On the language
of scientific text

- for ph.d. students at the Faculty of Medicine, UiO

Genre of Science

The 3 main dimensions of genre:

Intention

Function

Convention

Genre of Science 1

Socrates to Meno
(to the effect that knowledge + manliness = truth):

[...] true opinions [...] have only to be awakened by questioning to become knowledge

[...] the belief in the duty of inquiring after what we do not know will make us better and braver and less helpless than the notion that there is not even a possibility of discovering what we do not know.

Plato: *Meno*, 86 a-b

Genre of Science 2

Just before he died, sir Francis Bacon (†1626) wrote a utopian vision of a ideal society based on scientific labour, the New Atlantis. He envisioned a future science that would be collective, cumulative and inductive. The general aim of that future science is articulated by the leader of the envisioned scientific institution (Salomon's House):

The end of our foundation is the knowledge of causes, and secret motions of things; and the enlarging of the bounds of human empire, to the effecting of all things possible.

(Bacon 1627 s. 129)

Genre of Science 3

The shipwrecked merchant who later narrate the tale listens in awe, as the instruments and procedures of science is described. And then the roles and functions of the *fellows* are described, beginning like this:

***For the several employments and offices of our fellows, we have twelve that sail into foreign countries under the names of other nations (for our own we conceal), who bring us the books and abstracts, and patterns of experiments of all other parts. These we call* merchants of light.**

(Bacon 1627:135-6)

Genre of Science 4

1626:

Francis Bacon dies

1627:

Bacons unfinished utopia, the ***New Atlantis*** is published, envisioning a *empiric-inductive* ideal of knowledge: *collective, cumulative* and *inductive*

... the esoteric school? ...

1660:

28. November: weekly club *meetings* in Bishopsgate, London. They were a group of devout baconians (among them Christopher Wren and Robert Boyle). From 1663 on they were formally named *The Royal Society of London for Improving Natural Knowledge*

Genre of Science 5

1662:

The Society was given privilege to print, by Royal Charter

1663:

Our hero becomes the first secretary to the Society, ***Henry Oldenburg*** (1619-1677)

1665:

Out of sheer frustration our Henry published the first scientific periodical, the *Philosophical Transactions*

1672:

6. februay: Isaac Newtons first letter on optics – arguably the first major advance ever published in a scientific periodical, but also the first major instance of the *empiric-deductive* ideal of modern science

speech ≠ writing

1. Writing requires more precise words (due to decontextualization)
=> specialized terminology, loanword

2. In writing vocal emphasis has to be expressed by way of syntax and phrasing, not tonal quality. Flow and tempo is manifested through textual binding, varied syntax and use of connective words and phrases

3. In scientific syntax, priority is on the topic (displacing more common subjects)

4. Writing always lead to the risk of **arrogance**

Traps of Science Language

1. Long and ”difficult” words
   (neccessary, but avoid excess)
2. Nominalization & nose heavy syntax
   (neccessary, but avoid excess)
3. Long and convoluted periods
   (neccessary, but simplify if possible)
4. Reversal of ’given/new’-structures
   (uneccessary, should be avoided)
5. Implicit connectives
   (connectives should be explicit)

Information: the capacity of the short term memory?

7 ± 2

Virtues of Science Language

1. Clear, logical linking of sentences
2. Coherent development of the topic in paragraphs (old before new information)
3. Use of grammatically correct sentences
4. An ability to make effective claims at the right level
5. Clear organization of sections of a paper, and
6. Placing their work in a wider context (especially relevant for authors in developing countries)

p. 47 in Hengl, T., Gould, M. 2006.
The unofficial guide for authors. EUR 22191 EN, Office for Official Publications of the European Communities, Luxemburg.
(http://eusoils.jrc.ec.europa.eu/ESDB_Archive/eusoils_docs/other/EUR22191.pdf)

Art of Speech in 1-2-3

~ basic speech exercise 1 ~

You are on the right track when:

1. ***You have trained your voice***
   so that it does not fail
2. ***You have tested your speech***
   with both eye and ear
3. ***You decide***
   what the audience remember

Art of Speech in 1-2-3

~ basic speech exercise 2 ~

Memory aid; memorize this:

1. ***Introduction***
   (well meaning & apt)
2. ***Three main points to remember***
   (1 - 2 - 3; clear & consistent)
3. ***Conclusion***
   (important & valuable)