

# WHAT'S IN A WORD?

Commentary on the birth of words,  
and the impact of words on our world

Dorian Scott Cole

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*What's In A Word?*

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To [James J. Kilpatrick](#) whose weekly newspaper series and books, *The Writer's Art*, encouraged an interest in words and a greatness in writing which I will be forever stretching to attain.

- Scott -

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## INTRODUCTION

### Why write a book on words?

At thirty-five years removed from classes in English, my interest in words doesn't stem from a lifelong fetish for strangulating prose with rules. My interest comes from using words to communicate ideas, plus a curiosity about what makes our world work. Sometimes it's amusing.

I'm not an academician, or even the best communicator, and it is neither my purpose here to instruct nor to showcase my prose. It is my purpose to come to a better understanding about these tools we use for communication, and to stimulate others' interest about the influence of words in our world at a lower level than rhetoric. Words influence how we understand our problems, and how we understand the meaning of our lives and the events within them. Each word that we use can make a world of difference.

Really? Does it actually matter how we use words? We misinterpret what each other say because we don't have the same experience, we miss the real meaning of things because our understanding of our words blinds us to other meanings of words and life, and in an era where we have an avalanche of information because of explosive growth, we have major difficulties finding what we want because it is hidden by categorization problems. You be the judge.

Some of the fields this book touches on are semiotics, linguistics, lexicography, and cognitive psychology, which includes artificial intelligence. My fervent hope is to communicate ideas that open windows to new understandings, and to stimulate the readers' interest in these subjects so that they become better communicators than I.

This book touches on many fields in which I am not an expert. I won't apologize for being a generalist and taking a cross-disciplinary approach without becoming an "expert" in each of these fields. I think it is very appropriate for a communicator to have broad comprehension (but not shallow knowledge) of an ever widening array of subjects. The resulting perspective enables greater understanding of the complexity of the human

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condition and the human experience with which we all wrestle. That is the substance of communications.

This book plays out in a three beat rhythm. A lead page is followed by a humorous downbeat chapter that illustrates something, which in turn is followed by a more serious upbeat chapter exploring that something.

**A note about the dedication:** Over the years I have published several articles about writing on The Visual Writer, LLC Web site, most of them lampoons of myself or our language that hopefully inspire others to dig deeper and write better. Sometimes I referenced *The Writer's Art* column, written by James Kilpatrick, or something that I remembered that he had said. Recently when I pulled together these articles, and some other more serious work that I was writing, I realized that James Kilpatrick is a statesman for the language, and I wanted to dedicate this book to him because of his influence. (Warm regards, Mr. Kilpatrick, and thanks for the helpful feedback.)

## Language Is Personal

Implying either *sexual appetite* or a *wish*, the meaning of the word “desire” depends on with whom you are talking. Is that a problem? Sometimes. We tend to form isolated groups of people who use words in our own specialized ways. This leads to a problem in communication in that a sentence spoken in plain English by one person, may mean something entirely different to a writer whose restrictive use of words from bias, target audience, and specialization, has created an entirely different lexicon of dubious value for general communication.



## 1 Privies and Other Embarrassing Words

Going into a word is not like going into a building. I have been summoned to buildings and learned upon entering that the address I was given was the men's room. Joke? Comment? Mistake? Prophecy? I was never really sure. But most of the time entering a building is a relatively predictable experience.

Not so with entering words. Every once in a while I write a word and then wonder if I have flushed myself down the toilet. I rush to a dictionary to see if I have actually said what I meant. This is the way it was with "privy." I wrote an article on the [www.VisualWriter.com](http://www.VisualWriter.com) Web site, referencing the Socratic Method, and hastening to say that I wasn't *privvy* to the inner sanctums of academicians in the educational system.

Fortunately I had ceased putting a double c in academic, which would have made my point for me. Learning to spell academic correctly took me many years - I learn just somewhat faster than an earthworm. If I once misspell a word, it remains fixed in my memory forever under the incorrect spelling. As I proofread, when I remember to proofread, I say, "That looks right - that's the way I spelled it last time."

At thirty-five years removed from an English class, my interest in words doesn't stem from a lifelong fetish for strangulating prose with rules. My interest comes from using words to communicate ideas, plus a curiosity about what makes our world work. Often it's amusing.

I'm not an academician, or even the best communicator, and it is neither my purpose here to instruct nor to showcase my prose. It is my purpose to come to a better understanding about these tools we use for communication, and to stimulate others' interest about the influence of words in our world.

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Words influence how we understand our problems, and how we understand the meaning of our lives and the events within them. Each word that we use can make a world of difference.

As a writer, I want to communicate ideas, not struggle endlessly with spelling and grammar. I think conceptually rather than by rules. Orthography, which I learned in elementary school, makes perfect sense to me. Orthography is basically about correct spelling, but in older traditions it taught where parts of words came from, and what those word parts meant. The prefix, root, and suffix of a word each mean something, so you can put the three together and have a word. What more do you need to know? Well...

*That* and *which* have me conquered. I have looked up the proper usage once a month for over thirty years. I finally came to the realization that *that* can be left out at least 50% of the time and no one even notices. *That* is a completely unnecessary word that only clutters up the landscape. Throw it away and that's 50% fewer times for which you must look up usage<sup>1</sup>.

Oh, yes, back to the word *privy*. After writing the article with the word *privy* in it and posting it on the Web site to immortalize my ignorance for the entire world to gawk at, I happened to think, "How do you spell *privy*? Are there two spellings, one meaning private and one meaning toilet? Did I actually refer to myself as the toilet in the academic's inner sanctum? Aargh!

Dictionary: one v in privy.

I looked at the article - I had made it a two-seater:

privvy.

But fortunately the word could have either meaning, depending on the academic's perspective.

I don't use the word *privy* regularly, not every month - I can excuse that one. But even the most mundane words that are in daily usage can have terrifying things in them. Read on.

---

<sup>1</sup> *That* is restrictive of the antecedent. *Which* comments on the antecedent. (According to Frederick Crews's *The Random House Handbook*).

In the same day I might write marketing and technical literature, a play or novel, an article, instruction, and non-fiction. Each form has its own set of rules, style, and vocabulary which are knocking around in my head trying not to feel lonely. It takes some effort to keep them straight.

For example, after being informed that the word *desire* is persona non grata in technical writing because it might have sexual connotations for some, I have been looking at other replacement words and I am so astonished by what I have found that I am actually starting a petition drive to drum the word *want* out of technical writing. The first definition of *want* is: "To desire greatly." So if *desire* is a promiscuous word that can conjure up such wantonly lustful images that people actually feel threatened by it, then *want* has to be total debauchery. I found this word fifteen times in one article. I have actually been using this word in front of my kids! Shudder.

But what to use for a replacement? I might find a replacement in the dictionary definitions for *desire* and *want*. I checked. Both *desire* and *want* have *wish* as primary meanings. Maybe *wish*, as impotent and whimsical a word as it is, could be the replacement. So I looked up *wish*... Yech! The first definition of *wish* is - shudder – "desire!"

OK, I have it! (Another digression: Notice the absence of the construction "I've got it!" Got is an ugly<sup>2</sup> little word that is redundant when used with the word have. I have formerly campaigned to have *got* kicked out of the English language, but it seems the English speaking world isn't sympathetic to my crusade - everyone now is saying "I've got, you've got, we've got!" So much for purity).

So anyway, for the words *desire*, *want*, and *wish*, we can substitute the all purpose letter X to symbolize what the user has on his mind. No, wait. X is too much like X-rated - we can't have that. Maybe R... no that could mean R-rated which is still kind of racy.

Let's start at the beginning of the alphabet. A. No, someone might take that as an abbreviation for Ass. B. Butt... Forget

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<sup>2</sup> The columnist, James Kilpatrick, for years wrote a weekly newspaper column, *The Writer's Art*. (It's also in book form, and now appears on the Internet.) He once called got "an ugly little word."

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that. It seems some readers have only one thing on their mind: sex. No matter what we write, someone is going to take it the wrong way.

OK, we should give readers a choice so they can find a word that suits them. We can try the following construction:

"Select the item that you *want, need, desire, wish for*, or \_\_\_\_."

... Eh, maybe not. They may be so hot and bothered when they reach the end of that sentence that we'll have to dump a pail of water on them to cool them off. Some people just take everything the wrong way.

## Say, What?

**T**he ancients were right, you know, about speaking things into existence. Once you unleash a word verbally, the effect is permanent. Were they really onto something? If we say something, or think something, do we somehow create the universe? Well... maybe. I guess the downside is, some of us should watch what we say.



## 2 How Words Take on Meaning

We're not at all sure what words mean, not even the common words that we use every day such as "want" and "desire," as we saw in the last chapter. Every word gets a little different spin from each of us.

I could create a new word right here! *logoplastycism*. My spell checker tells me this word is not used in the English language... not today anyway. I am looking nervously over my shoulder, trying to detect any shift in the universe. For the moment there seems to be none. (Although a few weeks later I noticed the appearance of a new game, *Smush*, that uses a similar concept.)

This is fun; I'm a word god... except my word has no real meaning. So let's give it a meaning. Logoplastycism means: "the theory of molding new words with surgical precision." We can even give it a sense of relationship. Words have "roots." The roots of this new word are "logo," "plasm," and "ism.")

Now that I have formed a word and given it a temporary meaning, what does this word really mean? We think we know because we just read the definition in the last paragraph. But, does logoplastycism mean to cut words in half with a knife and mold them back together on a piece of paper? Does it mean to take individual letters and form them into a word? Does it mean to take other words and form them into a word? Does it mean all three?

We don't know. And this is a very telling thing about words. Words have no inherent meaning, and even defining them with other words doesn't actually give them a meaning. Dictionaries, for all of the wonder that they are, must give examples of words in a context of usage. That is, they use the word in an

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example sentence. It is the experience of using a word that begins to give it meaning.

For example, "The young man watched the logoplasticist with awe as he took other words and precisely formed them into one new word, in a graceful demonstration of logoplasticism." But logoplasticism only means to form a word, it doesn't mean to give the word meaning. Let's not go there.

Put the word in a sentence and we understand it better by context, but not fully. We really only understand words through experience. Experience isn't just repeating the word over and over – experience is applying the word, often exploring the areas that define it. For example, the people who collect word usages and create definitions would undoubtedly find many things wrong with my example sentence in the preceding paragraph. I don't have the experience to know all of the ins and outs of doing it properly.

So the dictionary can tell us the meaning of words, but is the dictionary the mother of all words? No. Dictionaries don't prescribe how we are to use language. Dictionaries simply capture how we do use language.

According to Encyclopedia Britannica, an early lexicographer Samuel Johnson, "Worried that changes in a language caused it to decay and hoped that a dictionary would check that decay. But he realized as he worked that 'language is the work of man, of a being from whom permanence and stability cannot be derived.' The makers of dictionaries, lexicographers, can only describe current and past language; they cannot prescribe its use."

So, how do words get into the dictionary? According to the word at Merriam Webster (<http://www.m-w.com/about/wordin.htm>), birth into their dictionary is primarily dependent on usage, and the birthing rite is a process that looks at two things: 1) which words are used frequently, and 2) how they are used. This process includes looking at many examples of the usage of a new word, and also noting the context in which the word is used. These elements are used to distill a definition.

Creating definitions through usage isn't a license to misuse language. Most of the time most of us communicate using known words and by their known meanings.

Before the lexicographers take note of a new word, how do words begin? Words originate not by definition (except in the case of stipulative definitions), but by a number of factors.

The factors that I believe are relevant include:

1. Referents
  - a. Signifiers
  - b. Symbols and experience
2. Context
3. Usage
  - a. Cultural meaning
  - b. Meaning migration



## Write This Way

**T**he best way to write is to communicate clearly.



### **3 English Is Confusing Even as a First Language!**

I used to be really interested in the etymology of words and had access to a great dictionary that gave the history of each word. Most English words actually came from other languages: Greek, Latin, German, French, Spanish, Native American, and a host of others.

So from these different languages we have inherited numerous ways to construct language and to be perfectly correct we must know the syntax of every one of them. Right? Aargh!

In elementary school I spent days conjugating verbs. I became so good at conjugating, I hardly paid attention. One day as we went around the class doing a very simple conjugation. *Sing*: sing, sang, sung. The person ahead of me did *ring*: ring, rang, rung. My turn. *Bring*. Bring, brang, brung. I burned and sank in my seat as the entire class laughed at me.

Sometime after elementary school, I learned ancient Greek. In English we make words past tense simply by adding "ed" onto a word. But in Greek, the imperfect tense (past) involves both a prefix *and* a suffix on the verb. The Greeks had cases we don't even know about. Durative case is a repetitive past action (one that continued), while imperfect (past tense) also means it may not have been completed.

For example, in the biblical phrase, "In the beginning was the Word...", the word *was* doesn't refer to a moment in the past, but to an indeterminate period of time. I suppose that facing the daunting task of learning all of these cases, the average ancient Greek kid took until age twenty to learn all of the language cases. Verb conjugation was durative and imperfect.

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All of this verb conjugation was very important, right? Well, when I tried to put "will have done" in a tutorial, the editor threw it out. In fact, when I put "The program will automatically catch the error..." the editor advised: "The program automatically catches..." Hmm. I had become so learned in elementary school that I nearly "learned" myself out of the writing profession. Verb conjugation? Skip it - it can be hazardous to your career.

We make endless rules for English, and then post exceptions, and then exceptions to the exceptions, like the fine print in a legal document. "I before e, except after c; except in weird, which is... weird."

We create grammatical rules apparently just so we can break them. For example, teachers teach, and the past tense of teach is taught. Why then have preachers preached and not praught? Well, some of them do *prate* (Old English, I think), which is to talk idly and at length. But then, all of us *prattle* a lot. Why not just ask the language gods to change all past tense endings to "ed?" Teached?

Well, even that would get us in trouble. *Ed* doesn't always mean past tense. For example, you can be left-handed, right-handed, redhanded, righted, yellow-bellied, and red-headed.

With all of this language confusion, it is a wonder any of us bother to write at all. Someone on the Internet reported James Kilpatrick said in a speech to them, "Why do we write? There is one purpose only: to communicate an idea ... clearly and understandably." Yep.

In editing or evaluating other people's writing, this has been my guiding principle for years. In most situations, the most important rule of writing is to communicate clearly. Having accomplished that, rules and style make very little difference except to venue.

## Referents

**T**he phrase “Red-headed woodpecker is a sign.” A sign is simply a reference to something else.



## 4 Referents: Signifiers and Symbols

### ***Signifiers***

The phrase “Red-headed woodpecker” is a sign. Words are first of all signs, signifiers. Signifiers point to something. They *denote* what is indicated. (Denote means to signify directly. )

Words don’t have any inherent meaning, they just point to something else. But what does a word point to? If the word is “chair” we understand that the word points to a chair. We learn to associate the word with the thing that people sit on (or *in*, if you prefer). But the word chair doesn’t point to a specific chair. In a sense, it points to all things known as chairs.

But what if the word is an abstract word and exists only in peoples’ heads. What does the signifier point to then? It points to the meaning that is within us, that is, the experiences that make up all that we know about the word. But the signifier doesn’t just point to the meaning in one person’s head, it points to the meanings in everyone’s heads.

It is well recognized that an interesting problem occurs when you try to make a signifier point to verbs, prepositions, articles, and so forth. Quick, point to “is.” Now point to “as” and “but.” Now “the” or “a.” These words are only understood experientially.

### ***Symbols***

Words are also symbols. Symbols “connote” meaning. (Connote means to suggest or imply.) Words are not symbols as in the dictionary definition of symbols (to represent something else), but symbols in the sense discussed by

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Theologian Paul Tillich. Like a signifier, a symbol points to something, but unlike a signifier, a symbol also “participates in that to which it points.”<sup>1</sup>

An easy example of this is evident in the feeling that the actor creates within audience members. The actor, and the character he plays, become a symbol.

Even though an act isn't real, we react to a degree as if it is. As the actor dramatizes a fictitious experience, the audience reacts emotionally to the experience as if it is real. Years later, remembering the character or even the actor can evoke the memories and emotional responses evoked by the original viewing. The actor and character are symbols that participate in the experience for the viewer, and would be difficult to separate from it.

For example, I know that Jimmy Stewart was an actor who I saw in many films. But his image evokes memories and original feelings associated with the film, *It's A Wonderful Life*. In the film industry, this is known as “typecasting,” and this makes it difficult for stars to move beyond their image.

Eugene Gendlin explored the role of symbols in pointing to experiences within us.<sup>2</sup> Gendlin showed how words symbolize within us individual experiences that provide depth of meaning for the word. Each word points to a number of experiences within us that provide experiential meaning for the word.

I will further Tillich's and Gendlin's description by saying that symbols actually participate in experience in a number of ways. For example, by pointing to an experience, does the word *dance* mean that I am dancing with the word *dance*? Yes. I can just see me now out on the dance floor, whirling around with the word “dance.” Not. By this I mean that the word *dance* has a different meaning for everyone that varies according to the experiences he has had, including watching others dance and hearing others tell about dance.

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<sup>1</sup> Tillich, Paul. 1957. *Dynamics Of Faith*. New York: Harper & Row Publishers, Inc.

<sup>2</sup> Gendlin, Eugene. 1962. *Experiencing and the Creation of Meaning: A Philosophical and Psychological Approach to the Subjective*. Evanston: Northwestern University Press.

For some *dance* might mean ballroom dancing, the waltz, swing, or two-step. For others it might mean the sixties style Pony or Mashed Potato. Still others might consider dance to mean free form movement, ballet, some movement an insect does, various Latin dances, or aerobic dance. To a dance instructor it might mean all of these.

By connecting to experiences within an individual, the word dance may not only evoke a mental picture of dance, it may even evoke memories and physical and emotional feelings associated with dancing. In the same way that the memory of an actor evokes the emotion of a memorable role, the word dance participates in the experience of dance.

While words point to experiences within us, they also participate by helping to form experience. For example, when a young child hurts himself and cries, the mother may say, "Ouch" in a soothing way, kiss the hurt hand, and treat any wound. The child has gained emotional support and gotten the wound healed.

After a few hurts, the child then goes to the mother saying, "Ouch!" and may not be crying at all. Saying the word ouch has become a mediating experience that symbolizes the expectation of comfort. Saying "Ouch" can be a substitute for crying (carries with it the expectation of comfort), and has become a vehicle for getting comfort by saying it to the mother.

So the word *ouch* very actively participates in the experience. Words form an anchor around which can form the many experiences that give the word meaning.

In fact, we can even change our immediate feelings and disposition simply by our choice of words. If we say that we are unhappy or sick, then we actually begin to feel that way. If we say that we are happy and well, then we actually begin to feel that way. Our words gather around them those experiences that they refer to and make them foremost in our psyches. Words are symbols, participating in our experience.

Imagine the impact of every day telling yourself that you are happy or unhappy. Imagine the impact of everyone in financial circles telling themselves and others that the market is *bearish* or *bullish*. How will they approach the market? We literally *can* speak our world into existence – not the physical objects – but our mental state that forms our reality.

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To further illustrate how words communicate different things by relating to or participating in different experiences, we can look at another common word, "radio." What do we mean by the word radio? It means very different things to different people, depending on their experience with radio.

Say *radio* to a radio announcer, and he may think of the field he works in, being behind a microphone talking to many people, picking out records that he thinks they will like, choosing news articles to read, reading advertisements, turning on the transmitter, etc.

Say *radio* to an electronics buff and he might think of the field in which he works, of transistors and amplifiers, and creating circuits with minimal feed-through, oscillators, frequencies, power, towers, electromagnetic waves, difficult engineering problems, and calls out in the middle of the night for failures. Each of these thoughts and feelings also unpacks into more thoughts and feelings.

Say *radio* to a listener, and he might think of music, an announcer's patter on the way to work, weather bulletins and bad weather experiences, and making love in the back of a car with the radio playing softly. Each of these thoughts and feelings also unpack into more thoughts and feelings.

Say *radio* to me, and I happen to think of all of these things. So when I say "radio" to another person, how does that word unpack for him? What experiences does it relate to within him? Does he receive the same message that I'm sending? Does he interpret the word radio as an announcer, or as an engineer, or as a listener?

Another way to look at this is, can we understand words in the same way, or even understand all of the implications of a word, without having experiences that give the word meaning? For example, can we understand the word can without experiences that form our idea of what is *accomplishable*? Do we need to have multiple experiences of accomplishing things before we can fully appreciate what the word can means? Probably.

### **Patterns are the currency of communications and understanding**

It is through repeated experiences that a word becomes meaningful to us. Some repeating experiences are

experienced by everyone, becoming common. These recurring patterns are the currency of communications, and in verbal communications are represented by words.

The dictionary makes it possible for us to "mass communicate" by giving us a tool (symbols with definitions) so that all of us mean the same basic common thing by a word, even though none of us really ever use or understand a word in quite the same way.

As I indicate in the section on usage, a word is a living thing which grows with the experience of a culture. Words participate in the culture's experience as a vehicle for meaning. Words not only transfer the original meaning from person to person through usage based on experience, they are the basis for metaphors, for new abstract meaning to describe new experience, and are the basis for meaning migration to describe new things through experience that is familiar.

Words open up new doors to understanding new concepts, and without new words we would be severely limited in conveying new ideas. We would be in a closed system where growth is unlikely.

France has elected to keep the French language pure and uncorrupted from the steady infiltration of words from other languages, especially from English. While I sympathize with the French, I can't help but wonder if French will become the next "dead" language, handed a death sentence by the very action meant to preserve it. I'm asking, not prophesying. Is it equally possible that not borrowing words from other languages will force French speakers to create new French words?

What does it take to kill an entire language? My wife says, "You – writing it to death." Dead languages are languages such as Latin which are no longer spoken by a civilization. Dead languages are displaced by other languages, such as by being conquered, or by enculturation by more dominant or pervasive cultures.

The language of the first civilization that recorded things in writing, Sumer, was unknown in the 19<sup>th</sup> and early 20<sup>th</sup> Centuries. It was as if this very influential civilization had never existed. The language of Sumer was dead before the time of

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Christ,<sup>3</sup> its language displaced by other Middle Eastern languages, and only through archeology has this great early civilization become known.

The great Roman Empire spoke Latin, as did the Catholic Church, but there is only a residue of Latin in the languages of today.

If a language can't grow with its people, then does it serve those people? Is it still capable of presenting new ideas, stimulating imagination, and opening new worlds of ideas? Interesting question. When we create a symbol for organizing experience, we speak our world into existence, affecting our approach to the world, and creating new understandings.

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<sup>3</sup> Sumerian literature was written on clay tablets. Scholars believe that priests who could speak and read Emegir, the language of Ancient Sumer, still existed in Babylon at the time of Christ. Shortly thereafter even this ceased, and the language and civilization were forgotten. More information on the Sumerians can be found in, *The Sumerians, Their History, Culture, and Character*, by Samuel Noah Kramer.

## Your Language Is from What World?

**S**ome people can speak all night without anyone understanding a word, and the dictionary is no help, adding another dimension to the Alice In Wonderland experience.



## 5 It's Not Easy Feeling Green

- A. Frog

I interviewed a frog in a bog,  
one perched on a log in the fog,  
he replied like an og on a nog,  
with a belch like a dog drinking grog,  
"It's not easy feeling green."

- Dorian Scott Cole

I didn't know what some of the strange words in this poem meant. I probably won't remember tomorrow. This chapter is about strange words. Not about these strange words in particular, but about other strange words, such as *periwinkle*.

I opened my bedroom closet one spring and pulled all of my summer clothes to the front. All of my shirts were green. Do I see a pattern here? Would people wonder if I ever changed clothes. I wondered, if I left them on the hangers for a while, would they ripen?

One of the most difficult tasks in speaking in public is speaking to a group of women. They notice what you wear. A few years ago I traveled to Denver to speak to the local chapter of Women In Film. The nice woman who picked me up at the airport immediately said, "You're wearing a periwinkle." I cowered in the corner of the car, feeling green. I had no idea what a periwinkle was, or what sin I had committed. Either they wouldn't let me speak, or I would have to change clothes first.

Finally I worked up the courage to ask someone. "What is a periwinkle?" I looked straight ahead as she responded - I didn't

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want to receive that "boy, are you ever dumb" look. "It's a color that changes color when you're in different light," she replied. I'm a guy. If the colors don't make me puke, then they're probably OK. More in-depth judgments than this, I leave to my wife. I don't check myself under fluorescent lights, and then under incandescent to see if my aqua becomes blue or green. I just... lean toward green.

It isn't easy feeling green - you might become a chameleon, or camouflaged, or a periwinkle. Like invisible blue, you might get in front of a camera wearing green and find out that you blend into the green forest background. Could happen to a frog.

Thinking about this later, I wasn't certain if this person's definition was correct, and where the word came from. So just what is a periwinkle?

According to *The American Heritage Dictionary*:

Any of several small, often edible marine snails, especially of the genus *Littorina*, having thick, cone-shaped, whorled shells. 2. The shell of any of the periwinkles. [Middle English \*periwinkle, probably alteration (influenced by pervinkle, periwinkle (plant)). See periwinkle2, of Old English *pinewincle* : Latin *pīna*, mussel (from Greek *pinê*) + Old English -wincel, snail shell.]

*The American Heritage® Dictionary of the English Language*, Third Edition copyright © 1992 by Houghton Mifflin Company. Electronic version licensed from INSO Corporation. All rights reserved.

A whorled shell? Probably not, because the periwinkle snail shells are single color.

I turned to definition 2:

Any of several shrubby, trailing, evergreen plants of the genus *Vinca*, especially *V. minor*, having glossy, dark green, opposite leaves and flowers with a blue, funnel-shaped corolla. Also called myrtle. 2. Any of several erect herbs of the genus *Catharanthus*, especially *C. roseus*, having flowers with a rose-pink or white salverform corolla and a closed throat. [Middle English pervinkle, diminutive of pervinke, from Old English *pervince*, from Latin (*vinca*) *pervinca*, from *pervincire*, to wind about.]

Dark green and blue leaves? The dictionary describes plants that can be any of several different colors. But this doesn't seem to me to get to the heart of this use of the word periwinkle. I checked my infamous shirt - the one I wore that

day. It was green. It not only changes color in different lights, it also has splotches of gray-green peppered through it.

Why would someone use the word periwinkle to describe a shirt that changes color, depending on the light? I checked *Encyclopedia Americana*. Periwinkles have opposite leaves. Does this mean that the shade on the underside is different from the top? Another possibility, one of the several varieties of periwinkle plants has a variegated leaf. Yes, my shirt is kind of variegated with the gray-green colors peppered over the green.

I checked with *Encyclopedia Britannica* - I learned that one species of periwinkle produces an effective cancer fighting agent (for leukemia), and that a virus can attack the periwinkle plant and turn the petals a greenish color. Was this color change the meaning that the person intended?

I could try to find a dictionary for the fabric industry. Where would I find one? My fabric-oriented wife says, "Periwinkle blue is a common term." This could get very involved. I balked at searching further - I would not visit the horticulture environs of the local university - I have visited horticulture research labs hundreds of times and still don't know a thing about plants.

So I don't know what gave birth to the word. The word periwinkle could reflect many different aspects of the periwinkle plant. I will just continue to wear periwinkles and figure that I can get by with it. I probably won't even know I am wearing one - guys can usually be forgiven this.

This slightly humorous story is one illustration of the way our words evolve and take on new meanings in our world. We borrow or create new words to express something about our world, such as a different way of thinking, a new idea, a new meaning, a new use, a new pattern in our environment...

Sometimes the new word is limited to our own inner circle, such as the fabric or fashion industry. We know what we mean by the word, and after it becomes familiar to us, we think everyone knows. But do they?

Sometimes the word does go "prime-time," and goes into widespread use. (The word *prime-time* is itself another example of an evolving word.) Others pick up the new word and give it a modified meaning that works for them. For a long time, probably none of us know what a new word really means.

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Eventually prime-time new words lodge in the dictionary and acquire usage definitions. Often the process works well, but sometimes the process just leaves us clueless.

- Clueless in fashion

## Can't We All just Speak in Categories?

If we just knew what category a word was in, we could understand. Context helps determine category. On the other hand, usage hinders categorization.



## 6 Context, Usage, and Categorization

### **Context**

Context is the way in which a word is conceptualized within a sentence – not by the listener, and not necessarily by the speaker, but by the words that accompany a word. Other words create the “setting” in which a word is used, and the setting imposes meaning on a word. For example, the following sentences impose very different meanings on the word *moon*:

“The *moon* shone brilliantly over the horizon.”

“Johnny will *moon* everyone at the end of the show.”

Just as the speaker may conceptualize a word one way and the hearer another, the sentence itself imposes a concept on the word.

### **Usage**

Word usage not only determines how a word becomes defined in the dictionary, usage is a continuum that continually migrates word meanings to altered and new meanings through misuse (misperceptions of meaning) and metaphor. Everyone who uses a word may not understand the word in the same way. Jump into any conversation and ask for a definition of a word recently used, and you will get multiple meanings.

For example, if everyone on the East Coast uses the word *logoplastycism* to mean, “to take words and combine them into one new word,” and people on the West Coast hear the word without a definition and come to believe it means, “to extract individual letters into a new word,” then the word has gained a

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new definition through misperception and usage. If people in the Midwest begin thinking of logoplastycism as an eloquent game, using the word metaphorically to mean in an abstract sense, “Origami with words,” and then they use it repeatedly in that way, as a result through metaphor and usage the word acquires yet another definition.

Words also migrate into other areas. For example, as science and technology present us with new things, everyday words begin to describe these new things. For example, the word *window* now describes a *window* on your computer – that is, the visual display of an application.

So while a word may acquire a definition, the word is not static. It is a living thing which grows with the experience of a culture. It participates in the culture’s experience as a vehicle for meaning. It not only transfers the original meaning from person to person through usage based on experience, it is the basis for metaphors for new abstract meaning to describe new experience, and is the basis for meaning migration to describe new things through experience that is familiar (patterns).

### ***Categorization***

Have you ever had trouble finding your reading glasses, and then realize you misplaced them on top of your head? If you think it is difficult to find misplaced glasses, try finding *glasses* in the Yellow Pages. You won’t find them under *glasses*. Look up *eye glasses* and you only get a referent to *optical goods*. *Optical goods* lists all kinds of places where you can get glasses, contacts, and eye exams. But if you are actually wanting an eye exam, you may be misled by the limited number of entries in this section.

If you look up *optometrist* because you want an eye exam, you will find many entries, but *not* be referred to *optical goods*, even though both categories cover roughly the same territory. It is often faster to call 411 than to stumble through the sometimes perplexing way in which the Yellow Pages creators have chosen to categorize things.

Because people classify things according to their experience, categorization fails as a way to create common categories by which people can find things. At best categorization is done by “logic” or by tabulating popular choices which in turn are

individually dictated by experiences that are common to many. Regardless of which category you put something in, many people won't be able to find it. Their experience – their way of thinking – is different. Radio means “entertaining music” to one while to another it means “electronic equipment and electromagnetic waves.”

The problem with classification is demonstrated very well in computer help-file design. Computer help files, whether printed or online, are supposed to provide a usable source of information about programs. When users search through the contents, they should be able to find the information they need quickly. But tables of contents are often created for leading people through a step by step introductory approach. Is this what the user wants or is it the experts perception of what the TOC should do?

When a program user arrives at the contents with a technical question, the table may have several classifications that are candidates for providing answers, with no clear indication which is the right one. If a user can't quickly find the information, he gets frustrated, and the help-file becomes a tool of torture which makes him dissatisfied with the application.

Indexes are more helpful, but present the problem of endless lists, and even indexes require some classification. The Find function is more helpful, but even this often lists relevant and irrelevant topics together, and sometimes under multiple obscure classifications.

Context sensitive help is even more helpful, since it relates directly to the task at hand, but it often doesn't give an overview so that the user can understand what he needs to do. And context sensitive help may not be available at the time the question arises. For example if the user needs to change a setting to make the program work properly, but has no idea where to go to do that, context sensitive help is no help.

Add to these the problem that help files are written by those with expert experience for those with minimal experience. Those with minimal experience can only guess at what the experts know and how they classify things. To make it all even more vexing, everyone has a different favored route to finding

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information in a help file: contents, index, find. There is no *right* place for everyone.

The enormity of the problem with finding information is demonstrated by the Internet. Internet search engines scan all available Web pages for information and record referential information within their systems. When a visitor searches on a word or words, the search engine quickly looks at its own references and provides those millions of possible referents to Web pages, ordered by what the search engine believes is the most relevant.

For the search engine, *radio* means every reference to radio - it has no idea whether you mean electromagnetic waves or entertainment. Even if you search for the pair of words *radio waves*, it doesn't know if you mean a rock group, a cultural symbol, or an electromagnetic disturbance.

The search engine doesn't know a number of things that it should know, about the user's word meaning and classification, to be effective at doing the search. It doesn't have a category in which to limit the search, or a word definition, nor does it know the context in which the word is being used, or the context of the referent Web pages.

Just as importantly, the search engine doesn't have a brain packed with experience. Artificial intelligence currently can infer relevance from word associations (a surface reflection of context) and even word prevalence, but it can't infer relevance from experience. Because of this, natural language query applications often give bizarre results that make them look inept and useless. With the amount of information on the Internet doubling every couple of years, the problem is growing rapidly.

What might work, however, is relevance engines that create "ontologies" that show relationships between words. In a sense, this classifies words – not by human categorization, but independently of individual differences and in such a way that the word is located through its relationships with other words. How these word relationships are defined, and I believe the ultimate success of the system, depends on the theoretical approach used as a basis for the system. Language relationships and experiential relationships may be different things.

The next evolution in search technology could involve asking for a category of experience to indicate word meaning, however this would require that search indexes of collected material also be categorized by categories of experience. <sup>1</sup>

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<sup>1</sup>More on classification: [Creating Classifications and Concepts](#), by D. Scott Cole



## The Universe Is Flat

**T**he ancients were right about this, too.



## 7 Words Can Poison You

It has long been widely understood that perception rules the universe. For example, long ago people perceived that the earth was flat. The idea that one might reach a distant land in a shorter time by sailing in the opposite direction, around the globe, was unthinkable and postponed the discovery of many new lands.

Sailors ventured into the vast ocean with fear, growing more cynical and fearful as their supplies diminished and day after day all that could be seen was more water. One risked falling off the edge of the world, and the threat of mutiny grew stronger as imagination fueled terror with each passing day. Perception ruled, and perception had nothing to do with reality.

So, the *universe* is *flat*. Any why not, perception rules, and perhaps the appearance of the universe is only a matter of perception. What do we know? we have never been "out there." No space ship has ever sailed around the universe.

Just as the perception that the earth is flat prevented the discovery of new lands, perception affects our daily lives, and even affects our words. Perception affects how we speak and what we believe our words to mean.

While today we know that the earth isn't flat, perception still easily misdirects us. Perception is frequently used by others to control us or prevent us from discovering the truth. For example, once I called a benefits group to ask about a long delinquent benefit reimbursement. I got a recording: "Due to an unusually heavy volume of claims..." In other words, half the department is on vacation and they really don't care if I get reimbursed. My situation is irrelevant to them, but I'm supposed

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to believe that suddenly half the world is sick and they are working miserably hard to meet my needs... late.

I called another division of the same company to ask about another check which they were supposed to send. I really don't need my money for anything, I just like to spend my time calling them. The week before, a person had pleasantly informed me that she would "expedite" it for me. That person was no longer there. Another cheerful voice told me what I wanted to hear.

I know responsibility and customer service when I see it, and this is a direct miss. Of course I realize from long experience with this benefits company that they just don't care, but they desperately wish me to have the perception that they do care and they work very hard at creating this misperception.

Misperception has been a natural fit for the Internet. I once sent a series of six e-mail messages to one dot-com domain company trying to straighten out a small problem. I received either a precomposed response or a "we're looking into it" response each time, which was brilliant testimony to the fact that they neither cared nor were even trying. A year later I went through the same thing on the same problem with the same result. I gave up and later changed registrants. Customer service with dot-coms does not yet compete with brick and mortar businesses. They have currently deluded themselves with the misperception that an Internet based business carries no overhead.

Of course the "brick and mortar" businesses started this trail of lies, and bureaucracies have refined it to an art form. My daughter sent to her birth state for a new birth certificate. Her first attempt was mailing a form that she got over the Internet, for speed. They forgot to mention (or she didn't notice) that the request required accompanying identification, so within a few weeks they sent it back, unprocessed. I would mention the specific state, but my "perception" is that they would permanently lose the birth certificate.

Once an organization reaches the critical mass of a bureaucracy it gains a new mission. This new mission is perceived as "To perpetuate its own existence." This too is a misperception. The real new mission is "To perpetuate its existence as an entity that does nothing except bungle." It

perpetuates its existence by covering things up. If it gets caught, it intimidates.

My daughter's next step was to send the request by overnight mail and she placed a postage paid overnight envelope within so they could send it right back. Her perception was that they would recognize the envelopes, the original form, understand the urgency, and expedite the processing. Wrong. She assumed that the people in a bureaucracy care enough to do a job properly and that government agencies exist to provide a responsible service. Where did we ever get such misperceptions?

Perception is as perception does. For example, consider the national shortage of spoons. Perhaps it is an international shortage - I haven't been out of the country for a while so I haven't studied this in international scope. But even mentioning it creates a perception that it is an international reality, and provides greater credibility to it as a national problem. Why is there a national shortage of spoons?

I began to realize when my children were young that there was something going on with spoons. One day we had a full set of spoons in the utensil tray. Over the next year or two, we realized that there was a spoon shortage. My perception was that we had a full set at one time. We habitually don't throw spoons away. Yet month after month, spoons slowly but steadily disappeared, never to be seen again.

I comforted myself with the possibility that perhaps the spoons were going the way of the pens and combs that my children lost by the truckloads. I have written an article about this notorious problem (it's in a later chapter). Even more likely, the spoons had taken up residence with the disappearing socks - those that go into the washing machine in pairs and come out divorced, never to be loved again.

I even considered that perhaps my own children were taking the spoons into the yard to dig, leaving them there in their carelessness, or even hiding evidential spoons inside the living room couch along with the dirty bowls. But I finally turned a blind eye to these two theories. I would not want to think my own children capable of such things.

When I noticed spoons were missing at many restaurants, I put 2 and 3 together and realized that spoons were the object of a

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conspiracy. Imagine this scenario: My wife and I would sit down and order coffee. The waitress would dutifully bring the coffee, and before she could disappear we would blurt out, "We need cream," and she would disappear for ten minutes, and then we would realize - dupes that we are - that we had been distracted by the cream which prevented us from noticing that there were no eating utensils.

After the waitress breezed by, efficiently dropping off the creamer without missing a step, we would then patiently watch for her to look our direction again so we could place our order for utensils. Begrudgingly she would deliver them as she passed by with her next order. We would smile politely, knowing that the hard working person was doing her best serving pancakes to kids, and we would gratefully unroll our utensils from the napkin. No spoon. This happened so often that it became predictable. I can't tell you how often, after fifteen minutes of waiting for a spoon, I stirred my coffee with the end of a fork.

I was soon into creating theories for the national spoon shortage:

College students steal them, along with salt shakers, for their dorm rooms. This theory presupposes that college students don't need knives and forks, so leave us short on only spoons.

People dangle spoons from their sticky nose as table tricks, and then forget they are on their nose and walk out with them. I have been watching the exit for evidence.

Many follow President George H. W. Bush's example and swallow spoons to make a political fashion statement: a neck bulge on each side. I've been watching for Republicans who resemble Frankenstein. I can't tell the Democrats from the Republicans.

Programmers and writers, who often eat at their computers, are in desperate need of spoons - they could starve - and they absentmindedly leave with them, their minds permanently transfixed by computer code or prose scrolling before their eyes. I've been monitoring myself.

It's a Uri Geller psychic spoon bending demonstration going out of control.

It's a marketing ploy by fast dissolving sweetener manufacturers who want us to abandon sugar and therefore lose the need for spoons. Listen, manufacturers, I'm already into artificial.

Eating utensil manufacturers want us to purchase more utensils and their sales people sneak spoons out during sales visits. Watch for "We sell in sets only," as evidence.

Soon I had more theories than spoons. If you are still interested, following are a few more.

"Clean up your plate!" is permanently inscribed on the inside eyelids of most of us. Having heard that people are starving in far off Uagabanda, people are cleaning their plates by sending take-home boxes to them, spoon and all.

The food health fanatics want us to quit drinking coffee. Studies show that after four cups you are in danger, so they go around stealing spoons thinking that they are doing us a favor.

Too many people linger over their deserts so the spoons don't make it to the washer in time to be recycled.

Pancake syrup in this pancake house is spread from door to door by sloppy kids, and kids are walking out with spoons stuck to their clothes.

Asians are taking over and we will soon be eating our soup with chopsticks.

Efficiency experts are running the store - self explanatory.

I can never prove any of these theories, but I know - my perception is - that there is a conspiracy.

I also know that whoever is behind the spoon conspiracy also causes the pronunciation of certain words to change. As I look back now, I see the dawning of this conspiracy when suddenly the words "strength" and "length" had their "g" stolen from them to become "strenth" and "lenth." Soon this pronunciation was fashionable. I haven't purchased a new tie in twelve years - you see how well I follow fashion, so you can guess how I pronounce these words.

When "ng" occurs in a word, it is pronounced at the back of the throat. Say these words: young, tongue. Now say this:

stre• ng• th.

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See, it can be done. Now, my personal theory is that this conspiracy came from one of four sources:

1. Speech pathologists gave up trying to ever make this complicated pronunciation, and stole the g. For them I have created a tongue twister: "Terribly tortured tongue twisters teach tantalizing tidbits." Notice the complete absence of the word "length," and anything else useful.
2. Elementary school teachers banded together and threw the g out.
3. Computer makers felt that speech recognition programs would have a monster headache with "ngth."
4. Some unknown-to-me but influential person said "strenth" and people followed without consulting me. For some reason neglecting my sage opinion is an ongoing problem.

Now everyone perceives that the fashionable pronunciation is correct and if they don't pronounce these words the fashionable way then are demonstrating their ignorance. Not so. Twenty years ago "strenth" wasn't even in the dictionary. It has only made its way to a third acceptable pronunciation. Perception? Think conspiracy... the perception will do wonders for your imagination.

Word meanings do run aground, crash and burn, even when people steer with the best of intentions. Take for example the word "secreted." At this point you probably don't know exactly which word I mean. This word has two pronunciations and two meanings.

One meaning comes from the word secret, which means hidden or discreet. A person might be "secreted" away in the middle of the night. Secret(ed).

The other meaning of the word "secreted" comes from the word "secrete" which means that something more or less oozes out of something else. Flowers secrete nectar. Oil glands secrete oil to lubricate the skin. Thus, oil is "secreted" from a gland. Secrete(d).

Now, imagine my surprise when a person in the Witness Protection Program described being secrete(d) into a van by the US Marshall's Service. I wonder if that hurts - being oozed

into a van. Gives uzzi a whole new meaning. "You want to get an uzzi! You want to be secrete(d) into a van?" Good reason not to do anything to get yourself into the Witness Protection Program. Ouch.

I, too, am sometimes fooled by perceptions. I have used the phrase "niche market" for years. I was blithely pronouncing it "nich," undoubtedly having learned the pronunciation by osmosis from the fools with whom I associate. But then I happened upon some enlightened person who pronounced it "neesh." Soooo, I perceived, this word must be of foreign origin and I have been pronouncing it erroneously. Over the next few days I intelligently pronounced it "neesh," to as many people as would listen. But as the days progressed I had this nagging feeling that something wasn't quite right. So I looked up the word in the dictionary:

"Nich," it spoke.

Aargh! Poisoned again.

The universe is indeed flat. It is simply a matter of perception. For example, consider an image on a piece of paper. Shadows and size give the image a perception of dimensions, but the paper is actually flat and ink has no depth. Spiral galaxies appear to be flat when viewed on their edge. Perhaps when viewed from a great distance, we can see that the universe is flat as a pancake. At this point it really makes no difference whether it is or it isn't, it is our perception, not truth, that we have to live with. Spread the poison.



## The World Is Contained In a Word

**E**very word is an experience.



## 8 Experiential Theory of Words

One of the important ideas behind how we create, understand, and use words has to do with the extensibility of word definitions. Extensibility means the ability to add to, or extend something – in this case, extend the meaning of a word. Lack of extensibility can limit our ability to think and comprehend ideas, and can limit intellectual growth. But extensibility in natural language limits the ability of a computer program (artificial intelligence) to pick up on variations of meaning.

For example, if meaning is considered “inherent” within a word, then there is a structural problem that prevents extensibility and growth. Since the most abstract word could only be a compilation of previously defined words, then we could not create a word that had any more meaning than what is contained in other words. This is a “closed” system. It doesn’t permit the inclusion of new ideas. It perhaps reflects a closed system of thinking in which everything is thought to be already known. Meaning isn’t inherent in a word.

Patterns are the currency of communications, and in verbal communication patterns usually take the form of words." There is a common language (a small set of words with specific meanings) that we use in daily communication, that we all basically understand in the same way, and for which the historical meanings and variations within individuals is not significant.

Definition, as perceived by some, brings the elements into a "closed" system of thought. Once defined, nothing can be added or subtracted from the definition. These are the words and definitions that we are taught in elementary school, and

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without these words that describe experience, we would be unable to communicate.

But for other words, I think we are much better off "describing" experience. Descriptions are open systems of thought that permit us to continue understanding the various experience elements within a word or pattern. Definitions, on the other hand, seem to me almost like a modernist quest - a quest for ultimate answers that wants to make all things irrefutably knowable. This quest overlooks the fluid nature of the human condition. The dictionary supposedly provides "reportative" definitions. These definitions report how we actually use words.

A closed system of words with inherent meanings doesn't reflect how we actually use words. While dictionary definitions do add some stability to our system so that we can communicate effectively, words do acquire different meanings that typically reflect part of the original meaning, and we do create new words that reflect either a new experience or a new perspective on experience.

Every experience an individual has is "localized" in that the interpretation of that experience is dependent on other experiences the person has had. So every experience is interpreted somewhat differently by every individual. Repeated experiences, which I call patterns, I believe become prominent enough that they are recognizable to the individual and sometimes a symbol is assigned to the pattern. A word is just one symbol that can be applied.

The definition of a word (which may begin as a description of the experience) helps other people to look for those same experiences within their own range of experience. When the person receiving the new word and definition looks at his own experience, he sees patterns that concur with the description. The receiving person then has a similar basis for using the word, but his understanding is localized, meaning that it is subject to that person's interpretation and experience.

What this means then is that no word has a truly inherent meaning, even if it is defined. The meaning of a word is localized within each person, so every word has multiple meanings. When a person employs a word to communicate,

his meaning is slightly different than the meaning for the person who hears the word.

This not only has implications for how we communicate, it has implications for computer systems that work with words and their meanings. The implications for a computer system is that systems that depend on rigid classifications of words are unable to grow with the language and the migrating meanings of words. In highly "localized" systems with narrow uses, such as for a technology, this would be less of a problem. In larger systems, such as the Internet, and those with which information is largely unstructured (unidentified through rigid categorization or tagging), this could be a major problem.

As is already demonstrated by natural language query systems and other systems that try to understand a person's meaning of a word, it is very difficult for an Artificial Intelligence (AI) system to cope with the meaning flexibility that people commonly use.

About the best that can be achieved is an interactive system that returns results from multiple categories. And for a system like Ask Jeeves, there are few cues that the user provides either implicitly or explicitly. The chances of improving on systems like Ask Jeeves that provide no sense of context through localization, and which are extremely broad in range, looks remote.

There is a clear need to be able to search and understand information that is either unclassified or that fits into multiple categories. What could potentially improve this type of result is the use of ontologies that are based on the experience behind the word rather than definitions.

One solution that is used effectively is to use pairs of words. This is done when creating the meta-tags for Internet HTML pages, which are unseen by the viewer of the page. This identifies the page more explicitly for search engines, and word pairs are much more explicit about meaning than a single word. The odds of making a relevant match increase dramatically.

AI programs appear to be caught between two difficult points. In simple queries, the program has to guess at a word meaning - a task that is impossible even for humans. But in complex text the program has to do major processing to understand text.

### *What's In A Word?*

Computers can't understand text in the same way that humans can. Both methods inherently lead to incorrect interpretations of the meaning that the person had in mind. AI is actually being asked to go beyond what people are able to do.

One simple method of improving search results requires a minimum of processing. Results are simply categorized according to predetermined "word meaning" frequency categories, with results for the most common meanings and usages placed in a primary category listing, and results for specialized meanings placed in another listing from which the user could choose. The user would then be able to choose from the categories. Some search engines, such as Ask Jeeves, already do this.

Another way to improve results is to provide for small variations in word meaning so that as words change meaning or are used differently, allowances are automatically made.

How would this type of experience ontology be constructed? A clue is found in the definitions of words that define a word, and then the succeeding definitions.

I broke down a word through its definitions to see where they would lead - to more complex words (experiences), or to simpler words (experiences). I chose the word "beauty." There was nothing rigorous (or scientific) about my exploration. I thought I saw the pattern of each word in the explanation being further defined in other explanations by simpler terms, with words often repeating, themes often repeating, indicating that experience may indeed be composed of other more basic experiences. This little example doesn't really demonstrate anything, but it is an intriguing indicator to look more deeply.

Beauty: A delightful quality associated with harmony of form or color, excellence of craftsmanship, truthfulness, originality, or another property.<sup>1</sup>

Succeeding definitions of some of the words used to define beauty:

***Delightful*** - greatly pleasing

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<sup>1</sup> *The American Heritage® Dictionary of the English Language, Third Edition* copyright © 1992 by Houghton Mifflin Company. Electronic version licensed from INSO Corporation. All rights reserved.

Pleasing - to give enjoyment, **pleasure**, or satisfaction to; to make glad or contented.

Enjoyment - the act or state of enjoyment. **Pleasure**.

Pleasure - the state of being **pleased** or gratified.

Gratified - to **please** or satisfy.

Satisfy - to **gratify** need, desire, or expectation.

Need - a lack of something required or **desirable**.

Desire - to wish or **long for** or want.

Expectation - act of expecting; **eager** anticipation

**Quality** - an inherent or distinguishing characteristic

Characteristic - a distinguishing feature

**Harmony - Agreement** in feeling or opinion

Agreement - the act of agreeing

**Form** - The shape and structure of an object

Shape - Characteristic surface configuration

Characteristic -

Configuration - **Arrangement** of parts or elements

Arrangement - the act or process of arranging

Part - portion, division, piece

Object - something perceptible by one or more of the senses.

Many of these words that defined beauty hailed back to the basic "satisfying of longing and desire as a pleasing experience." (Define desire in any way you wish. Wish? I'm on dangerous ground here.)

We can relate to the desirability of each of these conditions because we have experienced them. We have experienced harmony and know how desirable agreement is to us. We have experienced a variety of pleasing forms, and know how desirable, and therefore beautiful, certain forms are. But what about computers? Can computers understand, or appreciate in some way, that beauty is a desirable quality?

## ***Computer Relationship Systems***

Relationship systems indicate what kind of connection there is between words. For example, words that have similar classifications can have this relationship indicated. I have

### *What's In A Word?*

mentioned two ways of indicating relationships: context and experience. Context is established by the words that surround a word. Experience, in a computer sense, is possibly indicated by words that define a word, and the words that define those words.

There are a number of ways in which relationships are already shown. For example, words that commonly occur together, indicating context, are lumped into clusters. When a search is performed on a word, if the word is found with a group of words, results that include these other words can be returned higher in the list of results, indicating probability.

There are other common ways of indicating relationships. The WordNet lexical database contains the hierarchically ordered semantic relationships between words. It indicates if words (especially nouns and verbs) are part of a higher class (hypernym) or a lower rank or class (hyponym).

For example, if you do a search in WordNet on the word "history," it returns five senses of the word. If you click "coordinated terms" you see a number of words that belong to the same hypernym.

The near hypernyms and hyponyms can form a cluster of words that have similar meanings.

Classifying words through this type of semantic mapping can be a key to getting a *sense* of what a word means, and in being able to find similar words by using other words that are in the same category.

What this type of semantic mapping doesn't provide is a sense of experience. In other words, what other more basic words could be used to make up this word?

### **Knowledge VS Experience**

Getting a handle on experience will be difficult for artificial intelligence. Basing semantic relationships on experience is not the same as having experience. Relationships between words can indicate experience, but they are signs, not symbols, not participating in experience. To a computer they are simply signs that are based on experience. This is knowledge, not experience.

Computers are very limited in what they can understand, compared to humans. While computers can play chess quite well, they are very poor at doing other things. Despite the rapid advances in computer capability, Artificial intelligence has so far only managed to show us that computers have a very long way to go to match what humans easily do. For example, it takes several computers operating simultaneously to recognize a that an object is a person, follow his travel, and mimick the person's movement through a robot.

Computers don't have an experiential understanding of words or of life. They can know that candy is defined by the word sweet, but they can't understand what sweet is, and they can't have the experience of eating candy to know what sweet is. Even if they could have a pleasure program that equates sweet with good, they still can't have the experience of eating candy and all of the memories and associations that eating entails. Computers can have knowledge, but not experience.

Computers also don't make value judgments. Computers can hold all of the information in an encyclopedia, but they can't understand it or know why it is good to know. Computers can be fed information about experience, but they can't know why it is desirable to have it. A computer doesn't understand volition – it doesn't know the compelling reason why someone might do something. The best a computer can do is know the relationships between words. It is the difference between knowledge and experience.

Knowledge is knowing that *logoplastycism* means, “the theory of molding new words with surgical precision.” A computer could very efficiently take the alphabet and create all of the possible combinations of letters, but to what end?

Experience is knowing that *logoplastycism* ultimately means to take other words and form them into a new word, and know the problems one runs into when doing that, and precautions that should be taken, and that a person would only do this for some purpose, such as entertainment or to find a new word to name some new thing, and to have emotions, and other experiences associated with this experience.

The semantic relationship is not defined by the words or with the words. Relationships are defined externally by the program. The external identifier defines what the connection means. Like

### *What's In A Word?*

a series of Interstate highways crisscrossing the nation to connect major cities from any location, the computer defines what the link between words means, that is, how it is associated.

A computer can know a relationship, can know a description of experience, can have signs that point to experience, but it lacks the actual experience. The best the computer can have is words about experience – that is, knowledge. Unlike people, who can absorb knowledge and often relate new knowledge to some experience they already know, a computer can't even do that.

Here is an interesting question that takes all of this to extreme: Can an animated character become human? The virtual character can have all of the moves and responses of a human. The character can even respond to pain and the threat of death. In fact, the character could have the experience and brain power of a hundred or more human beings behind it. It could be active 24/7 through a network, and could become alive in the hearts, minds, and activities of people. But does this make the image human?

### Excursus I

**E**xcursus means a side excursion into a rain puddle. Some people like rain puddles – they present a pleasant diversion. After wading through the sticky mud of the last chapter, you

can refresh yourself here. Take off your shoes and socks, roll up your pant legs, and wade in for the fun of it. Stomp around, have some fun. Every book should have a rain puddle. This rain puddle is about things that parents can't have.

If you doubt my definition of *excursus*, look it up. It's Latin, but it is in the English dictionary. Well, maybe "rain puddle" isn't in the definition.



Excursis I

## **Excursus I: Things Parents Can't Have**

"I wish I could have a pencil," I grumbled to my wife, the usual recipient of my complaints. She either ignores me or takes it personally - I suffer for it either way. I was working in my study and quickly needed to write something down. As usual three automatic pencils, a couple of lead pencils and two pens were nowhere to be found. And my kids are raised now - technically I am no longer supporting them. Ha!

From the day the kids arrived in this world I have noticed a steadily growing number of things that parents can't have. It's as if kids were given this mission at birth: "Make sure your parents don't have these items." As babies they would pull pens from my shirt pocket and drop them on the floor when I wasn't looking.

Engineers, writers - some people must have a writing implement. Ideas strike in restaurants and get written on napkins. No pen... the idea of a lifetime might get forgotten in the flurry of raising children. But with a pen in your pocket you can write it down, take it home and save it forever in a drawer, to be taken out and admired years later. People ask me, "Got a pen?" I smile and pull one from my pants pocket, saying, "Sure, I'm a writer, I always have a pen." I learned years ago to put them in my pants pocket so the babies didn't get them, and so I didn't look like a nerd.

Occasionally a pen ruptures and my slacks turn black - I always use black ink - but what's a couple pairs of slacks compared to the drawer of engineering and story ideas I have saved. If I ever have the time, I can create a computer storage device with 100 times the memory capacity of current disks, or a vehicle with completely internal propulsion (despite laws of

### *What's In A Word?*

physics to the contrary), and I have enough story ideas to keep me busy for fifty years. Kids just don't appreciate the importance of having a pencil.

To children, pencils are just one more item in a long list of items that have no value. Pencils are totally expendable and infinitely replaceable. They just lay them down when they are done with them and immediately forget where they are. Who has all the world's pencils? The janitors at the schools.

I have long marveled at the stories of other people who as children were not allowed into their Father's study. They viewed his desk and the items on it with reverence. They didn't dare touch anything or leave an item out of place. If they ever were so bold as to enter his sanctum and climb into his chair, they surveyed the desk-top in awe, and froze in fear when his shadow loomed through the door.

My three animaniacs held nothing sacred. If Daddy stormed around the house wailing that he couldn't find anything to write with and couldn't get his work done, and it was all their fault because they never put anything back, and they were going to forever lose the privilege of even entering his study, they just looked at him as if to say, "Are you mentally impaired? Just go buy some more, you idiot." And then they would disappear so they could giggle in private and devise their next plan to irritate some fool who thought the world should be a peaceful and orderly place.

When I was a child - here we go again - a comb, a pen, nail clippers - these were things you held onto. I had them for years, and was very upset when my nail clippers managed to escape my pocket, or my comb broke. I purchased combs made of soft plastic instead of brittle plastic so they wouldn't break. I knew if I lost any of these, the family fortune would have to be spent to buy another.

I tried to instill this same sense of conservatism and value in my children. I failed miserably! After my children viewed their friends way of life, they were dead set against learning anything so nonsensical.

I have used the same hair brush for twenty-seven years. It will never wear out - it loses bristles at the same rate I lose hair. If it lasts as long as I do, I may have it put in my casket. I certainly won't will it to my son - he won't even remember to

## Excursis I

take it home with him. I can't remember the last time I had to buy a comb for myself - it has been at least a couple of years.

Combs were the ultimate frustration with children in my home. I made certain regularly that each of my children had a comb and brush. They were to stay in the bathroom, or on a dressing table, near where they would be used. The recesses of the couch, the toy box, under the seat of the car - these were not appropriate places to leave combs.

I usually bought them a spare to take to school, and placed a sack of spare combs in a closet. Usually a week after buying everyone a comb and brush set, I would open my drawer in the master bath and reach for my comb. Gone! I couldn't comb my hair, or even part my hair so I could brush it and go to work. I certainly didn't have time to search the house for my comb.

First I yelled at my wife - she needed to know I was upset - and then I would indignantly stomp out to the children's rooms where they were getting ready for school, yelling incredulously, "Who took my comb?"

Confronting each child, I soon learned that not one of them had sneaked into my bathroom and taken my comb. I don't know why I bothered to ask - this was commonplace in our home. Combs and other items were spirited away never to be seen again, by a poltergeist. Asking children "who" did something was akin to asking "why" they did something. No one ever knew "why" they did anything. It was a question without merit, a moot point - "why" wasn't the done thing. Such questions as "who" did it, and "why" did someone do it, would have led to that ultimate no-no, actually taking responsibility for their actions. Scary territory.

So I tried to borrow a comb from my kids even though I knew I would have to clean jelly off of it first. But I was also spared from that chore - all the combs were gone. My comb was gone, my wife's comb was gone, the comb in my wife's purse was gone, my spare comb in my dresser drawer was gone, and all three children's combs were gone. I checked the closet for the spares. Yep, vanished without a trace, except for the empty sack. Empty sacks never vanish, they just sit there to disguise the fact that their contents are gone.

I suspected one of the children might have done it. I questioned them each in turn. Where is your comb, M? "I

### *What's In A Word?*

loaned it to J." M was never responsible for anything. "Where is your comb, J? "I don't know." J never admitted to knowing anything - it was much safer. Where is your comb, K? "J took it to school." K could be brutally honest when someone else could be blamed.

So J was taking combs to school. I had forbidden that. J had no pockets and refused to carry a purse, which probably saved us a lot of expense replacing lost purses and all that they could hold. She sometimes remembered to take her back-pack, but she could never find her homework in it, so I knew she would not be able to locate a comb. So what was the kid going to do with a comb - hold it in her hand all day? Nah, she would lay it down and the janitor would sweep it up.

I was determined I was going to win this battle. We would have combs. I ordered a semi-truck load of combs. The truck parked in the street and we wheeled in fifty giant boxes of combs - a 500 year supply. They were all gone in a week. I realized then that I was actually a good parent - I wasn't depriving my children of combs. The school teachers couldn't look at me like I abused my children by not sending them to school with combs and turn me over to the social services people to take my children away because I had failed my parental responsibility of providing combs.

Sound in the knowledge that I was right and righteous, I continued the battle. I reread all the books on child psychology. I would motivate my children to keep their combs. I tried loving patience and support. I gave them a comb every morning, smiled at them, and reminded them to keep track of their combs. The janitors swept up a lot of combs. I tried explaining the value of combs and the rewards of responsibility, gave them object lessons, and tried to help them with their experiences of losing them. The janitor smiled and started a very profitable comb outlet. I tried going over each detail of their day, analyzing how they lost their combs, and found counter practices that would help them not lose their combs. The second semi-truck load was almost gone. The comb manufacturer was smiling.

I tried the practical approach - "Just do it!" I shouted in their ears. Of course that didn't work either. I tried threats - "If you don't bring home that comb tonight, you'll stand in the corner for an hour... you'll spend the evening in your room... you can't

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go anywhere for a week.... No candy... no TV... I'm going to kill.... "

The only thing that grew was the animaniac's amusement over Daddy's frustration. They had reviewed the books on child psychology. They didn't have to actually read them, their friends and teachers in school told them all about psychology so they would be programmed to react appropriately - especially if ever in the presence of a counselor or psychologist.

If necessary they were prepared to push this all the way to family counseling where they could assert their bargaining rights as children who were unfairly treated, as evidenced by their acting out behavior of losing millions of combs. They were finally getting back at Daddy for not taking them on trips to Europe, not spending endless hours with them instead of earning money for food and housing, not buying them \$600.00 jeans, not buying them 56" TVs for their rooms... like everyone... at least... one... of their friends had. The comb battle had become a power struggle.

I would win this battle. I threw the books on childhood away. I knew about motivation. I had studied it in depth in college. I fancied myself a good marketing person. I used motivation effectively in public relations. I successfully motivated people in remote areas to take responsibility for their territories and manage them well. I motivated people to sell who didn't want to sell. I used it in counseling. I knew how to get cooperation. If there was anything I knew, I knew motivation. And I knew this battle had only one solution. I took the last three combs in the semi-truck shipment, drilled holes in each one, looped a nice looking wire through the ends, soldered the loops closed, and bolted them to the bathroom wall.

The animaniacs looked at me like I was crazy. "Daddy, do you realize how embarrassing it is when our friends come in here and see our combs wired to the wall?" I just smiled. A month later two of the combs were still there. I had finally won a battle with the kids. Probably the only battle. Take it from me, it's the only thing that comes close to working.

My children visit me occasionally. When they do, the pencils still disappear. Any time I bring a pencil into the house, I feel the tension rise in the cosmos. I know my daughter in St. Louis

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is whispering to her husband, "We've got to go visit Dad, he has a pencil again. We'll have to stay there until we find it." But I've learned a new trick. I have hidden my pencils in the one place they never visit. The waste basket. But that's another story.

I understand now that it is all in the universal scheme of things. Children do have their mission. People need jobs, and children are a key ingredient to full employment. I never break anything, or lose anything, or wear anything out, so if people depended on me for jobs the unemployment rate would be at 75%. So children keep us all employed. Children are responsible for at least two thirds of the world's economy. They either break it, lose it, wear it out, or outgrow it, so that everything they touch has to be replaced within a few days to a few months.

The way that we "frame" our problems has everything to do with the focus of the answers that we seek. Frame all childhood problems as "obedience related," and we look for obedience answers. Frame them as a battle, and we look for war answers. Frame them as moral, and we look for moral answers. Frame them as incomplete, and we look for ways to complete. Frame them as a stimulus to the economy, and we look for economic answers. This search for answers involves our experience and our philosophy – that is, we are influenced experientially and metaphysically, which are the subjects of the previous chapter and the one that follows.

Raising children can be amusing, or it can turn into a nightmarish battle. Parenting isn't a battle, it's a joint project where parents often sacrifice 150%. I learned from my parenting experience that many things just don't have answers. I entered parenting thinking everything had an answer - you could talk with kids - reason with them - work with them - love them enough, and everything would fall into place. Nothing is further from the truth. There are no right answers. Children are like mops with the handle missing, cars with the steering wheel missing, a riddle that is still being composed, a computer program half finished, a house with no doors - they are not complete pieces of work so nothing will work properly with them. They're an unfinished story that doesn't necessarily go well and you may never see the end. That's another thing parents can't have: the end of the story.

## Excursis I

Why does Johnny do... ? Because he isn't a whole person yet. We're too eager to see a child's behavior as a reflection of the parent. We are brainwashed to think that way. Parenting is seen as a process of cloning morally perfect beings so children don't ever have to struggle through difficulties to become... Reaching for the impossible, we turn it into a struggle for control between parent and child. Battles go to extremes with bad endings - they end up with people so polarized that they can no longer function in a relationship, or they even end up in court. It isn't possible to understand an effective relationship in terms of who wins and who loses. Everyone has to win.

I think the most frustrating part of being a parent (and I suppose of being a teacher), is thinking that you are failing because you can't get children to respond the way you think they should, and everyone thinks they have the right answer: "If you would just do things my way...." No matter what you do, children are not capable of responding in the way you think they should. They aren't little adults (and the more I work with adults the more I see how unfinished we all are). We had a plaque hanging on the wall with our children's pictures that said, "Please be patient, God isn't finished with me yet."



## The Meaning of Life

As a word unpacks, I see each constructing experience becoming more and more finite. Finite experience doesn't seem to me to express "the meaning of life." Or does it? I think the term "the meaning of life" creates a bit of a misleading game... a language game.<sup>1</sup>

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<sup>1</sup>For more on "language games," and our use of words and language, see the works of Ludwig Wittgenstein, such as: Wittgenstein, Ludwig. *Philosophical Investigations*. New York: The Macmillan Company, 1965.



## 9 Metaphysical Theory of Words

If words are strongly identified with experience, and words pass on meaning structures, or ways of interpreting our life experiences from others, and words with complex meanings are defined by words with simpler meanings, can we make the leap to say that meaning in life is contained within words? Maybe so.

As a word unpacks into simpler meanings and simpler experiences, I see each constructing experience becoming more and more finite. And as words with complex definitions are employed to define words with even more complex definitions, I see words taking on considerable meaning, and opening the door to awakening others to new meaning, and to even creating meaning. For example, the word love is a word with complex meaning that probably requires a lifetime of experience to fully understand and appreciate.

If we understood all of the words in use today, would we understand the meaning of life? I think the term "the meaning of life" is a bit misleading. Is there but one meaning of life? Or is there a plurality of meanings? Can we really understand without experience? To me it is very questionable.

The writer of the Gospel of John seemed to enjoy word play. He began his book with, "In the beginning was the Word, and the Word was with God, and God was the Word." Later he says that "God is love."

God is the Word, and God is love. The "Word" is actually taken to mean both Christ, and what God reveals to mankind about God through the written word. The written word (Bible) is a compilation of books about experience. The holy books record perceptions of different aspects of man's experience with God.

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I say perceptions because no single experience fully reveals God. But all experiences are pieces of the same puzzle.

So, in a word, God is perhaps then "the" meaning of life, but finding "the" is accomplished through a multitude of meaningful experiences." In the beginning was the Word, and the Word was God... God is love - is a conundrum that is unraveled through experience.

Does the meaning of life remain forever uncapturable and inextricably plural because it is infinitely constructed? This is like the computer, only seeing the relationships between the words. We gain an understanding of the relationships through experience.

Growth is a process that includes change. I see change as a process that includes deconstruction. Deconstruction gets to the heart of a matter. Deconstruction is a process of breaking things down into the most basic units. Deconstruction might be about definition and finding more basic words. Deconstruction is not so much a process of invalidation, but a process of finding what is important and realizing how meaning relationships are built so that we can comprehend them.

Deconstruction and reconstruction form a process of renewal. I see it as a fruitful, rather than a destructive space. Deconstruction and reconstruction are the dialogue that move us forward. Religions, even fundamentalist religions, change over time. There is very little change within religions without the process of deconstruction and reconstruction – a refocusing on what is considered important. Shifts in importance come with growth. Growth comes from experience.

Is experience just a momentary alignment of elements in chaos, or are there actually consistent patterns within experience that we can recognize? It is impossible to know by simply watching relationships form in the ever changing chaos. Like knowledge and relationships are to a computer, they bring no understanding and appreciation for real meaning. Meaning is in the details.

I would not have experienced growth as an individual had I never adopted any particular view and been willing to experience life from that point of view. In fact, the "seeker of truth" direction nearly derailed me from experiencing at all -

## Chapter 9

"Why engage if it may turn out not to be real - observe from the sidelines and just keep looking for ultimate truth."

Ultimate truth is composed of millions of smaller truths that we have to prove to ourselves. I think that we have to make life hold still long enough for us to capture and interpret experience from one consistent frame of reference – some construct that may not even be fully valid. And then we adopt another construct and view from another point of view, and we understand more.

The so called "Modernist" view, as I see it, creates a problem for change and growth. By claiming, as some do, "to know absolutely," the construct can't change, can't be deconstructed, renewed - it doesn't grow, doesn't reinvent, which to me doesn't reflect the universe of constant change in which we live (or the variety that God created), or the human condition, which is one of constant change.

The "PostModernist" view also creates difficulty for growth. Some within the PostModernist persuasion hold that everything is relative, there are no absolutes, and there is no meaning. Deconstruction for them results in a pile of ashes.

It isn't a question of truth or validity. I think that the "patterns" of experience we see are valid, but are influenced by individual differences and individual interpretations of meaning. The "construct" is valid from a certain perspective, and is temporal. In other words, our interpretation of experience varies according to individual circumstance and perspective. The "truth" is proven in the details of experience.

Words carry the experiences of others to us to create meaning for us. Through our own experience we come to understand the meanings of life.

Other's knowledge passed to us without personal experience is hot air. Like a computer we can hold it as knowledge but not actually fully appreciate it. Our individual experience without knowledge passed to us by others is simply a perspective. None of us can have all of the experience in the world. Words are the mechanism for sharing the patterns of our experiences as knowledge. Knowledge without experience is an empty shell. Experience without knowledge from others is a deficiency of perspective.

*What's In A Word?*

## Let's Chat over a Cup of Coffee

**E**very word has different meanings, and sometimes over time meanings change. There are also difficulties in translation from one language to another. Additionally, every language has ways of expressing things that depend on sentence and paragraph construction outside of the word. Chat? This could be a challenge.



## 10 Interpretation

Interpretation is not an easy task. Every word that we read or hear within a sentence has to be interpreted for meaning. Every word connects to related experiences within us that give *presence* to the word's meaning. By the word *presence*, I mean *bearing*. By *bearing* I mean both "Relevant relationship or interconnection"<sup>1</sup> and "Awareness of one's position or situation relative to one's surroundings."<sup>2</sup> Actually I am trying to say something more. By *presence* I really mean a full understanding and *appreciation* of what the word means.

By *appreciation*, I don't mean to be *grateful*, I mean "To recognize the quality, significance, or magnitude of."<sup>3</sup>

Had I only used the word *presence* or *bearing* or *appreciation*, and not stopped to explain the meaning I was grasping for, readers might have glossed over the meaning of the words and

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not understood the sentence. Communicating is not an easy task, and interpretation is part of communicating.

I tend to follow Umberto Eco's feelings about interpretation in that most of the time most of us can understand what we read, and we are in constant danger of overinterpreting the author when we look too closely.<sup>4</sup>

On the other hand, I know from the way people interpret my e-mail that every word seems to get misinterpreted.

Overtly, interpretation depends on how well the author expresses himself, and how well the audience listens. I recognize that sometimes I can't speak, and sometimes people only hear half of what I say.

Those factors aside, interpretation involves a myriad of other aspects of communication.

Every word has different meanings, and sometimes over time meanings change. There are also difficulties in translation from one language to another. Additionally, every language has ways of expressing things that depend on sentence and paragraph construction outside of the word.

The Ancient Greek language, over thousands of years, was under continuous change, with words having local variations in different locales, and differences in meaning across the centuries. The meanings of words were no doubt influenced by the people's travels and trades with other languages in other cultures. In the following passage starting in the next paragraph, are examples of translation problems when one culture has many words to express variations of an idea and another culture has only one. Notice the use of the word love.

Jesus, in preparing his disciples for his farewell, said to them in John 15:9-12, "As the Father has loved me, so have I loved you. Abide in my love."

In this passage, each occurrence of the word love is translated from the word *agape*. (Pronounced ä-gä'pâ. The letters are the English transliteration, and this common word is Anglicized and in the dictionary. Note that while love may be full of awe, this word is not the English word agape. )

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<sup>4</sup> Eco, Umberto. 1992. *Interpretation and Overinterpretation*. Cambridge University Press.

## Chapter 10

The word *Love* translated from the word *agape* means “affection, benevolence, charity, brotherly love,” as opposed to *phileo* – meaning “affection, kiss, cherish, as for a mate, or even guests and things and events and approval.” *Agape* type love is non-sexual in nature, unlike the more explicit Greek word, *eros*.

The word *Phileo* was used much more like we use the word love in daily conversation, except for those who only have *eros* on their minds. *Agape* carries more the meaning of taking responsibility for other’s welfare – a genuine concern and willingness to act to preserve their welfare.

Now notice in this next sentence from that passage, the construction that gives it a new meaning:

“If you keep my commandments, you will abide in my love (translated from the word *agape*)...

This is my commandment, that you love (translated here from the word *agan*, meaning literally “very much or too much”) one another as I have loved (*agan*) you.” This last sentence presents the idea of too much, or abundance.

I don’t translate Ancient Greek. If I did, this last sentence with the word *agan* would have me working for ages. It marginally might mean love, but most likely is a semantic construction that amplifies the preceding sentence. I could pass it off as just that, were I not a person who also has some insight into the use of symbols and motifs. The interpretative plot thickens.

Words, besides being symbols, also acquire other symbolic meanings as motifs. Motifs are recurring elements that convey mood and other things. Water is one of three major symbols used for God in the Bible (wind, fire, and other ones are also used). Water brings to mind four characteristics that are commonly used in religious writings (the Bible, etc.): it cleanses, it nourishes, it brings people together<sup>5</sup> (the essential central water well in the community in a dry land was a high profile symbol), and it flows – it represents the activity of the spirit of God.

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<sup>5</sup> Cole, Dorian Scott, *The Last Prophet*, 1979. (Includes research on Biblical symbols. Used for reference only; not commercially available.)

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Notice the flow in the above Biblical passage, from individuals being in God's affection, benevolence, and charity, to individuals overflowing with love for each other. Compare this overflowing or abundance to the passage about the new temple in Ezekiel 47. Ezekiel describes a new future temple from which a stream flows. Rather than diminishing in size as water is lost, the stream is ever deepening and widening, nourishing the area with water. Similarly Christ remained consistent with this symbology, saying of those who have his spirit (his temple), "Out of their hearts will flow rivers of living water." Christ's depiction of love is "too much," or "abundance."

To understand what words mean, we have many many things to consider. Context even includes historical usage, historical changes, and the use of symbols. This is difficult enough for humans, but it would be even more difficult for a computer.

If a computer was to try to do what humans do to understand the meaning of words, it would have to do the following:

1. Understand the meaning of the word during the time period and locale in which it was written.
2. Understand how symbology alters the current meaning. Is the word really a metaphor for something else?
3. Understand the meaning of the word as determined by the context of the other words and the sentence.
4. Understand the context relative to the topic (other paragraphs, chapters, other literature in the field, and the culture).
5. Understand the perspective of the author and whether this has caused a change in meaning.
6. Understand language construction that might change the meaning. For example, do the words of the preceding paragraph interact with the word meanings in the current sentence?
7. Understand if the speaker misspoke, or the audience listened poorly.
8. Appreciate the experiential meaning of the word.

## Chapter 10

### Excursus II

**T**his rain puddle is about why categorization is such a pain to both creators and users, and what can be done about it. It is a diversion, but a bit more serious than the previous excursus.



## **Excursus II: Creating Classifications and Concepts**

Literature, cognitive psychology

### **How purpose affects the categorization of material**

- Introduction
- Applicable research on categorization and concepts
- Summary of problems
- Improving searchability
- Conceptualizing information
- Bibliography

### **Introduction**

This article came about because readers tend to use the index instead of TOCs in hypertext documents (online, online help, web, and also in printed books), but indices are not a very good way to list information in online help, or in a book. I perceived this as a classification problem. This led me to think that we writers need to find better techniques for classifying information, possibly using concepts to provide the proper focus.

The big question for HTML (especially HTML help) is what would be the best thing to put in the left panel that would work well for locating (and of course navigating to) information? Loosely, that's indexing - but obviously not an "index." A TOC is one way to index information. Other ways include icons, page headings, putting material in alphabetical order (dictionary and encyclopedia), lists of tables or illustrations, chapter contents, thumb tabs, and creating an index at the end.

We have a lot of conventions in the book world for "indexing" information. Those conventions work for the medium. Dictionaries, encyclopedias, and telephone books are much

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easier to use by being indexed alphabetically - a TOC is not useful for the main information in these books.

Hypertext has created other ways of indexing information, such as expanding hierarchies, dynamic links, graphs, and search engines. Hypertext has also brought us closer to the user - we hear more about their frustrations and their needs. The need that I am clearly hearing is tremendous user frustration over not being able to find information, and I see now (partly from my own frustration) that this goes back to books as well.

This article is about classification in literature. I'm not an expert in any of these fields, and this article is intended to be a starting point for further investigation, and for a dialogue with others in the writing and publishing fields. Usability studies and reader feedback are needed to confirm (or disprove) the ideas presented here.

My conclusions are that there are better ways of conceptualizing and classifying information. Basic research in cognitive psychology and in linguistics have created a body of knowledge that should be illuminating and helpful. Those areas of basic research haven't reached final conclusions yet, and might not for 5, 25, 50, or 100 years, but they do present some evidence that is useful. What I think we tend to do is classify information without regard for the reader's purpose.

For example, in the publishing world, books are written by authors with the idea in mind: "What is the thing that makes this book different from other books?" The focus is on that idea because they want to convince the publisher to buy it.

Publishers come at the book from a marketing point of view: "What will get the public to buy the book?" Notice that the emphasis of both is on the sale of the book, not what the buyer wants, although it may reflect what the buyer wants. So what you get is a steady succession of books that incrementally inform the buyer, and he has to buy many books to get good coverage of the entire area.

This isn't all bad - the buyer gets multiple points of view and also keeps up with the field. But what the buyer wants is not a consideration, except to manipulate him into buying book after book.

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On the other hand, the buyer knows not to judge a book by its cover and looks in the index to find out what is really in it. The authors and publishers also know this, so they follow the rule of thumb that a good index sells the book. Thus many books index nearly every word. You can't tell a book by its index. (This is one reason why I like Internet publishing - I write material in the cross-section of what interests me and what I think visitors want to read, and I monitor the number of visits to pages and quit writing those types if they don't get visits.)

Tables of contents (TOCs) in reference materials have several problems:

- TOCs are general, and users are typically looking for specific information. This means readers can't find specific locations and must read the entire chapter where information might possibly be located.
- TOCs represent the writer's mental model of the material, but not necessarily the reader's way of classifying.
- The purpose the writer had in mind for the material may be entirely different from the purpose of the reader.
- TOCs are typically in hierarchical format, which means guessing several levels of classifications, which is frustrating.

The following sections will cover these topics:

1. How purpose affects the categorization of material
2. Applicable research on categorization and concepts
3. Using meta-concepts to provide focus

### **How purpose affects the categorization of material**

Writing is about communicating ideas. When a writer creates a document he tries to do the best he can to communicate the ideas he thinks are necessary for the reader. He then creates an organization scheme (TOC) that he thinks represents what he wants to tell the reader. Often the writer has experience and knows a great pattern that supposedly works. The reader then turns to the index. Why?

Because the writer and the reader have two different perspectives on the information. Following are examples of six different ways to categorize information on the topic Garden Weed Control:

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<p><b>Environmentalist</b></p> <p>Preplanting preparation Ground cover Cultivation Last resort chemicals</p>	<p><b>Effectiveness</b></p> <p>Ground cover Preplanting preparation Pre-emergence chem. Last ditch efforts</p>	<p><b>System</b></p> <p>Ground cover Preplanting preparation Pre-emergence chem. Cultivation Post-emergence chem.</p>
<p><b>Natural Ordered steps</b></p> <ol style="list-style-type: none"> <li>1. Ground cover</li> <li>2. Preplanting preparation</li> <li>3. Pre-emergence chem.</li> <li>4. Cultivation</li> <li>5. Post-emergence chem.</li> </ol>	<p><b>Time of year</b></p> <p>April May - July</p>	<p><b>User oriented</b></p> <p>What do I want to do?</p> <ul style="list-style-type: none"> <li>• Most effective</li> <li>• Preventive</li> <li>• Corrective</li> <li>• Time of year</li> <li>• Five Steps</li> <li>• Environmentally friendly</li> </ul>

In a typical table for online documents, items are buried in a hierarchy so that the reader can't find them. In many book TOCs, there are so many items that they can't all be in the TOC.

TOCs present information that is abstract. The user must think from the specific information that he wants to some abstract classification that it might be under. Any piece of information can be classified many different ways, so if there are six to a hundred different potential categories, the reader may have to check all of them.

The two pane screen with the contents continuously displayed in the left pane (persistent) appears to be the user preference. The persistent display has the advantage of providing context - the reader always has a sense of where he is in the document. This sense of place or context is very helpful to readers, particularly in hypertext where it is easy to get disoriented, but

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it has its precedent in books, which show the chapter and section in the header and footer.

The following things can help bridge the gap between writer and reader:

- Readers prefer lists to complicated hierarchies.
- The larger environment (computer world, etc.) provides context for the reader's mental model.
- The task the user is involved in will dictate what information he wants.
- Conceptualize the information.
- If hierarchies must be used, use the most revealing headings.

After the section on relevant theory, I will explain using meta-concepts to focus the table of contents.

### **Applicable research on categorization and concepts**

Searching for information and processing information

Searching for information and processing information are not only different activities, they have been shown to have totally different cognitive activities in which categorizing may conflict. According to Kearsley, 1993, these activities have the following characteristics:

- Searching for or receiving information - detects, observes, inspects, identifies, reads, surveys
- Processing information - categorizes, calculates, codes, itemizes, tabulates, translates

Categorizing is involved in processing information, but categorizing is not involved when the person is searching for information. So if the person is forced to go through abstract hierarchies to locate information, this adds an additional mental load. This can make the task of finding information all the more daunting and frustrating if the person has to stop and think about the different ways the information could be categorized.

What does this mean? We should put items in lists instead of hierarchies as much as possible. When it is necessary to

create a hierarchy, make the title very obvious with regard to the type of information that would be found within it.

### **How do we categorize information?**

Categorizing things is fundamental to humans. It starts from the first moments of life. The world is a continuum and breaking things down into concepts and categories is how we make sense of our world in bite-size chunks.

Is there anything natural about the way we categorize information? Yes, very early studies in the field by Eleanor Rosch showed that colors are named in the same sequence in different cultures. It seems to have to do with the central nervous system. But in a very telling way, finding similar results with other things did not happen.

It seems the very basics of categorization begin early in life, and are a neurological function, but there the similarities between us nearly ends. The brain forms what researchers call "attractors," which like nails on a pegboard gather very basic similar information to it. All coats get hung on one peg, but the information is much more basic than a coat.

The brain seems to form structures that mirror the external environment, but in a way that categorizes things. This process seems to proceed at first by visual similarities. All coats get hung on the same peg, people on another, and all the typical things in our environment get their own peg.

This process (eigenvalues, prototyping, family resemblance) has been studied by many researchers, and the results are consistent. But there is evidence of other types of categorization that is currently being studied that departs from the neurological level.

To understand this shift, it helps to understand that this pegging system is both stable and dynamic. Eigenvalues form a stable system for us to categorize things - the categories are stable - but if our information about a category changes, the category changes to reflect the change. But it is thought that this self-organizing system of ours can only grasp supportive aspects of things in our environment, and only provides a small subset of possible classifications. We could be stuck at this point were it not for other mechanisms.

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One important point to note is that all of this classification comes from our interaction with our environment. If we don't react with the environment, we have nothing to classify. And just as importantly, the environment serves as a focus for us for classification. People working in a lumber yard have a lumber orientation - they might be likely to classify things by the wood they are made from. People working with accounting are likely to be in a mathematical frame of mind. People working with communications programs are likely to come at information from that point of view. The environment is very influential on how we categorize.

So when someone is working with a computer program and needs help, what is his environment? A computer environment. A program that does a specific thing. A task within the program. These environmental factors all shape how the person is classifying information.

There are two mechanisms, currently being researched, that shed more light on how we categorize. These mechanisms have support from research results. One is an extension of the neurological model called "dualism." This theory sees categorization as a two step process. First things are categorized by similarity. Then they are further clarified by "definitions." So in this we can see that we first see similarities, and then see differences. We define things by how they are different from other things. One illustration I often use is the following line:

.....!.....

What we take note of on the line is not the individual dots, but instead the lone !. I suppose we quickly categorize the dots as a line of dots and then we're looking for what is different. This seems to hold true in many aspects of life. Compare with the following line:

\*a\*a\*a\*a\*a\*a\*a\*a\*a\*!a\*a\*a\*a\*a\*a\*a\*a

The mind very quickly assimilates the new, more complex pattern and overlooks the similarity to spot the !.

Even in the following pattern

\*a!\*a!\*a!\*a!\*a!\*a!\*a!\*a!\*a!\*a!\*a!\*a!\*a!\*a!\*a!\*a!\*a

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the mind catches the ! in the middle. And in the second and third lines we can do pattern matching - the ! occurs in the middle of each and we quickly catch the pattern.

But as patterns become more complex and unfamiliar, it becomes more difficult to see the different item:

\*a!\*ca!\*a!\*ca!\*a!\*ca!\*a!\*la!\*a!\*la!\*Ta!\*la!\*a!\*ja!\*ja!\*ja!\*ma!\*a!\*m  
a!\*ma

In the line above we have to stop and analyze the segments of four, note what is different, and compare to the next segment to see just how different it is. The letter T is in the middle, which doesn't occur in the rest of the line. The mental load gets much bigger. When presented with an index or a TOC, the mind has to try to pattern match the words it is looking for while also trying to decipher how the writer chose to label and categorize the subject.

We can ask ourselves about a reader, "Has he reached the point yet of making fine distinctions about a subject, or about a computer program, or is he still categorizing things that are similar?"

The other mechanism currently under research is where the fields of cognitive psychology and linguistics finally meet - symbols. The fact that our neurological categorizing system is dynamic (meaning it can change, is not set in concrete) makes it possible for higher order categorizing and creating new constructions.

We can use symbols to unite categories. Words are symbols. The word chair is just a word that we can identify with the object chair. The word chair has no natural meaning to us. There are many words for chair in many languages, and even in our own language we have other words to define what a chair is: rocker, recliner, sofa, couch, futon, seat, etc. We may understand these all conceptually as fitting in the category seat or chair. But we define them by their characteristics. So the word chair is a symbol, and a concept that can bridge the categories of sitting, and of furniture that is similar.

In the case of a table of contents, what symbols are best used to categorize information? Probably words that don't require a mental leap to knowing specific definitions, but are not so abstract that too many categories are covered; the best words

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are close to the conceptual category. So not rocker, not mobile furniture, but chair.

On the other hand, people seem to prefer lists of information (the index) to hierarchies. We should avoid making more out of this than it is. People get very frustrated with hierarchies because they can't find the specific information that they want. Lists are very specific - they have information that is much closer to the definition level - and they are very long. The writer's categorization scheme is also likely to have influenced the index listings. So there are hidden hierarchies in an index.

### **Summary of problems**

So we need to find a better method than lists and a better method than tables of contents. We also need to keep in mind that as readers become more experienced, their needs change and the delivery system needs to adapt to their needs. The adaptation should be as seamless as possible. The best system of categorizing would be one that meets the needs of both inexperienced and expert users.

Following are the most significant problems with classifying information:

- The writer's classification scheme will typically depend on past experience, a very definitive knowledge of the environment, and expert knowledge of the program or subject.
- The reader's classification scheme will typically depend on minimal to no past experience, a very poor mental model of the environment, and minimal knowledge of the program or subject.
- Classification by the reader may not have reached the stage of definitions.
- Searching for information is a different process than categorizing, so having to categorize is an extra mental load on a person who may already be frustrated.
- Readers are often involved in a specific task, so they don't want general information - and general is how TOCs are typically organized.

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- Lists are very specific, yet they are also presented by a hidden hierarchy of information categorizing that the reader may not be able to decipher, and they are so long they are unwieldy.

We should keep in mind that about half of readers will go directly to a search feature if it is available. Search is the ultimate "say it my way" feature.

### **Improving searchability**

In all of the information I have looked at, and conclusions I have drawn, one theme seems to stand out. Contrast. Or you can call it definition. That is, giving information the ability to be located by providing sufficient contrast from other information. This is a task of being able to see what is different in a group of familiar. That seems to be what the mind does - quickly categorizes similar information and looks for what is different. As the level of complexity increases, we need to increase the level of definition. The mind needs to be able to contrast one item from another. This affects information design at all levels.

There are other things to keep in mind. The mind also needs to see things in context (similar information together), which can also be described as using environmental cues (the computer environment, the program environment, the process environment, the task environment). Following are some suggestions about improving different kinds of information, including some other good suggestions from other usability research.

### ***Lists***

- Use consistent wording (similarity) with easily distinguishable definers (contrast).
  - Visually distinct words are easier to find.
  - Semantically distinct words are easier to find.
- Categorize or define by the reader's purpose (environment, mental model).
- If a categorizing or defining word is well known, the user will use visual matching, which is very fast.

### ***Pages***

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To create contrast, create definers to distinguish text. Some ways to do this are to:

Use bold leads and headings for ease of scanning (contrast), and to establish context. (A lead as I'm using it here is a bold word or sentence that defines or identifies the text that follows it.)

- Use short bulleted lists.
- Use background images for context.

### **Areas for further testing or usability**

Everything I have put in this article really should be tested or proven in usability testing. (Not that it can't be of benefit without testing, but I wouldn't want to see this information as misapplied as the chunking principle.) Several ideas of my own, and the available literature (especially the book *The Psychology of Menu Selection: Designing Cognitive Control at the Human/Computer Interface*, by Kent L. Norman, Ablex Publishing Corporation, 1991) suggest several areas that need further investigation and testing to determine more usable information design categorizing structures:

- How do you add semantic contrast (definition) to items so they can easily be located?
- Incorporate the hierarchy structure into the listing semantically. For example, using verbs, gerunds, etc. to identify types of information and tasks. But only if the user can easily discern the principle.
- Use a metaphor for categorizing. For example, menu (restaurant listing). Metaphors transfer knowledge about ways of categorizing, making the information design easier to grasp. (Menu is currently not a good selection in the computer world because it is already known in the computer environment.)
- Index information using a graph structure. Graph structures show nodes which are connected by arches to indicate relationship. The problem here is the amount of space required for showing complex relationships. It doesn't take many lines on a page to obscure the nodes.

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- Mouse-over display traces. Traces indicate relationships (as in graphs), but only appear while a mouse is over a node. This is an instant cue whether the information is in the correct category.
- Mouse-over expands hierarchy. A system that can respond rapidly can quickly display a full information hierarchy so the user can quickly determine if he is in the correct hierarchy.
- Mouse-over selective group display. In large lists, when the mouse is over larger groups of information, information that is related can be automatically highlighted (black or red).
- User constructed categories. This is similar to bookmarking. Information that a user thinks he may need again, or is related to a specific process he frequently uses, and doesn't want to look for again, can be placed in a category created by the user.
- Conceptualize information (the subject of the next section)

### **Conceptualizing information**

There are a number of things that can be done to improve categorization so that it works for the reader:

Organize information in conceptual units so that information that is related (part of an environment) can be found in a corresponding literary environment. For example, in a book about creating a hit record, for a unit on recording a song, put in conceptual information about the process of recording, put in task information about getting the room accoustics set up, put in task information about microphone placement, put in task information about sound filters that cut down on noise and remove unwanted voice qualities, put in task information about controlling the volume so it doesn't overmodulate, and task information about mixing the instruments and voice, and then put in the procedural information for starting the tape recorder, cutting the tape, rewinding the recorder, etc. This is a conceptual unit, and contains everything about making a recording.

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Recording is a category broad enough to cover all the processes, tasks, and procedures. Recording is descriptive, not abstract.

Conceptualize what the reader's purpose is. Does he want to know more about a process? Does he want to know about the tasks involved in a process? Does he want to know the steps in a procedure? Categorize according to the concepts. Personally I like to conceptualize primarily on the How to level. Whether it is a process, a task, or a procedure, the reader usually wants to know how to do something. A litmus test I use for information is, "How does this benefit me?" If there is no specific benefit to the information, then it is wasted space.

Categorize for the conceptual level, not the definitive level. Most people who need help are thinking in conceptual terms, not by precise definitions.

### **Using meta-concepts to focus material**

I frequently use meta-concepts in writing (usually just called concepts). They are useful for bringing focus to organizations (mission statements) and to stories. They basically state what something is about, and I refine them to specify the things that are important to the organization or story. For writing non-fiction, a concept might go like this:

"The purpose of this category is to serve the reader's purpose for using the information, at the level the reader conceptualizes information, and in common terms used in the environment the reader is working in, understanding that the reader is searching (not categorizing), and putting information in conceptual units."

### **learning or just following steps?**

Are people going to learn tasks, or just go through numbered steps to accomplish the task? That is a very active debate in the technical writing community. When the reader gets to the point of asking for help in accomplishing the task, he is frustrated with the computer program and may be mentally disoriented. He wants to get the task accomplished. It may take three steps, or it may take fifteen. Readers have a preference for steps instead of conceptual material. The trend is to give bare procedures that get the task accomplished. The fact is, people don't learn very quickly from steps. So the next

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time they have to do the task, they will go through the same frustration.

The writer needs to take a hard look at the task and decide if it is a frequently recurring task and if the information needed to complete the task is conceptual in nature, or is so complex that it requires careful step by step direction. (I see very few step by step procedures that require specific direction.)

If it is a frequently occurring task, the writer can best serve the user by giving instructions that work but that also help him learn. This can be as simple as giving him the option of selecting a procedure or an overview of the task. If he doesn't understand the task, then following steps is a slow way to learn. For example, if he is using a communication program and needs to connect, connecting is a task that may involve several procedures. A topic that simply says:

Connecting involves:

- Selecting your modem (see related procedure)
- Setting the communications protocol (see related procedure)
- Selecting the user profile (see related procedure)

is a much less complicated approach and much less frustrating than letting him discover the need to do all these procedures by trial and error. And it is a very simple topic.

The Selecting Your Modem topic can simply say: "Select the type of modem you have and the maximum speed of your modem." Notes can give related information. Creating three or more steps only ensures the reader will have to come back.

Other programs, such as paint programs and backup and compression programs have routine tasks that are very complicated, but often go without any explanation of what is involved.

Following are some tips learned from learning theory about successful learning:

- Instruction should be designed to mentally engage the user in the experience, and encourage them to fill in the gaps beyond the information that is given. (Bruner, 66)

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- People learn large amounts of information from text (as in textbooks), as opposed to rote (procedures) (Ausubel, 63)
- Procedural knowledge is learned by making inferences from already existing factual knowledge. (Anderson, 87)

Simply preceding steps with a few lines of explanatory text may be all the information the user needs - they can forget the steps - they have learned the procedure. Minimalist designs (which I basically agree with) and usability studies don't ask the question about the user coming back and user frustration - they only look at getting the user through the task as conveniently as possible.

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## Flatus & Inflatus (Gas & Inspiration)

**A**nd this is why journalists misquote speakers.



## **Flatus & Inflatus (Gas & Inspiration)**

With all of the things we have to take into account to understand each other, it is a wonder that we can communicate at all. I was never very good with foreign languages. I took French in high school, but failed at asking a Frenchman what time it was. I took Ancient Greek in college, but can barely read it. I don't try to interpret it, leaving that to experts who love to disagree. At least in their disagreement I see my own naiveté.

At the risk of being too wordy, I make my e-mails too long, making sure that word meanings aren't left to arbitrary decisions and oversights. At the risk of being too brief, I use words that are packed with meaning, knowing that some will be forced to either ignore them or look them up. I do this rather than reduce the use of our language to the lowest common denominator and deny us all opportunities for growth.

But regardless of our personal perspectives, the true test of all speaking and writing is, "Did it communicate effectively?" The rest is just style and venue.



## **The Author (needs signature of someone)**

D. Scott Cole applies multi-disciplinary skills to his study of words, having eclectically studied and worked in primary roles in a number of fields including communications, electronics, broadcasting, religion, and psychology, although he doesn't claim mastery of any of these fields. His interest in words and their influence in our world stem from his broad work in the field of communications.

In the computer area of communications, he has been involved in online help design, interface design, information categorization, and Internet information search.

In business, he has been involved in finding words to clarify differences, reflect strategy, and define limits.

In creative writing, he was a senior screenplay critic with Writers Workshop in Los Angeles, which was supported by major Hollywood organizations. His research findings on story construction are consistent with top writer and director recommendations. In writing screen and stage plays, and novels, he tries to find words that make dramatic impact and communicate visually.

In nonfiction, in writing about how to write and writing about understanding the human condition, he is involved in word choices that clarify complex problems.

In Artificial Intelligence, Scott has been involved in understanding and describing the differences between word search techniques, and understanding and describing semantic limitations.

A long time follower of motivation, attitude change, and religion, Scott is aware first hand of the impact of words and rhetoric in creating attitude, bias, and confusion.

For several years he has been in constant communication with a group of psychologists who deeply explore communication and behavioral issues by noting the impact of various philosophical and psychological frameworks, as well as discussing other communications difficulties.

Scott is the author of *The Visual Writer, Ltd.* Web site, [www.visualwriter.com](http://www.visualwriter.com), which offers articles on writing for the entertainment and communications fields. He is the author of *How To Write A Screenplay* and *Writers Workshop Script Doctor*. Many articles on the site had the meanings (senses) of less common words selected from the WordNet Lexicon, and displayed with the word, in a very enlightening exercise to Scott of how imprecise word choices can be.

He makes his home near Atlanta, Georgia.