How (not) to give a talk
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Have you ever wondered why more than 90% of all the scientific talks you go to, no matter whether presented by 'experts', 'geniuses' or 'grad students', are excruciatingly boring and uninteresting? Odd, isn't it? And do you want to be someone who gives talks like that? Or to put it another way: would you like to be responsible for compelling a large group of busy professionals to politely but reluctantly freeze their brains and put their entire mental lives on hold for up to two hours, trying not to (overtly) fall asleep, and doing nothing other than simply wait until you have finally stopped making sounds?

If that is not what you want, I suggest you read the following rules and try to follow them strictly. This will not guarantee that you will give a good talk. That is your job, and it obviously depends on the content of your talk. However, violating any one of these rules nearly guarantees that you will annoy the living daylights out of your audience, as well as offend their intelligence, and this would be independent of the quality of your work. And that would be sad.

**Rule 1: Do not EVER read your talk from paper.**

Anyone who has ever attended a talk in which the presenter takes out a (worryingly large) stack of pages, and starts reading aloud the talk that he carefully wrote up beforehand, will probably have noticed how devastating this is for the attention of the audience. As soon as the brain of the listener detects the 'reading aloud' situation, it immediately switches to screen-saver mode and starts entertaining its owner by generating elaborate sexual fantasies or other mental simulations of choice. It is very simple: read from paper, and lose your audience immediately. For the entire duration of your talk. This is why there are no exceptions to this rule. None. Ever. Not even in departments or universities where this is a 'tradition'; torture was a tradition in the middle ages, but these days most countries have laws against it. The persons reading their talk from paper may be very smart. They may be brilliant. They may even be Nobel Laureates. But they are nevertheless giving a bad talk.

The reasons for this intriguing phenomenon are only partly understood. One obvious reason is that written text is intended to be read, not listened to. During reading, one can back up and look at text that occurred before the point of reading, to re-analyze complicated sentences or simply try to understand the same sentence again. This is obviously not possible if that text is being spoken. Another reason is that presenters who write up their talk use language that is typical for written texts. In other words, they do not take into account the fact that the listener cannot back up, and only has a limited short-term memory capacity. Consequently, while 'improving' their talk, presenters add more and more qualifications and sub-clauses to their text, under the delusion that this will make their talk better. In fact, they are ruling out even the remotest possibility that their talk is ever going to be understood or appreciated.

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1 Throughout this paper, I will use the pronoun ‘he’ for the speaker. This does not mean that I want to suggest that men are worse presenters than women. Neither do I want to suggest the opposite.
third, less obvious reason is that the intonation in read-aloud speech tends to get flat and monotonous, and pronunciation more hurried and 'mumbly'. For some reason, the brains of listeners respond to this type of intonation by automatically interpreting the incoming signal as being spectacularly irrelevant.

**Possible objection 1:**

But how am I supposed to be accurate and precise in my formulations if I do not read my talk from a carefully crafted document?

**Answer:**

Your job is not to be accurate and precise. Your job is to a) make sure your audience is paying attention (read: is at least not falling asleep), and b) to make sure they understand and even want to understand what you mean. If you are obsessed with being accurate and guarded against every conceivable counter argument, then you should write up your story and publish it in a journal. You give a talk to get people interested about the content of your work, not to impress them with your attention to detail.

**Possible objection 2:**

But I am not fluent in the language that I am going to present in. Is this not a good reason to write up my talk, have it checked for grammar and style, and then read it aloud, so I will make no errors in my talk?

**Answer:**

Even if you are not fluent in the language you are going to present in, losing your audience after uttering approximately three words (even if grammatically perfect) is always worse than having people listen to your non-native tongue. Besides, most talks are followed by a discussion period, in which you will have to produce spontaneous speech anyway. If your audience already knows how well you do or do not speak the language by listening to your talk, they will a) be able to adapt before the discussion period, and b) not be surprised by your sudden loss of fluency.

**Possible objection 3:**

Yes, but what if I speak the language so poorly that nobody will understand my spontaneous speech?

**Answer:**

Then you should not be giving a talk in that language.

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**Rule 2: Do not talk for longer than your allotted time.**

Talking for longer than the time that you have been allocated is simply very rude. It also usually means either a) that you are talking during the time that was allotted for discussion, robbing you and your audience of a valuable opportunity to engage in an exchange of arguments and/or clarifications, b) you get cut short by the organizer, which is embarrassing, or c) you will cause coffee breaks to be shortened or schedules to run late, which will make people hate you.
Rule 3: Do not talk for more than 45 minutes.

While many people would tend to agree with rules 1 and 2, this one appears to harder to swallow for many scientists. Still, it is a very important rule. I have witnessed hundreds of talks in my scientific career, and after 45 minutes it is obvious from looking at the behavior of the audience that more than half of the audience has completely lost interest (there are also scientific studies that show this quite clearly). The members of the audience are staring in the distance like zombies on Valium or they are doodling, dozing off, inspecting their fingernails, or in some cases, snoring. And they are most certainly not paying any attention to what you are saying. And they can’t be blamed. It is unreasonable to expect human beings, even adult human beings, to be focused and concentrated on another person’s topic for more than 45 minutes, without a break. As your most important take-home messages will tend to be at the end of your talk, you want people to be reasonably fresh and paying attention when you deliver these final messages. You don't want them to be in a coma.

Objection 1: But what if I have been allotted more than 45 minutes by the organizers? Am I not going to disappoint the organizers or my audience if I only talk for 45 minutes?

Answer: No, you are not. Chances are that the event you are participating in is already running late, due to the inevitable other speakers before you who did not abide by these rules. Even if everything is on schedule, it means that now there is more time for discussion, and/or more time for the coffee break. People will actually be delighted if you do not use all your allotted time, because it gives them more time to relax and think about the things you have been saying or discuss it with you.

Objection 2: But what if I just have a lot to say? It is simply impossible to present everything I need to say in 45 minutes.

Answer: Then you should say it more concisely, or focus more on your main message. It is always possible to give a talk in 45 minutes. You only have to know how. Many people start at the wrong end. They take a two-hour presentation and start cutting content until they arrive at approximately 45 minutes of talk material. This does not work. First, there will be ‘holes’ in the story, which will need to be filled in with explanatory talk, so that your talk will secretly become longer again. The holes will also make the talk less understandable. Second, the slides that are still there have the wrong level of detail, as they originate from a two-hour talk. What to do? There is a very simple way in which anyone can say everything they need to say within 45, 30, or even 5 minutes. It works like this. Start with writing a talk that consists of one sentence. Yes, seriously, express the main message in one sentence. If I had to give a talk about the paper you are reading now, this sentence could be something like: “If you want to give good talks, do not read from paper, don’t talk too long, and avoid boring detail.” There. That is one sentence. It could be even shorter, by the way, it could be a t-shirt text: “Don’t be boring”. Yes, the t-shirt and the one-sentence formulation are obviously far too short for a real talk, but they do represent the essence of what you are trying to get across. Then, after having a good t-shirt text or sentence, expand to a 1-minute talk, consisting of one slide. Again, take this very paper: it would probably have the 10 rules on that slide, right? Good. Now move towards a 5-minute, 5-slide presentation. Now you can go into some more detail, but only, of course, add material that improves the audience’s understanding of the short
version of the talk that you already have. Go on adding until the desired length (45 minutes or less) has been reached. By starting from the single sentence and then expanding towards the available time, you are guaranteed to have a compact talk that says what you want to say as well as you can, and nothing more.

**Rule 4: Distribute your time evenly.**

Often, speakers go through the first half of their presentation with excruciating attention for detail, and then find that they have 5 minutes left for the rest of their talk (no, that was not a mathematical error). They then have a choice between two equally silly alternatives. They can increase their speech rate until they sound like Donald Duck on amphetamines, or they can skip a large number of slides saying 'Unfortunately, I have no time to go into this' (often accompanied by an angry look at the organizers) and hastily jump to the conclusions slide which now has become totally incomprehensible, because usually the slides at the end of a presentation tend to presuppose material presented earlier.

**Rule 5: Use projected slides.**

Especially the more old-fashioned among us sometimes maintain that using projected slides (e.g., PowerPoint or Keynote) is a sign of weakness on the part of the speaker. Whether they say so because they are not willing or able to learn how to use these tools or because they actually believe what they say is not important here. What’s important is that using visual information projected on slides helps your audience to keep track of where you are, and if they have lost their concentration for a few seconds, to reorient themselves. It also makes your talk more appealing, and gives you the opportunity to use cartoons, graphs, and pictures, or, if you don’t use any of these, keywords and definitions that would fade from memory much quicker if you were speaking without these visual aids.

**Rule 6: Do not literally read aloud what is on your slides.**

Remember Rule 1. Reading aloud signals irrelevance and boringness, even if some of the disadvantages discussed under Rule 1 are less salient in this case. Use short keywords and key phrases (bullet points) to guide and structure your presentation, but talk about these keywords and phrases in more elaborate, spontaneous, and therefore more entertaining speech. An especially bad idea is to read aloud the text on your slides while following every word with a laser pointer or stick. This gives off the impression that you believe your audience needs help with the process of reading, and makes you look like a fool.

**Exception:** For definitions you deem very important but are not overly long, it is acceptable to read that definition aloud. But then, as I said above, please do not follow the text word for word with your laser pointer.

**Rule 7: Use BIG FONTS on your slides.**

What is surprising about this rule is that everybody knows it, and yet many people still ignore or forget it. There is a wide variety in the quality of the eyesight among the people in your audience, and some people are sitting in the back. You do not want
them to be unable to read what is on your slides. Also, if your font is small, it
probably means that you have too much text on your slides. A font size should never
be smaller than 24.

**Objection:** What if I do not want people to be able to read my slides?

**Answer:** In that case, it is a good idea to use small fonts.

**Rule 8: Do not use fancy animations or sounds effects with text items.**

It can be tempting to use the fancy features that your presentation software offers in
displaying your bullet points. There are fancy animation features that make your text
items fly to their final position as if your presentation were the trailer of a StarTrek
episode, or as though they were being ‘beamed up’, materializing from clouds of
shimmering dots. There are sound effects like screeching tires, ambulances, and
applause that you can activate with a certain text item. For some reason, these features
must be included in presentation programs, because if they are not, it does not appear
professional. However, they are only there to show that the people who wrote the
program are industrious and competent. They are not there to be to be used on real
people in actual audiences.

**Rule 9: Skip the details.**

The big picture, the bottom line, the take-home message, and the t-shirt text: all these
expressions indirectly relate to the same phenomenon, namely: details are boring.
Unless a specific detail is the topic of your talk, in which case it is not a detail
anymore, but rather, the topic of your talk. So if you are giving a talk about the effect
of watching television on people’s attention span, and you spend 15 of your precious
45 minutes on describing the software library that you used in the computer program
that you used to measure television viewing times, you are getting lost in the details.
However, if the title of your talk is “software libraries for eye-tracking”, this may well
be essential content. To avoid getting lost in the details, use the trick described in rule
3: start with a one-sentence version of your talk and expand outwards. That way, you
will not even think about presenting boring details.

**Rule 10. Imagine you are in your own audience.**

Both while writing your talk, and while presenting it, you should try to imagine what
it would be like to be in the audience. To some this may sound trivial, but I once
spoke to a colleague (an established scientist) who told me that he went to a course
about giving good presentations. I asked him what he’d found useful, and he said that
he’d learned a great trick: imagining that you yourself are in your own audience. He
didn’t find that trivial at all; he thought it was brilliant and he said he wished he’d
been told before. So if you find this rule trivial, good! If not, please realize that all the
other nine rules are special cases of this last rule.