


## SCIENCE

### Public speaking



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## Science

Three fundamental activities:

- **doing** (observation, experimentation, methodology, technology)
- **thinking** (hypothetico-deductive logic, causality, interpretation)
- **communicating** (written language, spoken language) } **very different!**

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## Public speaking

- integral part of science  
(assumed generic communication skill)
- information dissemination + promotion  
(science and scientist)
- institutionalized  
(lectures, seminars, workshops, conferences)
- nature versus nurture  
(definitely learnt skill, improves with practice)
- healthy ego  
(all feedback is 'constructive')

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## TEN TIPS

Back-engineer topic	Six 'W's
<b>PUBLIC</b>	Why? Where? Who?
<b>SPEAKING</b>	What? When? How?

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## 1. Be clear of purpose!

- know precisely why you are speaking
- obtain brief from organizers
  - content (topic, level, length, etc)
  - process (oration, a-v presentation, workshop, etc)
  - logistics (venue, facilities, audience, etc)
- develop own goals  
(take-home messages)
- decide on style  
(reminisce, informative, provocative)  
(be adventurous with story-lines, analogies, etc)

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## 2. Reconnoitre the venue!

- walk the room  
(size, stage, screens, seating)
- test the technology  
(lights, microphone, computer, projector, etc)
- cater for recordings  
(media requirements, video, lighting, sound, etc)
- Murphy's Law  
(if something can go wrong, it will)
- do not be a techno-nerd!  
(have rescue strategies ready)

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### 3. Know your audience!

- to whom are you speaking?  
(colleagues, peers, students, public)
- tailor your delivery  
(give them what they want!)
- greet audience members as they arrive  
(personalize the occasion)
- dress appropriately  
(up rather than down) (personal grooming)
- stay sober  
(alcohol confounds) (you and audience)

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### 4. Tell/sell a story!

- make your story transparent to audience  
(develop logical thread, story-line)
- have a beginning, middle and end  
(triple exposure rule = preview, view, review)
- be prepared  
(practice, refine) (do not wing-it)
- know your topic  
(be an advocate - enthusiasm is infectious)
- use conversational language  
(beware of humour, personal anecdotes)

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### 5. Watch the clock!

- know the schedule  
(your spot, mental/nervous preparation)
- expect delays  
(garrulous comperes, questions, rowdy audiences)  
(do not feel pressured to make up time)
- practice your timing  
(watch/timer)
- know when to stop  
(better to finish early than to drone on)
- watch for audience 'tells'  
(fidget factor)

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### 6. First impressions!

- make them count  
(consciously, subconsciously)
- harness nervous energy  
(adrenalin is normal)  
(approach lectern composed)  
(activate audio-visuals)  
(take a breath and pause)  
(acknowledge chair)  
(acknowledge audience) (eye-contact)  
(say hello and introduce yourself) (stolen thunder)  
(introduce your topic) (well-practiced opening)
- set the scene and tone

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### 7. Have a conversation!

- use conversational rather than formal language  
(spoken v. written word, dialectic v. didactic)
- keep your sentences short, sharp and shiny  
(avoid verbosity, repetition) (speak slowly, clearly)
- appear spontaneous, even though using triggers  
(but avoid reading from scripts, cue-cards, or slides)
- you are the star, not your slides  
(dot-points, simple images)
- look and speak to audience, remember to breath  
(back-row volume, 3-second eye-contact rule)

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### 8. Be theatrical!

- you are acting a part  
(be serious, flamboyant, dramatic, etc)
- adopt performance persona  
(exaggerate language, expressions, actions)
- body language  
(smile, posture, gesticulation, movement)
- physical props  
(think beyond ppt)
- use humour sparingly  
(your audience often does not get it)

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## 9. Be confident!

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- visualize success  
(imagine the audience clapping)
- control self-doubt  
(you are probably your own worst critic)
- do not be an apologist  
(negativity destroys)
- trust polite society, the audience is forgiving  
(what is the worst they can do)
- hammer home message  
(have defined outcomes/expectations)

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## 10. Prepare, Practice!

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- prepare, practice, refine  
(repeat cycle several times)
- live simulations  
(practice out loud, in front of a mirror, to a friend)
- rehearse with props  
(familiarity, choreography, etc)
- mimic successful public speakers  
(research styles, habits, etc)
- have fun!  
(enjoy yourself, then so will your audience)

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## TEN TIPS for public speaking

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PUBLIC	Why?	1. Be clear of purpose!	(intent, goals, brief)
	Where?	2. Recon the venue!	(room, audio-visual aids)
	Who?	3. Know your audience!	(intellectual level, dress, sobriety)
SPEAKING	What?	4. Tell/sell a story!	(content, story-line, a-v aids)
	When?	5. Watch the clock!	(schedule, timing)
	How?	6. First impressions!	(introduction, first words)
		7. Have a conversation!	(volume, speed, text, eyes)
		8. Be theatrical!	(comedy, drama, gesticulation)
		9. Be confident!	(relax, nerves, errors, apologies)
		10. Prepare, Practice!	(aloud to others, watch masters)

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## Modern Information Technology

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## Media (communication)

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(information/data, storage/transmission/delivery)

ICT defines 5 epochs of civilization:

- ideographic writing
- alphabetic writing
- printing
- electronic recording and broadcasting
- computer communication



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## Types of media

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- **Print** media (newspapers, magazines)
- Broadcast media (**radio**)
- Broadcast media (**television**)
- **Internet** media (on-line)



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## Print media

(written words)

- **Publisher**
  - Scientific (journal, reference textbook...)
  - Social (newspaper, magazine...)
- **Author**
  - Reporter (trained journalist...)
  - Scientist (you)
  - Science writer (amalgam...)
- **Style**
  - Scientific writing (prescriptive...)
  - Journalist (deconstructed...)



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## Print media

- **Process**
  - Telephone interview
  - Internet interview
  - Personal interview
    - appointment
    - spontaneous
- **Content**
  - Notes
  - Recordings
  - Information sheets
  - Accurate data
  - Images (and captions)



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## Broadcast media (radio)

(spoken words)

- **Broadcaster**
  - Public radio (commercial, government)
  - Local radio (university, pirate...)
- **Speaker**
  - Scientist (you)
  - Reporter, anchor, news-reader...
- **Style**
  - Conversational (reactive)
  - Declarative (proactive)
  - Oratory (changes with time)



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## Broadcast media (radio)

- **Process**
  - Telephone interview
  - Internet interview
  - Personal interview
    - studio
    - office
    - street
- **Content**
  - Live broadcast
  - Pre-recorded
    - un-edited
    - edited



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## Broadcast media (television)

(audiovisual)

- **Broadcaster**
  - Local stations (commercial, government)
  - Syndicates (cable, multinationals...)
- **Actor**
  - Scientist (you)
  - Reporter, anchor, news-reader...
- **Style**
  - Conversational (reactive)
  - Declarative (proactive)
  - Explanatory (informative)
  - Idiosyncratic (persona...)



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## Broadcast media (television)

- **Process**
  - Personal interview
    - studio
    - office
    - street
- **Content**
  - Live broadcast
  - Pre-recorded
    - un-edited
    - edited




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## Internet media

(multimedia)

- **Broadcaster**
  - Internet servers (global distribution)
  - Intranet servers (restricted distribution)
- **Author**
  - Scientist (you)
  - Anybody else
- **Style**
  - Declarative (proactive)
  - Idiosyncratic (opinions)
  - Conversational (social media?)



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## Internet media

- **Process**
  - Post material
    - text (Wiki, Blog, Twitter...)
    - photos (Facebook...)
    - video (YouTube...)
  - Hits, replies, comments
- **Content**
  - Reliability/accuracy
    - edited
    - un-edited
  - Relevance
    - interesting/enlightening
    - boring



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## Media interactions

Contemporary relevant responsible scientists should embrace every opportunity to interact with the press



Information dissemination is what we do!

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## First Impressions

What did you think of the video?

What criteria?

- appearance
- vocal language
- actions, behaviour
- background setting
- accompanying images
- content, context, etc

**SITUATION CONTROL**

Media is IN-YOUR-FACE! Literally! (reporter, microphone, camera)



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## Editorial Discretion


fate literally at mercy of editor  
→ CUTTING-ROOM FLOOR

little comeback, no veto, scripted v. natural  
→ FREEDOM OF THE PRESS (inviolable)

rely on journalistic professionalism  
→ OFF THE RECORD (no such beast)  
→ ABSENCE OF MALICE (still hurts)  
→ OUT OF CONTEXT (who knows?)  
→ SENSATIONALISM (2 way street)

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## visual v. audiovisual



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## image-grabs & voice-overs

Journalists can be directive/prescriptive  
They are on a tight schedule  
They decide on grabs

Develop rapport

Where possible, provide extra material

- people (motion, action, crowds, work, play...)
- places (background, foreground, context...)
- things (exemplars, animations, video.....)

Value-add

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## Props



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## Advocacy

Model behaviours

- be positive (even when providing critique)
- be dynamic (alive, sincere)
- be personal (maintain eye-contact)
- be theatrical (use voice and body language)
- be engaging.....

Enthusiastic behaviour can be:

- riveting
- infectious
- manic

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## Bloopers

Mistakes will be made (yours and theirs)

- audio (tongue-ties, spoonerisms . . .)
- visual (tumbles, slapstick, props . . .)
- Murphy's law (children & animals. . .)

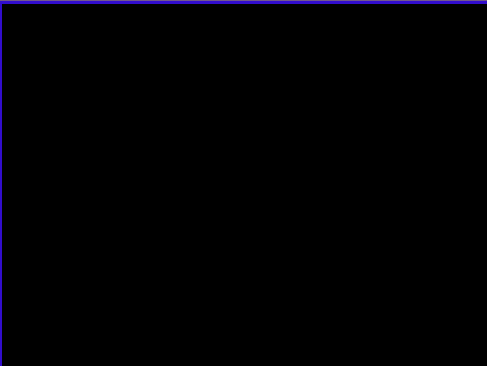
What to do?

- soldier-on
- start again
- insist
- go out-of-character, off-camera, yell-cut

- few opportunities to do-over

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## Powerful medium



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## Planned Interactions (6-P)

- **PURPOSE** (be clear as to reason)
  - why? why you? what message?
- **POSITION** (be declarative, do not vacillate)
  - pro/con, logic/reason, emotion/passion
- **PREPARATION** (be ready, practice)
  - content, process, personnel, resources (props, aids, briefings, scripts...)
- **PRESENTATION** (be an advocate)
  - professional conduct, model behaviour, enthusiasm
- **PERFORMANCE** (post-mortem)
  - reflection, appraisal, feedback, impact
- **PROSPECTS** (Quo vadit?)
  - what next? follow-up? referrals

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