## 2.3. Manuscript and Visualization

### 2.3.1 The Manuscript for the Presentation

- There is a simple rule: *There is no manuscript for the presentation!*. *Never ever* read from a paper while giving a scientific presentation! However:
  - It is useful to write down some of what you are going to say for yourself!
  - It is admissible to write down the important opening or closing sentences and to look at them when they come up.
  - It is recommended to write down a "skeleton" of your presentation to which you can refer. This - if you want to do it "professionally" - could be in the form of **DIN A 6** cards (one for very topic) which you shuffle as the presentation rambles on; watch showmaster or politicians - they all use that system.
- If you do that, keep in mind:
  - Keep your manuscript (with the skeleton) or your cards *horizontal* - the area seen by the audience is smaller this way, it is less obtrusive.
  - The hand that is holding the cards stays quiet. Gesticulations are for the other hand!
- In scientific talks there is an alternative: Write your skeleton on viewgraphs ("Skeleton foils")
  - Mark on those viewgraphs places where you are going to show another viewgraph, write something on the blackboard, etc.
  - But don't forget to go back to the proper place on your skeleton viewgraph.
  - And do not mix up your viewgraphs!
- An example for a "skeleton foil" is given in the link. The cartouches mark an action. "Folie" means that a different viewgraph will be shown at this point.

#### The Paper to the Presentation

- The paper to the presentation (the hand out after the presentation) is *not* the written version of the presentation!
- Of course it contains everything you said and showed, but it may contain a lot more. In fact it *has* to contain more:
  - It must have the *names of the authors* on it, a date and possibly some other comments to the w's ( why, when, where, who, what for, with what, for whom, ...)
  - It must have the *Figures*, and if they are not your own, their origin.
  - It may contain any amount of *formulas* (which your presentation should not!).
  - It must have *references* to other papers and books, and a list of references at the end.
  - It should have an "*Acknowledgment*" at the end if you have reason to mention any help you got from others in writing the paper.
    (... I'm especially indebted to Ms. Anderson who regularly provided delightful diversions which helped to clear my mind for the demanding task of writing this paper, and to the Holsten brewery whose products induced the necessary peace of mind.)
- In other words, it should be written in the time-honoured style of any scientific paper.

#### Visualization

- *One picture says more than a thousand words* - you have heard that before (have you ever seen it?).
- It is trivial, but it is true! If you use pictures, graphics, photographs, even viewgraphs with plain text on it, the effects are:
  - Your information will stick better. Information processing in the brain is more efficient through the eyes than through the ears.
  - You will appear more convincing and more trustworthy (ever noticed that the military, when they show a big victory, now always presents a satellite photography or something else where you actually cannot see anything clearly, but it is still very convincing!).
- Everything you offer your audience to look at (including yourself) is a visual aid to your presentation. But not all possible visualizations are good visualization!
- Keep in mind: Visualization are used to support your factual content, especially your key points. When conceiving of a possible visual aid, ask yourself the following questions:

- Is the visualization helpful at guiding the audience to where you want them to go?
- Is the visualization helping the listeners to understand complex relations that you are trying to point out?
- Is the visualization helpful to regain the attention of your audience at some specific point in your presentation?

## From the Idea to the Visualization

- First you have to select the information that is especially important to *the audience*. That may be different to what was especially important to *you*!
  - If, for example, you spent a lot of time understanding how a particular equation or an integral was solved, the way to the solution may have been important to you. But it is probably not important for your audience! All that matters may be the boundary and starting conditions and the result. In this case do *not* visualize the math! Do *not* use a viewgraph with lots of formulas on it!
  - Generally speaking: Mostly the details don't matter, but the consequences from the details. If the only information you actually use from a detailed table of something is the fact that item "**X**" accounts for about **1/3** of whatever it is, do not show the table!
  - But now lets assume you do have very interesting information and that you definitely are going to visualize it. Then you must decide what will be the best way. An example: Lets assume you have the following table giving the facts.

| **Year** | **1973** | **77** | **81** | **84** | **87** | **90** | **95** | **98** | **01** | **05** | **09** | **13** | **17** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Price for 1 Mbit of DRAM memory (DM)** | 150.000 | 10.000 | 800 | 240 | 60 | 10 | 1 | 0,26 | 0,11 | 0,05 | 0,014 | 0,008 | 0,003 |

  - Should you show it? The answer is an emphatic *no*! This can be visualized much better (with, however, a lot of additional work!).
- The less abstract you make your data, the more you appeal directly to the emotional part of your audience - and that means that the information does not have to be processed to leave a clear imprint in the memory of the brain.