITY AND TEXTURE

The second method of infrastructural inversion is attending to the materiality of the BOK. Even the metaphor of the body evokes a material aspect of the BOK, the sum of what is understood within the space of a domain. In fact, a material design would be very beneficial to the TCBOK. Material design is, "grounded in tactile reality, inspired by the study of paper and ink, yet technologically advanced and open to imagination and magic" (Google, 2015). In fact, material design wouldn't conflict with any *sine qua non* design strategies, but it would complement the existing design. "Material has physical surfaces and edges. Seams and shadows provide meaning about what you can touch" (Brian, 2014). Material design also has usability implications to optimize the TCBOK for a new generation of mobile and touch-screen devices.

What distinguishes the body is the characteristic of materialization, when ideas of the mind are externalized as texts. To achieve this externalization we use language and communication to solve problems. This can be problematic because language is ultimately inadequate for the task. We are limited by the capacity of words which are inert, inherently departed from meaning.

Nevertheless semantics are the information tool we use to solve practical social problems. Attending to the materiality of the TCBOK helps affirm notions of the BOK as a physical resource that can be utilized to fulfill real-world goals. The TCBOK makes it possible to train and educate technical communicators. This means the TCBOK serves many of the same technical, social, political, and economic functions that technical communicators serve. Ideally, the TCBOK is an educational resource to help TC and interdisciplinary professionals make ethical contributions to human well-being through a variety of occupations.

According to activity theorist Yrjo Engestrom (1990) knowledge itself has a material and objective force within the BOK, its future mediations, and their outcomes. Knowledge and architecture as *object* gives the TCBOK a physical, textural-quality. If the body exhibits tools and material arrangements than they also can become objects that mediate activity. When knowledge, tools, and techniques are *used* they become objects that have the capacity to mediate future actions. These objects are sought out and actively engaged with by community members. Joel Kline and Alex Konstanze Brown (2012) Show that a community of practice can promote sharing of knowledge, and developing professional consciousness in directly beneficial ways, especially for the purposes of creating a nomothetic span of the discipline. According to Geoffry Bowker and Susan Starr (1999) "A community of practice is defined in large part according to the co-use of such objects since all practice is so mediated" (299). The physical interaction with the system presents an opportunity which community members can use to practice the art of TC.

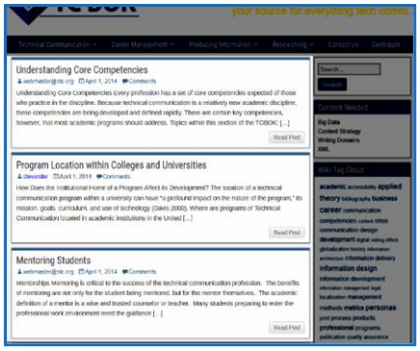


Fig. 2
Query Results in the TCBOK

This screen capture *see fig. 2* is an example of the material and textural appearance of the TCBOK. The physical appearance of search queries are thumbnail previews of the actual page. The page is a container for data about a specific topic. It is also a node in a network of statements which are regulated by and appertain to the TCBOK's epistemological and discursive formations.

Meta data, data about the page: its author, tags, and comments are also elements of the organizational discourse, governed by the STC project team and mediated by the COP. When these data and metadata are used as an educational resource or a sphere for discourse they take on a tangible quality. Joel Kline and Thomas Barker (2012) explained how these objects function in a collaboration model for the TCBOK based on Alfred Wenger's (1998, 2002) three dimensions for establishing communities of practice: *joint enterprise, mutual engagement, and shared repertoire*. This shared repertoire refers to the objects of co-use in activities of joint enterprise and mutual engagement. Think of the TCBOK as a sandbox and the objects as the toys we use to participate in group activities, engage in learning, and define the rules of the games that we play.

9 INDETERMINACY OF KNOWLEDGE

9.1 APPELLATION, NOMENCLATURE, AND METASTATIC IDENTITY

We confront the indeterminacy of knowledge whenever we encounter history. Bowker and Star (1999) share the example of the Center for Disease Control's classification of Auto-Immune-Deficiency-Syndrome (AIDS). Until 1982 AIDS was named Gay-Related-Immune-Deficiency (GRID). Their idea is the attribution of labels and definitions to an identity is inextricable from socio-political implications imparted on that identity (43). GRID is an instance in naming shaped by the Zeitgeist of its etymology.

Even TC, the apex of the TCBOK ontology, could well have been called something else. Try this statement from Saul Carliner (2012), "In addition to calling ourselves technical communicators, we have called ourselves many other names – and many of those names have not included the words *technical communicator* or even *writer"* (60). In 1998 Carliner found a majority of STC members preferred the term *information* in their job titles. STC even considered changing the name to *information design* but stuck with its commitment to *TC* for brand recognition reasons.

In fact technical communicator was an adaptation from technical writer, which was replaced because the term didn't accurately reflect the diverse job functions of those preforming that work at the time. The term *technical communication* was adopted and preferred for the broad range multimedia mediations it accommodated. Through the evolution of the term TC we can see that the terminology of a nomenclature often arises from a need for schemata to accommodate the objects they classify, and primacy is given to how well that terminology serves the purpose of classification.

9.2 Mapping Schemata for Multiple Personas

Next we'll look at a few key moments in the project timeline for who was involved and why, and how TCBOK categories fulfilled a function in the schemata. First I'll need to provide some basic terms used in taxonomies for the reader. A hierarchal taxonomy is typically called a tree structure which is composed of nodes and links aka branches. Nodes are points that denote a relationship between objects. The names of other elements are borrowed from arborescent language. The highest node on the tree is called the root-node. The lines connecting nodes are called branches. The relationships of nodes is described with ancestral language. A root node has no parent. Nodes connected to the root node are its children. Nodes without children are called leaves. The height of the tree is the greatest number of branches from the root node to a leaf in the tree. The breadth of the tree is the number of children of the root node. The depth of the tree is the greatest number of branches from a leaf to the root node. The depth of the node corresponds to its generation. The root node is the first generation, its children are the second generation, and so on (Chomsky, 1965).

The root-node of the TCBOK is called the knowledge portal. Coppola (2010) explains, "From our first days, we knew that only a Web-based portal would be able to bring together the dynamic and diverse core components and myriad specialty components of technical communication" (14). The portal is a devised instrument that provides the breadth and depth of access needed to reach all the elements of the TCBOK. The nebulous portal, as an apparatus, is instrumental, least-of-all rhetorical. The only harm conceivable is that the portal represents a guide to all-that-is TC, when in reality it opens the door to a version sanctioned by STC elite.

In May 2008, under direction of Marjorie Davis students at Mercer University created a matrix of personas using card sorting – a method of usability testing. This encouraged people to think about how persona identities and professional consciousness can be negotiated over the TCBOK. One key strategy to connect and serve new community members is the use of a variable model. The variable model uses four core knowledge areas: TC, Career Management, Producing Information, and Researching. The TCBOK selection process for these first four siblings was guided by a commitment to transparency and consensus. "The commitment to consensus is vexing for information designers, when technical communication professionals cited industries as diverse as insurance; merchant wholesalers; software publishers; and independent artists, writers and performers" (Hart and Baehr, 2013, 262). The variables used in the model are intentionally relational, not categorical. This mitigates cognitive barriers that could impair the usefulness of the TCBOK for multiple audiences with heterogeneous goals.

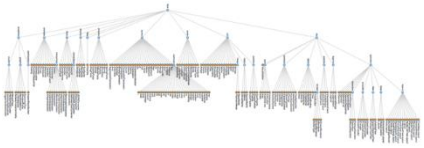
9.3 Taxonomies, Folksonomies, and Other Visual Models

Hillary Hart and Craig Baehr (2013) and Craig Baehr (2013) wrote two articles regarding sustainable practices for BOK development. They explained their insights on the information design of the TCBOK involving two ontologies: *taxonomies*, also called *node-link* diagrams, that are tree-like structures and *folksonomies*, which are net-like or web-like structures.

9.3.1 Taxonomies

The project team mapped the TCBOK taxonomy *see fig. 3* using CoMapping Information Model Map software (Baehr, 2013, p. 299). The CoMapping model underwent multiple versions developed from systems members brought with them to the summit. User-surveys gave necessary insights to the project team about the findability of available information. During design and development primary topics were raised to earlier generations to accelerate access to desired content. After walking the wall the project team finally had mapped the knowledge portal for the TCBOK. As Michael Hughes of IBM systems said they had, “netted the beast” (Coppola, 2010, 16).

Figure 3
Tree Chart



9.3.2 Folksonomies

In the case of folksonomies, users are able to mediate the TCBOK through tagging. Tags designate content as belonging to a category or topic. Tagging is a form of metadata that offers an alternative to hierarchal classification. For example a hierarchal strategy usually starts with putting an item in the pile of an existing category, where we often put items in one category or another, but not both. However, tags can create new categories or link to multiple existing ones. Stephanie Panke and Birgit Gaiser (2009) recommend them highly for wikis saying, “Tagging appears to be an ideal solution to show the multifaceted richness of a knowledge domain and the ambiguity of its elements” (321).

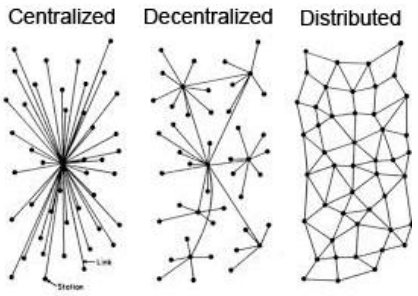
Fig. 4
Tag Cloud

Tags can be indexed, but they are usually mapped in the form of tag clouds *see fig. 4*. Tag clouds are the solution to the folksonomies lack of hierarchy. Tag clouds are an unordered list of tags. Instead of a file-folder or directory map the tags are floated, as the name tag cloud suggests, and the typeface is sized to represent the occurrences of words that have been tagged. Free association is arguably the most useful aspect of tagging. For this reason setting restrictive standards on tagging is a concern. This restrictiveness has the same implications as the others. It’s another way the STC can craft the ontology of TC, because they are not obligated to fulfill tagging suggestions, and this possibly prevents users from forming new information links through shared keyword indexing (321).

9.3.3 A Vocabulary for Nonlinear Networks

In Paul Baran’s (1964) work with communication networks he simplified all types of communication networks down to three formations of nodes and links: *centralized, decentralized, and distributed*. These network diagrams, also called *rhizomes*, provide a useful mapping language for discussing non-linear infrastructures *see fig. 5*. Network structures have parallel elements to tree structures and taxonomies, they are mapped with nodes and links. These networks allow different users to feel out the terrain in custom ways, they can make information accessible to diverse audiences, and create new ways to negotiate the information landscape (Coppola, 2013). The combination of taxonomies, folksonomies, genres, and mapping metaphors should provide ample vocabulary for describing and understanding how the variable model works. This should

Figure 5
Paul Baran’s
Network
Architecture



support discussions about a network navigation that is referential rather than categorical and allows for multiple central orientations, entry points, and possible paths to information.

10 UBIQUITY

10.1 THE SEMANTIC WEB

The internet is rich with both data and technologies to utilize data more effectively. HTML and XML are semantic standards that make the web understandable to humans; new technologies, like RDF, OWL, and SPARQL, are making the web more understandable to machines. Sebastian Schaffert, (2008) shared that the semantic web can be used to import metadata from web services like Flickr for images, Delicious for bookmarks, and Zotero for bibliographic data. These technologies have several implications, but we have nowhere nearly unlocked their potential to integrate the web and grab the low-hanging fruit of information capital in the digital world. By using semantic technology the TCBOK can benefit from the available knowledge of the unstructured web (Liyang, 2012).

The semantic web looks for commonalities in nodes using tagging. This makes it possible to collaborate on a bibliographic database; solve index problems for a body of knowledge with no page numbers (Baehr, 2013); and automate tables of contents, breadcrumbs, and glossaries that are subject to user mediation (Erdman and Hansch, 2011). The project charter suggests a bibliographic database of TC resources, built using Zotero or Delicious, with the entire journal of *Technical Communication* to be catalogued by September of 2009. The current version of the TCBOK doesn't have a bibliographic database. Why the STD doesn't at least have bibliographic data available for its journal at this time is unclear.

10.2 GENRE

Perhaps the most extensively overlooked educational resource in TC are its *outputs*. The best way to attend to them, given their extent, is to sort them out by *genre* and share a selection of exemplary texts from each one respectively. (Coppola, 2013) A genre is a category of things that fit a certain criteria, and employ the same certain conventions. Marìa Luzòn (2005) wrote that there are two general approaches to genres, *text-based* and *social-based*. A proposal, a needs analysis, or a work breakdown structure are good places to start for a text-based approach. These documents all have an exigency, audience, context, purpose, and identifiable structure. A social-based approach studies similar components, but from a social perspective, such as the rhetorical situation through John Swales' (1990) three moves in research article introductions. As previously discussed, activity theorists Jean Lave and Etienne Wenger (1991) treat genre as another object that mediates social activities in communities of practice. Genre is well-adept at the task of sorting out works of TC, but less adept at sorting out TC processes. Encountering the specific types of tasks that technical communicators perform helps to understand TC. Any quintessential text or related communication practice of TC has merits that make it worth sharing. A critically acclaimed TC text provides a lucid way for users to encounter the genre and a working model for similar types of work.

11 CONCLUSION

11.1 FUTURE AREAS FOR RESEARCH

- bridging the gap between academia and industry
- strategies for a BOK wanting of volunteer contributors
- roads to certification and professional development from the BOK

11.2 TAKEAWAYS AND LESSONS LEARNED

The TCBOK is a large-scale undertaking for the STC. The success of its development is critical to their relevance for years to come. Also of note are business constraints that a project of this scope can place on an organization. Hopefully this philosophical investigation will contribute to its sustainable development, minimize the burden of producing the definitive resource for our profession, and maximize the financial and intangible returns that a unified body of knowledge can provide. Through a historical look at the TCBOK and its context we examined the TCBOK through the four forms of infrastructural inversion. The TCBOK appears effective for collecting and organizing knowledge so that it can be used for purposes such as encouraging future research, better practice, effective curriculum, and ongoing professional development. We've used mapping metaphors and examined the architecture of the TCBOK for a strategic, rhetorical, and ethical understanding of how it works.

This work is only a statement in what hopefully continues to be a lively and robust conversation. I share Nancy Coppola and Norbert Elliot's (2013) hope that this discussion, "contribute[s] to the ongoing conversation about how to define the field or at least create spaces where boundaries can be negotiated by the community of all TC practitioners" (266) I also affirm that readers of these topics should become active participants in discourse and development in TC. Readership on these topics are the future users, contributors, and leaders of the TCBOK and have a duty to shape the future of the TCBOK that we have to live with.

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Fig. 1. "Technical Communication Body of Knowledge (TCBOK)." TCBOK. Accessed April 17, 2015. http://www.tcbok.org/?s=mentor

Fig. 2. Buffalo State. "Buffalo State - Volunteer and Service-Learning Center - Students." Accessed April 17, 2015. http://bsccdc01.buffalostate.edu/cdc/content/vslc/examples.html

Fig. 3. ACM Queue. "A Tour through the Visualization Zoo." Accessed April 17, 2015. http://queue.acm.org/detail.cfm?id=1805128

Fig. 4. Geeking Out at Fisher. "Folksonomy Post." December 2, 2012. Accessed April 17, 2015. https://fishergeeks.wordpress.com/2012/12/05/some-uses-for-folksonomies-musings-on-user-created-structures/folksonomy-post/

Fig. 5. Unlike Us. "Beyond Distributed and Decentralized: What Is a Federated Network?" Accessed April 17, 2015. http://networkcultures.org/unlikeus/resources/articles/what-is-a-federated-network/

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