

## My Word

# On Speaking, Writing and Inspiration

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A visitor, giving a seminar at Cal Tech, found to his amazement that when he had finished his introduction Max Delbrück raised his hand and said “Stop!, say it again”. “Say *what* again?” asked the speaker, and Max said “Everything you just said”. So he repeated, word for word, his 15 minute introduction at which point Max raised his hand, said “Stop. That’s what I thought you said”, and walked out.

What prompted Max — who imposed his formidable will and intellect on the nascent field of molecular biology — to walk out? My guess is that the lecturer didn’t say anything wrong so much as he didn’t say anything at all — at least not clearly. I go to seminars surreptitiously, if possible, and only if there is an inconspicuous escape route. The danger is that the speaker will begin by bandying about some key terms, showing a few bewildering slides, and referring to all this stuff we supposedly already know. I find myself struck by a sentence, wondering what exactly was meant; what constructs is this person carrying around in his head? And by the time I emerge from my musings the seminar is half over, all is lost, and I sheepishly extricate myself. This is risky — I have to rely on friends who can sit in the fog to extract whatever of importance might be there.

Concerts too — I try to sit at the end of rows to facilitate early getaways when required; I can always puzzle over the review the next day. In ‘Old Vienna’, so the story goes, there was a cost for such anti-social behavior: entrance to concerts was free but there was a charge if you left early. I am reminded, in a further digression, of a lesson taught

by the master to the neophyte in Stephen Potter’s *Lifemanship*. Having spied the master during the first half of a concert, the neophyte approached him later at the pub, and challenged as follows: “The Debussy (in the second half) was not good, don’t you think?” To which the master replied with astonishment: “You mean you *stayed* for the Debussy?”

I wish people wouldn’t worry about being *too* transparent. I once asked Francis Crick why he spent the day with a pile of Scientific American magazines and he said “When you are learning something new the hardest thing is to get the basic idea.” The truth is, most of the time I’d prefer to hear what the speaker thinks than what he can prove — the proof can come later. I’ve never attended a seminar in which there were too few slides, or the slides were too simple, or the speaker failed to use enough technical terms, or — amazingly — spoke for too brief a time. Aaron Novick told me, long ago, that I had to go to meetings and seminars — only by looking at the speaker, he said, would I know who was believable. That was back in the days when there was only a handful of potentially interesting people.

Let me put the matter this way. I recently heard a seminar I loved. The young woman sailed along briskly, every sentence having a point without being pedantic — there was a salient quality of mind. I was reminded: a seminar is a performance that has to be rehearsed (even if silently, in bits) over an extended period. It is not just a matter of choosing which words to use — equally important is the choice of which words not to use. In an otherwise good talk, speaking a wrong word or phrase can be a disaster — you or the audience will be diverted into explanations (or puzzlements) you desperately want to avoid. Clear thinking does not guarantee a good talk: Matt Meselson told me about a well-known scientist who, giving a seminar, gave the impression that a recording of a perfectly coherent talk was being played in his head, and he was commenting on it as it went by. Unfortunately the way ‘it used to be done’ is not necessarily

a good guide. Arnold Steinhardt, the violinist, recounts that after the inaugural performance by his string quartet (the Guarnari) they were visited backstage by Rudolf Serkin. The pianist said “The last time I heard Mozart played like that was in Vienna — and that is why I left”.

And perhaps the hardest lesson to accept is that, unless it’s a thesis exam or something of the sort, your audience really doesn’t care how hard you worked to get to your answer. Frank Stahl once said to me that most experiments are just forays to teach you how to do the right one. One good experiment is worth ten messy ones. So if you have something to say, say it simply and directly — you’ll make a better impression than if you feel obligated to say everything and bits of nothing all at one time.

“Science strives to make the new intelligible in terms of the familiar” — Nietzsche. But there is no *lingua franca*, and everyday terms mean one thing to some of us, and something else to others. Writing is even harder than speaking — unless you are a master, there are no rhythms, inflections, and half sentences to steer the reader along. There is the constant tension between being communicative and being strictly correct — we sometimes have to ‘lie the truth’. This does not mean that the best of us speak or write the same way. I think of two inspirations of opposite styles: Francois Jacob and Jacques Monod on one hand, and Al Hershey on the other. Jacob and Monod, Cartesians at heart, seemed to invent the world before they stooped to discover it; whereas Hershey took us through the nitty gritty — such as the drama of DNA folding and unfolding — as though it were happening before our very eyes, and thereby revealed a world. I would read both with exhilaration, thinking that what I wanted was to do some experiment that would enable me to find a voice so that I could write — speak — *like that*.

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