TECHNIQUES

Welcome to the Spring 2012 edition of Techniques! This publication is written, edited, and laid out by students in Dr. Tesdell's ENG577 - Technical Documents, Policies, and Procedures class. An editorial committee solicited proposals from students in the synchronous and asynchronous classes, chose the proposals we thought were most relevant for our audience, communicated with authors of proposals, edited the articles, laid out the publication, then edited the assembled publication as a whole. We hope you enjoy reading this issue of Techniques. §

Documentation Quality: What Do We Know?
by Samir Gaonkar

Introduction
Quality is a much maligned word that has different connotations for different people. In spite of the wide variety of literature available on the subject, there is little agreement amongst experts about what exactly constitutes quality. The ambiguity surrounding quality extends to documentation quality as well. Spilka (2000) points out the consensus in industry literature about defining documentation quality across organizational contexts as being an "elusive and impossible goal", but says that "contextualizing quality definitions" can be useful.

A review of the literature indicates that there is no standard way of defining documentation quality. This can be attributed to two factors. First, there has not been much research done by academia in this field. Carliner (2000) points out there was little research done on documentation quality in the 1990s. This view has also been echoed by Spilka (2000) who advocates a partnership with the industry to contribute to "the quality issue". My own review of recent literature suggests that the situation hasn't improved much in the last decade. Second, there is no agreement among experts from academia and industry about what exactly constitutes documentation quality and how to measure it.

Defining documentation quality is just one part of the complex equation; the other part is to devise means to measure it. DeMarco (1982) says that what cannot be measured cannot be controlled, and, logically, cannot be improved. Smart (2002) echoes this thought when he says, "Unless you define quality, you cannot replicate, measure, and control it."

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Documentation quality definitions

Even though researchers agree that defining quality is a difficult task, it does not stop them from proposing their own versions. Reilly (1993) argues that quality definitions reside in any one of the four possible categories: product, process, users' perceptions, or the perceptions of professional communicators. Hackos (1994) observes that "quality happens as the result of a well-managed, well-organized process." Hargis, et al. (1998) in their seminal book *Developing Quality Technical Information* (DQTI) propose that "quality is a composite of several characteristics." They group the important characteristics into three main categories: easy to use (task orientation, accuracy, completeness), easy to understand (clarity, concreteness, style), and easy to find (organization, retrievability, visual effectiveness). While all of these are valid definitions, especially the one proposed by Hargis, et al., which is relatively easy to measure as well, they all delve more into the quantitative aspects of quality from a product perspective and ignore the qualitative and process aspects. Smart (2002) critiques the approach suggested in DQTI as simplifying the quality process, which does not take into account "the fluid nature of quality" and does not account for changes in quality dimensions as per "audience, context, and purpose of the document."

Many industry authors advocate a contextual approach to defining quality. Karl Smart, et al. suggest that quality definitions are based on context and will vary according to the practitioner's environment. They propose a two-dimensional grid on which quality definitions can be categorized and plotted with four different emphases: internal, external, subjective, and objective. Their definition is based on five parameters: design, product, customer, value, and strategic quality. However, this definition misses the importance of processes in creating high quality documents.

Approaches to measuring quality

Academics and industry researchers have suggested various methods of measuring quality. Hargis (2000) discusses the use of a readability score and clarity index along with various quality models developed by IBM, which use characteristics such as accuracy, appearance, extraneous information, missing information, readability, usability, retrievability, task-supportiveness, accuracy, and user satisfaction. Spilka (2000) suggests using multiple quality measures to "guard against the potential weakness of any single measure." Arthur and Todd Stevens (1989) present a case of assessing the adequacy of documentation through document quality indicators. Huang and Tilley (2003) propose a five level Document Maturity Model (DMM) based on the Software Capability Maturity Model (CMM) which is widely used in the software industry. Dufty, McNamara, et al. (2004) mention measures of text quality such as readability assessed through reading scores. Schriver (1993) talks about measuring quality in document design through two measures: direct, or criterion-reference; and indirect, or prediction. Smart (2002) proposed an extension of Kano's (1984) argument which states that "each quality dimension impacts customer satisfaction differently and varies in importance." Smart's extended approach classifies quality dimensions in three categories: essential quality, conventional quality, and attractive quality.

Some of these approaches to measuring quality are based on the product, while others focus on the process. When selecting an approach that looks suitable to a particular context, one also needs to be aware of what Hackos (1994) calls a "political issue" that is peculiar to most of the industry. The definition and measurement of quality is not only a judgment call made by the technical communicator in the best interests of the end-user, but, it is also a matter of "balancing the requirements of diverse customer communities" (Hackos 1994). The diverse customer communities that Hackos refers to are internal stakeholders, such as developers, quality testers, and product managers in the case of a software organization. The political issue stems from the fact that what is agreeable to internal stakeholders might not always be in the best interests of end-users.

> Given the importance of metrics in today's competitive world, centered around buzz words such as ROI (return on investment) and customer satisfaction, it is no surprise that documentation quality is now being actively measured and tracked across industries.

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This means that when defining documentation quality metrics, the needs of internal stakeholders must be considered apart from those of customers, clients, and end-users.

Conclusion

Given the importance of metrics in today's competitive world, centered around buzz words such as ROI (return on investment) and customer satisfaction, it is no surprise that documentation quality is now being actively measured and tracked across industries. This trend is also reflected in the "Q" word coming up in many technical communication conferences and other forums. The challenge for practitioners is to come up with a quality definition suitable for a particular context and then create a set of metrics to measure it. While extant literature discusses documentation quality to a certain extent, there are areas suggesting the need for further research. §

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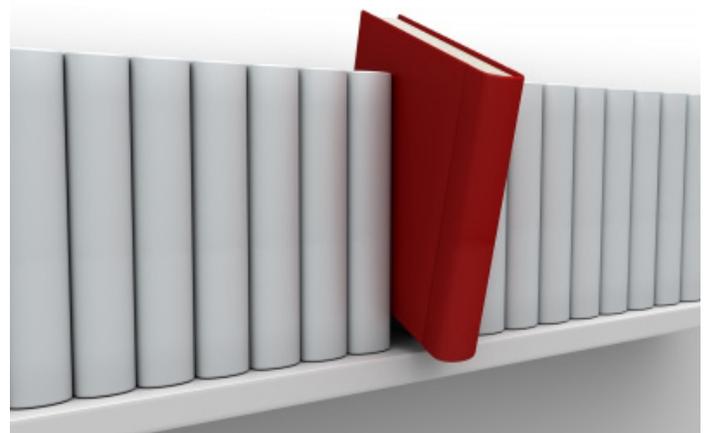
Plain English vs. Customized Approaches: Which Will Make Your Translator Love you More?
by Lacey Corbin

As more US companies expand overseas, the need for documents to be translated from English into different languages grows exponentially. This offers new challenges for technical writers who must now take into account that their document will need to be sent to a translator before publication. A smart technical writer knows that making the document easy to translate from its inception means it's more likely to stay close to the original idea and wording of the document. The common suggestion for technical writers is that the best way to prepare a document for translation is to apply the principles of Plain English; however, new challenges to this method have emerged suggesting that a more customized approach may actually yield an easier document to translate, which, in business, equals money.

Before I describe the different theories on how to best aid translators, a brief discussion of the translation process is in order. There are several schools of thought on what should be the most important aspect of translation. Some translators work to preserve the wording of the original document as much as possible. Not all words will translate into the target language, and this can lead to confusing documents that may not work culturally or sensibly for the target readers. For many translators, though, it is more important to keep the original idea of the document, not necessarily the wording. This can be dangerous if a translator gets lost in the writing and incorrectly interprets the main idea. This is why it is so important to help the translator by thinking ahead when creating a document.

If you have spent any time researching international technical communication, you probably came across the idea of Plain English. Even if you weren't researching translation specifically, you may have heard of it because it is a common principle of technical writing. Plain English attempts to be easily readable, accessible, and usable (Thrush 290). In fact, there was a Plain English movement in the US that eventually encouraged President Bill Clinton to issue a memorandum in 1998 requiring its use for government writing. The general idea of Plain English

is to limit the number of sentences, use common everyday words, use pronouns, and write in the active voice. The idea is that when applied to translation, this will make the points clear and allow the translator to keep the main idea of the document intact while adapting the wording to fit both the target language and its culture.

However, some suggest that Plain English can actually make the translation process harder. One of these approaches is through the use of syntactic

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cues. The idea here is that when you are reading, your brain is constantly trying to complete the sentence ahead of your eyes. It's almost like a guessing game. Certain syntactic cues help you to guess the meaning and ending to a sentence. For example, in Lewis Carroll's Jabberwocky, "Twas brillig, and the slithy toves did gyre and gimble in the wabe." Because "tove" ends in an "s" and is preceded by the word ending in "y", we can infer that it is a noun. Also, "slithy" is an adjective because it ends in a "y" and precedes the noun, and "gyre" and "gimble" are verbs because of the auxiliary verb "did" (Kohl 149). Some common syntactic cues include that, that + the verb phrase "to be", articles (a, an, the), can, should, and may. This approach's main argument against Plain English is that in simplifying the language, we could be eliminating cues that help clear up ambiguities for non-native readers and translators (Kohl 150). Basically, we want to aid translators in making the best interpretations possible by providing these cues. However, there does need to be some common sense when inserting a syntactic cue because is not always the best approach to clear up ambiguity. Sometimes it may be best to completely rewrite the sentence.

> The general idea of Plain English is to limit the number of sentences, use common everyday words, use pronouns, and write in the active voice.

Another approach that goes against Plain English is through a basic understanding of the linguistic background of the target language. It is important that technical writers be aware of their audience in terms of their native language. This requires more than the use of Plain English to simplify documents; it involves understanding the linguistics of their native language and what will best aid non-native readers and translators to comprehend the document. For example, according to the SEC's Plain English handbook, the word "fabricate" should be replaced with "make up". However, take into consideration that a French speaker may be more familiar with fabricate due to its Latin roots common in the French language (Thrush 292). In essence, a clue is stolen from the translator or made them replace the simplified word with the Latinate synonym because it will translate better. This simple example illustrates how blindly

relying upon Plain English as an effective way to help a translator can backfire and make it harder on them.

Ultimately, I believe that there are benefits to Plain English as a general rule, but technical communicators should be aware of the unique translation issues that each language may face. Having an awareness of the linguistic background of the target language and the syntactic cues that they may need could end up making your translator love you more than by just simplifying the language. There is no one correct answer on how to create an easily translatable document. Technical writers will need to really assess the situation and think through the process the translator will go through in order to help them produce a close translation. In accepting just one blanket approach to writing for translation, you may be denying your translator the helpful clues they need to translate the document as closely as possible. §

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Balancing Efficiency With Quality in Translation
by Krista Teigen

In the 1960s, PepsiCo introduced a new slogan to American consumers urging them to "Come Alive! You're in the Pepsi Generation." Once the slogan reached China, it read, "With Pepsi, it will revive your ancestors." Years later, Colonel Sanders introduced his "finger-lickin' good" chicken to Chinese consumers by telling them to "lick their fingers off."

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While these translation mistakes seem simple and lighthearted, they are proof that translation is not a mere transfer of information directly from one language to the other. Translation is a process that crosses borders, cultures, and locales. Therefore, technical communicators must fill the gap created by these cultural differences. Translation requires the technical communicator to engage in an analysis of culture and language and understand the importance of cross-cultural collaboration in the fast-paced world of business.

Even with adequate education in translation and technical writing, the translation process presents challenges for technical communicators. Verifying context, checking for grammatical errors, and identifying potential language constraints can prove to be costly and time-consuming. Just a simple change to add a comma causes a ripple effect across all languages, which creates delays and requires more hands through which the information must pass. In essence, there is no such thing as a small change.

> **Translation requires the technical communicator to engage in an analysis of culture and language and understand the importance of cross-cultural collaboration in the fast-paced world of business.**

As a result, companies often use ineffective workarounds such as selecting a low-cost translator, leaving translation until the last minute, and distributing project work to many translators. Cost should not be the only factor in planning for successful execution of a translation project (Major and Yoshida, 2007).

Localization assists the technical communicator in making deliberate decisions based on cultural nuances that affect an audience's understanding of the document. For example, technical communicators should be mindful of cultural elements, such as the conventions for which a culture expresses the date. Some cultures use the order of day, month, and year while the American culture places the month before the day. Linguistic features such as jargon, slang,

abbreviations time-consuming. Yet, the importance of localization cannot be ignored in light of the increasing number of companies expanding product lines to the global market.

Companies are now looking to single sourcing for solutions that will reduce the time and costs associated with the translation process. The basis of single sourcing lies in the potential to write content once and save it for uses in multiple mediums, for similar products, and for a variety of audiences. It provides ways for companies to manage similar content by avoiding unnecessary changes and inaccuracies and ensuring efforts are not repeated.

Single sourcing requires writers to analyze the users from a communal perspective. This practice is in direct contrast with the time-consuming concept of localization that encourages the technical communicator to analyze specific cultural elements of the end user. This conflict of interest begs the question –Is single sourcing or localization a more important factor to consider in the translation process? Or, perhaps technical communicators need to find a happy medium and successfully balance the time-consuming task of localization with the structured and universal practice of single sourcing.

Today, it is common for large companies to use single sourcing to decrease publishing time, reuse content, and ensure consistency across all product information. Yet, with the expansion of product lines to specific global markets, it is also crucial for companies to ensure the information is usable, understandable, and ultimately suited for the specific culture of the user. Translation requires careful reflection on content, context, and the audience. But this can only be done quickly for so long before quality is compromised.

In a perfect world, technical communicators would have months to perfect a technical document to ensure that it follows all the rules of the English language, can be easily translated into several languages, and will serve the needs of all users who will receive the product. However, the business aspect

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of translation keeps companies pressured to beat the competition and gain market share.

Companies are constantly adding languages to their translation repertoire based on the rapidly expanding market. This fast-paced environment cannot survive without the support of single-sourcing software such as XML. Without it, products would take months or even years to reach consumers. Yet, regardless of its time to market, consumers must be able to carefully follow the documentation to correctly use the product. The translation process really boils down to the task of balancing efficiency and quality. And at the end of the day, a quality document will uphold the credibility of the company and retain loyal customers. **§**

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Optimizing Search for Online Documentation
by Robin Hartzell

Benefit from SEO
Technical communicators charged with developing online documentation should understand that search engine optimization (SEO) tactics aren't only for online marketers. What good is online documentation if your target audience can't find it? Below are a few basic tenets of SEO. Use them when you plan and post your documentation so customers can get to your content from wherever they access the Internet.

Break through
To understand and employ SEO tactics, technical communicators must first understand search engines. These super databases continuously index billions of pages and files on the Web. Search engines enable users to query this ever-growing mountain of information using key words and phrases you enter into a search field. They respond to our queries by returning pages of lists based on relevance, dates, or both. Each search engine employs an algorithm-based ranking system that might vary results a little from one brand of search engine to another.

Submit for search
If your technical documentation is on a new website, don't forget to tell the major search engines it's there. The process is quick, simple, and free. To submit a web address, you or your web developer can go directly to the submission page for each of the most popular search engines, Google and Bing, or you can use one of the many free submission tools, such as FreeWebSubmission.com or SubmitExpress.com.

Make content count
Search engines place a heavy emphasis on content, which describes what a web page is about. It is also a good practice to incorporate a descriptive term into the page's web address, if possible. When we use search engines, we enter key words or phrases to query for content. As online communicators, we should research the most popular or relevant words used for searching a topic of interest. For example, Google, the behemoth of today's search engines, offers a free keyword research tool as part of its

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AdWords promotional program at adwords.google.com. Of course, casting a wide net with your keyword selection means more competition for its potential search result. For example, when I enter "skating rink," the tool tells me the competition for that phrase is relatively low, with 1,830,000 global searches conducted last month. Among them, 550,000 were local (domestic). But 550,000 is still a lot of people looking for a skating rink. Let's say my hypothetical rink is an ice skating rink— a key phrase I plan to use several times on nearly all of my web pages. That phrase has an even lower competition threshold, garnering 301,000 global monthly searches and 201,000 domestic searches. Consequently, the competition for placement on Google's search returns is much less for this key phrase, and it targets a specific audience in search of only an ice skating rink. Bingo!

NOT worth a thousand words
We all know that images are a great way to add visual interests to our technical content. Photos, drawings, and other graphic elements can also enhance learning. Unfortunately, images communicate nothing to search engines. But there's a way to fix this. You can apply tags to your graphics to flag search engines by describing what the image conveys.
Here is one example.

```
<image alt="Minnesota ice skating rink" src="mn.
iceskate.jpg"  title="Minnesota Ice Skating Rink"
      class=alignnone height="75" width="120">
```

For more information on image tags and HTML coding, check out w3schools.com and other free HTML resources found in abundance via the Internet.

Strategize links
You've probably already heard that search engines like links to and from a web page, which is true, but there's more to it. Links from a highly reputable site will have a much bigger impact on your search ranking than links from a less reputable and less popular site. Search engine algorithms also look at the topic relationships between sites that are linked. Without getting into too much complexity, sites that seem relevant or related some way to your site will positively influence search rankings more than sites that have little in common with your content. Keep this in mind.

Build relationships
Search engines love social media. The more highly engaged your audience, the better the ranking. Conversations are the heart of this metric. Encourage comments on your technical documentation, facilitate discussions, and provide feedback. Doing this can spur the kind of loyalty that benefits both your brand and your page rankings.

Don't forget
Ultimately, you want users to reference your technical documentation to garner more knowledge about your product while enhancing its brand. Remember these SEO basics and watch traffic to your online content flourish. **§**

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To Your Health: Technical Communicators and the Development of Online Health Information
by Rachel Walker

With the demand for high quality, easily accessible medical information at an all-time high, the role of technical communicators in the development and production of this information has increased dramatically. New developments in the field of healthcare make it easy to email your doctor, find health services, and quickly locate information on pharmaceuticals, symptoms, and health conditions with a simple web search. With medical information now available to a mass audience at the click of a button, it's vital the information provided is accurate, complete, and well-designed. Technical

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communicators skilled in the art of information organization and dissemination are an invaluable resource in this quickly developing field, and employment opportunities are likely to multiply with the increased demand for high-quality medical information on the web.

According to the American Medical Writer's Association (AMWA) website, medical communicators "write, edit, or develop materials about medicine and health…by gathering, organizing, interpreting, and presenting information in a manner appropriate for the target audience" (AMWA 2012). They work in fields ranging from hospitals to universities, publishing companies and pharmaceutical industries. And their audience can range from the general population to medical students and professionals. In other words, they are the technical communicators of the medical field, and in addition to developing high-quality communication, they must be aware of the ethical aspects of the information they are providing.

In his article, *Writing Toward Readers' Better Health: A Case Study Examining the Development of Online Health Information*, Russell Willerton asserts that while upwards of 80% of the American population had used the internet to look up health information as of 2006 (a number that may be closer to 100% in the last 6 years), "internet users often fail to evaluate the sources and dates of the online information they consult. Although reported cases are rare, emotional distress and even physical harm may befall those who act on bad information or who misunderstand or misapply information that they find" (Willerton 2008, 311). While it's obvious that outdated or inadequate health information can be dangerous, we can't assume that it's verifiable just because someone chose to publish it on the web.

In their article, *Empirical Studies Assessing the Quality of Health Information for Consumers on the World Wide Web*, Eysenbach et al. reveal some startling results about the medical information currently being produced on the internet. In their

systematic review of 79 studies evaluating the quality of web-based health information, they revealed that 70% (55 studies) found high-quality medical information on the web to be a major problem (Eysenback 2002, 2695-96). This includes assessments of accuracy, completeness, readability, design, disclosures, and reference - all important aspects when it comes to a person's health and well-being.

But all is not lost. The push for new, universally available web-based health information brings with it a host of opportunities for writers and developers. As the demand increases, so does the race to produce content that is going to keep the audience interested and informed. Physicians, nurses and other healthcare staff are already looking for quickly accessible answers when they need them most, and up-to-date, evidence-based clinical reference sites like DynaMed are answering the call. As they and other point-of-care references continue to grow in popularity and demand, so too will opportunities for technical and medical communicators within the field.

> It may sound like a difficult challenge, but technical communicators with the education, skills, and standards to create and produce high quality medical information are poised to take the reins in this quickly developing field.

As the internet has indeed become an important resource for health education and information across the world, it's more important than ever to ensure the information it contains is accurate, verifiable, and easily available to a plugged-in audience. By focusing on the development, accuracy and accessibility of quality medical information, technical communicators can set the standard for a more optimistic outlook in the future of web-based medical communication. Now more than ever, skilled technical communicators are needed to ensure that the health information available on the web is going to heal and not hurt its intended audience. It may sound like a difficult challenge, but technical communicators with the education, skills, and standards to create and produce high quality medical information are poised to take the reins in this quickly developing field. §

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How to Recognize a Technical Communicator
by Debbie Hallé Henderson

Spotting a technical communicator isn't as easy as you'd think. Often well-hidden in their environment, these jacks-of-all-trades have an ability to blend in so seamlessly that others may overlook them altogether. Once cornered, a technical communicator may have difficulty explaining his presence and may voice his distress call: "Check the procedure!" Let's examine the environmental impact of the multi-faceted creature.

In reading a recent issue of *Technical Communication*, a statement made by Gerald Savage back in 2003 piqued my interest: "We cannot be recognized by others if we can't even recognize ourselves" (Coppola 2011). I started the master's program in technical communication last summer, and since then I have heard a number of students lament that "people just don't understand what we do." So, what does it mean to be a technical communicator?

In 1961, Israel Light's seminal essay "Technical Writing and Professional Status" defined three broad functions essential for any technical communicator: writing skills and technical writing genres, a strong scientific background that could enable contextualization, and exposure to methods of document design and of working with graphics and audiovisual material (Hallier and Malone 2011). Light's perspective was prescient—fifty years later, these elements remain relevant as some of our core competencies.

> The once ubiquitous title "technical writer" has fallen out of favor, however, given that writing is only one aspect of what we now do.

We write
Since the written word is our primary medium, writing is the logical starting point when talking about technical communicators. Our work could encompass any or all of the following types of writing: user guides or manuals, training manuals, online help, and web or intranet content, among others. Genres of technical writing are diverse and range from computer software/hardware to science to education…to just about any subject targeted to a specific audience. The once ubiquitous title "technical writer" has fallen out of favor, however, given that writing is only one aspect of what we now do.

We understand and connect
Technical communication professionals could be likened to the adapters that we use to connect one device to another. Without the adapter, for example, my iPod can't communicate with my computer. Similarly, without a technical communicator to bridge the gap, a subject matter expert can't communicate with an audience that does not "speak the language."

A successful technical communicator has to understand the needs and concerns of the expert and non-expert alike, and be able to clearly explain each viewpoint to the other. In order to do this, we must comprehend a topic—which is often complex—and be able to place the information in an appropriate context. Communicating with specialists requires us to understand the subject matter and the integral processes required in that particular field.

Light's 1961 essay advocated that technical communicators possess strong backgrounds in the

basic scientific disciplines, because understanding fundamental laws in biology, chemistry, physics, and mathematics would help enable contextualization (Light 1961). While today's technical communicators may be knowledgeable about and able to produce comprehensible material about these fields, our roles are not limited to those arenas. Nowadays, the Society of Technical Communication perceives technical knowledge in a particular domain (e.g., software, hardware, or processes) to be a core competency.

In contrast, our goal in communicating with non-experts is interpretation without oversimplifying; we translate information to make it understandable, and therefore useful. Good technical communication reduces the effort required by the reader to understand the information, and also minimizes the possibility of the reader misunderstanding the material or using it incorrectly.

We design

A technical communicator's role may involve deciding how to best present information. The medium tends to be writing, but now visual design—such as diagrams, graphics, and charts—and multimedia—such as sound and animation—may be a supporting or even central function. We might plan the layout of the text, including structure, content, and organization, and then insert graphical or sound cues to help the reader.

Consequently, information design is a burgeoning field in technical communications. A technical communicator's responsibilities might include the seemingly simple task of how to choose typography to express the right tone, as well as the much more complicated task of how to structure the entire document to provide the user with the best possible experience. The main objective in information design is to make the document easily accessible, clearly structured, and aesthetically pleasing.

So, what has changed since Light wrote "Technical Writing and Professional Status" in 1961? Certainly the convergence of technology and globalization has significantly transformed our professional landscape

(Coppola 2012). The current zeitgeist considers technical communications to be a knowledge process that includes methods to solve problems. This perception aligns with Light's opinion that technical communicators must have a blend of substantive knowledge along with the ability to write with the goal of simplification (Light 1961). Today, however, technical communicators must also be competent in technical design, have a balance of theoretical knowledge and practical skills, and achieve facility with a number of technologies and programs. No wonder we have a hard time describing ourselves. §

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Scary Software: Why Technical Communicators Shouldn't Be Afraid of the Abundance of Software
by Melissa Schuck

Most of us don't have to imagine nightmare interview scenarios – we've already had them. The worst interview I ever had was with the CEO of a small business who opened the meeting with the question: "Are you an alcoholic?"

After treading lightly through that human resources nightmare, I figured nothing could top that terrible interview experience. I met Mike, the director of development at a learning systems company, a couple years later. After a few easy questions, he threw me one that essentially ended the interview: "Tell me about your experience with RoboHelp."

At the time of the interview, I had a bachelor's degree in technical writing and about a year of documentation experience. Even those qualities didn't help me as I stumbled through my politically correct way of saying "give me an hour and the Internet, and I'll tell you everything you need to know about RoboHelp." Like most budding technical communicators, I had studied some software programs relative to the field, but not all – and most importantly, not RoboHelp. Predictably, I didn't get the job, and I thought my lack of Adobe expertise was to blame.

Determined to find a job in my field, I scoured multiple job descriptions relating to "technical writer" and compiled a list of all of the software programs that these employers either required or preferred. This way, I could learn all of the programs and never miss another opportunity due to lack of experience with a given software program. I realized this plan was inherently unsustainable when the list grew to include over fifteen programs. Even if I did accrue a basic understanding of all of these programs, it would be entirely unlikely that I would be able to keep up with annual updates and revisions. I scrapped that plan and continued my job hunt.

As luck would have it, I was eventually hired at a company that utilized mostly proprietary software – for which they needed technical aptitude, not decades of experience with particular software programs. My peers came from varied backgrounds in English

such as literature, journalism, and teaching, but they all had one quality in common – the ability to assimilate and use technical information quickly. It was an amazing team to be part of because for every difficulty we faced, someone on the team had overcome that same issue in their respective field before, or offered up a unique solution as a replacement. Personally experiencing this kind of collaboration sparked a new thought in me – what if having detailed, comprehensive software knowledge was a thing of the past for technical communicators? It was then that I realized the value of a new definition of a "knowledge network", one which focuses on networking with trusted individuals with the goal of promoting knowledge transfer and understanding when need arises.

In my opinion, creating this type of knowledge network is far superior to any one person trying to

> **Knowledge networking breeds a new kind of intellectual freedom which comes from alleviating the pressure for an individual to have the answer to all questions at all times.**

turn themselves into a walking software knowledge silo (Hayhoe 2000). Knowledge networking breeds a new kind of intellectual freedom which comes from alleviating the pressure for an individual to have the answer to all questions at all times. This freedom, which builds upon the benefits of professional networking, emphasizes the knowledge of a community versus the knowledge of the individual. At its most basic, knowledge networking emphasizes aptitude and theory over stagnant, sometimes dated, facts.

Another added benefit is that acquiring a knowledge network is directly beneficial to both the employee and the employer. The employee has the ability to feel empowered about their field and position in both their professional and personal time. Because employees can network anywhere, they can in essence discover creative solutions anywhere – which can set a company above competitors (Mabrouk 2009). Employers are, in turn, given a staff that is constantly

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knowledgeable about the present and future trends and technologies of the field. Instead of settling for a staff that may only be very knowledgeable about a couple software programs, employers can empower a staff that can learn and adapt to technologies that will benefit the organization throughout multiple stages of planning and development.

While the benefits of networking in this way are clear, the intricacies of developing a system like this may seem more intimidating than learning fifteen software programs. I have found the following tips are important for students and experienced professionals alike when knowledge networking:

- **Personality is key.** Friendliness may not get you everywhere, but you won't get anywhere without starting a dialogue. Don't be afraid to be the first to say "hello!" (Mabrouk 2009)

- **Never discount or neglect connections.** You never know what projects you might be working on in the future – or who will become your boss (Mabrouk 2009).

- **Cement the professional relationship.** Getting business cards is great, but a worn, two-year-old piece of cardstock isn't going to help when the person on the other end of the telephone thinks you're a stranger. If you're not a fan of checking in with email or mailing holiday cards, social media sites are indispensable (Mabrouk 2009).

Ultimately, technical communicators need to remember that they are not programmers or computer science professionals (Hayhoe 2000). First and foremost, we are communicators who specialize in technical fields. The desire to acquire other professional, marketable skills is important, but it shouldn't overshadow the need to be an expert in our own field (Hayhoe 2000). If technical communicators focus on understanding the core principles of the communications discipline, and complete their new knowledge network, they are building a solid foundation upon which a career can be formed. Once that career is formed, who knows where it and your knowledge network will take you. Personally, I'm hoping both can help me learn RoboHelp after all. **§**

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An Interview with a Documentation Manager
by Julie Godard

I recently interviewed a Documentation Manager at one of the largest wind turbine manufacturing companies in the world. He oversees 50 technical writers, and has been in the business for over fifteen years. I wanted to share the information he gave me about his own Technical Writing and Documentation career with students at MSU, Mankato.

How long did it take you to obtain your current position?
Fifteen years. I graduated with a degree in journalism, starting out in word processing/data entry jobs that paid twelve dollars an hour.

In the field of Technical Writing, is education comparable to experience?

A master's degree will help, but you need to acquire experience, as well. Good places to start are newspapers and magazines, and an internship is invaluable. It's best to keep your field broad, so technical communications should provide more job opportunities than technical writing (such as editing or international fields).

What do you look for in a Technical Writer?

My methods are unorthodox, but experience is not required for me. Show me passion for writing, and ask LOTS of questions; I want someone who is a good interviewer. You must be able to extract information from the SME (Subject Matter Expert).

How should I prepare myself for this occupation?

Conduct informational interviews. People in this field are friendly and eager to help; this will give you practice in interviewing, which is a key facet of technical writing. It can be hard to relate to engineers and managers sometimes; your interpersonal skills should be top-notch. You should be interested in technology.

Is technical writing dull?

No, not at all! If you enjoy writing, conveying a message and are interested in your subject matter, it's fascinating! It's really a creative process. My writers perform writing and copyediting most often. You take information and funnel it into a certain shape and form so others can understand it. The range of technical documents you will work on are extremely varied.

What sort of writing samples should I have on hand?

Whatever you've written; class assignments in your degree program should work well. Your samples should be consistent in style and tone, accurate and communicate the issue well.

Which types of software are key for a technical writer?

- Adobe Creative Suite
- RoboHelp
- Photoshop
- FrameMaker
- Madcap Flare
- XML
- Oxygen XML
- MS WORD! Learn everything about this program. You should be an expert and know it inside and out. Wasting time on the job is not a luxury you can afford.

What's the best advice you've received about your career?

Take a PAID internship. Don't do free labor. You can't afford it, and you're worth more than that.

Can you give me a "day in the life" of a technical writing project at your firm?

1. Someone makes a request for changes to documentation.
2. The technical writer speaks with the SME to confirm that the changes to be made are complete and accurate.
3. The project goes to editors for a language review, as well as formatting and templates.
4. The project goes back to the writers for a review from a technical perspective.
5. The editors review the project once more, both formally and informally.
6. The manager of each department concerned reviews the project.
7. The document is published.

Is there anything else that will help me pursue a career in Technical Communication?

Yes! I'm glad you asked.
1. Get published. Make sure your documents are public and available on the internet for employers who are researching you. Note ANY and ALL publications on your resume.
2. Become a member of the Society for Technical Communication. The benefits are vast (job searching, certifications, up-to-date news on

the industry). Also, there is a HUGE student discount. Hold an office in the STC if possible -- it doesn't have to be a large commitment, just find something you can volunteer for so you can put it on your resume. It will also keep you involved in your field while you're in school.

3. Reach out to people in the field -- use STC, LinkedIn, professors, fellow students or writers in the industry. Like I said, people are almost always willing to help.
4. Find a mentor. You need someone who can vouch for you to land that first position.
5. Connect with online groups (search 'documentation' or 'technical writer' on LinkedIn or Google). You will learn the lingo and possibly hear about a job opportunity in the process.
6. Be honest.
7. Go to STC meetings whenever possible. Get to know people.
8. Temp agencies are the place to look for your first positions. They will most likely be contract-to-hire, and will hire you if you do a good job. Some jobs will be contract jobs, but they will probably lead to other positions. Once you've got some experience under your belt, you can look on sites like Careerbuilder, STC, Indeed and Craigslist, but your best bet will be getting a job recommendation from someone you know. §

> **Advice when Beginning a Career in Technical Communication:**
> 1. Get published.
> 2. Become a member of STC.
> 3. Reach out to people in the field.
> 4. Find a mentor.
> 5. Connect with online groups.
> 6. Be honest.
> 7. Go to STC meetings.
> 8. Try temp agencies for your first job.

Why Subject Matter Experts Should Not Write Documentation
by Lutie Ronglien

In an economy like ours, companies are trying to find ways to cut costs and get leaner. This often means more people going outside of their job descriptions and taking on additional tasks they are not trained to do. For example, businesses we work for may ask their technical or other gurus to write their documentation. These experts likely are not trained as we technical communicators to write cohesive documents, but we may still find ourselves defending and proving our value to our employers.

I'm experiencing this firsthand at the financial services company where I'm employed. My company recently announced it's selling off my division, and I'm left wondering if I will have a job in a few months. Will the new buyer value technical communicators? Or, will the company decide to pass off documentation to the subject matter experts (SMEs) within the business? The latter is not a good idea, and here's why:
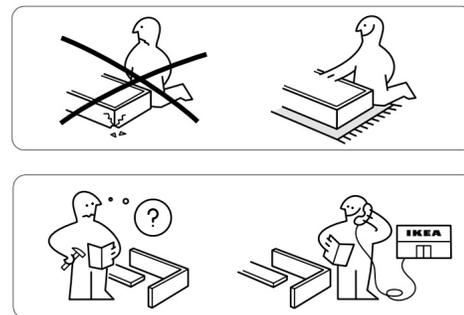
SMEs don't think of the issues non-experts come across. SMEs know their subject matter; that's why they're SMEs. And while knowledge is a necessary and valuable tool for effective documentation, SMEs know the material too well. If a SME is assigned to write user documentation, he or she will not necessarily be able to foresee issues or roadblocks a novice stumbles upon when trying to complete a task. A technical communicator designs and structures the topics and edits what others have written in a logical and understandable way. Not just anyone can do this. If you've ever tried to assemble furniture, you

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know the importance of well-written and user-friendly documentation. (Hello, IKEA!) This is especially important when a person's safety is at risk.

SMEs make logical connections that users don't. A SME may be able to make a logical connection from point A to point M, where a non-expert may need points B-L to understand how to get to point M. Explaining an entire process effectively requires experience and training, which a technical communicator has (Unwalla).

SMEs forget that non-experts don't know the obvious. In 1998, in the research article, "Writing Safety Instructions for Consumer Products," Jeanette Croft and Freda Harris state, "A writer who is initially unfamiliar with the product will be in the best position to take into account the needs of a first-time user." This is especially true for anyone writing instructions for something like a table saw or a medical device. A SME may assume the user knows the name of a certain part without illustrating what that part is, or assume the user has some software knowledge that he or she doesn't have.

SMEs don't identify the user's needs. A certain amount of information is obvious to a SME, but the user may need a more in-depth explanation. A technical communicator's initial steps involve identifying the audience and determining its needs. It doesn't matter what the SME knows or what the SME thinks is important. It's the audience we're writing for, and their needs come first. If our documentation doesn't fulfill their needs, there's no need for us.

> ***Why SMEs Shouldn't Write Documentation:***
> 1. SMEs don't think of the issues non-experts come across
> 2. SMEs make logical connections that users don't.
> 3. SMEs don't identify the user's needs.

That being said, we also need and appreciate our SMEs. The value of a SME should not be dismissed. The key to effective documentation is the technical communicator and SME collaborating from the beginning of the project, each giving his or her expertise (Linsell-Roberts). Establishing good relationships with our SMEs is vital to creating good user documentation. Treat your SMEs well. Gather as much information as you can before meeting with your SME. Identify the audience and its needs, and be cognizant that your SME's time is as valuable as yours. In turn, they will value our expertise, and we will value theirs. **§**

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Engineers: Bad Communicators, or Just Speaking Their Own Language?
by Ronald Choi

It is a commonly held belief that engineers have poor communication skills. As an engineer myself, I can personally attest to the general validity of this stereotype. Studies show that the public perceives engineers as having poor communication skills

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(Braham 1992, Darby 2003), and employers believe that engineering students are not prepared for the communication needs of the workplace (Beder 1999, Clayton 1996, Reave 2004, Sharp 2004). Van De Mieroop found that engineers rarely employed a rhetorically balanced speech introduction (2008), possibly revealing one of the causes for this general perception. But engineering projects are not conducted in isolation. Engineers must communicate with each other to collaborate, exchange ideas, and solve problems while developing the products that we rely on every day. So perhaps the conventional wisdom needs to be challenged, or at least rephrased more accurately to, "engineers are poor at communicating with non-engineers." Perhaps the value system, expectations, and language within the domain of engineering are so specific that they impede the ability of engineers to communicate with the general public.

To examine this topic further, I conducted a small research study to compare the rhetorical properties of texts within the domain of engineering to texts written for the general public. The goal of the study was to answer the following questions:

1. Do authors experienced with writing for engineering audiences use a common rhetorical method?

2. Do the rhetorical methods utilized for engineering audiences differ from those used for general audiences?

> The samples were evaluated based on their use of ethos, pathos, and logos—the Aristotelian rhetorical appeals to credibility, emotion, and logic (respectively).

The study involved a textual analysis and comparison of two samples: a sample of engineering texts and a sample of non-engineering texts. The samples were evaluated based on their use of ethos, pathos, and logos—the Aristotelian rhetorical appeals to credibility, emotion, and logic (respectively). In addition, a simple content analysis was performed, measuring the usage of "non-words" in each sample. Non-words included acronyms, numbers and units, and the names of organizations, standards, and products.

The engineering sample consisted of 10 staff-written articles from the trade magazine *EDN*, which targets electrical and computer engineers in the micro-electronics industry. This is my own field of study, eliminating any issues with comprehension of the material. A trade magazine was chosen for its internal domain characteristics (written by engineers for engineers) and for its rhetorical intent as a published magazine.

The non-engineering comparison sample included 10 articles from *TIME* magazine. As engineering is a professional discipline requiring a college education, *TIME* was chosen for its large college-educated readership (as cited in *Time Inc.* 2010).

The analysis revealed that on average, both samples used the Aristotelian appeals to ethos, pathos and logos in a balanced fashion and without much variation from each other. As illustrated in Table 1, within the engineering texts, appeals to ethos, pathos, and logos showed an average distribution of 28.5%, 35.6%, and 35.9% respectively. Taking into account the standard deviations of each appeal, also listed in Table 1, these averages can be considered balanced. Similar results were found for the non-engineering texts. These results contradict conventional wisdom and existing research. If the engineering texts are rhetorically balanced, then why does society perceive engineers as poor communicators?

Both samples showed a high level of overlap between appeals to logos and the other rhetorical appeals within the same coded area. For example, a particular statistic (logos) may have also elicited an emotional response (pathos). As shown in Table 2, 68.8% of the appeals to ethos in the engineering texts were also appeals to logos, compared to 55.3% in the non-engineering texts. However, this variance was within the standard

Table 1: Distribution of Aristotelian Appeals in Engineering vs. Non-engineering Samples

Text Sample	% Ethos (Standard deviation)	% Pathos (Standard deviation)	% Logos (Standard deviation)
Engineering	28.5% (10.8)	35.6% (4.9)	35.9% (7.6)
Non-engineering	34.7% (9.2)	36.7% (5.8)	29.0% (9.7)

Table 2: Appeals to Ethos and Pathos That Also Appeal to Logos

Text Sample	% of Ethos appeals using logos (Standard deviation)	% of Pathos appeals using logos (Standard deviation)
Engineering	68.8% (19.9)	70.9% (12.0)
Non-engineering	55.3% (12.9)	42.4% (12.9)

Table 3: Recalculated Rhetorical Averages Isolating Logos

Text Sample	% Ethos	% Pathos	% Logos
Engineering	18.1%	17.5%	64.4%
Non-engineering	24.3%	31.4%	44.3%

deviation of each sample. The appeals to pathos however, told a different story. In the engineering texts, 70.9% of the appeals to pathos were also appeals to logos, compared to just 42.4% in the non-engineering texts.

But how does one know which facts are likely to create an emotional appeal? This determination is made by the coder—me—an engineer with expertise in micro-electronics. Without prior experience or training, would a non-engineer be able to identify the same overlapping appeals? Contextual experience is required to know if a particular number or fact is expected by the audience, which could create ethos; or if it is unexpected, to evoke pathos.

If the results are recalculated to remove appeals to ethos and pathos created through logos, we see a significantly different result. As shown in Table 3, in the engineering sample, now over 64% of the rhetorical appeals are to logos, versus 44.3% in the non-engineering sample. To the reader who is unfamiliar with the value system and expectations of the domain, the engineering texts could be seen as heavily weighted towards logos.

This perception could also be exacerbated by the usage of non-words in the engineering texts. The engineering sample was found to use non-words more than twice as often as the non-engineering texts, averaging over 58 occurrences per page, in contrast to the less than 25 per page found in the non-engineering texts.

While this study was obviously limited by its small sample size and use of a single engineer coder, it did produce some interesting results. To the unfamiliar eye, these engineering texts could be interpreted as being full of facts, numbers, and technical jargon, and lacking in emotional connection. Does that sounds like any engineers you know? However, to those familiar with the domain, the same texts could be considered rhetorically balanced. Perhaps engineers are just speaking their own language. §

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Literary Style in Technical, Science, and Business Communication
by Clint Edwards

As a graduate student, I have read several best-selling titles that combine elements of literary style, such as character development, dialog, narration, the use of pronouns, and back story, with technical and science prose. Titles such as, but not limited to,

Where Wizards Stay Up Late: The Origins Of The Internet, S*tiff: The Curious Lives of Human Cadavers*, and *The Immortal Life of Henrietta Lacks*. Few read technical documents cover to cover, yet all of the above titles could arguably be classified as technical or scientific documents. For example in *Where Wizards Stay Up Late* it reads, "Despite the wide variety of projects and computer systems, tight bonds were beginning to form along members of the computer community. Researchers saw each other at technical conferences and talked by phone; as early as 1964 some had even begun using a form of electric mail to trade comments, within the very limited proximity of their mainframe computers" (13).
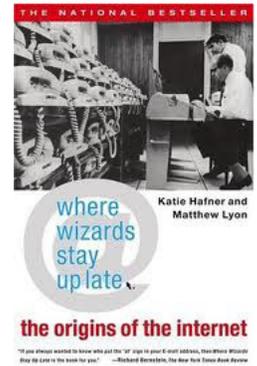
This short section contains backstory, historical context, technical terms, and an elementary understanding of early communication between computers. It is easy to read while also being informative showing a clear mix of literary and technical style.

The use of literary style is what made these technical and scientific titles best sellers. Furthermore, the use of literary style in technical documentation can add a much-needed ease to what many readers consider arduous. And yet, in *Technical Writing Style*, Dan Jones states "the primary aim of technical prose is functionality or usefulness. Technical prose does not usually aim to inspire, illuminate, or entertain as does much artful prose" (156). This quote raises the question: is literary style not welcome in technical communication?

> This research shows that the use of literary style is welcome in technical, science, and business communication.

In contrast, my research shows that technical communication has a long history of literary style. "The Literary Aspects of Business Writing" by Henry Francis was written in 1966. Almost four decades later, Stephen Denning's article "Effective Strategic

Business Narrative Techniques " was published in *Strategy & Leadership*. These two authors discuss how literary elements can be inspirational and effective communication tools in business communication. They explore the use of narrative as a central element in addressing leadership challenges in business communication. Furthermore both draw the conclusion that narrative can effectively articulate risk and opportunities, scenario analysis, and dilemma resolution.

Similarly, scientific and medical discourse also use storytelling and narration to more effectively communicate. In the "Narrative Communication in Cancer Prevention and Control: A Framework to Guide Research and Application," Kreuter, M.W., et al. look at how narrative communications can help cancer prevention. The article discusses several narrative form, such as entertainment education, journalism, literature, testimonials, and storytelling. The authors ask that more research be done on narrative communication and cancer prevention. Furthermore, they assert that narrative has four distinctive capabilities: overcoming resistance, facilitating information processing, providing surrogate social connections, and addressing emotional and existential issues.

Not surprisingly, I found mixed feelings, research, and studies concerning the use of literary style in technical communication. Jerome Bump, a long time advocate of literary style, feels that Einstein and Darwin once used elements of literary style to effectively describe complex ideas. He wonders why technical communicators have since moved away from it. Bump concludes by saying, "There may even be an occasion or two in a technical writing course to indulge in that 'education by poetry' which Frost felt was the best way to teach not only the powers and limits of metaphors but the essence of thinking itself" (451).

In contrast, Donald B. Yarbrough and Ellen D. Gagné performed a study showing how information was recalled best when the text did not contain metaphors. According to Yarbrough and Gagne's, the recall of target information varied when placed in context

of a metaphor. Participants who read paragraphs containing metaphors often recalled the metaphor without being able to relate it to the rest of the paragraph. This study suggests that metaphors in text are processed differently from literal language.

Overall, my research shows that literary style is welcomed by business, science, and technical communicators, but for different reasons and for different outcomes. Each discourse community has years of dialog about the use of literary style, when it is appropriate, and whether or not it is effective. This research shows that the use of literary style is welcome in technical, science, and business communication. Furthermore, the research shows that literary style has been, and will continue to be, used. §

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Technical Communication in Antiquity: Changing our Self-perception by Changing our Perspective
by Paul B. Wolfe

This spring, thousands of medical school graduates will stand and profess aloud a 2,500 year-old pledge. Reciting the Hippocratic Oath has been a reliable tradition in a profession that has made and remade itself over the centuries. The original Oath pledged loyalty to Apollo and Hygeia, acknowledging their divine authority over medical practice. Today, most physicians do not worship Greek deities; however, the essence of this pledge has endured. While the substance of the pledge has been changed to reflect a Cartesian worldview, physicians still value the opportunity to be bound across time and cultures to other medical professionals (Kao and Parsi, 2005). The Hippocratic Oath affirms their place in a profession that has evolved through various epochs and cultures.
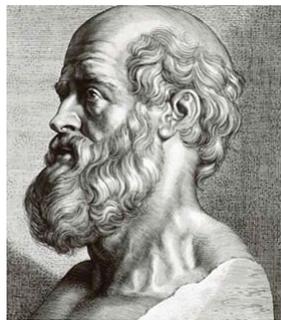
Mature professions, like medicine and law, have discernible histories that can be traced back into antiquity. Even though ancient literature does not practically enhance these modern professions, it does give them a rich, stable and enduring perspective. Many technical communication histories begin and end with the industrial revolution and the digital age (Bidkar, 2010; McDowell, 2003). I believe this has led to a myopic self-image and frustrated real progress toward a comfortable and broadly accepted definition of Technical Communication (Allen, 1990). By casting their view further back into antiquity, technical communicators can strengthen their professional identity by exploring and embracing the essence of their work found in ancient texts.

Even in this information rich age, ancient texts still provide inspiration for professions. One such example is the book of Leviticus, a text written approximately 1000 years before the Hippocratic Oath. It is at once a technical, legal and medical document, and illustrates clearly how modern professions can draw perspective from ancient writings. In chapter 13, Leviticus provides detailed instructions on how to identify, care for, contain and prevent the spread of infectious diseases and pathogens. Leviticus 13:4 states, "If the shiny spot on the skin is white but does not appear to be more than skin deep and the hair in it has not turned white, the priest is to isolate the affected person for seven days." Though not all of it is particularly sound medical advice by today's standards, there are some elements, such as quarantine and washing that are still very effective. Modern physicians can point to this chapter and explain in biological terms. But, more than this, they can demonstrate that the medical profession has existed in some recognizable form for at least 3,500 years. In the same way, Leviticus chapter 19 contains a legal code similar to the Ten Commandments. Again, not all of these laws are relevant today. For example, the command in Leviticus 19:11, "Do not steal" still applies. But, the command in Leviticus 19:27, "Do not cut the hair at the sides of your head or clip off the edges of your beard" is not as easily applied across time or cultures. Still, modern lawyers can point to Leviticus as an early legal code that governs civil and commercial behavior. They too can legitimately demonstrate that the practice of law has a long and storied past. Technical communicators can also point to Leviticus as an example of their profession's work. Each chapter demonstrates techniques that are still used today. The first three chapters provide detailed instructions on how burnt offerings are to be selected, prepared, executed and disposed of. These chapters also chunk text into manageable sections, pattern instructions

for easy memorization and order sections so that they demonstrate progression. Like physicians and lawyers, technical communicators can point to Leviticus and claim their presence in antiquity.

The early chapters of Leviticus describe the birth and beginnings of one of the world's oldest professions- the priesthood. Over the centuries, other professions have referred to these chapters when defining and refining their own professional practice. Leviticus starts by building upon events described in the preceding book of Exodus, where the men of a single family are separated out from the rest of the nation and installed, through public offerings and rituals, as a new priest class. It is both God and the people who recognize the need for a new and dedicated workforce. The complexity and demands of priestly work had simply become too great for people to manage on top of daily life. Therefore, provisions and safeguards were put in place to ensure that these new "professionals" were both cared for and regulated. The priests of Leviticus were no longer allowed to make their living through commerce and real estate, like the rest of the people. (Joshua 14, Numbers 35) They received their only income by collecting a portion of each sacrifice they made. Essentially it was a fee for service arrangement. This freed priests from typical labor so that they were available to administer sacrifices and rituals on behalf of the people. For centuries the classical professions patterned their practice after this ancient account. Physicians and lawyers, like priests, claimed that they were appointed through divine authority, and most physicians and lawyers received the bulk of their income through fees for service. Governments or professional associations have often been regulated to ensure that they are acting in the best interest of the public and even today most professionals are installed through some sort of ceremony; Physicians recite the Hippocratic Oath, Lawyers pass the bar, priests are ordained. These are all established features of professional life, which are found in Leviticus. As technical communicators shape their own identity they too can employ similar features, uniquely crafted and professionally relevant methods of sanctification, service and ceremony.

Just as physicians, litigators and priests curate their own body of knowledge, technical communicators must diligently, through research and discourse, craft their own canon. This includes making meaningful links to technical communicators across time and cultures. By casting a critical eye back into antiquity, technical communicators may be able to uncover powerful examples of their work, which may not be practically relevant in the digital age, but demonstrate the profession's essence in profound but forgotten ways. By establishing and honoring these stabilizing links the profession may be able to settle upon an identity that remains relevant even as technology changes. These historical links may not be as robust as the Hippocratic Oath, or as widely recognized or accepted. But, each connection will help technical communicators grow more confident and aware of their place in the world. **§**

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