Words Are Not Enough

Carol Anne Ogdin, Principal Designer
Deep Woods Technology
2980 Salem Drive
Santa Clara, CA 95051
408/247-9718

The written word offers the promise of comprehension over space and time; we can read what has been written at considerable distance from the reader, that distance measured in feet or hours. The spoken word, on the other hand, produces a richer communication experience; we listen to what has been spoken with nuances of tonality, rhythm and pacing, all of which contain additional information beyond the words uttered. Until the advent of modern recording technology, the written word was the *only* way to communicate across space and time; the spoken word was passed from speaker-to-listener, usually with some corruption at each successive step of the way. The integration of the written and spoken word permitted by modern technology is leading us to an entirely new range of communication options, and we may not be prepared for the behavioral changes that will likely be required.

A simple example will illustrate. Please speak the following five sentences aloud, noticing for each how the emphasis on each word produces a subtle change in the way you feel while *saying* the phrase, and yet another subtle change in the way you might *hear* the phrase if said by another:

1. What are you doing?
2. *What* are you doing?
3. 'What *are* you doing?
4. What are *you* doing?
5. What are you *doing*?

The first example is how the sentence might appear in print, and will usually be interpreted as an honest question. The second asks for a more explicit piece of information (the questioner is more interested in the *What*, presumably, than the how or when or why). The third is a challenge; it is cultural and to my ear sounds like a demand for an explanation or justification of the listeners' activity. The fourth can also be heard as a challenge, but of a different kind: The implication is that the listener is being called to action, perhaps with an implied phrase "...*to solve the problem*" at the end of the question. The final example, to my ear, sounds like a mother challenging a child playing with matches; it is a challenge, perhaps similar in kind to the third example.

The purpose here is not to provide compact pointers from tonality shifts to intrinsic meaning, but to illustrate that the raw, unadorned words do not always convey the sense or meaning of the original author/speaker's words. There are, to be sure, many more possible ways to utter the same four words, and context and the nature of the on-going relationship between the parties has as much influence on the interpretation as simple word emphasis. (Imagine, for example, the difference between saying "You S.O.B." through clenched teeth to a police officer in uniform, and saying the same phrase--albeit with different tonality--through a smile to a close friend who's just deflated your ego.)

447

The written word, regarded as sacrosanct and preferred by academics, seems to be held in higher esteem than the spoken word. In scientific communities, the publication of a formal (written) "paper" is the mark of significance, while shared personal experiences are denigrated as being less significant. Witness the wrath of those dedicated to the written word when a scientist or experimenter deigns to announce some result in public, before publication of the formal "paper."

On the other hand, scientific communities still conduct meetings which emphasize personal, spoken exchanges of information, for it is in that dynamic environment that the seeds of new ideas are often synthesized, and the more obvious flaws of budding ideas are exposed.

The emergence of high-technology tools that facilitate communication is just in its infancy. Although the telephone is ubiquitous, the emergence of facsimile and computer-mediated communications (commonly called electronic mail or Bulletin Board Systems--e-mail or BBS, for short) is beginning to shape the ways we conduct business[1]. But our personal communications skills have been honed by millennia of transactions through the spoken word and, more recently, the supposed "objectivity" of the written word.

The difference between the two is simple: The incorporation of sensory information. In the examples above, additional informa-

tion was added through tonality, context, relationship, and the meaning becomes something more than (or other than) the apparent words. This is Gregory Bateson's "meta-communication:" That information conveyed *about* the ways to interpret the original information. Without meta-communication, we are left to fall back on the interpretive devices that come from our own experience...and that may be significantly different from the intent of the author/speaker.

Sensory information and meta-communication are similar, but not quite identical. In the written word, sensory information is carefully inserted to help a reader separated from the author by space and time to arrive at the same conclusions as the writer. Good scientific papers are said to explain reproducible results; in order for those results to be reproduced, sufficient detail must be provided to allow the reader to independently duplicate the work. That detail is inevitably provided in terms that are grounded in the five senses: We call for "5 mg Sodium Chloride," not "some Salt". The phrase "5 mg" is a sensory-grounded reference (to volume, of course, whether you visualize it or pick up a container of that amount), as is "Sodium Chloride," a specific "salt" that any competent scientist can imagine as a molecular structure or recall as a list of known properties, each in turn defined in a sensory-grounded way.

On the other hand, in describing the same process in the spoken word usually offers the opportunity for further interpretation through the meta-communications. Without recording, the spoken word generally contains with it the opportunity for clarification from listener back to original speaker.

---

[1] The recent decline in fortunes of the airline industry may have brought on by business travelers' dissatisfaction with chaotic pricing and emphasis on no-frills service; as air travel became less and less attractive, alternative communications media grew dramatically. Conversely, the emergence of these technologies may've been the catalyst that created the onset of the airlines' apparent problems.

If some sentence doesn't "make sense[2]" we have the option of asking a clarifying question. In public speaking, it is considered the mark of a good lecture that questions are not necessary. Inevitably, when questions prove unnecessary, you can look back over a spoken pattern rich in sensory-grounded images.

Rich Communications Options

What is the essential difference? It is the difference between _digital_ and _analog_ communications. In the _digital_ world of representation, the meanings and interpretations are derived from discrete symbols, while in the _analog_, meanings and interpretations are derived from continuously-variable properties. In digital computers, a binary digit is either "0" or "1", and there are no valid values between the two legitimate values; the size of the container for that bit is irrelevant to its meaning or interpretation. In an analog computer, the value of a measurement is continuously variable, a voltage that is in the range from zero through plus-five volts, with infinitely many possible values between those two limits. Similarly, in communication, changing the way a word is represented does not change it's value: A _dog_ is still a DOG is still a _**DOG**_, irrespective of how it is represented. On the other hand, changing the infinitely-variable tonality over an uttered word _can_ change its meaning, as illustrated above.

The difficulty in the domain of the written word is the incorporation of that sensory-

based meta-communication. The evolving customs and rituals of the e-mail world serve as examples. People who regularly communicate via the written word through computers find that the paucity of meta-communication means that they must augment their words...much as I have done in this paper through the medium of _italics_, _underscore_ and **boldface**. In computer-mediated communication, individuals generally have at their disposal only the linear representation of words on successive lines. Because of the lack of standardization among computer systems from different vendors, message authors are not at liberty to use typographic conventions to convey the meta-communications, because they cannot rely on the reader's ability to display the written message in the same way.

The Need for Interpretive Help

Even while living strictly within a digital communications medium like e-mail, the need and drive for meta-communication is so great that customs have already begun to evolve. The representation of a smile, for example, which often completely reverses the sense of meaning in a sentence uttered in fact-to-face conversation, has no intrinsic symbol in the digital world of linear lines of characters. Some clever soul first originated the iconic representation of a smile with three simple characters:

:-)

(If it isn't clear, look at it after turning your head 90-degrees toward your left shoulder[3].) Because these ostensibly represent emotions, they are called _emoticons_. A particularly sarcastic remark that might be misinter-

---

[2] A provocative phrase, that. To say something "makes sense" to me is to explain that you have been able to translate the source information into a sensory-grounded interpretation that fits with your experience; when we claim son ething is "nonsense," it means we have been unable to make that translation into the language of the five senses.

---

[3] Notice the need for my sensory-grounded terms, and their necessity in this context of the written word.

preted is invariably followed by the obligatory "smiley face." A whole lexicon of possible expressions (and insults[4]) is emerging, 'tho most people use only the common example.

Some typographic conventions have emerged as well. The substitution of forms like these:

e-mail	Typographic
funny	*funny*
very	very
MAJOR	**major**

allows some limited meta-communication within the confines of the character-oriented straitjacket. On the other hand, certain customs are discouraged: Messages typed in all capital letters appear to be shouting (although, as with all taboos, that rule can often be violated for effect.

This compelling need to add meta-communication suggests the future of communications--especially computer-mediated communications--will be dominated by the need to expand the possible representations into the analog domain. Already, written documents are being augmented with voice annotation, embedded images, and other forms of analog data. New channels altogether, like on-line, real-time, multiple-site conferencing, are emerging. The richer these communication channels become, the less need we will have for physical transport in order to engage in common business and professional discourse. We may be already seeing the signs of this in the frequent complaints of some denizens of the electronic communication world of their sense of a lack of personal community and involvement with other people at the interpersonal level.

Behavioral Trends

And this leads to the most interesting set of questions of all: In what ways can we expect behavior to change, and how do we appropriately educate people about the appropriate uses of today's and tomorrow's communications technologies? As one composes a paper, with full knowledge of the separation in space and time from the reader, the author generally takes into account the need to use the digital representation of information with precision, lest the meaning be obscured by irrelevant ambiguities. In fact-to-face dialog, we are seldom so precise, because we count on any ambiguities to be resolved in the immediacy of the exchange. In the "in-between" world of on-line, asynchronous computer-mediated communications[5], there are different customs and methods necessary, and no universal agreement on what they most beneficially might be. Most people come to the new medium with more experience in spoken exchange, and they tend to adopt those styles--even though the medium requires "sifting" that style through a linear string of words. The results are often misinterpretation and can frequently descend to insulting exchanges as each party clings to his/her own understanding of what was meant.

In the immediate future, while we live within these worlds of communications media with limited expressiveness, we will need to hone personal communication skills to overcome limitations of the media[6]. In

---

[4] My favorite being:)*(

[5] Communicators all connect to each other through computers, but not necessarily at the same time; one party may compose a message and it might be read immediately or many days later; that storage of undelivered messages is the responsibility of the computer system(s).

[6] I have instituted a number of specific skill trainings in a small corporation managing its ongoing activities through Lotus NOTES, a well-

the further future, with the widespread adoption of additional analog information channels enriching the principal written word, we will need to evolve new sets of appropriate communications behaviors, for selecting the best mix from among the available tools will become a more difficult task. On the long-term, we can begin to question what will be the essential and surviving media: Will the written word even be required as a way to crystallize the sensory-grounded communication of personal knowledge?

The sociology of telecomputing has been fertile ground for study in recent years, but the detailed habits of successful habitues of the new electronic media haven't apparently been studied in any useful or repeatable ways. The organizations that would lead the path into the future of communications excellence would do well to study and disseminate the patterns that work best with different media combinations.

---

regarded digital communications facilitation tool. The results changed the principal officers interactions from frequent face-to-face meetings to one general meeting a week. Those individuals reported that they considered their productivity approximately doubled as a consequence of the introduction of NOTES, especially after the appropriate skills were adopted by all participants. Those skills are the subject of another paper in process.

Carol Anne Ogdin is Principal Designer at Deep Woods Technology, a computer product design and consulting firm based in Silicon Valley. She has been designing hardware and software products since 1957, and has written six books and nearly 200 papers. Carol Anne is also trained in behavior and communications through the Neuro-Linguistic Programming model. You can reach her through Internet e-mail at
friday@well.sf.ca.us

FIRST INTERNATIONAL SYMPOSIUM: NATIONAL SECURITY & NATIONAL COMPETITIVENESS: OPEN SOURCE SOLUTIONS Proceedings, 1992 Volume II - Link Page

Return to Electronic Index Page