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AARON Metcalfe
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J Andrade

SCIENCE BY SEDUCTION: COMMUNICATING WITH THE UNINTERESTED



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S. Bracken
T. Boyce
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A. Metcalfe

Preface

ICON

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ICON

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ICON

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**SCIENCE BY SEDUCTION:
COMMUNICATING WITH THE UNINTERESTED**

by
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T. Boyce
P. Budnick

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University of Utah

Minimalist Art by
Aaron Metcalf and
Mindy Steadman



this goes
to P-10.

~~Preface
cartoon~~

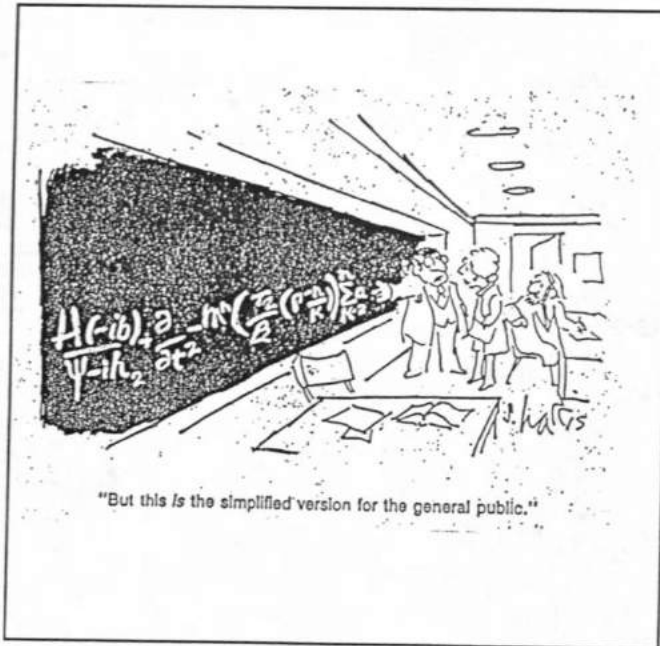
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with
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Preface



Why is it that engineers, physicians and scientists are among the world's worst communicators -- often completely ignorant of the background and needs of our audiences? The audience is almost irrelevant; merely a prop or environment for the lecturer. Poor communicators speak to impress themselves rather than to communicate.



Chapter 1. Introduction



10/25/11

This book is not about experts talking to experts or experts writing for experts. This book is about teaching-- it's about educating, motivating, enticing, and convincing-- perhaps encouraging people to do something which they did not intend to do-- as a direct result of listening to you.

One objective of this book is to convince you to know your audience before trying to communicate with them. Communication must be interactive, not unidirectional. The experience should be rewarding for both the audience and the speaker.

We are not communications professionals- we are professional communicators. So are you. It is impossible to be effective in any profession without some skills in communicating.

The line between technical and lay communication is one that few professionals dare to cross. It is increasingly necessary to break down the walls blocking communication between the "professional" and "lay" communities. People want to be informed. Jargon and pointless sophistication must be minimized.

There are scores of authors and books on communicating. What's so special about this one? Empathy and perspective, we hope. Most books on technical communication are written by people who make a living telling other people how to communicate.

This book grew out of a course titled "Critical Science Communication: Separating Fact From Fantasy" taught at the University of Utah in the Spring of 1990.



Mark Twain said, "War talk by men who have been in a war is always interesting; whereas moon talk by a poet who has not been to the moon is likely to be dull."

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We thank the Department of Bioengineering at the University of Utah for their tolerance and interest in this topic. We thank our advisors, students and colleagues for their interest and support.

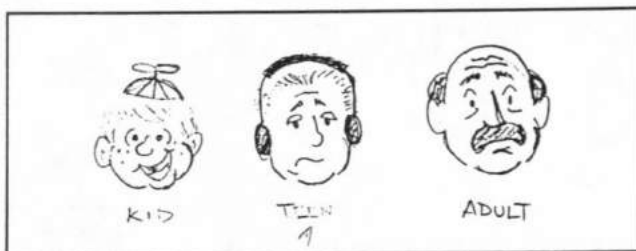
And we thank you for improving your communication skills. Now lets get our colleagues and coworkers to improve theirs!

Our audiences will appreciate it.

207 DAUMER The Audience
Pleased 1862. Lithograph



This book is not a scholarly approach to communication skills. If you can describe your work effectively and relevantly to a child, teen, and to adult peers, you can stop here. Better yet, contact us -- we need your advice!



in progress

Salt Lake City, Utah,
July, 1993.

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You're swamped with work. The phone rings -- you answer. "Me? Talk at East High School? This Thursday?...Uuh...well...OK." You've just agreed to speak to a group of high school students about your field. The date approaches faster than you anticipated. You grab that tried and true presentation you've given a hundred times and run off between meetings. You can give the talk in your sleep; it's well illustrate,, your peers like it.



It's Thursday! You're in an auditorium full of restless high school teenagers noisily wandering about - hundreds of agitated faces looking your way.



"I thought I'd be speaking to science honor students" you say to the principal, who ignores you while he disciplines the unruly looking character whose spitball narrowly missed you. Sweat builds on your brow; your ears begin to glow...

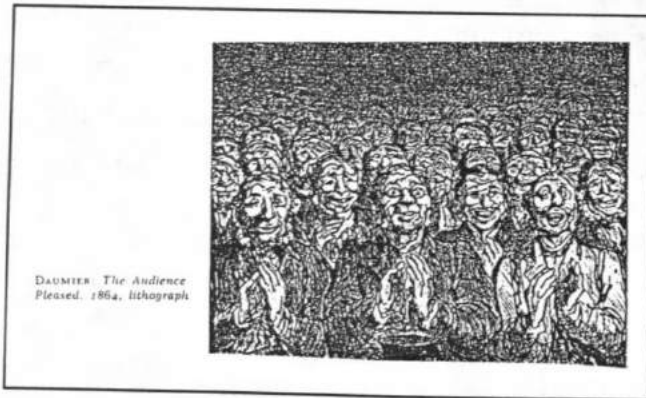
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Let's go back, way back. Some college science and/or math teachers illicit painful memories.

Ask these questions:

- Why are you giving the speech or writing the article? What are your objectives?
- Who is your audience?
- Why should they listen to you? How is it going to affect them?
- What is the bottom line? What information do you want them to retain, and what do you want them to do?

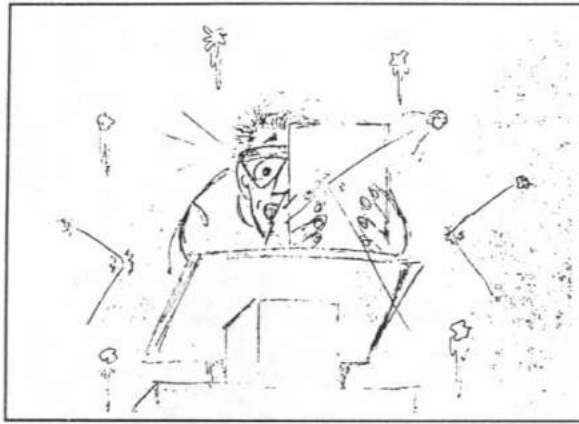
By answering these questions -- honestly and objectively -- you lay the foundation for an outstanding communications career!



Be your own worst critic. See yourself from the perspective and point of view of your audience.

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This standard presentation never was a real attention grabber, even among your polite peers. You hesitantly proceed. The audience is ruthless - neither interested nor happy to be spending this eternity with you. A disastrous mistake! You've wasted your time. You've wasted their time, and possibly turned them off, diverting them even further from your topic -- and perhaps from science in general.



You survived. And you certainly learned. Keep reading. We hope to help you avoid such an experience.

This book is not a scholarly approach to communication skills. We, too, are reasonably successful when talking and presenting among our peers, but might have had problems with uninterested, nontechnical or downright hostile audiences. If you can describe your work effectively and relevantly to 3-year-olds to teenagers, and to adult peers, you can stop here. Better yet, contact us - we need your advice!

Vroman
caricature?

"Whenever I become so lost into the beauty of smaller and smaller things that no one will tunnel behind me, I must stop and turn myself around, and come back to the world. The day I come home unable to explain to a child what I did, that day is lost, and that
child has recorded

from me.

L. Vroman

*low 7
intert 7.*

Quote on Mocassins

You must be your audience, and you must communicate effectively with that audience

(Chapter 2). You can't formulate realistic objectives (Chapter 3) until you know and understand your audience.

Chapter 2 Icon

Chapter 3 Icon

Seduction comes next -- get their attention, and then make your presentation -- relevant and important to them (Chapter 4). Style (Chapter 5) helps you communicate smoothly, confidently and effectively.

Chapter 4 Icon

Chapter 5 Icon

Simple graphics, especially icons and cartoons, are effective non-verbal communicators (Chapter 6). Use graphics -- use audio -- use video -- use live demonstrations and activities.

Chapter 6 Icon

Institute for Non Verbal Communication cartoon here...

What do you do if your audience is blind? Deaf? What if their English language skills are marginal? What if they are a group of hyperactive kids with a 30 second attention span?

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Combining style with graphics is a way to power boost your communication effectiveness. The best graphics are demonstrations - an experimental set-up presented so the audience can see, hear, smell, and feel it! Don't tell them, show them! Better yet -- have the audience do it -- ask for a volunteer. Give them something to take home -- to share with their friends and parents -- this keeps them interested and expands your message to their circle of friends.

Apply the Golden Rule to communication: Do unto your audience what you would have a speaker do unto you.

What is the bottom line? (Chapter 7)
Do they know what your message is?
Are they clear on the information? Are they out in left field wondering where the ball went?

Chapter 7 Bottom Line icon...

A child: "Daddy, are you talking to me?"

An angry citizen: "Hell, no -- you can't put that toxic dump in my back yard!"

A professional peer: "Dr. Suture's technique was helpful to use last year. I imagine he has improved it somewhat..."



Modified

Chapter 2. Your Audience
JUST WHO'S OUT THERE ANYWAY?



And finally, Chapter 8 -- How did you do? Did you influence them? Did they influence you? Did you effectively communicate? Did they stay and listen to you?

Chapter 8 Icon
here...

The real satisfaction, the real reward in communicating effectively is knowing that you made a difference -- knowing that you motivated, stimulated, encouraged someone in a positive direction -- that you enlightened them. If you have that experience, you will want to do it again and again...



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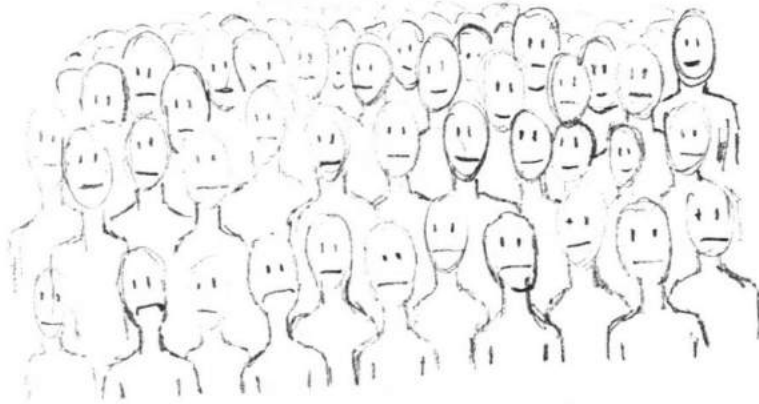


"When I'm getting ready to reason with a man, I spend one-third of my time thinking about myself and what I am going to say, and two-thirds of my time thinking about him and what he is going to say."

-Abraham Lincoln

Knowing your audience is critical to effective communication.

The audience should not be viewed as a group of indiscriminate faces. They are the reason you are there. They must be the primary influence on how the n



You must be able to b feel - what they hear, se

More faces... (hearing, seeing, and feeling)

⑤

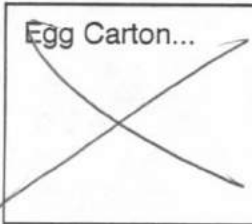
Need character.



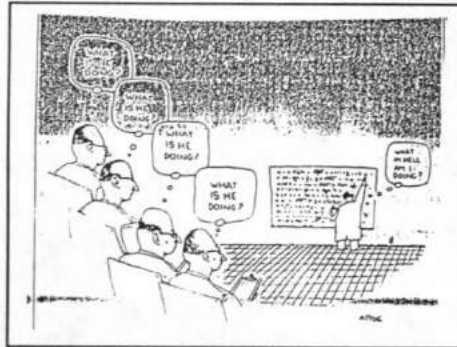
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EGG CARTON IDEA - OPEN/CLOSED

Who is out there and why are they here? Are they here because they have no choice (a lecture in a required course with required attendance?) Did they walk into this particular room because it suddenly started raining outside? Maybe it's the availability of free rolls and coffee. Did they really come to hear you, or just to hear the subject you are reported to be speaking on?



Who is out there and why are they here? Are they here because they have no choice (a lecture in a required course with required attendance?) Did they walk into this particular room because it suddenly started raining outside? Maybe it's the availability of free rolls and coffee. Did they really come to hear you, or just to hear the subject you are reported to be speaking on?



Audience profile?...

- A pep talk for kids on probation?
- Are your professional peers here? Are they going to be judging you for promotion and tenure?
- Is your boss out there? Is your next salary increase dependent on this talk?
- Who are they and what do they expect from YOU?

You now know your audience, their interests and backgrounds. You need to get their attention and turn them on-- intellectually. There's no point in talking about the physics of quarks or interplanetary space travel to high school jocks who are eating, breathing and living baseball.

Do some homework on your audience of high school jocks. What do they know? They may not have taken any algebra or trigonometry, but they know some statistics. They know the numbers. They know the batting averages of every major league player. They know the

"A speech is a solemn responsibility. The man who makes a bad thirty-minute speech to two hundred people wastes only a half hour of his own time. But he wastes one hundred hours of the audience's time -- more than four days -- which should be a hanging offense."

- Jenkin Lloyd Jones



Understanding the level and interest of your audience is critical to your success

Possible initial attitudes include:

- We're only here because we have to be
- We're here because we want to be here
- We already know that
- We don't care about that
- We don't believe you
- We're going to lynch you!
- What are you talking about?
- What am I talking about?



AUDIENCE ANALYSIS:

Define aspects of various audiences based on criteria such as:

- a) *educational level* (children - lay professional)
Is this a group of high school students - have they had chemistry, biology, algebra?
- b) *cultural background* (foreign - native)
- c) *interest level* (completely uninterested -- passionate about info)
- d) *level of motivation* (apathetic - gung ho)



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win/loss records and related statistics for every major league team. They didn't learn it in lectures or in a classroom, or from a book. They learned it from discussions, from newspapers, from television. It is important to them, relevant to them, and they learned it effortlessly. Be creative, use intuition and common logic.

Guy sitting in someone's shoe...



If you are going to try to communicate with these people, you'll need to put yourself in their shoes. You'll need to learn something about a bat and a ball - and what happens when they come in contact. You need to learn something about athletic shoes and a variety of other topics relevant to baseball. Now you have their attention.

Don't feel constrained to the physics of the bat and ball. That's just first base, just the beginning. Build on it. Take them further. How about a game on the moon. What makes it different? Or on a space station? Velocity, acceleration, resistance, gravity, on and on... you would be surprised what you can connect to baseball. And then come full circle.

When you finish, finish by getting back to the beginning and tell them -- better, show them how they can be better ball players, how they can select better bats and better balls, and they'll remember you. They'll remember the lecture, and they'll remember the physics they learned, from you.

Whatever interests your audience has to interest you

- you start there, you build on it by analogy, by metaphor, by example, and then you extend it, take them far afield, always connecting, always relating. And then you bring them back to the beginning.

"So how do you go about teaching them something new? By mixing what they know with what they don't know. Then, when they see in their fog something they recognize they think, 'Ah I know that!' And then it's just one more step to 'Ah, I know the whole thing.' And their mind thrusts forward into the unknown and they begin to recognize what they didn't know before and they increase their powers of understanding."

- Pablo Picasso

**HETEROGENOUS AUDIENCES -
HOW DO I REACH THEM ALL?**

After the audience analysis is done, set different objectives for the different segments of your audience. Decide who you want to reach - to influence - and communicate accordingly. Unless you're the very best, you can't reach them all. Try to reach as many people in that audience as you can.

CARTOON - SPEAKER wearing a cowboy hat, Bermuda shorts, dress tie, carrying a hunting rifle, wrench. Audience consists of a cowboy, auto mechanic, beach bum, hunter and business executive.

- Education
 - over their heads vs under their feet
- Experience
- Knowledge
 - not the same as education
 - how do you tell them something they think they already know?
- Interest
 - if they were forced to attend
 - if they couldn't be kept away
 - spoon feeding them
- Background
 - preconceptions
 - culture/language difficulties
 - Abbott and Costello routine - Who's on first?
- A classic example of miscommunication

It is impossible for a man to learn what he thinks he already knows.

-Epictetus (50-138 AD)

Box-gifts

When you are presenting information, it is like selecting a gift - wrapping adds to the interest, customizes the gift, makes the recipient concentrate on it. The gift should be something for the recipient, not the giver:

box = organization of the idea
 wrapping paper = analogies, stories
 bow = graphics, catches the eye
 card = says it's from you, personal touch that makes you remembered

Gift-wrapped
box?

CARTOON - PERSON in a boat (The communicator), other people are in the water around the boat, with varying degrees of difficulty. A couple have life vests on. One is swimming toward the communicator. Another is "going down for the last time". the communicator is pulling on in with a flotation ring, and with the other hand, he/she is helping another into the boat. Others are in the boat with him/her gasping for breath and obviously just having been saved themselves.

Challenges of Readers vs. Listeners vs. Viewers.

Vietnam medicine laws

Your limitations

Time

Experience

Their Limitations

case study #1

In a recent 1990 review of Institutional Review Board programs in the state of Utah, applications containing directions to be utilized by physicians when filling out the particular forms for research were found to be overwhelmingly vague and directionless. Instructions given to the physician were wordy, confusing and not explained appropriately. This is a good example of the "assumption" placed on professionals, in this case physicians. It is inappropriately assumed they have acquired the appropriate knowledge somewhere along the line which qualifies them as competent communicators in any circumstance. Well, maybe they are competent; but not necessary in communicating - and the goal is also to be effective.

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Personal
Understand the material, PREPARE!

"Communication is surely an important objective of writing, but....The first goal of writing, like reading, is to understand; only then can we make that understanding available to others in writing".(Footnote)



Preparation before communicating provides you with a better and deeper understanding of that material.

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Everybody wants the same thing.

When you understand your audience, you will have defined your objectives:

**SUCCESS = SATISFYING THEIR NEEDS
WHILE MEETING YOUR
OBJECTIVES**

Good communication begins with an analysis of everyone's objectives.

THIS LEADS DIRECTLY INTO CHAPTER 3
IDEA TAKE OUT CARTOON (?)

What are your objectives?

Why agree to give a speech, write a book, or generally present information to others?

Personal:

- To further career, personal goals, interest
- Professional responsibility (requirement)
- Enjoy speaking?

Purpose:

What do you want to accomplish with this audience - what are your responsibilities as a presenter?

- *Educate, inform, instruct* - the use of condoms does help arrest the transmission of disease.
- *Persuade* - give people information that would lean them toward the desired outcome. The Olympics would be financially feasible and rewarding to the city.
- *Criticize an issue* - decisions that have been already made, impeachment issues, knowledgeable bantering

Exchange:

- To contribute to the fund of knowledge of the audience?
- To entertain people?
- To help humanity?
- To save the whales?

Chapter 3. Objectives



Every time a lecture is given, it can be worthwhile even if it is the 90th time it has been presented; remember you have a varied group of people sitting out there - in this universe the "I" of each audience member should be acknowledged.

**SUCCESS = SATISFYING THEIR NEEDS
WHILE MEETING YOUR
OBJECTIVES**

"My father gave me these hints on speech-making: 'Be sincere...be brief...be seated.'"

- James Roosevelt

In summary:

Objectives Redefined:

Understanding the audience has helped define your objectives. Knowing your audience enables you to tailor your lecture in order to obtain maximum effectiveness.

"The most valuable of all talents is that of never using two words when one will do."

- Thomas Jefferson

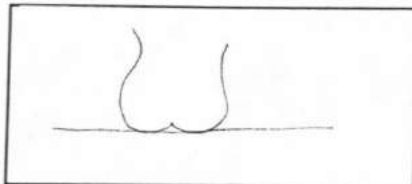
Identify what is realistic:

- A. Limits/boundaries of presenter - how "basic" can you be? How straight-forward and simple can the info be presented (lacking jargon, etc.)
- B. Limits/boundaries of audience - define audience (i.e. cultural-language, educational background, interest level, etc.)

"Education is what survives when what has been learnt has been forgotten."

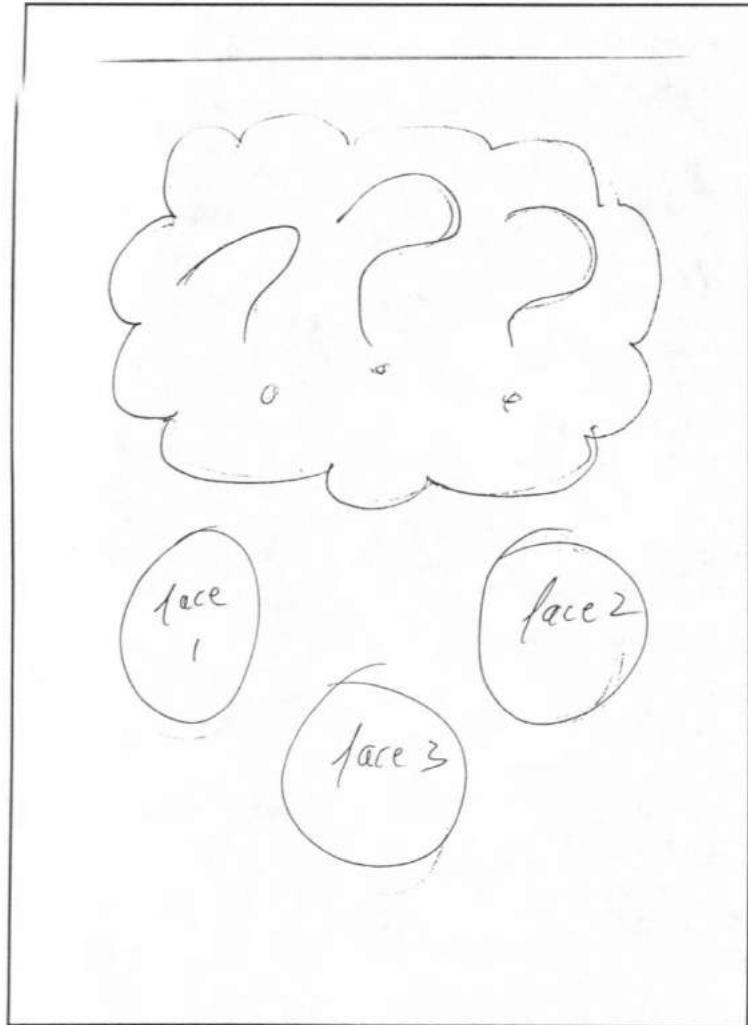
- B.F. Skinner

Your objectives relate to your bottom line (Chapter 7).



X

Chapter 4. Relevance "So What?"



It is important for a scientific communicator to recognize what level of understanding the audience approaches the topic from (Chapter 2). Perhaps an analogy will help. Suppose that you are giving directions to your home for a group of people that you just met at a regional meeting. If one of them was from the same town, the instruction "turn left on Willow Street and go down one block to the first green house" might be more than enough information. What if one of the people was from another state, or even another country? Certainly the same directions would not apply, because in their mind frames, they are starting from different points. If you want to give the directions to all of them, then they must all start from a common point, perhaps the location of the conference that you are attending together. The first part of your discussion must be to bring all members of your audience to a common starting point.

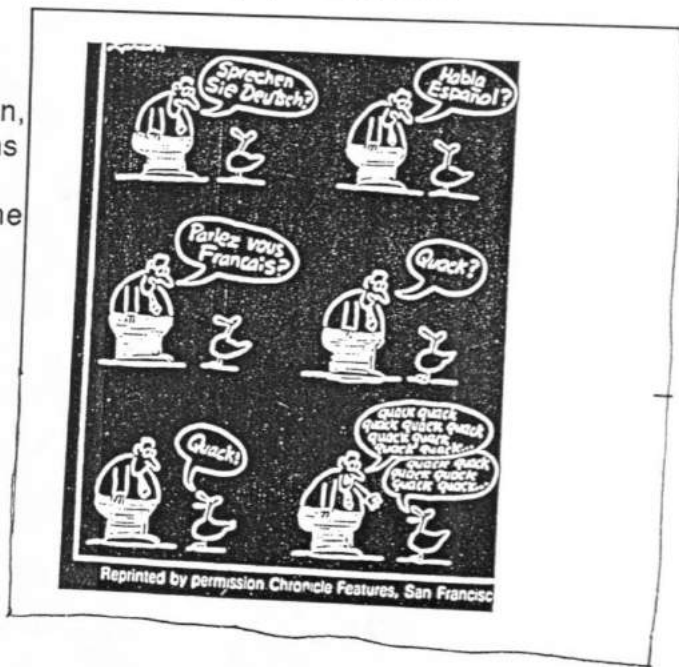
Chapter 2
icon

A mathematics professor that I know call this process "calibrating the audience," and it is an apt description.

The real ART of communicating lies in making yourself a bridge between a subject that you know well, and an audience that you know well. (describe physics/baseball lectures here.)

"Grok" - R.H. Heinlen,
"Ho" - Native Americans

Abstract ideas become
real



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It has been said that first impressions are the most important. In an interview, for instance, your suitability for a position is often determined (whether consciously or subconsciously) within the first few minutes. Communication with an audience is no different. If you, as a speaker or writer, do not identify the relevance of your topic to the audience early, they will find you unworthy of their time and attention. They will leave, whether physically (turning off the TV, closing a book, leaving a lecture) or mentally (daydreaming, writing a letter).

Many speakers suffer chronically from the "So What?" malady. It is not fatal (though some have wished that it were), nor is it incurable, but it is debilitating. The progression of the disease goes something like this:

A speaker is presented. He or she introduces the topic, and begins talking. At length. In intricate detail. With color graphics. The audience starts out being interested enough. They listen closely, but somehow there is nothing to "grab onto". It doesn't have any meaning, because the speaker hasn't identified why the subject is important to them. They are left with vague feelings of dissatisfaction, a sort of "so what?" attitude.

Lest we think that this problem only haunts speakers, we would do well to read a few scientific journal articles and technical reports. "So What?" is not limited to just the spoken word.

M

Dialogue:

What the speaker is saying:
"the diverse articulation of the planetary configuration..."

Speaker speaking...

What the audience is hearing:
"the diver's artichoke is like a planet's contraband..."

Audience hearing...

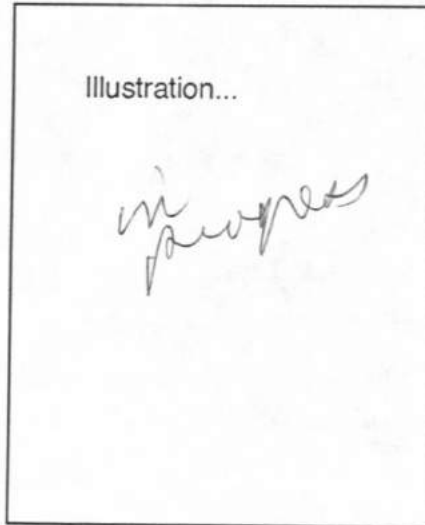
in progress

What the audience is thinking:
"when in the hell is lunch?"

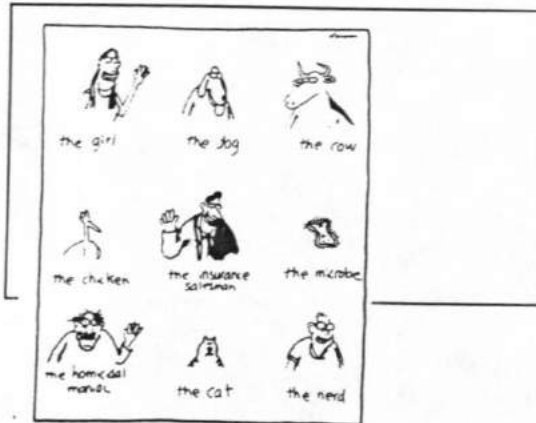
Audience thinking...

Perhaps the most effective technique for conveying an idea is to demonstrate it to your audience. A demonstration can immediately establish relevance and inspire interest. It can be particularly effective when it is unanticipated:

A friend was interviewing for a position with a well-known manufacturer of pocket calculators. He was a mechanical engineer, and admittedly poorly prepared for the interview. At the end of the interview, the company representative asked if he had any questions. My friend pointed out that the company was primarily a manufacturer of electronic devices, and wondered why they might be seeking mechanical engineers. Without saying a word, the representative drew a calculator out of his briefcase and flung it violently against the wall. He then picked it up from the floor, and pressed the "on" button. "See, it works. That's why we need mechanical engineers".



Did your lecture mean something to every person in the audience?



V. Chapter 5 - Style



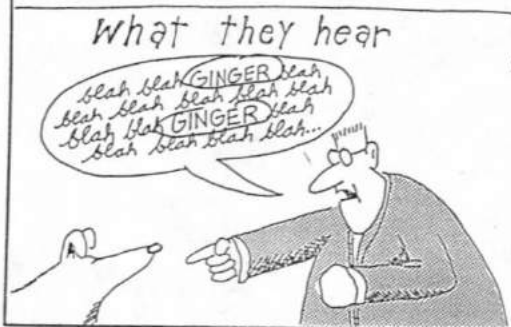
Quotes

Metaphors

Analogies

CARTOON - SEDUCTION

CARTOON - CALVIN AND HOBBS



Cartoon, "Calvin & Hobbs & the Bombs"...

An orthopedic surgeon scheduled to do an alumni lecture was contemplating on which topic to present. He mentioned to the host, "maybe I should do my lecture on 'sex and the foot'; that might bring attendance up". The lecture was about how high heels contribute to deformity of the bones of the feet.

*Making scientific, abstract ideas interesting, understandable, and real can be effectively accomplished through **STAF**, and how the audience is approached.*

In a study done on the effect of instructor personality on student ratings, a professional actor introduced as "Dr. Fox" was instructed to teach charismatically to a group of college students; to say nothing, but say it beautifully. There was substantively little in the lecture, but the students rated the instructor highly, and some even claimed to have familiarity with the "doctor's" published material; which, of course, did not exist.

In a subsequent study, the same actor was instructed in the course material, and the students were tested on material content in addition to rating the instructor. They found that the students did well on higher content of material with an interesting, charismatic instructor.

Your impact and effectiveness as a presenter can be increased if style is done in a way that works for and with the audience.

me



"Recently Ludwig Mizzeldorp came up with some startling discoveries in the field of sub-atomic particles. I'd like to sing you some of his formulas."

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Knowing what your audience is about is critical before your lecture is given, or your book is written. Once you know who you are presenting to, you can tailor your information and style to be the most effective. For example, if the title is presented in an interesting way, people will be quick to assume that the lecture might be equally as interesting - which might raise their attitude in a positive direction before the lecture begins; which helps in retention and acceptance.

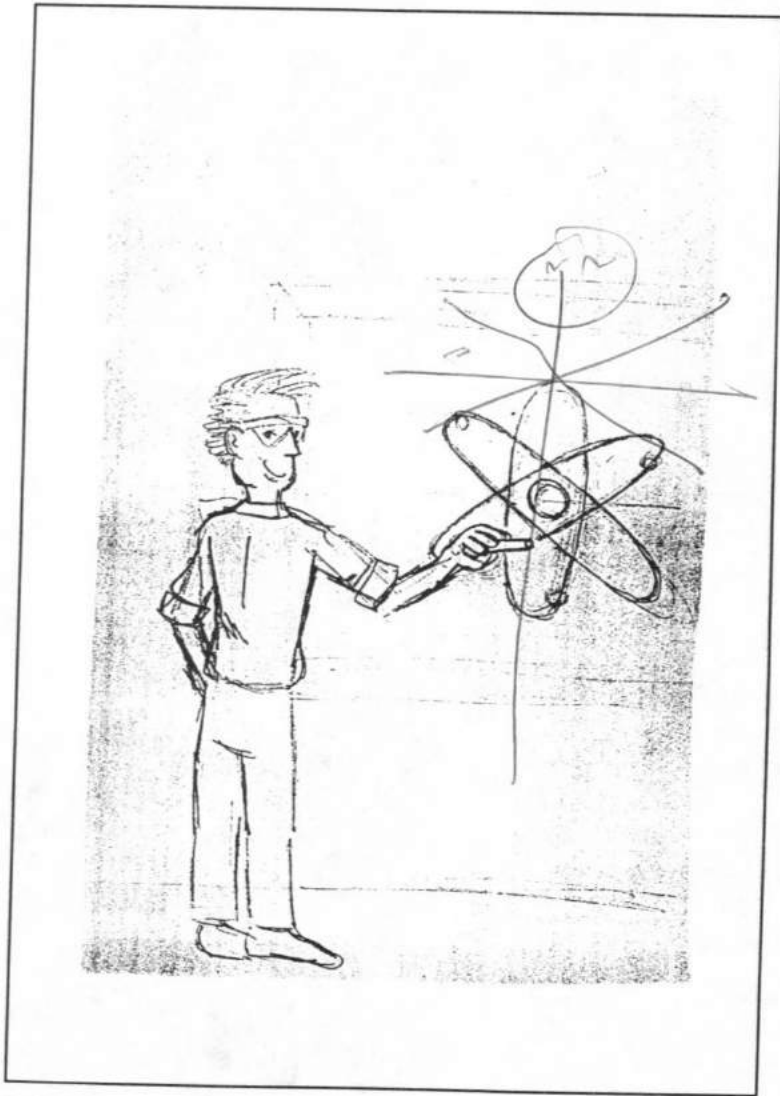
After accomplishing the task of familiarizing yourself with who your audience is and what will be relevant to them, style can be thoughtfully considered.

"An orator or author is never successful till he has learned to make his words smaller than his ideas."

- Ralph Waldo



Chapter 6 - Graphics

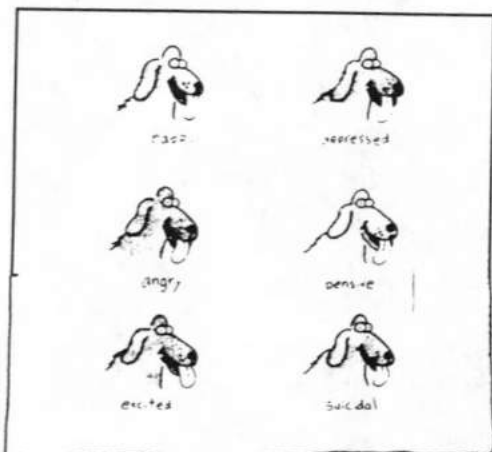


Certain styles are more effective depending on the type of audience you are communicating with. Starting with the obvious:

- a: *Children* - a more colorful, demonstrative, charismatic approach will capture and hold attention, thereby facilitating effectiveness, short and sweet.
- b: *Foreign speaking audiences* - depending on their linguistic status, something straight-forward and interesting
- c: *High-school age* - demonstrative, down to earth. Someone easily approachable with a style teenage kids could or would want to relate with
- d: *College age* - more factual, but interesting. Someone like Dr. Fox - charismatic but chock-full of information
- e: *Lay-people* - the public will demand someone they think is reputable - therefore, strong on credibility & information, but equally as strong on relevance - that is, they have to be able to understand how it relates to them.

Dennis the Menace
Cartoon?

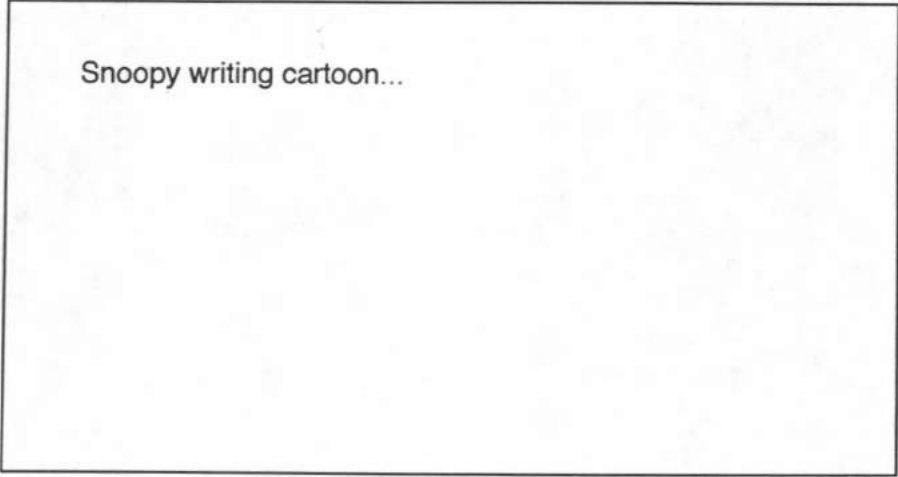
Frog, getting our
attention cartoon?



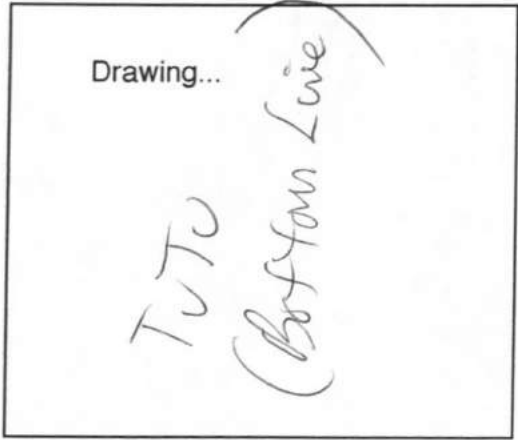
What is your individual style?
Does it all look the same?



Excellent writing paints pictures with rich, visual language. The reader develops a mental image of the characters, their facial expressions, the setting, even the feeling of a "...cold damp, dark night..."



Good speakers can do the same. Successful story tellers, preachers and politicians can "seduce" people with descriptive language, animated body movement and rhythmic speech that has been known to lull even the most uninterested or skeptical audiences. If you're not that good, then you must use graphics.

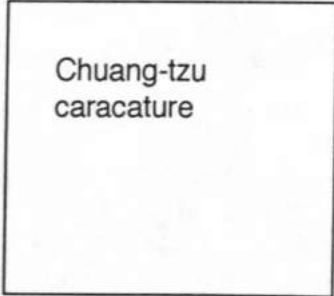


"A picture is worth a thousand words". Alluring novelists and compelling speakers draw on familiarity and emotion to paint lasting mental images that the audience takes with them and remembers for a long time, even for a lifetime. You don't have thousands of words to paint pictures, your seductive speaking skills may not rank with TV preachers. Graphics summarize data - show correlations. Icons evoke familiar images; a sketch, drawing or photograph that concisely states a point; even a cartoon-like summary of an idea you want them to remember.

Most people readily identify with visual information, while only some will remain interested or awake through a verbal presentation, especially if they don't have an expressed interest or familiarity with the subject matter. Appeal to their senses- seduce them with simple but informative visuals.

On one hand, the use of visuals, like the use of icons in computer software might seem like a return to the earliest form of recorded information - hieroglyphics - ignoring the benefits that the alphabet has afforded us. But visuals can effectively reduce a fairly complex notion to a manageable format, and may even transcend national and cultural barriers.

When should graphics be used? Whenever and wherever possible and appropriate. If you spend time to develop good visual displays, it's difficult to overuse or abuse them. They may be the vehicle to convey specific information, or they may compliment and enhance a concept stated verbally.



"Words are used to express meaning; when you understand the meaning, you can forget about the words."

Chuang-tzu
(fl. B.C. 350)

Even words, letters, and numbers can act as graphics. For instance, when I took scientific and engineering courses that required me to memorize equations, I would make up one page "cheat sheets" of equations for the test. Even if we were not allowed to take the sheet into the exam, the act of making the sheet would help to embed a picture of the equation into my head. When I needed to remember an equation, I could actually see it in my mind as it was situated in relation to the other items on my cheat sheet.

Graphics go beyond representing numbers alone, and may be very useful for explaining concepts, catching or re-catching audience interest, or even comedy relief. Not all audiences are interested in the information content of your discussion -- find other avenues into their psyche that may change the way they perceive your topic.

Likewise, presenting a table full of numbers to a person will convey only as much information as the person is capable of interpreting. A statistician or mathematician (analogous to an avid reader fluent in several languages) will be quite comfortable with quantitative information presented in the form of numbers. Others, with little experience or training, or "mathaphobia," (analogous to readers of *The Hardy Boys*, *Nancy Drew*, or *Dick and Jane*) will gain far less information, or worse, be completely turned off when presented the same set of numbers. Presenting those same numbers in graphical form can drastically increase the amount and quality of information conveyed.

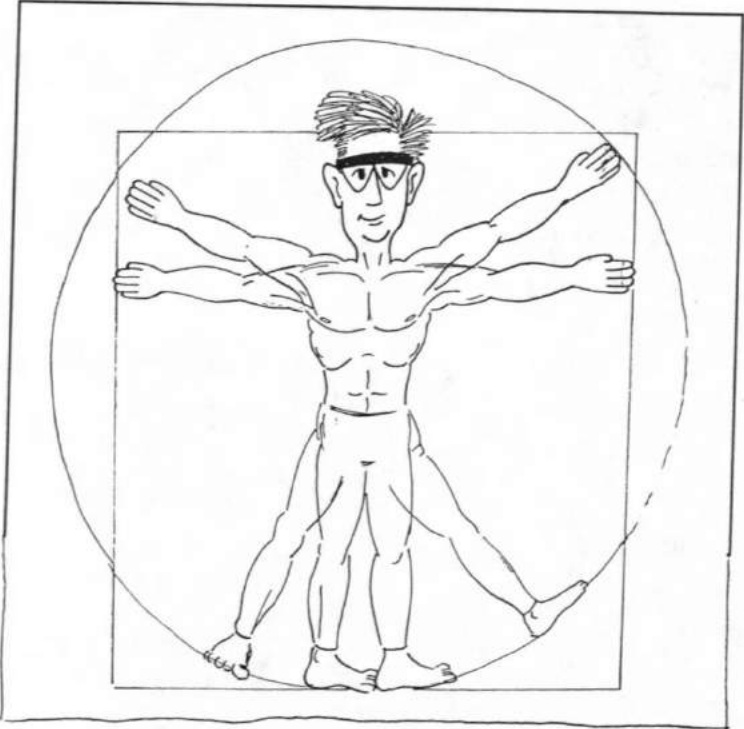
43

"Genius is the ability to reduce the complicated to the simple."
C. W. Ceram

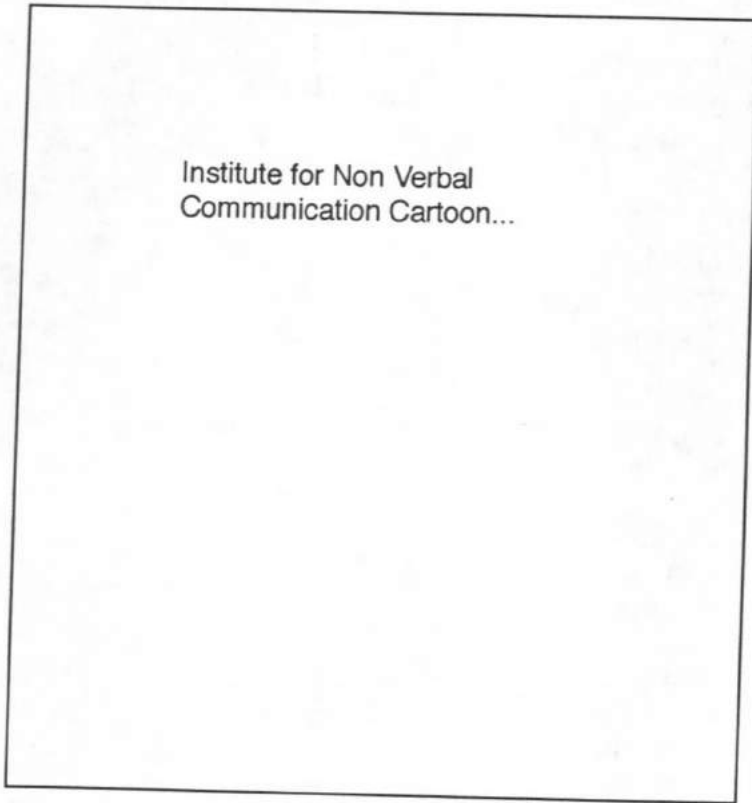
"Men of few words are the best men."
Shakespeare
(1564-1616)

Ceram
caracature

Shakespear
caracature



The effectiveness of a graphic, or "visual display of quantitative information," depends on its quality, as well as the experience, knowledge, intelligence, and visual perception of the viewer.



Institute for Non Verbal
Communication Cartoon...

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Chapter 7. Bottom Line

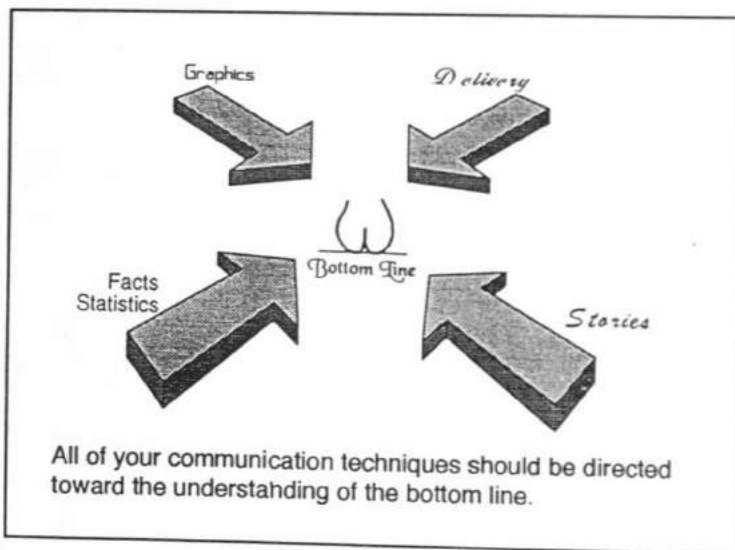


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Most technical and scientific communicators and professors are of the marathoner type. They leap into the maze, and the 2 or 3 in the audience that can follow at that speed get an invigorating run through the ideas and concepts that surround them. The rest get lost somewhere in the middle, because the speaker left no trail to follow.

The Fil Rouge, or red thread (a term borrowed from a European friend) can correct this problem. It consists of a logical series of ideas, all connected, which starts at the opening of the maze where the audience starts. It continues through the maze, and is tied securely to the "Bottom Line".

When you are in front of a group of people, you are like a lawyer arguing a case. The bottom line is conviction or acquittal. This of Perry Mason. Your arguments should be tidy, logical. If they aren't, then you probably don't understand your subject well enough. Remember that the audience can always say to themselves, "Objection! Irrelevant!" and throw out your whole explanation. Remember also that logic is not the only basis that we use for making decisions or deciding truth. You may also want to appeal to their feelings,



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What do you look for in a textbook or a reference book on a technical subject? Completeness? Clarity? Up to date information? It depends on whether you are an educator, student, or working professional. Students tend to look for boxes. The small rectangles disbursed throughout the pages often enclose important axioms or formulas. The box always meant the same thing - this is the bottom line. Learn it. Know it. Use it.

"Whatever we well understand we express clearly, and words flow with ease."

- Nicholas Boileau
(1636-1711)

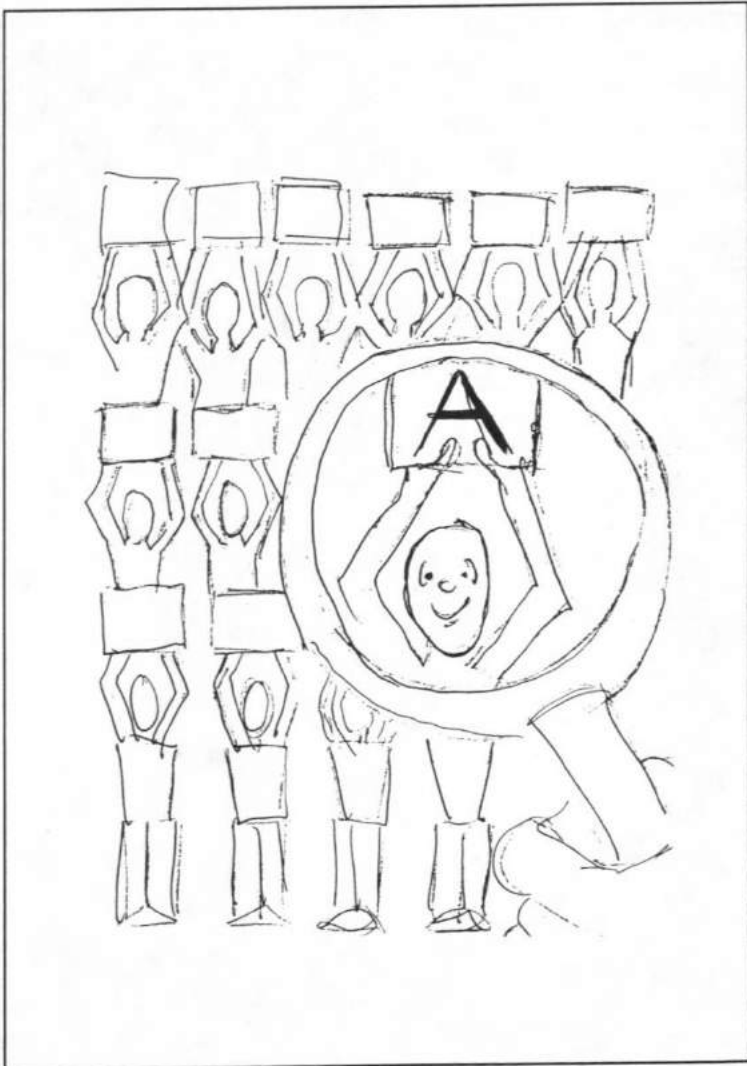
Suppose that you are about to lead a group of people through a maze, and it is your responsibility to get all of them through as quickly as possible. You know the way through, although no one else does. You also happen to know that everyone in the group travels at different speeds. Two are marathon runners, one utilizes a wheelchair, and there are several children and elderly people. Somehow, you have to let the runners move quickly through, while still not losing the slower ones (is this sounding familiar yet?).

One way to accomplish this might be to leave a trail for the slower ones to follow. If, for instance you were to tie one end of a ball of string to some object outside the maze, near the starting point, and unroll it as you move through the maze. Those that were fast enough could go with you, and the rest could trail later, at a comfortable speed.

This is exactly the situation when you are trying to accomplish technical communication with a group of people with varying degrees of understanding and ability. They are standing with you, outside the maze of ideas that you are about to lead them through. Somewhere on the other side lies the goal, the message that you want to deliver, the Bottom Line.

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Chapter 8. Evaluation



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Question and Answer Session
DID YOU COMMUNICATE, OR JUST ENTERTAIN?

Obtain feedback/information for yourself:

- are people interested in this material?
- is it a worthwhile endeavor to continue lecturing about this information?
- is there a need?

You see, we're not talking about entertaining, although that can play a role. We are talking about communicating. Entertainment is something transient, non-essential, impermanent. Effective communication is just the opposite. It is long-lived, important and essential, and permanent.

Now that you have some tools for becoming a more effective speaker, writer or educator you might be interested in how you can judge this effectiveness. Evaluation of audience response to information dissemination in a manner that will provide input on the constructive nature of a presentation or paper is the final task necessary to becoming a "seductive" communicator.

The intended audience and the reason you want to evaluate the presentation must be determined beforehand to help you, as the presenter, prepare an evaluation tool that will be helpful in assessing your effectiveness. It has been stated that evaluation is necessary when "you think you are doing well (but feel unappreciated), are in serious trouble, someone with authority over you insists you be evaluated or when you feel it is desirable to try something new." (Curriculum Evaluation Theory and Practice. Green and Stone, Springer Publishing Co., 1977).

"You get a better notion of the merits of the dinner from the dinner guests than you do from the cook"
- Aristotle

Champagne
cartoon ?

Chapter 9. Trouble Shooting



modified

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You will probably be interested in whether you achieved your anticipated goals or other outcomes you did not expect. How do you go about measuring these outcomes? First, a basic understanding of the process of evaluation helps in developing an evaluation tool that will complement the tools of communication we have already presented. According to Astin and Panos, the evaluation process is made up of three components: 1-Inputs (example: what preconceived ideas or knowledge your audience comes in with; 2-Thruputs (example: your presentation); and 3-Endputs (example: survey tool following your presentation).

Starting with an outline of what you suspect your audience knows or feels about your topic, the format in which you will present your information and what you hope the audience will gain from your presentation can give you a basis for developing the tools that will help in determining your effectiveness.

For assessing inputs, a pretest or questionnaire about your subject is an easy way of establishing where the audience falls in regard to knowledge and interest. Questions should be uniform with standardized wording, order and instructions for answering. Both fixed alternative and open-ended response items should be included.

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"Whatever we understand we express clearly, and words flow with ease."
- Nicholas Boileau (1636-1711)



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REFERENCES

Tufte, Edward R., *Envisioning Information...*, Graphics Press, Cheshire, Conn, 1990.

Tufte, Edward R., *The Visual Display of Quantitative Information*, Graphics Press, Cheshire, Conn., 1983.

Hoff, Ron, *I Can See You Naked*. Andrews and McMeel, Kansas City, 1988, 258.

McCarthy, Michael J., *Mastering the Information Age*, Jeremy P. Tarcher, Inc., Los Angeles, 1991, 306.

Shortland, Michael and Jane Gregory, *Communicating Science*, Longman Scientific & Technical, Essex 1991, 186.

Hamm, Jack, *Cartooning the Head and Figure*, Perigee Books, New York, 1967, 120.

Howard, V.A. and J.H. Barton, *Thinking on Paper*, William Morrow and Co., New York, 1986, 156.

Arredondo, L., *How to Present Like a Pro: Getting People to See Things Your Way*, McGraw Hill, Inc., 1991.

Gorrick, L. and Wheelles, M., *Cartoon Guide to Genetics*, Barnes & Noble Books, 1983.



Model ref

~~British books~~
D. Barlex and Visual Communication
C. Carré, Cambridge Univ. Press, ~~London~~
1985.

X-TRA QUOTES:

"The chief virtue that language can have is clearness, and nothing detracts from it so much as the use of unfamiliar words."

- Hippocrates (B.C. 460-370)

"The way to convince another is to state your case moderately and accurately. Then scratch your head, or shake it a little and say that is the way it seems to you, but that, of course you may be mistaken about it. This causes your listener to receive what you have to say, and, as like as not, turn about and try to convince you of it, since you are in doubt. But if you go at him in a tone of positiveness and arrogance, you only make an opponent of him. "

- Benjamin Franklin

"When I'm getting ready to reason with a man, I spend one-third of my time thinking about myself and what I am going to say -- and two-thirds thinking about him and what he is going to say."

- Abraham Lincoln

"The constant use of long, involved words proves two things: (1) that you're learned, and (2) that you're ignorant of how best to communicate with people."

- Will Conway

"There is a great difference between knowing a thing and understanding it. You can know a lot about something and not really understand it. "

- Charles Kettering (1876-1958)

"All knowledge has its origins in our perceptions."

- Leonardo da Vinci (1542-1519)

"It is impossible for a man to learn what he thinks he already knows."

- Epictetus (50-138 AD)

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