



## C R I T I C A L F O C U S

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### The Good Guide to Bad Lectures

**D**o you love the sound of your own voice? Are you wrapped up in a state of rapture by the sight of an audience? Have you learned all there is to know about presenting your work in public? Are you far more knowledgeable than the folks in the audience? If the answers are yes, then please, whatever else you do, *never*

give a lecture. Those are all the wrong reasons. You're there to please the people, not yourself. The only individuals who should ever pontificate at a conference are those who may know their subject, but who are profoundly worried about doing it well. Good lecturers begin as poor speakers. People learn more when things go wrong, rather than when they're doing it right, and in time they improve. This is Lecture Darwinism at work.

The greatest error any speaker can make — and it is certainly the most common — is speaking longer than the allocated time. At an event with Prince Charles in London, an eminent professor was to launch the after-dinner debate. With bushy eyebrows and an expression like a groundhog overdosing on caffeine, he was to propose the motion for no more than 15 minutes before the meal, and a discussion would continue after dessert. He reveled in all the attention and loved the sound of his own voice echoing from those august portraits hanging around the hall. He began speaking, and he kept speaking — for over an hour. People were munching on candy, just to maintain their blood sugar.

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ness, but not this chap. He complained that the professor's talk had been drab, irrelevant, unscientific, self-indulgent and way too long. Never before have I heard people cheering and clapping so much at the end of a retort. From that day on, whenever I chair a session, I tell the speaker when they should finish. It is not enough to say, "You have 45 minutes," because it is easy to lose track of time. Tell them, "You must finish at 10 past the hour." That's much more effective. Even at 11 minutes past, they know they've gone overtime. From then on you're entitled to call security.

#### SLIDING BY, BARELY

For decades, the standard visual aid for speakers was the 35 mm transparency. Remember those? They were usually returned from the photo processing laboratory clamped within a cardboard mount and — because these were infamously liable to jam inside projectors — the smart idea was to secure them within new plastic mounts that clipped together. Newtonian physics suggests that, wherever there is a clip, an equal and opposite unclip is never far away. These slides

I kept thinking of Walter McCrone's idea for a podium with an ejector button and a trap door.

When the discussion began, a sociologist stood up and spoke his mind. We have all heard people give thanks for appalling presentations, purely for politeness,

tended to come apart, and it was in the wrong place at the worst time. Projectors could fail, lock up or fall over.

The most memorable example of this was at a talk given by a masterful Cambridge academic, Lord John Butterfield. He was an enthusiast for the microscope and an expert on how the body recovered from burns. With a beaming face and a halo of hair, he became the Master of Downing College and Vice Chancellor of the university. He called me one day and said: "I am giving a talk tomorrow to the medical students. The subject is a survey of the medics who are associated with Cambridge. Would you like to come as my guest?" I arrived to see him slotting his 35 mm slides into a vast carousel. John was in great form; the history of medicine was a side interest, purely a hobby, and he had compiled this talk especially for the students. The president of the students' medical society, a lithe young man with a prominent Adam's apple, stepped towards the podium. His shoe snagged the cable and the projector crashed to the floor. There was a pop like a silenced revolver as the bulb blew, and the slides cascaded in a heap across the carpet like cards on a blackjack table. The room was stunned into silence, and all we could detect was the faint smell of burning and a soft whimper from the Adam's apple.

John, however, was unperturbed. He smiled and addressed the audience. "It seems we have lost our slides," he said. "But no matter; let me tell you about these people without their pictures." With that, he was off: back to the beginning of the university in the early 1200s, through the great lineage of luminaries from the days of the herbalists to the latest young researchers in medical microscopy. He was not short of a single fact and delivered it all with meticulous brevity and a twinkling eye. After the medical students filtered out, in walked the janitor and triumphantly announced, "Here we are — the replacement bulb!"

We were sorting the scattered slides back into the carousel. "Now that the projector is repaired," John said, "would you like to see my pictures? It seems a shame to waste all the effort in putting them together." So he gave me a quick rerun of his talk with his carefully numbered slides. This was one of the most remarkable events I can recall. All the great names he had mentioned were there in the slides, apparently omitting no one. All the dates were right there in his mighty mind, ready to link the many people together in the tapestry of time. This showed how it should be done. Even when everything collapses, the audience still expects a talk.

Compare that with a lecture on metallurgical microscopy in Cardiff, Wales. The lecturer planned to

show the slides in matched pairs and had two projectors set up side-by-side. Just as the talk was about to start, one of the projectors jammed and refused to perform, so the technician quickly put all the slides into a single carousel. This wasn't what the lecturer wanted, and he kept complaining about it. Each time a new slide appeared, this irritating speaker droned off into a litany of how it would have been far better if the two could have been observed together. The audience sympathized with his predicament — or at least we did at the beginning. Before he was halfway through his talk, everyone was sick of hearing him complain about the problem, and several people conspicuously walked out. Here is another lesson: If things go wrong, not only do you have to find a way around the problem, don't irritate your audience by grumbling about it.

### ASKING FOR TROUBLE

Dr. McCrone, our much-admired friend and mentor, had more experience than anyone with presenting illustrated talks on the microscope. He used to keep an eagle eye on Inter/Micro conferences and would intervene if matters were about to get out of hand. He once went through a presentation by a member of his staff and removed half their slides. "Far too many," he said. "No lecture needs more than 25 slides." I used to have a private wager with Walter: Whatever he said not to do, I did. The following year, I had a record-number of slides — 145 in two carousels for a one-hour presentation. Walter wondered if I would get through all of them in an hour. With his beady eye watching, there was no choice but to finish on time. Gary Laughlin, McCrone Research Institute's distinguished president, used to work the Inter/Micro projectors back then and knew exactly what to do. Using a remote control, I'd run through the first set of slides, Gary would quickly change over to the next carousel, and the presentation would proceed with hardly a pause.

But never expect that things will always run smoothly. On this occasion, I pressed the button to bring up the next slide and nothing happened. The batteries in the remote had died. With just the subtlest glance from me, Gary hit the projector's manual-advance button and moved to the next slide precisely on cue. Not once did I tell Gary, "Can we have the next slide, please?" But he took the cue each time from my merest hint of the next topic. By this manner of telepathy, we finished the talk on time. Best of all, no one in the audience said that they had noticed our switch to manual control. Only one person had seen — Walter, who later congratulated Gary and me for our fine team

work. It was a timely reminder that when things go wrong, it's necessary to do what it takes so that the audience doesn't have their experience interrupted. There is *always* a way around a road block.

During another Inter/Micro, Walter complained that a speaker used slides and an overhead projector for the same presentation. This, Walter assured all of us, was never a good idea. "Choose your medium, and stick with it," he advised. "More than one is asking for trouble." Taking the hint, the following year I arranged a presentation with — let me see now — 35 mm slides with audio tape, acetates for an overhead projector, a video insert that ran separately on television monitors *and* real-time demonstrations. By judicious juggling (and some luck), it worked. But I also discovered the truth of what Walter had said, and never again attempted such a complex presentation.

## DEBACLE IN DIGITAL

Things are better now that everyone has migrated to digital presentations; however, there were dreadful problems when the new was supplanting the old. I gave my first Microsoft PowerPoint-based talks in the 1990s, when a digital projector was not available. In those days, the PowerPoint slides were printed onto letter-sized acetates to be shown on a traditional overhead projector. Sounds foolproof? You would be surprised to see how often that went wrong.

At one venue where I was to speak, the organizers assured me they had a projector. Not only did it work flawlessly, they had spare lamps. When I checked the facilities, everything looked in order. And then, I saw the projector. It was a huge metallic box, covered in crackled black paint. It turned out to be an Edwardian epidiascope, which was popular between the wars. The epidiascope had a high-power carbon arc lamp and a platen onto which you could slide an open textbook. The bright light illuminated the printed page, and the image passed through a prism, which projected the page onto a viewing screen in front of the audience. This was a successful way of illustrating a talk — but not if the pages were acetates. Even when a backing sheet of white paper was placed against the acetate, the image could hardly be seen. My elaborate presentation had to be abandoned, and I extemporized the talk instead.

The advent of digital projectors introduced new areas of confusion. I was once assured that my hosts had a digital projector, and we had agreed that I was to bring my presentation on a CD-ROM. When I arrived, I discovered that the "projector" they had told

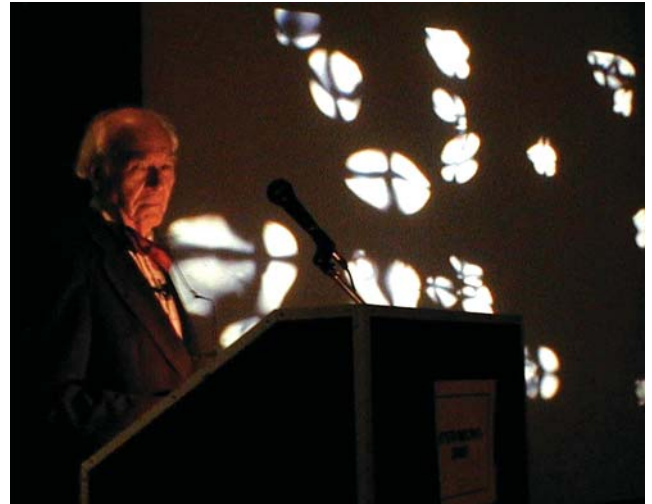


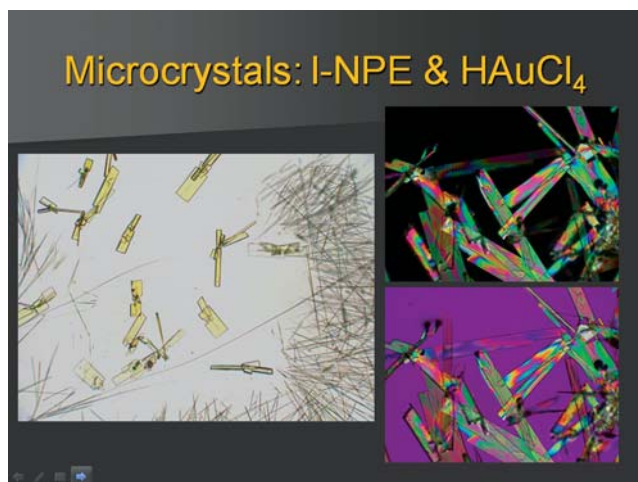
Photo by Brian J. Ford

Dr. Walter McCrone kept an eagle eye on Inter/Micro talks, advising speakers to keep their presentations short. He envisaged a podium with an ejector seat for those who went over time.

me about was not the digital, computer variety I was expecting, but a traditional overhead projector. So we had to send out for acetate sheets, find a color printer and try to print a random selection of the slides. Everyone was flapping around like frenzied penguins. Most of the slides weren't ready in time, so my presentation relied instead on lengthy explanations.

A more telling incident occurred to Mike Shepherd, the skilled audio-visual technician at the Royal Society in London. A few years ago, the Society had a speaker coming with a PowerPoint presentation. Mike, who is an old hand, meticulously checked every detail, approving the version of Microsoft Office and the digital projector. When the lecturer arrived and handed over the presentation in an envelope, Mike opened it and discovered that every slide had been printed on paper. There was no digital file. Apparently, once it had been printed out, the original had been deleted "to conserve disk space." As a result, the office staff had to painstakingly reconstruct the entire presentation. They scanned every page, converted the scanned pages to the proper image format, imported the images into the Society's laptop, created a new PowerPoint file and then set it all up on the podium. Such were the tribulations that lurked between the old and new methods.

The dawn of the digital era was heralded as the ending of all inconvenience, but instead, it has introduced problems of its own. The most vexing aspect of digital devices is that problems are sometimes impossible to diagnose. Before, if a projector jammed, you



### Khat (*Catha edulis*)

- Grown in the Horn of Africa & the Middle East
- Leaves are chewed
  - Euphoric effects
- Alkaloids responsible
  - Cathinone
  - Cathine





Photos courtesy of Kelly Brinsko

PowerPoint offers an array of multimedia tools for presentations, but many speakers who use it, tend to crowd their slides with text. Kelly Brinsko's slides (above) strike a fine balance of word and image.

unjammed it. If the lamp blew, you (or the janitor) replaced it. If the projector lens clouded up, you wiped it. If the amplifier crackled, you cleaned the contacts. Now, if the sound is missing, you scratch your head over codec incompatibility and go online in the vague hope of finding an answer. If a driver is poorly configured or some obscure setting is left unclicked, then the system won't work. There is nothing to kick, no socket to tweak, no crimped cable to squeeze. The computer has defeated you, and you are helpless.

### MORE 'POWER' TO YOU

We encountered this problem at Inter/Micro 2010 in Chicago. The video inserts to my PowerPoint presentations started to run on the conference laptop with-

out a hitch, but they all froze within a minute and refused to play. We tested all of my PowerPoint files, and in each case the videos ran — just long enough, as if often the case, to lull you into a false sense of success — and then they suddenly stopped. We rebooted the system, but the videos locked up every time. I was tempting to blame the Windows XP operating system. However, when the same presentations were loaded onto another laptop with the same operating system, the videos ran smoothly without interruption. This is the peculiarity we face in the digital age, and it is a frustration unknown to earlier generations.

You're probably thinking: "This is easily avoided if you use your own computer." Oh no, it isn't. Once I was showing a sequence of neurons under the microscope accompanied by sounds we had recorded. Although the file played perfectly on my laptop, the theater screen was blank as the projector software was incompatible with the file format. All I could do was to rotate the laptop so that the audience could see the distant screen, and fortunately, it was the sounds that were important, rather than details within the micrographs. We barely scraped through on that occasion. But never believe that because a file plays perfectly on your machine, it will do so through their projector.

Movies in PowerPoint presentations often pose problems for speakers, and I'm unsure why. Most lecturers minimize their PowerPoints and then run their video. This is really unnecessary. Click on Insert > Movie on the task bar and browse to the video to incorporate it into the show. It will then run as a slide within the presentation, and the need to desert the PowerPoint in mid-flow is avoided. Also, keep in mind that movies with long file names often run into problems. You will see the opening frame, but the movie doesn't run. The solution is twofold: First, keep the file name short. Rather than "neuron\_images\_processed\_audio\_file\_insert" — which the computer may find too cumbersome — rename it "nerve01." Second, move the movie file into the same folder as the presentation itself. If the PowerPoint does not have to go far to find the movie, it will run much more reliably.

### CHECK, AND CHECK AGAIN

The best way to avoid problems is to double-check the facilities and available equipment with your hosts, but even then things may not turn out the way you hope. When digital projectors were new on the scene, I was contracted to give a talk on digital photography and assembled my images into a set of PowerPoint slides. The whole presentation was complex, and was

feasible only because we now have digital capabilities. Needless to say, it was crucially important to check that the facilities were ready and available, so I confirmed it all in my acceptance letter when the contract was signed. When I arrived on site, the head of the audio-visual department called my room to confirm that, yes, they knew about the PowerPoint and everything was ready. Later, I spoke to the organizer just to be extra sure. Yes, the digital projector was ready and had been tested, so the equipment was just as required. I strolled to the theater to take a look. Everything seemed to be ready, and there was even a digital projector in place. I felt happier to have double *and* triple-checked.

Next day, I went to the theater early to set up. As I walked in, there was a young technician whom I knew from previous talks. He smiled, all teeth and acne, and spoke. "Hi... oh, you've bought your laptop. Writing another book?" When I explained what the laptop was for, he blanched and said, "PowerPoint? Nobody told me. I don't think we have the right connections." He was right — the cables didn't match. By now the audience was filtering in, and he whispered, "I think I know where I can find the right connector." The introductions were made, and I began the talk with some light-hearted reflections on the problems of the digital age. The technician returned, holding a cable triumphantly aloft like a banner. He winked at me from across the room as I began segueing into my presentation. The technician busily beavered away, and then held up the cable. "Oh, no," he sighed. "The lead and the port are both male! We can't connect the laptop after all."

So I abandoned the formal presentation and extemporized the talk instead, using wild hand gestures and facial expressions to convey the intricacies of digital photography. Fifty minutes later, when I was scheduled to finish, I rounded off the subject and the audience seemed satisfied. The questionnaire feedback from the audience proved the point: "What a marvelous presentation," they said. "Such enthusiasm! Most lecturers show us one of those boring PowerPoint slides, but Brian just talked to us directly." The comments were kind enough, but I wanted to grab every one as they left and hiss, "Look, have you any idea how long it took to compile that presentation?... It would be much better if you complained to the management."

That's not the end of the saga. A year later, I was due to give a similar talk, and once again, the projector didn't want to talk to the laptop. To fill in time while adjustments were made behind the scenes, I retold the story of that unforgettable occasion when I had given a talk on digital photography with no visual aids, when the technician crept up and whispered that they



Even when the presentation equipment is running smoothly, speakers will often resort to hand gestures to emphatically explain their subject, as does Jan Hinsch for his talk at Inter/Micro 2010.

couldn't solve the problem. And so, for the second time, I had to give a talk about digital images with not a single image to show anyone. Although it was hugely frustrating, I realized that when things go wrong, you discover new ways to make them turn out right.

### THE BURDEN OF SOBRIETY?

There have been occasions when I was suddenly told that I am supposed to give a talk, even when there wasn't the slightest hint that this was in the cards. More than once, I have sat at a head table, sampling the fine wines in liberal amounts, trying hard to numb the burden of sobriety, when suddenly I hear the chairman announce that since I am there, it would be a shame for me not to get up and speak. The challenge here is to rise steadily to your feet and sound sober and convincing in front of a skeptical audience.

The worse time of all was when I went to the bar in my London club to join everyone for a round or two. Ten drinks later, as we meandered to lunch, my arm was caught by Sir Clive Sinclair, the computer magnate. "Brian, my dear fellow," he said. "My guest speaker at a dinner tonight has been taken urgently to the hospital. Could you give the after-dinner speech for me?" I beamed — this was after 10 stiff drinks, remember — and told him I'd be more than obliging. We shook hands, and off I went to lunch.

The club chairman ordered some excellent wines that day. We had an exquisite pinot grigio with smoked salmon and a memorable Côte de Beaune with the

entrée. There was a choice of madeira and port with the dessert, and it seemed a shame to choose, so we all tried both in immoderate amounts. And no decent lunch can end without a large cognac. The problem was compounded when we descended to the bar. It was someone's birthday, so the chairman popped open some vintage champagne — three bottles, I recall. Once opened, they cannot be closed. So we did the honorable thing and finished them all. And that, sad to say, is how I became more inebriated than I have ever been (in daylight, at least).

My next memory was of being shaken awake. Night was falling, and I was deeply ensconced in a deep, plush velvet chair. Images of the drawing room swam around as I tried hard to claw back some sense of reason through a heady haze of ethanol. In front of me stood a great friend, Victor Serebriakoff, who at the time was chairman of Mensa. "Are you all right?" he asked, concerned. I mustered every fiber of coordination and found that I could still nod my head. "I wondered," he said, "because didn't Clive say you were giving the speech tonight at his dinner?" I jerked upright and nearly fell to the floor. "You're right," I gasped, climbing slowly from the chair. I felt my way along the wall to the elevator, my fingers clutching the railing. The fresh air of London's Berkeley Square was soothing, but I remember being unable to distinguish between the amber lamps of traffic control and those of vacant taxi cabs. I came close to hailing a traffic light at one stage and would certainly have tried to climb in.

After arriving at the venue, I stood leaning against a huge Victorian pillar, nursing Florida orange juice, and trying hard to coordinate my movements. A bright sparkling woman said to me: "I love your writings on living organisms." I smiled back with an unsteady nod. "But remind me," she added, "what exactly are the criteria by which we diagnose life?" They began to creep into my cloudy consciousness: respiration, nutrition, excretion... but by this time I knew I was unable to articulate all of them. I was still floating. "Ah, they're all in my book," I told her, heedless of the fact that I had never written a book on the subject.

By now my sanity was slowly returning. I have no idea what we ate that night, but when the time came for the after-dinner speech, I was halfway back to normal. I stood leaning on the front of the table, legs apart like a tripod for stability, and spoke. Later, the audience applauded. The train ride home brought me enough mental clarity to read the newspaper. By the time I stepped into my hallway just before four in the morning, I had sobered up. I made a note: 12 hours to go from dead drunk to functionally sober. It is a fact I have never forgotten. That was the second lesson I learned that night. The first, and most important, was to avoid alcohol before a gig. Yes, I may have a small glass of red wine, or even a martini, but it will be just *one*.

### GET WITH THE PROGRAM

My last piece of advice is to always check the program. As the guest speaker on a Mediterranean cruise, I presented all my talks, including one on the microscopic realm. There was one extra presentation in my computer, in case of delays or changes in the schedule. Late one night, I went to make my customary check of the next day's schedule in the program newsletter. I rummaged through my cabin, but it was nowhere to be seen. "Let's review it tomorrow, just come to bed," said my wife, alluringly.

Next morning, the stateroom bell rang. I popped my head out the door to find the lecture coordinator with an anxious expression and an upper lip quivering with anxiety. "You are due on stage in five minutes!" he said. Beaming, I assured him my talks had been done. "But they put you on again today, with your extra talk," he said. "It's in the ship's newsletter. Everyone's waiting. You've got a full house." Never before have I been naked when due on a stage. Never have I dressed so quickly. Never has a lecture been so unprepared. There is a lesson for all of us in this: If there's a published program, always read it. If there is a daily bulletin, make sure that you check it for updates.

Even if it has slipped under a crushed nightdress, at the bottom of the bed.