THE VALUE OF COMICS IN TECHNICAL AND PROFESSIONAL WRITING

A WHITE PAPER BY

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Comics and other forms of sequential art is communication's unsung hero. It does twice the work that motion picture instruction guides AND written text documentation can, and yet people rarely ever hear people sing songs about the work this venerable and ubiquitous visual art has helped them save or extend. It can help turn a bland, 100-page document that would take a rocket scientist to decipher into a 25-page action-packed *awesomefest* that any 10-year-old could wrap their head around, and yet people find most people sticking with that road more traveled, even if it takes twice as long to get to the destination, goes uphill (both ways) and is covered in snow and broken glass. Is it because the word "comics" conjurors up visions of musclemen in multicolored spandex, *POW'ing* and *WHAM'ing* their way across the page? Or maybe it's because writers and readers have the position that "real men read text"? Or it could just be that people simply don't realize how useful it can be to using comics in technical and professional writing and communications. Hopefully though this paper will be able to cut through all the silly ideas and bizarre myths surrounding comics and go straight into understanding the grounded reality of using them in technical and professional writing.

SO JUST WHAT'S THE BIG DEAL WITH COMICS ANYWAYS?

Although the form and style of we currently recognize as "comics" was born in the late 1890's with the introduction of comic strips like Rudolph Dirk's *The Katzenjammer Kids* and Richard F. Outcault's *Hogan's Alley*[1], the fundamentals behind those comic series' intent with the visual medium can be traced back thousands of years. Scott McCloud, in his book *Understanding Comics*, defined comics as *"juxtaposed pictorial and other images in deliberate sequence,2"*although he started with Will Eisner's term *"sequential art3"* as a foundation for his definition. Similarly, Alan J Porter defined comics as *"a graphic medium in which images are used in order to convey a sequential narrative.4"* With that in mind, one could see that many forms of communication can be considered brothers and cousins to comics; works such as Trajan's Column5, Ancient Egyptian hieroglyphics, the Bayeux Tapestry[6], and even written languages themselves are all visual media, meant to be consumed in a specific linear order, which is used to communicate something from the artist to the viewer. Comics—as we know them today—is merely the latest page in the long history of humanity's use of visuals to share ideas and stories.

But why has sequential art been something that has been so closely tied with the growth of humanity? It's because humans are a very visual species, in that we place far more emphasis and value on the information we can acquire visually than with our other senses. Unlike spoken languages, which require the kind of unique experiences involved with that language that may not be the same with other cultures halfway across the world, visual information is something that can be easily processed and understood by others, no matter where they came from. Facial expressions, body gestures, images of fearsome creatures like lions and wolves, weapons with a function that can be easily understood even by someone who has never seen it before... no matter where someone came from or what kind of unique barriers exist between two people, our inherent ability to process visual information with ease make using it an almost obvious choice. Again, take ancient works like Trajan's Column and the Bayeux Tapestry; one need not understand Ancient Latin to be able to understand either document, as its depictions of soldiers with blades, thrusting them into their enemies and bringing their spoils of war home with them is something anyone can quickly comprehend and even empathize with, showing that even after a millennium or two, the visual information is still being communicated properly and quite clearly.

And like their ancient counterparts, the intrinsic value of comics can be quickly understood just as well,

possibly even more so to modern audiences, as comics manage to combine both written text and images together to communicate in ways neither of those aspects can do well individually. The best example of this unique relationship can be seen by simply removing one aspect of either written text from images—or vice versa. Take a movie that was adapted into, or from, a book. On one hand, there are so many times when many elements from a book were removed in order to properly adapt the story into a visual medium—such as long winded yet still equally important narrations about the situation the characters find them in, or the internal dialogues which help define a character in ways simply looking at them alone won't. Furthermore, with a book, one can process its information at their own leisure, where as a movie runs at its own pace. Conversely, there are plenty of situations where, no matter how many words a writer can spend on describing something visual, it fails to capture it as succinctly or quickly as a single image would; the old adage of "a picture speaks a thousand words" is quite appropriate. Comics, however, manage to merge the best of both worlds into a single document, taking the infinitely dense yet abstract ideas that can only be conveyed by written text and the quickly accessible visual concepts that can only be processed visually, turning comics into something greater than the sum of its parts.

And that's really the main driving force behind the value of comics in technical and professional writing; being able to communicate ideas and concepts in such a way that is able to communicate ideas in a most efficient manner.

BUT WHAT'S SO USEFUL ABOUT TECHNICAL AND PROFESSIONAL COMICS?

Technical and professional writing is all about communicating complex ideas, and in the right hands, a good document could help just about anyone wrap their head around it. But, just like the book-and-movie example above, a document that is completely written text have some inherent limitations to it. Using comics to help a reader understand a topic will always come in handy, but is it a wise choice? Of course it is! Case in point; ever heard of the Coupled Ion Neutral Dynamics Investigation instrument—which make a part of the Communication and Navigation Outage Forecast System mission? It's a rather simple instrument which is used to help scientists discover how the motion of both neutral gas *and* charged particles are related, as well as measure the velocity of both neutral atmosphere wind and charged particle drift found in the equatorial upper atmosphere somewhere between 400 and 850 kilometers high[7]; isn't it obvious? Actually, it really doesn't sound all that simple, but that didn't stop the kind folks at the University of Texas at Dallas to create a technical comic about the entire program—titled *Cindi In* Space starring the "android spacegirl Cindi and her two dogs who explain the purposes of the CINDI instrument as part of the C/NOFS mission and the science involved[8]"—which could be easily understood by students as young as 6th to 9th grade! The beauty of this though is that *Cindi in Space* isn't this one-off fluke, technical comics are used more often than one would think. And the best thing about it is, technical and/or professional writers are already equipped with the tools to start work on a TPW comic right now.

The most important thing to know about why a TPW comic would be a good idea was briefly explained above: comics are a visual medium, and humans are hardwired towards processing information visually. Technical and professional writers understand this and have been strong proponents of this most important reason to use comics, even if they don't know it yet. How so? It's the simple fact that a technical and professional writer expects people to read their documents by looking at it with their eyes and not by, say, licking it or smelling it, that explains it all: information broadcast visually is almost always easily assimilated. In the article *Comics: Not Just For Laughs*, Rebekah Sedaca mentions

"Comics are effective not only because they are essentially narrative, but also because they are unpretentious, easy to follow, and accessible. Whereas a functional specification document uses words and often "tech speak" to communicate functionality, comics use pictures and interactions to get ideas across. Comic artist and Yahoo! staffer Kevin Cheng put it best, calling comics "the universal language.[9]"

Consider how technical and professional writers who are concerned about language barriers and the ways they can to overcome them; when even an illiterate person from an isolated island in the Pacific can understand facial expressions and body movements, one can understand how easy it would be to instruct someone to do just about anything, simply by showing them what to do. In fact, most people have probably encountered a very ubiquitous—yet no less important—piece of technical comics: airplane placards. They are able to break through all language barriers by simply showing the passenger what they should do in the case of an emergency crash. All kinds complicated information—what to do when the air masks drop down, using the seat as a floatation device, avoiding exits where someone see fire—are easily communicated to the reader without the use of any written language which could be a hindrance to their ability to understand what to do.

But it's more than just "comics are a visual medium and we are visual creatures" which make using comics in technical and professional writing a wise choice. It's HOW this information is shared with the reader that makes comics a most efficient means to communicate information with. In his article *What Technical Communicators Can Learn From Comics*, Michael Opsteegh discusses how comics and technical and professional writing go hand in hand, simply because both formats understand how simplification of material is necessary to properly convey a complicated piece of information. *"Technical writers and editors can emphasize certain details ... by stating them simply. Warnings are a fine example of text that should not be bogged down with too many details.[10]"* At the same time, *"[b]y their very nature, comics break down information into manageable, bite-size chunks.[11]"* The idea here is that technical and professional writers understand what it takes to easily and succinctly communicate an idea or value, and comics are able to do just the same and make it even easier and succincter.

This also shows another key aspect for why comics should be used in technical and professional writing: we as technical communicators are already trained to communicate through comics. Or rather, the values we learn to be proper technical communicators are ones that are easily applicable to the use of comics in technical and professional writing, and thus nothing new necessarily needs to be learned. For example, even though technical communicators aren't necessarily trained to be artists, we're still trained to be conscious about all the same things an artist would; layout issues of a document, the efficient use white space in a document, the value of chunking information, and so on. Comic artists worry about these very same issues; how the various comic panels and speech bubbles should be laid out, how much white space should there be between the panels in order to depict time, how information can be properly chunked in a panel or page, and so forth.

Technical and professional writers are also trained to be conscious of figures of speeches, analogies and references which foreign readers may not understand; comics themselves have various unique cultural idiosyncrasies which don't translate well between culture. For example, Japanese comics depict someone who is asleep with a bubble coming out of their nose versus Western comics which uses the letter "Z", likewise a bloody nose (anywhere from a tiny trickle to a full-out gush of blood) is used to depict the various degrees of lust in Japanese comics, which doesn't quite have a Western analog. But fortunately technical and professional writers are trained to be conscious of these sorts of things from the get-go, thus ensuring that a technical comic would likewise be edited for such content which may

not be interpreted properly.

Another important aspect of how technical and professional writers are already trained to develop technical comics is how the technical document project is handled by its writers. That is to say, just as a technical document is written and designed by a staff, so would a technical comic; this includes all the potential pitfalls that may come with a staff-designed document, including all the different personality types involved—such as the artist who fears their "vision" for their work may be out of their control, or that it may end up interfering with the intended message for the work. In all cases though, everything that a technical communicator is taught to be conscious of are all applicable when it comes to designing and writing a technical comic, thus giving the technical and professional writer all the tools they need to make effective technical comics.

But most importantly, comics themselves—and the comics format and concept in of itself—can provide unique benefits to a technical and professional writer's intent for a document, because of the ease of consumption that comics, as sequential art, inherently facilitates. For example, the fact that comics involve panels and pages requires the writer of the comic to break up their topic into easier-to-follow chunks, which in turn would make their topic far more easier for a reader to sit down and absorb, versus a long block of text with very little breaks in-between long stretches of concepts.

Yet another important value comics can bring to technical and professional writing are the kind of storytelling elements that a comic allows for. For example, the technical comic can have a host or guide who essentially holds their hand and walks with them as they traverse a tricky and complicated topic. Or there can be a protagonist with the reader can project themselves onto and thus allow them to consume information easier, since they now have someone they can relate to, either on a conscious, unconscious or subconscious level. These are elements which are considerably harder to pull off in a written text-only or text-with-graphs kind of document, but ones that can definitely provide a powerful means for a reader to absorb more of what is being discussed in the document.

Many times too, the comic itself can be—dare we think of it as!--entertaining, to the degree where someone would actually *enjoy* both reading the comic and being informed about something at the same time. Perfect example would be, well, who as children opening up the daily newspaper skipped all the boring articles and went straight to the comic strips? Even today many people seem to be getting their news from considerably more *entertaining* sources, from shock news programs of the Nancy Grace, Glen Beck caliber on one side and the so-called "fake news programs" like *The Daily Show* and *The Colbert Report* on the other, versus more traditional—and considerably more boring—news sources like *The PBS News Hour* with Jim Lehrer. If done well, a technical comic would not only properly communicate the ideas it intended to, but do so in such a way that would make its intended reader *want* to continue on. And maybe it'll gain some unintended—yet still appreciative—readers along the way!

It should now be fairly clear all the different advantages that working on a technical comic can bring to a projects and its needs; between the fact that people are hardwired to easily process the visual content that comics provide, that technical and professional writers are already trained to write technical comics to begin with, and the unique advantages that comics can bring to a technical and professional writing project that make it far more accessible than it could have been as a text-only document, it's hard to imagine why any technical communicator would continue to avoid using comics to communicate their ideas!

BUT TECHNICAL COMICS CAN'T BE PERFECT FOR EVERY SITUATION, RIGHT?

A great man once said, on the topic of what is the best plan of action in any given situation: *"You gotta know when to hold 'em [and] know when to fold 'em.[12]"*; the idea is that the *experience* to know when one should use or *NOT* use the valuable assets at one's disposal is just as important as the valuable assets are themselves. The concept holds true for using comics in technical and professional writing; there are plenty of situations where comics can enhance and even surpass the level of complexity of written communication, but at the same time, comics can also be the *worse* choice between the two.

First of all, sometimes written text IS the better choice between the two. Just as a written book about a movie has certain advantages over the visual movie—such as abstract concepts which can't be depicted visually as well as the ability to read the book at one's own pace—a written, non-visual technical and professional document has many advantages over a document that uses comics to communicate with, and it is those specific advantages that the technical and professional writer wishes to utilize for their document. The kinds of documents which may not benefit from the use of comics to inform and instruct include simple instructions and other documents where a reader really only would like a simple, straight forward answer to their question, of which a convoluted narrative with a protagonist would be counterproductive, actually making it *harder* for the reader to understand and get the answers they are seeking.

Likewise, although visual information can be universally understood by its readers, the very concept of comics themselves may be something that may be hard for people to accept as a proper form of technical and professional writing. That is to say, while sequential art—such as like Trajan's Column and the Bayeux Tapestry—is something that is more academically appealing, comics as we understand them today are a new and unique phenomenon, known and appreciated more in the West and Asia than elsewhere, and even then has started to be taken seriously only relatively recently. As such, there are still plenty of people in the world—and even in the countries which are quite familiar with comics— which have yet to accept comics as anything more than "kid's stuff", and certainly not something that have a place in "real life business practices"; as Rajeep Gupta discusses in his article *Using Comics in Technical Documentation,* he explains that *"[c]hildren are much more comfortable with omics than adults. ... Even if you develop an informative cartoon, an adult reader mat find it distracting or intrusive, rather than informative.[13]"* This idea is made blatantly obvious when one would consider the use of comics to cover certain sensitive topics, such as how to defuse and handle a tense terrorist situation or why one should not use racial profiling in any way.

There are then also many people who may not be all that familiar with the very concepts that are used in comics that make comics the unique art form that it is. A perfect example is the speech bubble; that which we are most familiar with today appeared only relatively recently in the 18th Century, while almost all other ancient works of sequential left a depicted character's dialogue off to the side, if it was in the work to begin with. There are plenty of other things in comics—apart from more general forms of sequential art—which can create barriers that, no matter how much a technical and professional writer can do to mitigate them, a reader may not be able to overcome, simply because the things that make comics a unique form of art are not something that *EVERYONE* could inherently understand.

But probably the most important pitfall to using comics in technical and professional writing are the potential cost considerations; specifically, the ways that producing a technical comic from start to finish which can end up being more expensive and thus potentially less cost effective than other forms of technical and professional writing. Basic costs of production could be a major hurdle that may not be worth overcoming; where as written text documents are almost always in black-and-white, comics can

be in black-and-white or in color. In fact, more often than not the technical comic would be in color, and that would easily increase costs. Furthermore, even if a picture is worth a thousand words, if one can print a thousand words on two pages but a comic about those same words over four, then it may be worth more to simply write the words. And most importantly, working on technical comics would require the addition of at least one new member to the technical and professional writing team: a comic artist, particularly one that is quite familiar with proper comicmaking techniques (layout, pacing, etc) which can make the difference between a technical comic that is easy to understand and one that is absolute trash.

Another potential cost consideration is whether the technical comic would be used in places outside of its original home of origin; for example, if the technical comic is to instruct employees of a comic which operates in the United States, Japan and India and thus needs to be translated into more than one language and culture. Translating written, non-visual text is relatively easy, especially since the newly translated document really doesn't require much from the original document and thus can be created from scratch without losing any of its original messages. Translating technical comics, on the other hand, would not only require going through each individual page and replacing each individual instance of text with the newly translated text, but it may also require layout editing—Japan, for example, reads comics "backwards" from the West (right-to-left versus the West's left-to-right). All of this would require extra time and money to perform, which could easily add up. Of course, allowing the translators access to a copy of the original computer files from which the comics were designed on would help mitigate some of the issues in translating the comic, but that's assuming the original owners of the technical comic have access to them; for example, the technical comic project could have been a commissioned job and the original artist has the original files, but they may not release them to the company who commissioned them.

There are also other visual cultural differences to consider; even if a technical writer skillfully removed all kinds of unique Western references which could potentially be misinterpretations elsewhere, that may not be able to account for everything. For example, kissing is something of a taboo in India, and the original technical comic could have shown it once or twice, thus forcing its edit or removal, which, again, is not as simple as it would be in a simple written-text document. This again would increase the cost and lengthen the time required to complete the project.

But possibly the biggest cost concern is if this is the first technical comic project for the technical and professional writers, and they have absolutely no idea of what do it. Because technical comics aren't something that is widely used by technical and professional writers, there aren't as many resources available to properly train writers with their first-time technical comic project. They could hire comicmakers to aide them in the process, but the comicmaker may not understand the techniques and requirements that technical and professional writers have been trained to use, and thus communication issues may mar production. Fortunately if the company and the writing staff plan on using technical comics on a more regular basis, then this first experience may provide everyone with valuable insight into the comicmaking process, but it may also create such a negative and frustrating experience for the writers that they may not consider using technical comics again, despite their obvious advantages to written text in many situations.

But these issues may end up being insignificant issues in the long run, especially if the technical and professional writing staff manages to see the major advantages to using comics in their technical writing projects, to the degree where these potential pitfalls would merely be the minor cost of using something which has numerous obvious advantages. However, it is always a good idea to be conscious of these disadvantages to using comics in technical and professional writing, in order to make sure that

comics are used in the right place, at the right time, for the right subject and in the right way. Furthermore, simply being conscious of these potential downfalls could steel a writer against allowing them to affect their technical comic and ensure that their reader doesn't come across these issues.

SO, SHOULD TECHNICAL COMICS BE USED?

The answer is yes. Simply put, the use of technical comics, despite their potential costs and pitfalls, is a great idea for a great number of technical and professional writing needs, certainly more than what is currently done with technical comics. Technical comics certainly do more than written text and some disassociated graphics and images can do separately, especially considering that human beings are hardwired to easily process what they see visually and thus are able to comprehend all manner of visual data that a technical comic would put forth to the reader, regardless of what foreign land it originally came from. On top of that, technical and professional writers are already trained to write the most efficient technical comics, so transferring their efforts towards creating technical comics would take almost no effort to begin with. And best of all, the fact that comics can be grounded, relatable and—most importantly—entertaining works mean that a technical comic can have more flavor and appeal than any other bland written-text-only document... and what better complement is there for a writer than to know that their work will be remembered, especially when they're dealing with technical documentation which kind of requires the reader to pay attention to what they're being instructed or informed about?

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2. *Understanding Comics,* page 9

3. *Understanding Comics,* page 7, also used as the title for Will Eisner's book, *Comics and Sequential Art*

4. *Writing Technical Comics* by Alan J Porter, as published in Intercom Magazine, February 2010, page 8

5. Completed in 113 AD, used to honor Roman Emperor Trajan and his victory in Dacia; http://www.aviewoncities.com/rome/trajanscolumn.htm

6. *A 70-meter long tapestry/embroidery sewn together in around 1066, which shows the tale of how William, Duke of Normandy, invaded and wrested the English thrown from his opponent, Harold;* http://www.tapestry-bayeux.com/

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9. *Comics: Not Just For Laughs!,* by Rebekah Sedaca

10. *What Technical Communicators Can Learn From Comics,* by Michael Opsteegh, for TechniScribe

11. *What Technical Communicators Can Learn From Comics,* by Michael Opsteegh, for TechniScribe

12. Lyrics from the song *The Gambler*, by Kenny Rogers

13. *Using Comics in Technical Documentation*, by Rajeep Gupta