Tips on Talks
OR
How to Keep an Audience Attentive, Alert, and Around for the Conclusions at a Scientific Meeting

by

H. Edward Clifton
U.S. Geological Survey, 345 Middlefield Road
Menlo Park, California 94025

"Breathes there a speaker with soul so dead,
Who never to himself hath said,
As he hears his name from the podium read,
I wish to hell I stayed in bed!"

"First slide, please." The hall lights dimmed, the audience hushed, and the speaker launched into his paper – the culmination of 15 years of painstaking research. An important talk, it included everything he knew on the subject. Flitting from point to point, he realized that he was running out of time and read the paper even faster. He didn't have much time to dwell on his complicated slides, which was unfortunate for they tabulated years of data. By the end of the talk he was going so fast that there wasn't time to reverse the seven slides that were projected backwards. After the chairman finally got the speaker's attention, he closed the talk and stood back for the accolades. The lights came on. Two thirds of the audience had let under the cover of darkness; the other third was asleep.

Our speaker is obviously a caricature-hardly anybody is that bad. But then again, at a recent meeting – well, never mind! The point is that although few speakers do everything wrong, even fewer do anything right. As a member of the scientific audience, I find far too many talks that are disappointing. Generally, the problem is not due to the quality of the material presented, but rather lies in the quality of the presentation.

The suggestion offered herein are, for the most part, elementary – the sort of thing one would expect every speaker intuitively to know. Yet virtually all are founded on shortcomings. I have observed in recently presented papers (some of which, unfortunately, were my own). They deal with three basic elements of a talk; content, organization, and delivery, and conclude with some suggestions in preparation. The viewpoint is primarily that of a member of the audience, but this seems appropriate, for the audience of course is the ultimate critic.

Content

Why give a paper anyway? It is a remarkably inefficient method of disseminating scientific information. A speaker can reach only a handful of potentially interested colleagues, and the time constraints at most meetings rarely permit an extensive exploration of a subject. A talk is an ephemeral event, of which the only lasting elements lie in a brief abstract and the fading memories of the relatively few who attended the session.

Yet oral presentations are a time-honored means of transmitting the fruit of scientific research and scientists will no doubt be speaking at professional meetings for a long time to come. It is a way to reveal

quickly our most recent thoughts and discoveries to our colleagues – a way of informing the world that we are into a specific aspect of research (staking out a bit of scientific territory, if you will). It is too often a prerequisite for obtaining funds to attend these meetings, but we won't go into that. A scientific talk unquestionably is highly effective for developing fruitful discussion with others interested in the subject. So we will continue to give talks; the question is how do we insure that we give good talks.

Consider an audience – part of it is there specifically to hear your paper, the rest because they have nothing better to do. It will in most cases be composed of a few people as knowledgeable (or nearly so) as you on your subject, a majority who know at least something about it and many who are totally unfamiliar, or nearly so, with it. A successful talk provides something of value 9although not necessarily the same thing) to all these groups.

How does one leave most of an audience with a feeling that they have profited from the talk regardless of the level of knowledge with which they approached the subject? All the memorable talks I have heard, regardless of my familiarity with the subject, shares one common trait; simplicity. The speaker convincingly presented a few conclusions, which I retained for a long time. It is more important to get across a few points that will be remembered than to tell everything you know about a subject. Better to save the detailed account for the printed text.

Too often speakers waste this precious time at the podium presenting unessential data. Few listeners care for, or will remember numbers, lists, etc. Of far more interest are significant trends, relationships, or differences – in other words, the interpretation of the data.

Delivery

Of the three elements of a scientific talk, delivery is probably least important. A well-conceived, locally organized paper will to some degree survive the dullest presentation, whereas the most articulate delivery cannot salvage a talk that misses audience interest or one that cannot be followed. This is not meant, to imply, however, that delivery can or should be neglected; a poorly delivered talk is unlikely to be well-received. Even though delivery is, to a degree frosting on the cake, it can, like frost, get attention and make the whole thing more palatable.

Reading a paper from a prepared text may be the easiest way to deliver it for many people – but it almost certainly is the most difficult way of delivering it well. I think that papers are most often read because of insecurity – the speaker is afraid he will lose his place, omit some important point, or perhaps does not trust his ability to sound learned before his colleagues. All of these concerns are generally invalid. No speaker with good notes (or better yet, carefully organized slides) will get significantly lost during his talk. Really Important Points are rarely forgotten by a well-prepared speaker during a presentation, and those that are will either be raised during the discussion following the talk or never missed. Perhaps the best thing that could happen to readers of talks is for a vagrant breeze to carry their text out the window seconds before they ascend the podium. After the initial panic subsides, nearly all would sail through their talk with little difficulty. Their presentation would likely be far more effective and they would recognize a written text for the crutch it is.

How does one deliver a paper without reading it? Basically, by thoroughly knowing the subject. All of us can clearly explain our slides informally to a small group of friendly colleagues. The same style of exposition works nicely before a larger (and potentially less friendly) audience. Audiences almost always give a speaker the benefit of the doubt. Usually, at worst they are merely polite. I have never seen a speaker bodily assaulted at a SEPM meeting, although some of my colleagues have.

The process of referring to slides during a talk can pose special problems. It is too easy to turn from the audience (or microphone), and have one's voice diminish to an inaudible mumble. Some speakers, forgetting to release the switch on a flashlight pointer, splash the beam about the wall and ceiling in a fascinating display that is potentially more interesting than the talk itself. Small nervous tremors in the speaker's hand are amplified in the pointers spot on the screen and betray a shakiness that most of us would prefer to hide.

Many of these problems are obviated by having a colleague or co-author employ the pointer from the front row of the audience. Such a confederate must be totally familiar with the talk. Occasionally a pointer from the floor gets disconcertingly out of phase with the speaker. Regardless of who handles the pointer, it is probably best used sparingly, spotting key points on the slide and otherwise kept off. Holding a flashlight pointer with both hands or in the crook of the arm will help to steady it and salvage that image of comfortable composure regardless of how unsteady the knees are.

Stage fright in one form or another is probably universal. Who has not known a shallowness of breath, a racing pulse, or sweaty palms before mounting the stage? Slow, deep breathing superimposed upon a concentrated effort to relax the body's muscles will greatly reduce these symptoms. The knowledge that you have thoroughly prepared for a talk adds much confidence. Experience is probably the best teacher. I know that my stage fright will largely dissipate once I begin talking, and nightmares to the contrary, all appropriate zippers will be closed and I will not, part way through my talk, abruptly switch to a recitation of "*Mary had a little lamb*".

Preparation

The obvious key to a successful scientific talk is adequate preparation. The number of speakers who seem to be ill prepared is therefore surprising. Perhaps part of the problem results from the predictable situation whereby a speaker, having gained experience, requires progressively less time for preparation. Unfortunately, this last phrase can also be translated "gets by with less and less preparation", and the speaker who falls into this trap will ultimately be caught with a substandard effort. Probably every experienced speaker skirts this pitfall and some of us fall into it. Over-confidence is a common reason, but a poor excuse for inadequate preparation.

Preparation consists of two parts: composing the talk and rehearsal. The first part is probably the more important, but it is also easier to slight. The skillful speaker begins planning well in advance of the presentation. The level of audience interest and background is assessed, and the content of the talk accordingly determined. The talk is ordered into a sequence of flowing logic. Slides are conceived to convey their message quickly and directly and knit tightly into the fabric of the test. If all these things are done well, the speaker is almost assured of some success.

Rehearsal is both valuable and necessary. It is valuable in that it allows the speaker to develop a smooth delivery by incorporating key words and phrases; valuable because it offers a means of checking content and organization before a group of friends prior to the presentation. It is necessary because it is almost the only way to establish timing. Even if the paper is (God forbid!) read, rehearsal is vital to staying within the time frame. I know speakers who, preferring an informal delivery, eschew rehearsal. They also are the ones most likely to get caught in the "Migawd! It's-the-two-minute-warning-and-I'm-only-half-way-through" panic. Observing a speaker thus trapped can be entertaining, but it doesn't do much for the communication of scientific information.

It does not pay, however, to attempt to memorize a paper word for word. A paper obviously presented by rote sounds stilted and unnatural and is as distracting as one that is read.

A last feature of preparation is so elementary that it scarcely seems worth consideration, yet by ignoring it, many speakers run into trouble. Virtually, every meeting has talks that are marred by slides that are out of order or disoriented. I've noticed that the audience laughs at the first upside-down slide; mutters at the second, and begins to leave at the third. This and other projection problems are easily obviated by arriving at a session early and asking the projectionist to run the slides through the projector. (It helps to bring your own loaded slide carrier). Projectionists always seem eager to comply with such a request (they don't like fouled up slides any more than speakers do). It gives you a chance to insure that your instructions to the projectionist are clearly understood, and also provides a chance to critique your slides from an audience's viewpoint, incorporating any last-minute clarifications that might seem appropriate. Finally, I like to stand on the podium prior to a talk and check out microphones, slide control buttons, and the pointer; that way, it seems less strange when I ascend the podium in earnest.

Summary

If I had to express the points of this paper in a single sentence, it would be "Never force an audience to think for itself". This can be accomplished in a variety of ways:

1. Keep the content to the talk simple, containing only major points.
2. Be sure the audience understands all your terminology.
3. Have the talk simply arranged in a logical sequence.
4. Use simple slides.
5. Avoid distractions.
6. Know your talk well.

There are substantial differences between a spoken and a written paper. The wise speaker recognizes these differences and programs a talk accordingly. The focus should be on the audience – its interests, its level of knowledge of the subject, its ability to assimilate the information. Just as beauty is in the eye of the beholder, success in a scientific talk is in the mind of the audience. The speaker who deliberately caters to the audience is almost certain to keep them interested, alert, and present when the lights come on, convinced that they have heard, finally, a good talk.

Acknowledgements

A host of colleagues read this treatise and offered many valuable suggestions. I must also acknowledge those many others who unintentionally contributed to this paper in a way they probably would rather have not.