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Uncommonly Common: Reconsidering Creativity and Beauty in Technical Communication

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Uncommonly Common: Reconsidering Creativity and Beauty in Technical Communication

By Kathleen Sandell Hardesty and Andrew Hollinger

ABSTRACT

Purpose: In this article, we (re)consider the moments of creativity and beauty in the work of technical communication and how those moments can be better incorporated into, emphasized, explored, and engaged with in classroom instruction or other training.

Method: We performed a literature review of texts published in the last 25 years, identified by searching for the keywords "creativity" and "beauty" in technical communication journals, to understand how these concepts have been theorized and included in the field recently. We then extended this prior literature to consider how beauty and creativity might be incorporated into technical communication teaching/training. The suggestions offered are grounded in experiences, observations, and student feedback from our own classrooms and training, and/or from other classroom studies and additional literature from the field.

Results: We identified creative approaches that help students and practitioners think more intentionally about audience, purpose, and visual elements in technical communication. These approaches reinforce (rather than distract from) established principles of technical communication. We offer practical solutions for instructors and trainers who are intrigued by more creative techniques but may, for various reasons, consider artistic elements inappropriate or unworkable in their classrooms.

Conclusion: Fostering an appreciation for creative and beautiful communication in the classroom helps develop more effective technical communicators. Especially considering that the ways audiences encounter and interact with information have been changing rapidly, technical communicators must be able to think and create both visually and spatially, as well as connect with users on a human level.

Keywords: technical communication, creativity, beauty, visual design, multimodality

Practitioner's Takeaway:

- Instructors and trainers should seek the teachable moments of creativity and beauty in the study and practice of technical communication.
- Students and practitioners need to reframe both themselves and the work they do as technical communicators to embrace the beauty in the processes and products of technical communication.
- We propose courses that are highly multimodal, incorporating elements of visual design, remixing, and storytelling. We also encourage students to explore emerging genres and "unconventional" genres.
- Technical communication is the practical application of creativity and beauty in order to make "life easier and more productive." It is remixing to re-see.

> "When you can do the common things of life in an uncommon way, you will command the attention of the world."
>
> —George Washington Carver

Consider the map of the London Underground. The first official map, developed in 1908, is hardly readable (Figure 1). The text is tiny and tilts off at odd angles, and it is difficult to establish where a person can transfer from one train to another. It is a classic illustration of technical communication with good intentions but poor execution.

In 1933, Harry Beck, an engineer, developed the now-iconic map for the London tube system (Figure 2). Beck's design was so successful that it continues to inform the current Transport for London tube map, even as the system has expanded to new stations and lines (Figure 3) as well as the designs of subway/tube maps from all over the world. Beck's map is not simply good technical communication (with readable text and a clean layout); it is good design. Rather than follow the city streets or physical locations of the subway lines, as the 1908 map attempted, Beck's design suggests relationships and direction rather than distances or precise geographic locations. It is a map

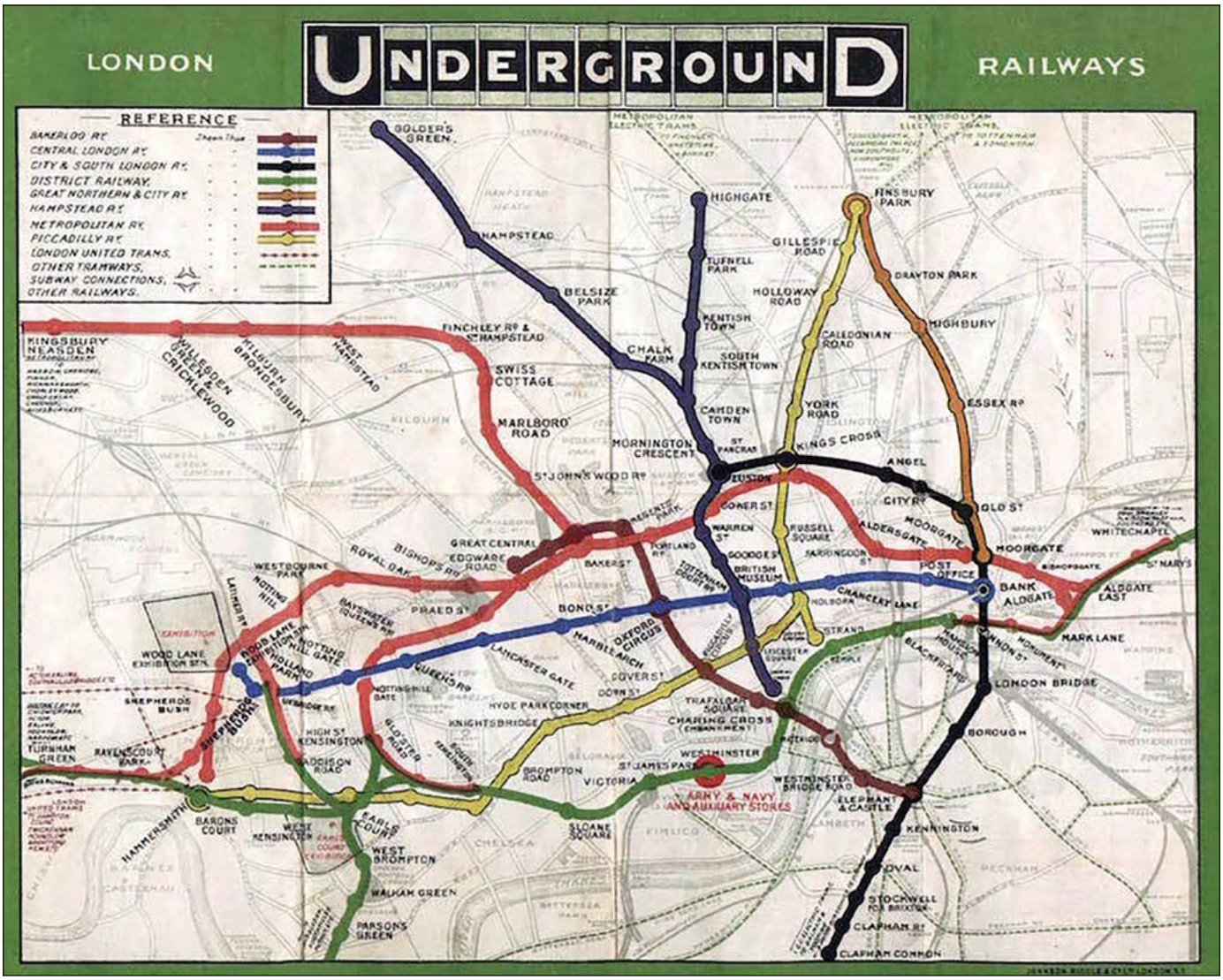

Figure 1. First official map of the London Underground (1908)

Creativity and Beauty in Technical Communication

about getting around—technical communication about using the technology. More than that, however, Beck's design is attractive. The map is balanced, and the lines, curves, hash marks, dots, and diamonds are bold and purposeful. The diagonals, horizontals, and verticals are striking and hint at movement. The map urges the reader toward travel. It is, simply, beautiful communication.

The map of the London Underground offers at least two important lessons for technical communication. The first lesson is that beauty is not separate from/of design. Beck did not develop a good map and then make it pretty. Beck's map is both effective and delightful at the same time. That is, good design is often also beautiful. The second lesson is about creativity. Although Beck's map feels familiar today, in 1933, the design was revolutionary. The move from traditional space/place/distance maps to relationship/direction maps required leaning into possibility rather than abiding the status quo, that which is common. Technical communication, then, can and should be a creative and beautiful endeavor.

Often, students come into our courses with the assumption that technical communication is not particularly creative; it isn't poetry, a short story, or a graphic novel. They expect coursework that is dry and tedious. Corporate training on technical communication is met with similar enthusiasm. Generally—and not necessarily unfairly—most people do not equate the work of technical communicators with art and beauty or anything creative. When asked what technical communication is, a common response from both students and corporate employees is to rattle off various work products like reports and manuals.

Figure 2. Harry Beck's revised tube map of the London Underground (1933)

Their expectations for the course or training are often to learn how to produce these various genres effectively in the workplace (which is a fair and worthy goal). However, we have not had a student or trainee yet who, on the first day, looks forward to the creativity involved with technical communication, much less making something beautiful.

As instructors and technical communicators, we approach our courses and training, however, with the belief that anything created is a creative pursuit. The art is there, though how is not always immediately obvious. Students and practitioners need to reframe the work they do as technical communicators to embrace the beauty in the processes and products of technical communication. Our questions, then, as we develop our courses and the materials that guide students and employees through technical communication content are: What are the moments of creativity and beauty in the work of technical communication, and how can those moments be better incorporated into, emphasized, explored, and engaged with in classroom instruction or other training? How does fostering an appreciation for creativity and beauty in the classroom then develop more effective technical communicators?

We begin by offering an overview of the literature published in the last 25 years, identified by searching for the keywords "creativity" and "beauty" in technical communication journals, to understand how these concepts have been theorized and included in the field recently. We then extend this literature review to

Figure 3. Current tube map of the London Underground

discuss ideas for integrating creativity and beauty into technical communication instruction and training, including some examples from our own courses, as well as from other classroom studies and insights from additional literature in professional and technical communication. While arguing for the importance of infusing beauty and creativity into technical communication instruction, we hope to offer practical solutions for teachers and trainers who may, for various reasons, consider artistic elements inappropriate or unworkable in their classrooms. We suggest that beauty and creativity reinforce (rather than distract from) established principles of technical communication.

WORKING DEFINITIONS: TECHNICAL COMMUNICATION, CREATIVITY, AND BEAUTY

Technical Communication

We pause here to consider how we use our key terms—technical communication, creativity, and beauty—to reconsider the role of technical communicators. Like many terms, the definition of technical communication and its goals often vary from person to person. Generally, our students or those we train view themselves by their intended/current occupations rather than as technical communicators. They see themselves as (future) teachers, occupational therapists, computer scientists and programmers, business owners, managers, engineers, and so on. The titles of our courses and workshops, too, can contribute to definitional drift. The theoretical and practical difference between courses called "technical communication," "technical writing," "professional writing," "professional communication," and "technical and report writing" (all courses that have been offered at our institutions, sometimes in the same semester) is often blurred. This ambiguity is compounded when various programs that require a technical communication credit accept any of the above-named courses to meet this requirement.

The Society for Technical Communication (STC) defines the field broadly to include any form of communication about technical or specialized topics, communication that uses technology, and/or communication that provides instructions about how to do something. While job functions can range from technical writers and editors to illustrators, designers, and Web developers, according to STC, "What all technical communicators have in common is a user-centered approach to providing the right information, in the right way, at the right time to make someone's life easier and more productive" ("Defining Technical Communication," n.d.). In reconsidering and reframing the work of technical communicators, we particularly focus on this "human element" in technical communication—on not only the ability to improve, inform, and clarify, but also to move, inspire, and connect on a human level. Our understanding of technical communication includes any artifact, process, or product whose use, documentation, and implementation can be designed to be as useful as possible. That is, as we hope to demonstrate in this article, our understanding of technical communication is necessarily and inherently creative and beautiful.

Creativity

There is something unnerving about creativity. Perhaps it stems from the persistent misconception of the left brain and right brain separating logical and creative functions. Or perhaps the dread over creativity begins much earlier, in elementary school, as students discover their drawings, stories, and poems are not as interesting (or at least not as applauded by the teacher) as other students' work. Or maybe the anxiety about being labeled a creative person emerges from a fear of having to produce something creative or innovative on demand: be creatively productive now (your job, performance review, raise/promotion, assignment, grade, honor/award depend on it!). The comedian Mike Birbiglia, for example, tells a story about his doctor requesting that he "say something funny" in the middle of a physical exam (Skidmore, 2017). Some may even perceive creative endeavors and occupations as unprofitable and therefore not worth pursuing. We suspect, though, that a combination of social and environmental factors makes creativity and being creative a panic-inducing proposition.

Standard dictionary definitions of "creativity" might link the term to imaginative pursuits or specifically to the production of original and/or artistic works. In relation to the everyday work of technical communication, however, we emphasize the generative, "making" function of creativity. Don Norman reminds us that "design is a powerful equalizing tool: all that is needed is observation, creativity, and hard work—anyone can do it" (2013, p. 296). In this

sense, drafting a blueprint, mapping a subway system, writing instructions, developing Web content, or even completing an activity report is as much a creative pursuit as painting a portrait or writing a poem. But creativity is also not limited to work products. Creative approaches are key to planning efforts, gathering information needed to develop content, developing processes to manage technical communication projects, and devising solutions to workplace problems. Art and beauty can be found in the process of making something new, whether for science, engineering, literature, music, or the creative pursuits of daily life.

Beauty

Discussions of beauty can quickly wax philosophical. Beauty is linked to physical, aesthetic, and emotional qualities, while it is also considered a product of formalized design principles like space, balance, and color. Beauty is corporeal, a sensation. Beauty is relative; some might say that beauty is something we "just know" when we see it. At the very least, beauty is hard to define. Often, however, students, practitioners, and communicators desire specific steps to ensure that they are making something beautiful. This section will move between both the philosophical and the practical in order to present an actionable definition of beauty/beautiful.

In our introduction, we suggest that Harry Beck's subway map is beautiful. Don Norman famously discusses the drawbacks of doors that were designed for "beauty, not utility" (Norman, 2013, p. 2). And of fancy faucets, he writes: "Yes, these new faucets are beautiful. Sleek, elegant, prize winning. Unusable" (2013, p. 152). In such a review, beauty might be seen as a detriment to usability or even an impediment to making life easier and more productive. Contemporary notions of beauty, too, often come with a caveat about vapidity or a lack of substance. We suspect that most (if not all) teachers have received some text or artifact largely without error that also, ultimately, lacked any substance, interest, or originality. Beauty without meaningful and material purpose is bluster. However, purpose without beauty is wayward.

Perhaps, taking a note from technical communication instruction, we can articulate beauty somewhat more pragmatically and actionably. We can consider again Beck's map and Norman's faucets together. The problem with the faucets, according to Norman, is that "they solved one set of problems only to create yet another" (2013, p. 152). Beck's map, on the other hand, reduced the number of problems and did so through taking risks (at the time) in terms of style, color, balance, and space/layout. A practical and actionable view of beauty might include purposeful design decisions (including, but not limited to, space, balance, layout, and/or color) that produce greater utility. This definition is not entirely—or even at all—satisfying. Beauty may be impossible to quantify and formalize as a set of universal processes, especially when elements like space, balance, layout, and color are components of visual rhetoric that may not have much utility within audio rhetoric (podcasts, spoken instructions, tele-help, etc.) and other less visually oriented artifacts. There is something about beauty and beautiful things. Most of us have had the experience of being suddenly taken aback by a sentence, photograph, song, performance, website, nature, another person, an act of kindness, and so on and struck momentarily silent by its abrupt beauty. To know and experience beauty but to be unable to formalize it into a rubric or steps is maddening.

Beauty and madness, though, do have a long, interrelated history. Plato's *Phaedrus* suggests that beauty both causes and soothes madness. For Plato, beauty is that which causes our souls, "stung in every part," to "[rage] with pain" (2001, p. 152). Then, upon "remembering the beautiful," our soul "rejoices" (p. 152), and "so because of these two mingled sensations, [our souls are] greatly troubled by its strange condition; it is perplexed and maddened" (p. 152). Further, it is beauty that causes one to "[despise] all the customs and proprieties in which it formerly took pride . . . for it [only] reveres [that which] possesses beauty" (p. 152). *Phaedrus* is not without its issues. For Plato, beauty is an ideal of form and performance, often equating beauty with attractiveness and inherent goodness, as with the tale of the good horse with his "clean limbs" and "aquiline nose" who is a "friend of honor joined with temperance and modesty, and a follower of true glory" compared to the other horse who is "crooked, heavy, ill put together," who is "the friend of insolence and pride" (2001, p. 153). This is difficult to read in 2020. Plato and *Phaedrus* do not exactly stand the test of time against our contemporary understanding of worth, ethics, and equality.

While *Phaedrus* is problematic, it may also be instructive. Questions about beauty and how it affects

us are an important part of our rhetorical history. Those questions continue to be relevant today: How much ethos does beauty continue to have? Might a more savvy and discerning contemporary audience still find beautiful things to also be good? What ethical considerations are then also wrapped up in making something beautiful? That we still do not have satisfying theories of beauty is telling, but Plato and *Phaedrus* may be able to point us in the right direction. When Plato first introduces the concept of beauty, he has Socrates say, "We know too that nonlovers [everyone] also desire[s] the beautiful" (2001, p. 144). The key between notions of the beautiful and a rhetorical theory that leads to practical technical communication choices is desire, which is "central to the practice of rhetoric—wanting something is a condition that impels rhetorical practice" (Gerdes, 2019, p. 231).

Kendall Gerdes (2019) argues that "to engage in rhetoric is to want something more than what is given, something else than what is given: to engage in rhetoric is to want a future" (p. 235). Gerdes suggests that the path from what is already available and known (that is, Aristotle's available means of persuasion) to what is possible (futurity) is desire. Hers is a rhetorical theory of invention and movement.

Beauty is not desire. But if we begin with Plato's idea (and our own anecdotal experiences) that we all desire the beautiful, even if we cannot agree on what is beautiful, we can begin developing an actionable process for delivering beauty. To move beyond Plato, it is helpful to quote Gerdes (2019) at length:

> A rhetorical theory of desire need not begin by defining desire or analyzing its origins; it can start by observing desire's rhetorical effectivity, its capacity or potential to open new rhetorical pathways, generate new lines of force, and make not only new arguments, but even new worlds, become available. (p. 238–239)

Without conflating beauty and desire, we can understand why beauty and the beautiful are an important part of the scholarly and professional discussion of technical communication. As an object of desire, seeking the beautiful is one way to generate new lines of force in our work, our work products, and our field.

There is some truth to the adage "beauty is in the eye of the beholder," though we advise caution here. Sometimes we fail to recognize something is beautiful (or a good example of its genre) simply because of our preferences. It is difficult to recognize beautiful operas, podcasts, or infographics if the beholder does not particularly enjoy those things. What we advocate for, however, is developing a point of view for integrating beauty into technical communication courses and artifacts, and a fundamental element of defining a point of view is that the user/designer/technical communicator develops it for themselves. We ask our students to cultivate and incorporate a sense of beauty, creativity, and design while they also reconsider their preconceptions of technical communication and its goals. Our courses require our students to develop a practical philosophy of technical communication that goes beyond utility and engages the user in delightful and surprising ways. To offer a pop culture example, during competitions, Food Network hosts often ask chefs what their point of view is because it will inform the kind of food they make, the way they present it, their relationship to the style of cuisine and the culture, and any message they hope their audience might receive. Chefs are technical communicators, and their medium is food.

For us, beauty is that element of our work—an artifact, a situation—that "impels rhetorical practice" (Gerdes, 2019, p. 231). Beauty moves. Beauty requires a response. In some ways, beauty is like Barthes's (1980) punctum, "that accident which pricks me (but also bruises me, is poignant to me)" (p. 27) except that instead of something incidental, beauty is purposeful poignancy.

CREATIVITY AND BEAUTY IN TECHNICAL COMMUNICATION

Calls for infusing creativity into technical communication instruction are not new. Yuejiao Zhang and Karla Saari Kitalong (2015) note that when creativity first emerged as a topic of interest in technical communication in the mid-1980s and early 1990s, the discussions centered on themes like using figurative language, poetic metaphors, and imagination (p. 199). But as technical communicators' roles have expanded, so has our understanding of the importance and function of creativity (Zhang & Kitalong, 2015). "Today's technical communicators are creative because they have the skills to invent

original solutions that address complex communication problems," write Zhang and Kitalong (2015, p. 199). More recent research related to multimodality, in particular, suggests that teachers and trainers should consider creative instruction that prepares students to navigate a wide range of genres, mediums, and eventual workplace challenges. In reflecting upon technical communication programs, Eva Brumberger (2007) notes that "if programs produce students who can think verbally but not visually, they risk producing writers who are visual technicians—writers skilled in visual tools and techniques but lacking...the ability to move fluidly between and within modes of thought and communication" (p. 378). Teaching and training in multimodality work hand-in-hand with encouraging creativity as essential in technical communication. By using a multimodal pedagogy, students will not only become more visually literate but will also develop the creative skills to more effectively produce various document types and solutions in diverse contexts for different audiences and purposes.

Using the specific example of teaching engineering students, Joseph Jeyaraj (2017) advocates a multimodal pedagogy for writing instruction in engineering. He notes a general awareness of engineering students' weakness in written and oral communication skills and, consequently, the need for programmatic methods for improving the writing skills of engineers. Meanwhile, current instruction in engineering and technical communication provides little or no emphasis on the integration of written and visual communication. In order to represent well-engineered objects and the multidimensional and repetitive processes underlying the operations of those objects, though, visual communication is paramount (Jeyaraj, 2017).

Brian Ballentine (2008) also recommends integrating design, creativity, and invention into engineering communication courses. The goal, he argues, is for students to "take seriously the concept that art, creativity, and design play an increasingly larger role in engineering" (p. 334). Employers are also recognizing the value of these "soft skills," even in technical professions. Ballentine uses two assignments in his engineering communication course to teach multimodal design skills to students: critiquing a website of their choice and then creating a website that reviews a video game of their choice, combining both Web design and gaming. The goal of this and other assignments is to situate student writing and learning amid contemporary issues (Ballentine, 2008). Ballentine further links the role of study abroad programs in technical communication programs to enhancing students' creative problem-solving abilities (2015).

On a disciplinary level, however, some scholars argue that technical communication is a creative field that must prepare students and practitioners to be creative problem-solvers. Linn Bekins and Sean Williams (2006) write that technical communicators "work in a 'creative economy,' in which workers use their *knowledge* of a product as well as their ability to produce clear, concise, and persuasive *information* about that product to *innovate* a new product, technology, or business process" (p. 287). They argue that technical communication is more about solving organizational problems than producing specific communication pieces, and therefore technical communication curriculum must include the complex instruction that prepares students to be creative workers (p. 287–289). Arguments for enacting creativity in the technical communication classroom include invention techniques such as connecting poetry and art to lessons in design (Welch, 2010) and leveraging other invention skills to solve creative problems (Zhang & Kitalong, 2015). Marc Santos and Megan McIntyre (2016) advocate for a "postpedagogical approach to teaching creativity in technical and professional writing classes by moving outside traditionally recognized heuristics and genres," (para. 39) suggesting that the classroom be a space for flexing creative muscles and learning to handle, as a repeatable method, the "alterity, difference, and the anxiety" (para. 40) of unfamiliar situations or the "unpredictable creative moment" (para. 38). In the next section, we consider such arguments as we encourage integrating creativity and beauty into technical communication instruction and training through new (and not-so-new) genres.

Unlike creativity, with a few exceptions, beauty has rarely been the focus of scholarly writing or research in technical communication. One theme noted in our literature review, however, was the importance of beauty to concerns of usability and utility. For example, Yuejiao Zhang (2016) connects the value of beauty to utility in her examination of two medical texts written in China's Northern Song dynasty. Zhang argues that both aesthetic and usability features in these texts helped them "negotiate their way into printing, circulation,

and becoming canonical in their own genres" (p. 175). (Note that while Zhang uses the terms "aesthetic" and "beauty" interchangeably in her discussion of visual rhetoric, as previously outlined, we do not see these two terms as equivalent.) Compared with other medical texts produced in previous dynasties, these two texts "incorporated more illustrations with enhanced beauty" that made them not only more usable, but ultimately more popular, widely circulated and read, and memorable (p. 200). Importantly, these texts were so much more effective at their communication goals because their illustrations took into account the aesthetic tastes of their intended audiences (p. 200). In other words, though their goal was the dissemination of medical information, the texts were intentionally designed, with great success, to also be beautiful and moving. One study in human-computer interaction has likewise indicated a correlation between a system's perceived beauty and its perceived usability (Tractinsky et al., 2000). Though further research on the connection between beauty and usability/utility is certainly warranted, we suggest that knowledge of and appreciation for the beautiful help technical communicators craft more effective, memorable, and usable texts.

While they do not always address beauty specifically, studies in visual design and data visualization often incorporate discussion of aesthetic considerations in enhancing design. When beauty is addressed in visual design, the tone is often cautionary. Researchers have criticized beautiful design as mere "decoration" or for masking faulty data, obscuring meaning, and/or serving agendas (e.g., Amare & Manning, 2007; Dragga & Voss, 2001; Kimball, 2006), while Daniel Ding (2000) argues that concerns of utility should precede beauty in visual design. Ding writes: "I propose we emphasize 'clarity' instead of simplicity. Simplicity embodies beauty; clarity embodies effectiveness. Our task is to develop effective page layout through clarity" (p. 44). Ding's argument contrasts other studies that link beauty to both the emotional and logical appeal of visual design that serve important persuasive and rhetorical purposes (e.g., Richards & David, 2005; Kostelnick, 2016). And as we will argue later, privileging clarity is not counter to beauty, as beauty, too, can be clarifying.

While not writing specifically about technical communication, Elaine Scarry connects beauty to the social responsibility of the teacher. She writes:

> Teaching well requires that we speak openly about the beauty of poems, plays, novels, and epics not only because it is so often the beauty of the world that has prompted the writing of those works but also because beauty lies at the heart of education; it is among those things that ignite the desire and willingness to learn. (2000, p. 21)

Scarry argues that beautiful things have a generative power, a "forward motion," that rouses a desire to create new beautiful things (1999, p. 46). We argue, likewise, that beautiful writing and design have the power to move audiences in important ways in technical communication. Recognizing and acknowledging beauty changes how technical communicators create. As Scarry points out, beauty can be simultaneously a beautiful object, a cognitive act of "beholding the beautiful thing," and a creative act of "being in the presence of what is beautiful" (1999, p. 95). Encountering beauty encourages practitioners to behold, create, and replicate beauty.

However, Scarry furthers her concept of beauty to suggest not only that teachers in the humanities should teach about beauty, but also that beauty presses us to, or aids our efforts toward, justice. Because her work deals with poems and beautiful objects, Scarry suggests that she "ought to have a higher level of alertness to situations where there is a falling away from beauty, situations where there is an injury" (2000, p. 25). She argues that beauty and imagination must not be excluded from teaching because they are "one important source of the very empowerment against injustice in the external world" as well as a source of inspiration for students "to go into the world and care to uphold or to bring into being arrangements that diminish injury" (2000, p. 25).

Perhaps, then, appreciating and acknowledging beauty can lead technical communicators to be more just in a field that is increasingly concerned with issues of social justice (e.g., Agboka, 2014; Colton & Holmes, 2018; Savage & Mattson, 2011; Jones & Walton, 2018; Walton et al., 2019), as well as help them create and design in ways that inspire and move audiences to action. "A critical approach to diversity and social

justice helps to legitimize [technical and professional communication] by providing scholars with a way to acknowledge the impact of communication as a way of mediating the human experience," writes Natasha Jones (2016, p. 343). How we communicate matters, and every choice we make as technical communicators, from document design and page layout to image and word choice, inevitably shapes our users' experiences. Our choices have the potential to include or exclude, to inform or confuse, to acknowledge or other. We, therefore, recognize and embrace the weighty obligation of technical communicators in challenging and changing systems of oppression and inequality. We suggest that creativity and a sense of the beautiful make technical communicators more effective in these efforts toward justice.

TEACHING AND TRAINING TECHNICAL COMMUNICATORS

We ask students in our courses, and participants in our consulting and training, to confront and embrace these multiple working definitions of technical communication. Ultimately, students begin to disentangle their understanding of "technical communicator" as a position or job for which they might be hired (which, generally, does not align with their goals as they enter our courses) and technical communicator as a role or positionality within their chosen work that will make them stand out as effective communicators and problem solvers within their fields. So, our operating definition of technical communication is about the work, about "providing the right information, in the right way, at the right time to make someone's life easier and more productive." And technical communication is also about thinking and working creatively to find the best solution to a problem.

To illustrate this last point, a good early-semester classroom activity is to provide students with the menu for a week's at-home meals and ask them to turn the menu into a shopping list. Most (but not all) students will simply note the necessary purchases by meal. For example, "Monday: Grilled Cheese and Tomato Soup" and "Tuesday: Spaghetti and Meat Sauce" becomes:

Monday: Grilled Cheese and Tomato Soup
- Bread
- Sliced cheese
- Butter
- Canned tomato soup

Tuesday: Spaghetti and Meat Sauce
- Box of spaghetti
- Ground beef
- Jar of pasta sauce

Some students might decide to make the tomato soup or the pasta sauce from scratch and add whole tomatoes to the list. Students might add breadsticks, garlic, or croutons. The more items on the list, the more instructive part two of the activity becomes. After collecting the lists, the instructor projects a diagram or overhead picture of the local grocery store onto the whiteboard. Then, using a whiteboard marker, the instructor traces the shopping route according to the written list: bread, then sliced cheese, then soup or tomatoes, then spaghetti, then ground beef, then pasta sauce—item by item until the "shopping" has been completed. Inevitably, the shopping path makes several laps of the aisles, back and forth across the store, resulting in a tangled mess of lines. Then the instructor traces a list organized by section: produce, meat, bakery, canned goods, frozen foods, and so on. This path usually makes one lap of the store. Although a lighthearted activity, this serves as a concrete example of how we are all (or can be) effective technical communicators such that our lives are "easier and more productive." Our understanding of technical communication includes any artifact, process, or product whose use, documentation, and implementation can be designed to be as useful as possible. That is, our understanding of technical communication is necessarily and inherently creative. But as the lines converge into a useful, meaningful, logical path, technical communication also becomes beautiful communication. In the following sections, we consider ways that an appreciation for and viewpoint concerning beauty can be cultivated in technical communication classrooms through creative learning techniques. Our proposal is to develop classes and training programs that are highly multimodal, incorporating elements of visual design and storytelling. We examine approaches suggested by technical and professional communication scholars that we feel further the goals of beauty and creativity. We then offer suggestions from our own teaching and corporate training experiences to complement these insights from the literature.

Creativity and Beauty in Technical Communication

Visual Design in the Literature

As noted in our literature review, when beauty has been discussed in the context of technical communication, it has more often been connected to concepts of visual design (and is usually articulated as "aesthetic" features). Tiffany Portewig (2004) argues that technical communicators should indeed be visually literate—both possessing knowledge of visual concepts as well as being able to understand and produce visual messages. In addition, visual literacy involves an awareness of the rhetorical situation connected to visuals, how to communicate with visuals, and how to represent visuals (Portewig, 2004, p. 32). Students and practitioners today take on many roles as visual communicators on social media, online, mobile, and other platforms. Especially in the digital age, the ability to work with and integrate the visual in technical communication is one of the most important literacies a student can acquire in their course of study. Technical communicators must be prepared to make clever choices when combining text and visuals to support users effectively. We suggest that, while creative approaches can help students think more intentionally about audience, purpose, and visual elements in technical communication, a knowledge of the beautiful also supports these choices.

Students, and later practitioners, must understand the relationship between visual and audience and the ways that technical communication employs beauty and visual elements to develop effective, memorable messages in various public mediums. Asking students to craft an organizational structure and develop effective supporting visual aids helps them understand visual design's role in creating their own specific style for presenting and sharing various kinds of information with others (Kedrowicz & Taylor, 2016). The way that audiences encounter and interact with information has been changing rapidly, increasing the need to think and create both visually and spatially, as well as connect on a human level (Amare & Manning, 2007; Welch, 2010; Kostelnick & Roberts, 1998; Kostelnick, 2016; Portewig, 2008; Brumberger, 2005). Beyond simply crossing other areas of learning, visual literacy's importance has intensified in significance and use. For example, data displays—including charts, graphs, maps, infographics, and more—have exploded in popularity in the digital age. Many students are already familiar with common technical visualization genres such as bar charts, pie charts, and graphs, but we question whether communication instruction pushes these conventions or prepares students to analyze them critically.

Infographics

Infographics, in particular, have proliferated on social media. Especially with the now widespread use of data displays online, information consumers are "immersed in data visualization" (Kostelnick, 2008, p. 116). Beauty is a goal in developing infographics, but it is not the only goal. As Sam Dragga and Dan Voss (2000) warn, technical illustrations should not lose their humanity in the pursuit of goals like conciseness, clarity, and aesthetics. "Ethical visuals must be as humanistic as ethical words" in humanizing technical subjects, argue Dragga and Voss (2000, p. 266). Students and practitioners must not only be able to interrogate the ethics of visual communication and identify graphic deception but also consider how their design choices ultimately impact people.

Sketchnoting

Sketchnoting is a style of note taking that blends images/doodles and text to communicate content. Sketchnotes are good for taking notes on lectures and in meetings, but they are also especially helpful when reducing complex projects into elements and relationships. Sketchnotes can be overlaid on workflow or Gantt charts to better contextualize data. But perhaps just as key to their utility, sketchnotes also offer a beautiful, and therefore more memorable, archive of ideas. "By live drawing on paper, the visualization of talk and ideas are created spontaneously but can also be shared and saved," notes Abigail Selzer King (2017, p. 193). As she features her own beautiful work of drawing and illustrating various lectures, Selzer King argues that "live drawing in the classroom meaningfully disrupts expectations of linear, rehearsed trajectories through content" (2017, p. 192). By leveraging the power of beauty and art, sketchnoting is not only less boring than traditional note taking but can make the content clearer and more meaningful to users, as well as better represent the connection between ideas. This is one example of how beauty can indeed be clarifying.

Drawing

Drawing is thus an ideal method for teaching visual literacy in the classroom, and specifically for focusing on visual and creative thinking. For example, Neal Lerner (2007) has noted a return to the use of drawing and visual forms in science instruction. Recalling the pedagogical ideas of mid-nineteenth century Harvard professor Louis Agassiz, Lerner points to the possibilities of learning science and experiencing it firsthand as an active process through drawing. By observing and drawing to learn, students are no longer passive repositories of information, but active participants in the creation of important knowledge—created, we would add, in beautiful ways (Lerner, 2007).

Of course, drawing as a teaching method that supports visual thinking has applications beyond scientific fields. Drawing as an invention or brainstorming technique is standard practice in creative writing, where students might sketch out a scene or plan a narrative arc. Creative writing textbook author Heather Sellers (2017) suggests sketching as a way for writers to get unstuck, re-see their work, picture a scene as if in a movie, and connect with the five senses. And as King et al. (2017) note, drawing does not need to be elaborate to be useful, arguing that "simple geometric drawing tasks are a useful vocabulary for developing communication ideas" (p. 71). In their case study of a workshop to develop communication solutions to explain complex information about sun block effectiveness, King et al. found that drawing served as an effective problem-solving strategy among participants (2017).

Storyboarding

In technical and business communication, storyboarding is a similar technique used to order information visually through illustrations and text, whether planning a film, presentation, ad concept, or other message. In his study of using storyboarding as an invention technique in a basic writing course, Jon Balzotti (2016) found that storyboarding helped students connect ideas and make better arguments. Balzotti writes that "students who used storyboarding as an invention exercise learned to employ *literacies* in more and flexible ways: solving problems, exploring ideas, making arguments based on rhetorical situation or need and supporting ideas with evidence" (p. 80). Expanding student writing practices to include visual means of invention like storyboarding can improve their ability to blend and compose multimodal texts (Balzotti, 2016) that solve communication problems, which works hand-in-hand with encouraging creativity and beautiful thinking as essential in technical communication.

Film

Film is also an ideal genre for demonstrating how unified images can be analyzed to understand audience and purpose (Richards, 2009). Marty Shelton suggests that the "kinetic sight-and-sound communication medium" of video and film is a distinctly different way of "encoding messages and transmitting them to our audiences" (1993, p. 656). He argues that while technical writers are typically not trained in this type of visual media, film is ideal for teaching students how to blend information in the "right mix" of kinetic images, narration, dialogue, and other sound elements to reach and move an audience (1993, p. 659).

Visual Design in Our Experience

Most courses in creative and publication design will include discussion of principles like hierarchy, balance, contrast, alignment, rhythm, and scale. But the means and effectiveness of teaching design principles alone is by no means canon. Miles Kimball describes design principles as a "kind of lore" or contingent knowledge based in practice that have not been fully researched or understood in the field (2013, p. 5). Meanwhile, though teaching visual design principles and practices to students of technical communication may support a knowledge of the beautiful, the extent to which these concepts are currently included in technical communication instruction is questionable. A communications manager who has worked in the architecture/engineering/construction (AEC) field for 20 years expressed to us that, in her experience, she has rarely been able to find an entry-level technical communicator who has the creative skills to "craft compelling and interesting stories succinctly and in a visually exciting way" in the AEC workplace, including experience in genres such as storyboarding, script writing, video, and page design: "If you find one, please send them to me so I can hire them," she said. These creative skills, she argued, help technical

communicators "translate complex concepts and solutions to audiences with varying degrees of understanding and who comprehend information in different ways." To help students grasp and retain visual design principles in fun, creative, meaningful ways that attend to some of these concerns and promote an understanding of/appreciation for beauty, we suggest employing genres like essentializing, drawing, and visual storytelling.

Essentializing and sketchnoting

Two ways to encourage students to think visually and develop graphically driven, beautiful artifacts are "essentializing" and "sketchnoting." As previously discussed, sketchnotes are useful for reducing complex projects or ideas into elements and relationships, but they are also a creative and fun way to make lectures and lessons more meaningful and memorable for the listener. See, for example, Andrew's sketchnote during a lecture on Gorgias and the Sophists in Figure 4. Essentializing (some students might refer to this as #hashtagging) asks students to use a word or phrase—or even an image—to articulate the essence of their projects. Students working together as a team on a project might perform this activity anonymously to discover what they each understand their project to be about. Essentializing is a good tool to introduce brief elements of creativity and other perspectives into a project workflow. In fact, this activity works well for all of the senses. We ask students, "What does your idea look like? What does it sound like? What does it feel like?" I (Andrew) have used essentializing in both teaching and training to help students, teachers, and practitioners get to the heart of a concept or project, and I have seen benefits of essentializing for participants in both the invention and review stages of their project or task. During invention, a project group can essentialize together to determine the most meaningful element, aspect, or philosophy of their project. After project completion, individual group members or a test user group can conduct an essentializing activity to determine if the essence of the final project matches the group's intended purpose at the beginning. Essentializing is, therefore, a creative and useful way for students or trainees to plan and visualize their project as well as measure their success in achieving communication goals.

Infographics and data visualization

As discussed, technical communication instructors and trainers should not only introduce infographics and other types of data displays in their classrooms, but also emphasize how humans perceive and interact with this genre. We have argued that the definition of beauty and its purpose in technical communication is not merely decoration or aesthetic considerations, and this particular genre highlights this distinction well. For example, as is common in technical and professional communication courses, I (Kathleen) often give students an assignment to evaluate a series of infographics and other data displays for features like clarity of message, suitability of the visual chosen

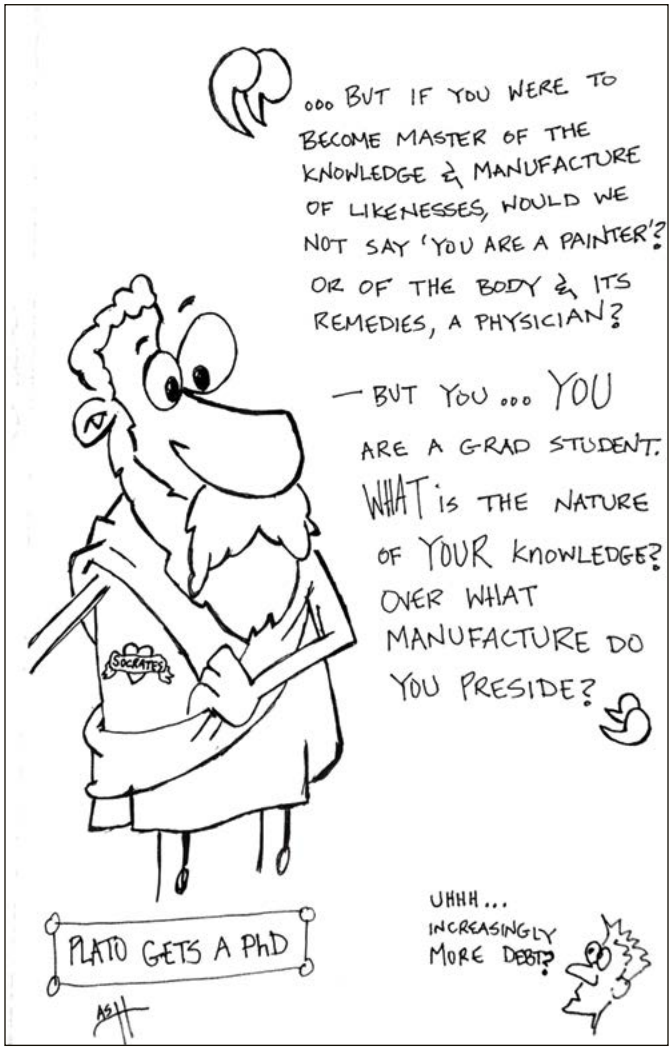

Figure 4. Andrew's sketchnote during a lecture on Gorgias and the Sophists

for the data story, effectiveness of design, and data accuracy. I have found that my students will readily critique matters of taste or appearance in design, such as a chart that is too busy or cluttered, colors that are too subtle or that clash, labels that are difficult to read, or a visual that is overall unattractive to their eye. Students will articulate if a graphic "makes sense" to them or is aesthetically pleasing. However, in my experience, the depth to which students are prepared and/or confident to make decisions or critiques about data distortion or the choice of visual used to tell the data story beyond aesthetic or informative considerations is much shallower.

Scholars and practitioners of technical communication are well aware that visual data can be manipulated to skew data, mislead readers, or tell a data story that is incomplete or inaccurate, perhaps obscured further by a beautiful display. Some scholars (e.g., Ding, 2000) would therefore privilege clarity in visual design over beauty. As we have argued, though, the goals of clarity and beauty should complement, rather than counter, each other. Beautiful data visualization should not only be striking and pleasing to the eye, but also more memorable, meaningful, and usable. Recall Zhang's (2016) argument that beautiful design helped make Chinese medical texts more useful and effective to their audiences. To this end, we argue that an understanding of and appreciation for the beautiful gives both students and technical communicators greater skill in evaluating unethical representation—situations where, to quote Scarry, "there is a falling away from beauty" (2000, p. 25).

Drawing and storyboarding

In our experience, we have found that drawing (even using stick figures or rough sketches) helps students—especially visual learners—plan, connect, organize, and untangle their ideas. Because it is low-tech and requires only a pen/paper or marker/whiteboard, drawing is also an easy way to integrate a hands-on, creative, and potentially collaborative learning technique into classroom instruction or training sessions. When we ask students to sketch out their ideas, we usually keep the prompt simple, since students often have an initial hesitation about their drawing abilities. Being able to visualize a scene on the page through drawing, even rough sketches, supports engaging creative practices like writing in images rather than explanation.

During our interview with the aforementioned AEC communications manager, she expressed a desire for teachers to invest time in helping technical communication students learn how to storyboard, specifically, because this technique is a visual way to "clarify the intended message and make sure what we write supports the intended themes." We use storyboarding in multiple ways during instruction, as both a pedagogical tool and as a practical application. For example, at the beginning of a new unit, I (Andrew) ask students to storyboard what they imagine they will learn on this topic, what learning activities they will complete, how they will complete them, and in what ways they will interact with others. I ask them to storyboard these scenes (rough sketches accepted). Pedagogically, this activity helps students reflect ahead and prime themselves for the work they are about to do and the concepts they may encounter. Practically, when students propose developing video artifacts as part of the course, I ask them to storyboard the entire video before recording so that both I and their peers can provide feedback and suggestions on the content. This activity saves the students time and, as the communications manager has noted above, ensures that the final product matches the intended themes or messages. Through storyboarding, the student or team can plan their project (locations, materials, staging, etc.) before one second of footage is recorded. In fact, storyboarding can be used for virtually any planning activity, and it does not need to be "formal" or time-consuming. See, for example, Andrew's impromptu or "flash" storyboard (Figure 5) where he considers his audience for a teaching activity. Students and practitioners can learn storyboarding techniques in the context of thinking about their intended audience and message, but also by placing themselves in the "scene" of the project. Consider, for instance, what a student managing a project, such as a design task or a research paper, would "look like" in practice. The same technique could be used for a practitioner planning a proposal, presentation, or any number of workplace scenarios. Storyboarding is thus a creative technique for visualizing information and for planning, organizing, solving, and/or untangling communication challenges.

Beautifying text

Another way to encourage students or employees to share about themselves while teaching visual concepts

Creativity and Beauty in Technical Communication

is to choose their favorite quote and make it beautiful. This assignment, which is appropriate for nearly any visual communication topic, can serve as an excellent (and low stress) introduction to multiple visual concepts like typography, color theory, alignment, image placement, and proximity. If the instructor is teaching a particular software program, such as Adobe InDesign, this is also an ideal beginning design project.

Because participants are choosing a quote that is personally meaningful to them (whether from

Figure 5. Andrew's "flash" storyboard to consider audience

literature, a famous personality, or even a friend or relative), they tend to be more enthusiastic about sharing their work with their classmates/colleagues. And we do recommend that participants be asked to share their work, whether in class instruction or corporate training, because we have found that sharing and contributing when working through creative exercises is an important aspect of both team building and reducing creative anxiety. The willingness to share, collaborate, and workshop with others is likewise a crucial skill that directly translates to the technical communication workplace. We suggest using this type of assignment as a starting point for further discussion about making visual decisions in document or graphic design. This assignment can also further the goals of encouraging an appreciation for the value of beauty and its ability to move others, as well as for making design more meaningful through beauty. As an added bonus, the final designs are great for decorating bulletin boards or workspaces.

Film

Since safety information and instructions are typical components of most technical communication courses, we suggest that one excellent assignment is to ask students to create a safety video for any purpose. For example, search online for Princess Cruise Lines' recent safety video featuring the original cast of *The Love Boat*. It blends safety information, popular culture, and humor as a refreshing alternative to reach cruise passengers who might otherwise loathe pausing their vacations for boring safety briefings. This solution also considers context, as many cruise passengers are among the age group that remembers and values *The Love Boat*. Students likewise should be challenged to consider audience and purpose to communicate safety or other technical information in a fun, accessible, and meaningful/moving way. In our experience, teaching with and about film helps bridge the gap between verbal and visual thinking. When practicing scriptwriting, script design, or storyboarding for film, for example, our students learn to think in images and scene—not only how words appear on a page, but also how those words will be spoken and performed visually and physically on stage or film. As Shelton writes, "Film/video scripting is designing for the eye," which we argue is, by its nature, a creative, moving, and beautiful endeavor (1993, p. 655).

Other media

As the definitions, purposes, and products of technical communication have evolved, so too must the teaching and training of technical communicators. We encourage students and instructors to explore emerging genres and "unconventional" genres in teaching visual design. Students and employees learning about visual design might develop infographics, YouTube videos, graphic novels, 3D models and prototypes, smartphone apps, or board games—all under the umbrella of technical communication. Students might even develop the processes, documentation, and iconography for social movements similar to #MeToo or local marches for awareness such as hunger and food deserts. When studying visual design principles, learning to make and perform technical communication beautifully involves incorporating innovative genres and purposes to emphasize creativity.

Storytelling in the Literature

Nancy Small has advocated for the value of storytelling and narrative in technical communication instruction, arguing for "a fresh direct reengagement with stories, storytelling, and narrative as valuable ways of studying and effectively producing the varied texts of the workplace" (2017, p. 234). Adding moments of personal reflection and sharing—beautiful moments—into technical communication instruction reinforce the interpersonal skills and emotional intelligence (i.e., human factor) that are critical to effective practitioners.

Exploring new and trending genres for visual storytelling, such as the graphic novel, also has exciting potential for engaging the "current generation" in the creative potential of technical communication. Jeremy Short and Terrie Reeves (2009) and Short et al. (2013) argue that the graphic novel format translates well to business communication and education while engaging an increasingly visual and tech-savvy generation. In addition to teaching visual presentation and layout, the graphic novel is an ideal medium to teach storytelling as an effective strategy for communicating business concepts (Short & Reeves, 2009, p. 415). The graphic

novel has potentially exciting applications in both business and technical writing classrooms.

Storytelling in our experience

Anecdotally, whenever we ask students to reflect on their work and experience at the end of a semester, we usually receive some version of the same general sentiment: "Coming into this class, I never saw myself as a creative person. I found that I am much more creative than I thought." Most express a general anxiety (or even dread) about the course at the beginning of the semester, but find an increased confidence and enjoyment of writing and/or designing at the end. One student in a writing course recently reflected:

> At the beginning of the semester, I thought this was going to be torturous because I was not as confident in my ability to write. . . . The way I pursued writing changed . . . I don't look at it as something I hate doing anymore. I think the thing that changed the most about me is the confidence in my ability to write.

We do not attribute such new-found creative awareness and writing confidence to our abilities as teachers or to our students' skills learned in a particular subject area or software program. More importantly, we read these sentiments as gaining greater awareness of what it actually means to be creative and finding value in their own contributions. And, as their reflections often indicate to us, that courage to try new, creative techniques comes from the beautiful moments found in the opportunities we offer them to explore and share their own stories. As one student recently explained in his course reflection, writing about his own experiences, even painful ones, helped him learn to "show and not tell" in his writing, as well as gain confidence in putting his words on paper.

Every spring, I (Kathleen) teach creative writing to a class full of non-liberal arts majors. Sometime in the first couple weeks, I inevitably end up playing one or two scenes from the movie *Dead Poets Society*. In one scene, English teacher John Keating (played by Robin Williams) encourages his students to live their lives to the fullest. "Carpe diem," he declares. "Seize the day, boys. Make your lives extraordinary." In another scene, Keating takes on the question of why his classroom full of future doctors, lawyers, engineers, and business leaders should care at all about studying poetry. "We read and write poetry because we are members of the human race," says Keating. "Poetry, beauty, romance, love, these are what we stay alive for."

This semester, anticipating that I would share these scenes again, I asked students to bring in a piece of creative writing, broadly defined, to share with the class as well. I gave no instructions beyond thinking of something—whether from literature, movie, television, song, or otherwise—that had really resonated, moved them, and "stuck with them." It was a gentle prompt to find beautiful artifacts. So, this time, I played the clip of privileged boarding school boys encouraged to live life to the fullest alongside J. Cole's performance of "Be Free" on David Letterman and the artist's moving pleas simply to be able to live. My standard lesson plan had been amplified considerably by my students' contributions. As an instructor, it was a beautiful moment. As we mapped our themes at the end of the discussion, I found that all of the students had gravitated to big, important life themes—life, love, learning from mistakes, making every moment count. Perhaps this is why storytelling resonates with all of us.

Great storytellers make great technical communicators, as storytelling is part of our everyday work lives no matter the medium. (In fact, we have just told a story in our process of writing this section about storytelling.) Perhaps the confluence of creativity, beauty, and visual storytelling is the graphic novel, and, as we have argued, this genre has exciting applications in technical communication instruction/training. For example, it is typical for illustrations to accompany various types of instructions, but students might use a comic or graphic novel format to portray a user actually using a set of instructions or working through a training process. Another option is to ask practitioners to describe their typical job functions or "a day in the life of a technical writer" in graphic novel format to increase understanding of their role within their teams. A proposal team could use a graphic novel style as a planning tool, sketching out their development process, presentations, and more. Many opportunities are available for applying graphic novel in both the classroom and workplace. In fact, the Federal Reserve Bank of New York has published a series of comic books to teach students about basic economic principles

such as monetary policy, banking, and the story of the Federal Reserve System. Activities incorporating the graphic novel genre help students and practitioners hone their skills in visual presentation and storytelling, both critical skills for technical communicators. It also offers an opportunity to "re-see" the standard work products associated with technical communication as both beautiful and creative.

(RE)CONSIDERING TECHNICAL COMMUNICATION

Making technical communication more humanistic is not a novel idea. More than four decades ago, Carolyn Miller (1979) argued that technical writing has humanistic value and suggested rethinking the goals of technical writing as a humanistic study. Yet, long-held beliefs that separate technical and scientific fields from beauty, art, and creativity (to quote Mr. Keating, from that which makes us members of the human race) very much persist. Our previous discussion is about possibilities. We consider what would happen if technical communication embraced "creativity" and "beauty" as key terms. If teaching and training incorporated new ideas and techniques centered on these values, we imagine how it might lead students and practitioners to reframe both themselves and the work they do as technical communicators to embrace the beauty in the processes and products of technical communication. We recognize that "what if" does not satisfy our field's (appropriate) desire for data and empirical evidence. In 2015, Zhang and Kitalong expressed their hope that their study of creativity in technical communication would serve "as a starting point for broadening the scholarship in understanding the forces that shape technical communicators' creativity in the workplace," noting a lack of research that focuses on technical communicators' creativity in practice (p. 212). Our own literature review suggests that, five years later, this call remains important but, as yet, largely unanswered. We encourage further studies of creativity and beauty in both technical communication workplaces and places of teaching/training.

Beauty and creativity are important approaches to technical communication problem solving; they are another way in which we can "[reconceive] power to illuminate how and where we can intervene in injustice" (Walton et al., 2019, p. 103), the status quo, systemic and hegemonic practices—because beauty and creativity allow us to help our users and students see the world around them in clarifying ways. This clarity has significant professional and pedagogical consequences. A profession or pedagogy that cannot move beyond 12 pt. Times New Roman operates from a particular, established, and often unjust position of privilege. A rhetorical theory of technical communication that "want[s] more than what is given" that "want[s] a future" (Gerdes, 2019, p. 235) that recognizes its own privilege and position should also embrace beauty and creativity.

Clarity, arguably privileged above all else in technical communication, is not always a matter of straightforward and concise language. Beauty, too, is clarifying. Recall the Food Network chefs articulating their points of view: Beauty is a mechanism by which we come to understand and communicate our relationship to the content. A sense of beauty informs how technical communicators design, connect ideas, and position ourselves; it reflects our values and ethics. It is our responsibility, then, to teach our students how to compose, build, develop, design, and write beautifully.

We suggest that teachers and trainers can accomplish this in their own classes in a variety of ways, including encouraging students to experiment with genre and to challenge the boundaries of convention. Interesting and innovative—creative and beautiful—things happen when students (technical communicators) work in the interstices between tradition and the avant-garde. Classes can be designed to guide students toward a more creative and beautiful interpretation of technical communication, and these considerations should be woven into all aspects of a technical communication course or training, not just moments of formal instruction. Even course materials (syllabi, handouts, rubrics, PowerPoints, course websites, etc.) are teachable moments and should be carefully and beautifully designed, as well as be clear, logical, and comprehensive. The goal is to perform beauty and creativity, and communicate expectations, through every aspect of the course or training. Materials, lectures, and ideas are informed by developing meaningful work, made more useful and valuable through creativity and beauty.

Our epigraph to this article is the quote from George Washington Carver: "When you can do the

common things of life in an uncommon way, you will command the attention of the world." Technical communication sometimes gets short shrift from stakeholders and students as dull or uninspired. That it is necessary, but common. We believe, however, that technical communication is the practical application of creativity and beauty in order to make "life easier and more productive." It is remixing to re-see. We should guide our students to do the common in uncommon ways—ways that are striking, startling, delightful, and inspired. Technical communication done uncommonly leads to an innovative and beautiful solution.

Consider, for example, the map of the London Underground.

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