

# What can editors do to deter and detect misconduct?

Liz Wager PhD

Chair, Committee on Publication Ethics

Freelance publications consultant

# What can editors do?



- Detect **research and publication misconduct**
- Prevent **publication misconduct**
- Educate **authors**
- Promote **good practice**
  - be aware of how journal policies may influence behaviour
- Inform **authorities, employers**
- Correct **the literature**



# What editors CANNOT do

- Prevent research misconduct
  - Investigate research misconduct
  - Settle disputes (e.g. authorship)
  - Investigate most types of publication misconduct
- 
- although they may request investigations



# Misconduct: definitions

## Research misconduct

- Fabrication
- Falsification
- Unethical research



Editors can't turn back the clock

## Publication misconduct

- Plagiarism
- Biased/selective reporting
- Authorship abuse
- Redundant publication
- Undeclared CoI
- Reviewer misconduct
- Abuse of position



# Detecting misconduct

*How much should editors do?*

The question for editors: Is misconduct  
'A few bad apples' or 'The tip of the iceberg'?



# How common is misconduct?

- Systematic review (screened 3207 papers)
- Meta-analysis (18 studies)
  - surveys of fabrication or falsification
  - *NOT* plagiarism
- **2%** admitted misconduct themselves  
(95% CI 0.9-4.5)
- **14%** aware of misconduct by others  
(95% CI 9.9-19.7)

Fanelli *PLoS One* 2009;4(5):e5738

# How often is misconduct detected?

PubMed retractions	0.02%
US Office of Research Integrity (ORI)	0.01-0.001% (1 in 10,000 / 100,000 scientists)
Image manipulation in <i>J Cell Biology</i>	1% (8/800)
FDA audit – investigators guilty of serious sci misconduct	2%



# Does peer review detect misconduct?

- Obviously not in all cases
- Prestigious journals are not immune (may actually be more vulnerable?)
- Reviewers sometimes spot:
  - plagiarism (*especially of own work*)
  - redundant publication (*from checking refs*)
  - multiple submission (*from seeing same paper*)
  - ?fabricated data ..... **probably very rarely**

# Schön's retracted papers

- 8 in *Science* (published 2000-1)
- 6 in *Physics Review* (4 from 2001)
- 7 in *Nature* (published 1999-2001)



# Tools for detecting misconduct

- Anti-plagiarism software  
(eg eTBLAST, CrossCheck, Turnitin)
- Screening images (PhotoShop)
- Data review (digit preference)
  
- Replication (for basic research)

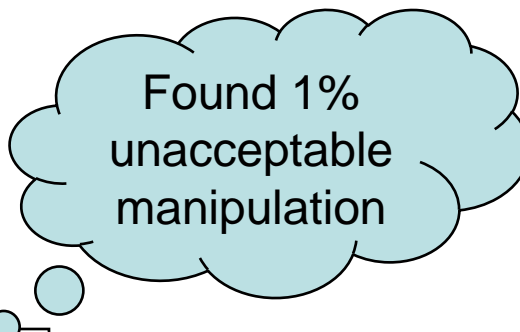


# CrossCheck

- Based on iParadigms software
- Compares text against publishers' d-base
- D-base run by CrossRef (doi system)
- D-base currently contains 28 million papers
- Shows % concordance + source
- Can exclude “quotes” and references
- ?False positives / ‘noise’ level

# Image screening

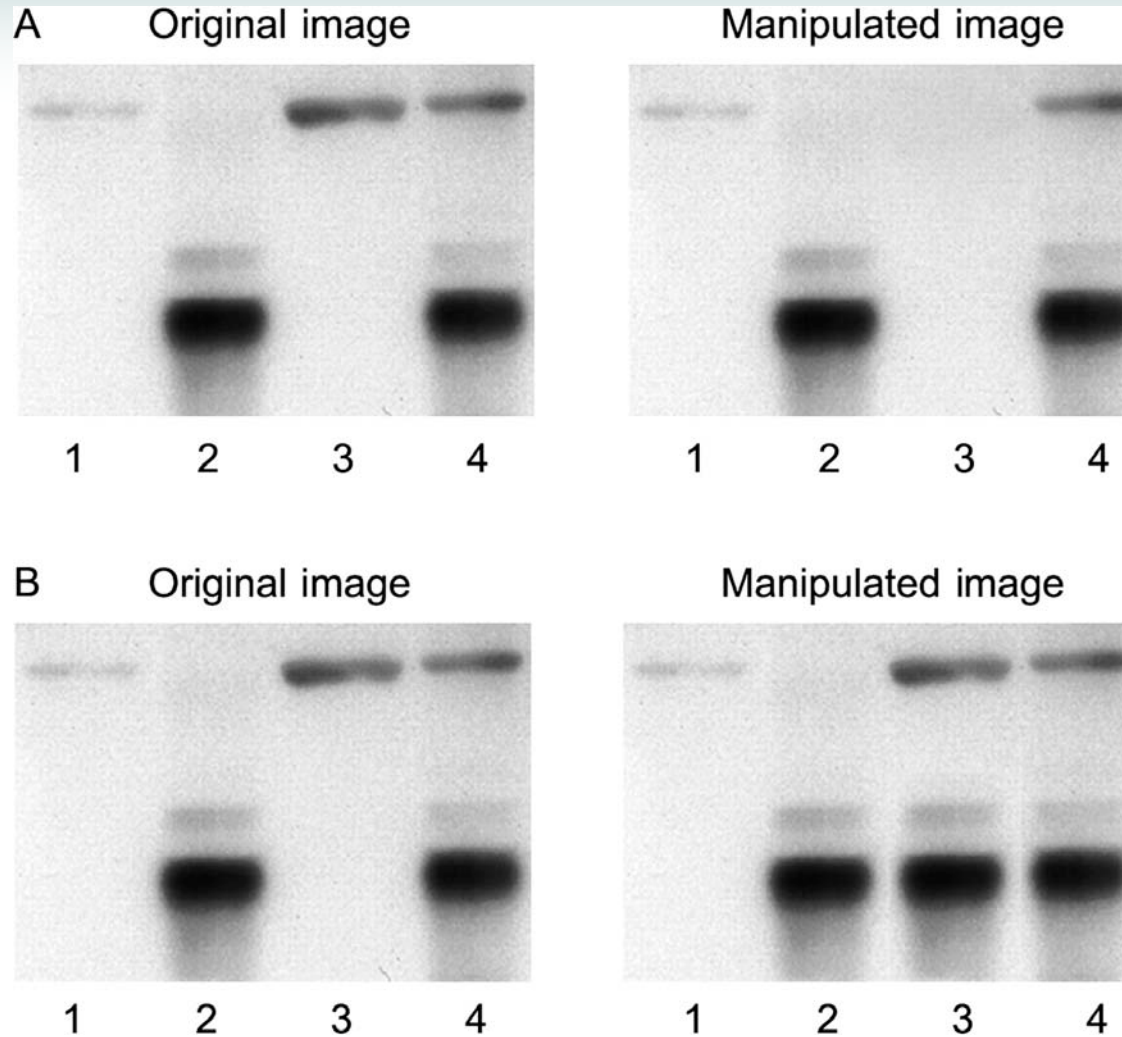
- Pioneered by *J Cell Biology*
- Used in some life sciences journals
- Important for research where the image = the findings
  - genetics / cell biology / radiography
- Manual check using PhotoShop
- Requires editor time / expertise



Found 1%  
unacceptable  
manipulation

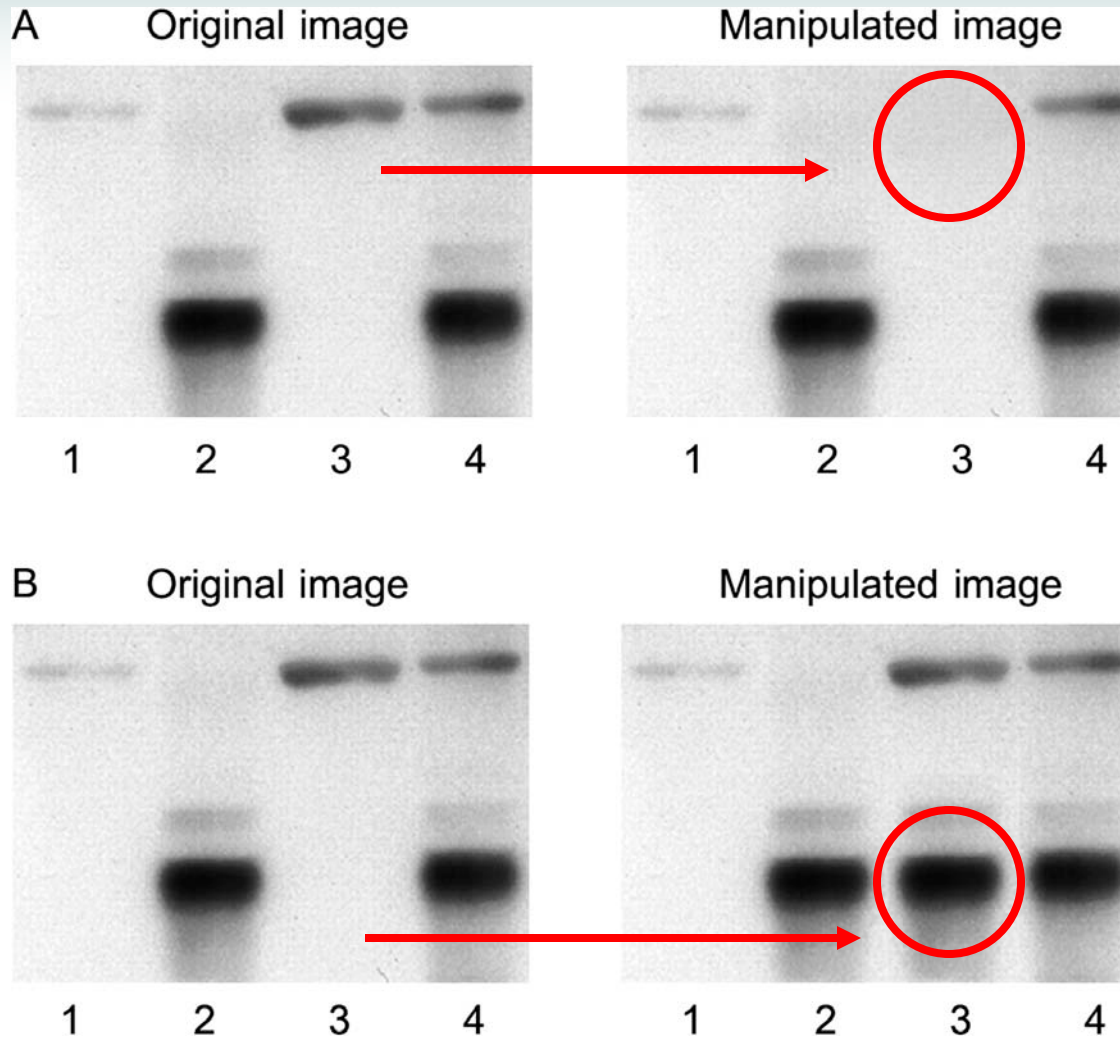
Rossner & Yamada, *JCB* 2004;**166**:11-15<sup>o</sup>

## Figure 1. Gross manipulation of blots



Rossner M., Yamada K. M. *J. Cell Biol.* 2004;166:11-15

## Figure 1. Gross manipulation of blots



Rossner M., Yamada K. M. *J. Cell Biol.* 2004;166:11-15

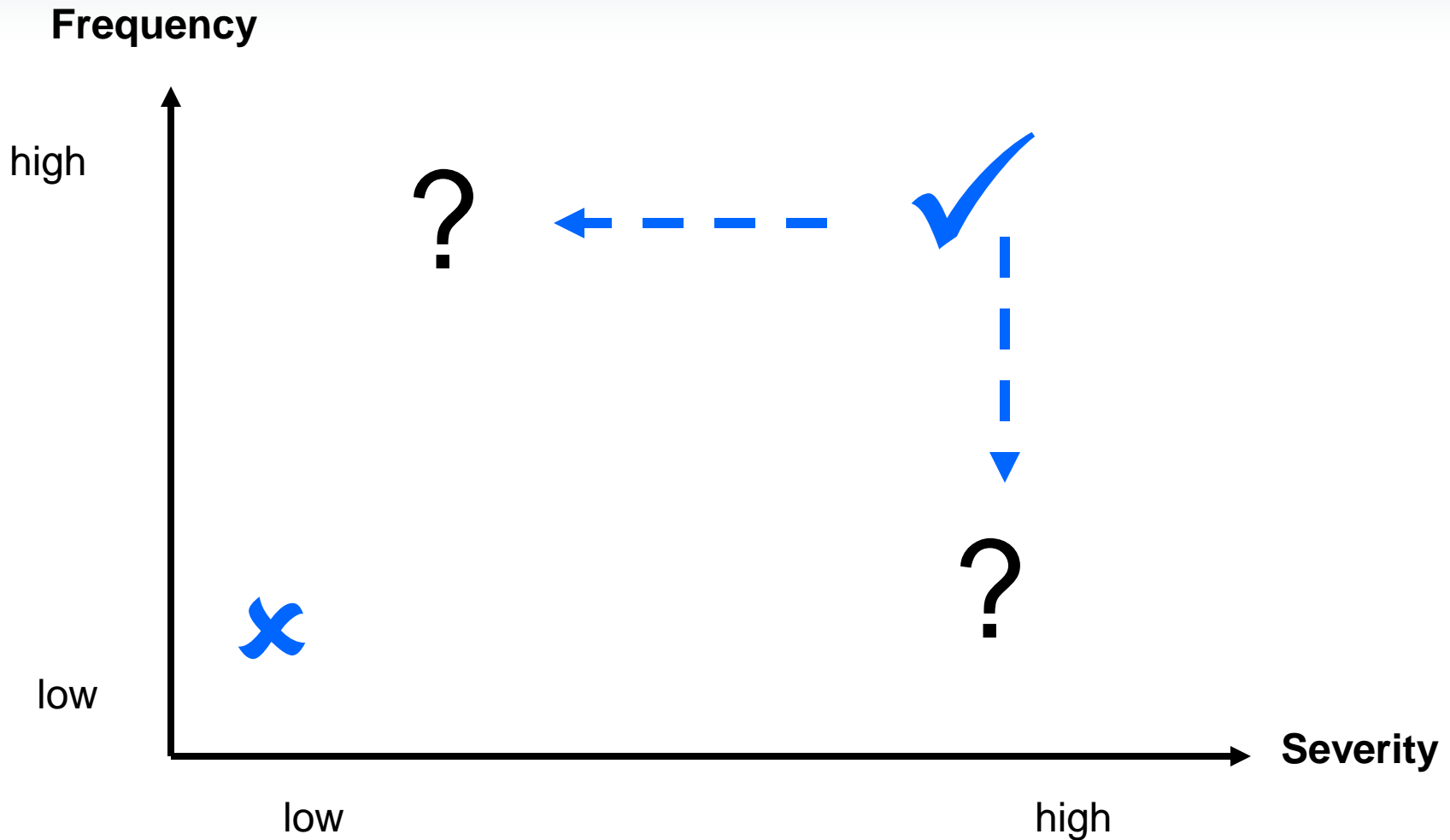
# Can technology help?

- Probably
- But it costs time / money / people



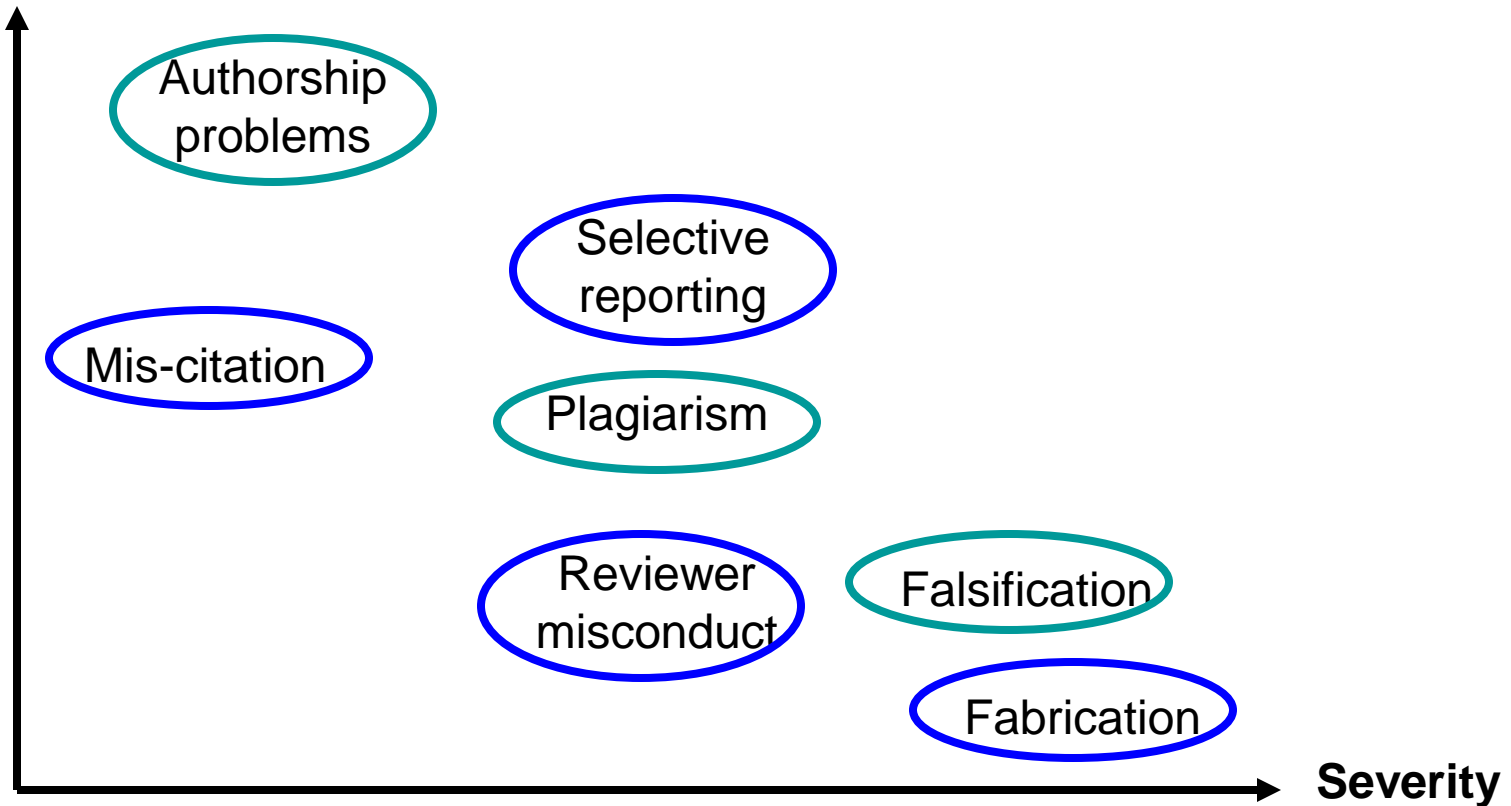


# Where to screen?



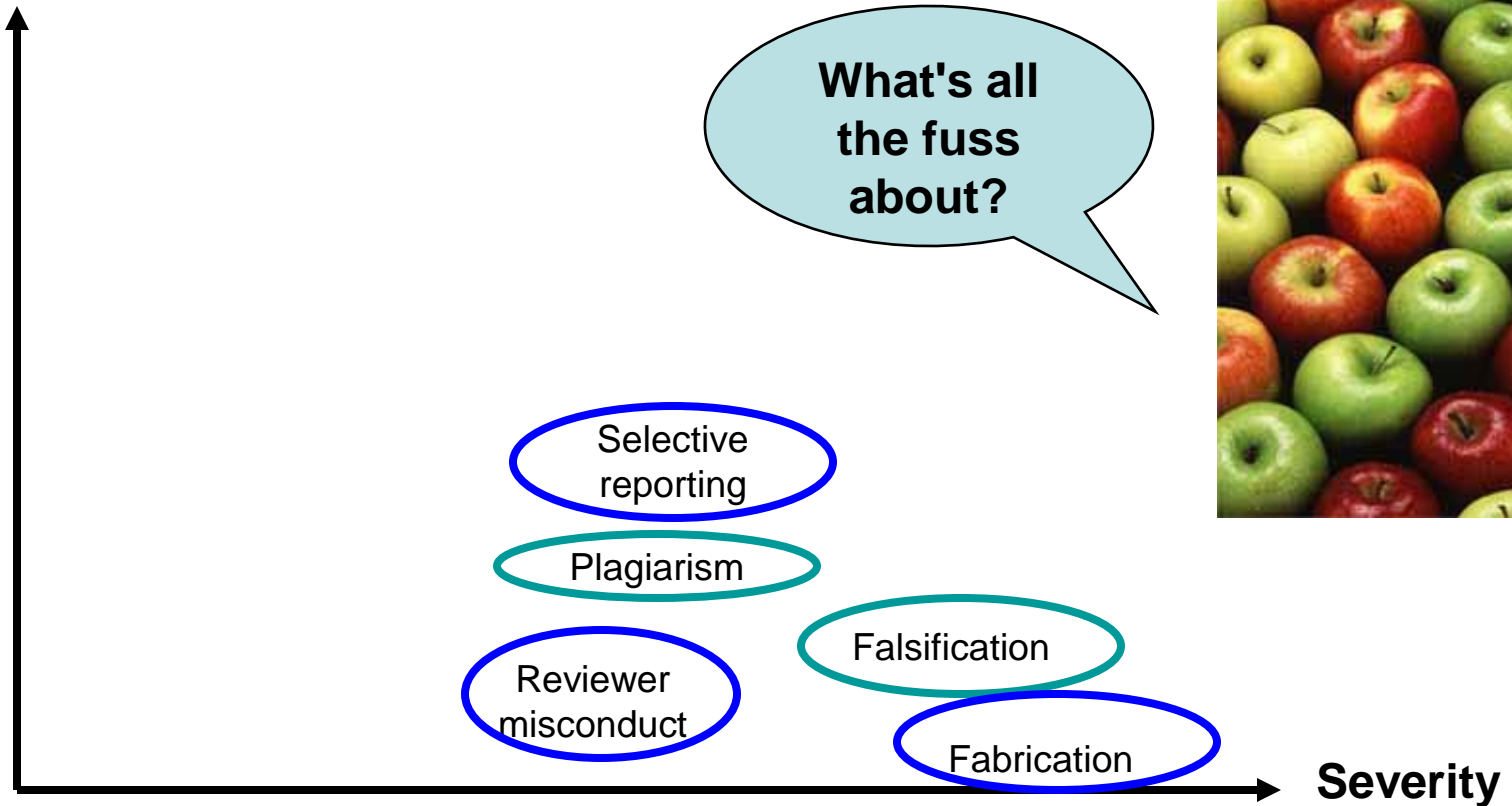
# Where do they fit?

Frequency

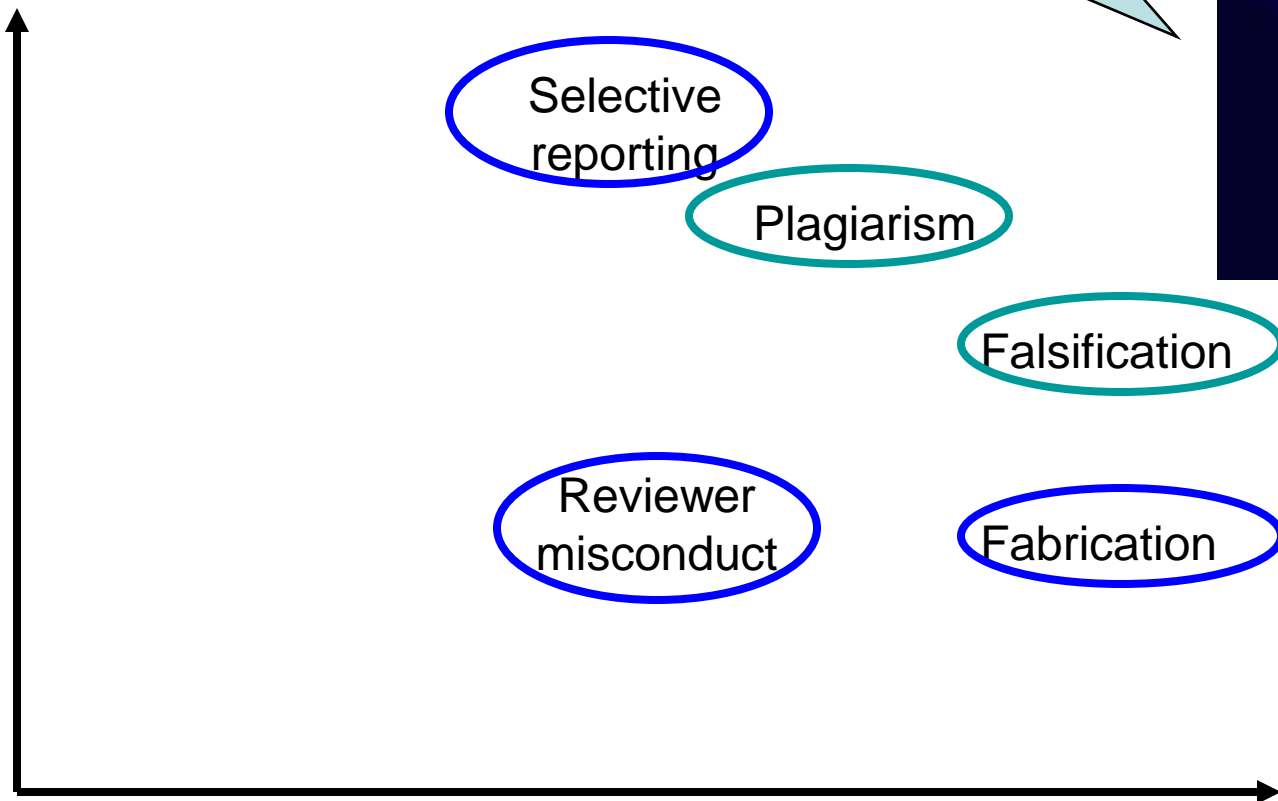


# It depends on your perspective

Frequency



Frequency





# Preventing misconduct

## *Guidelines*

# Are guidelines enough?



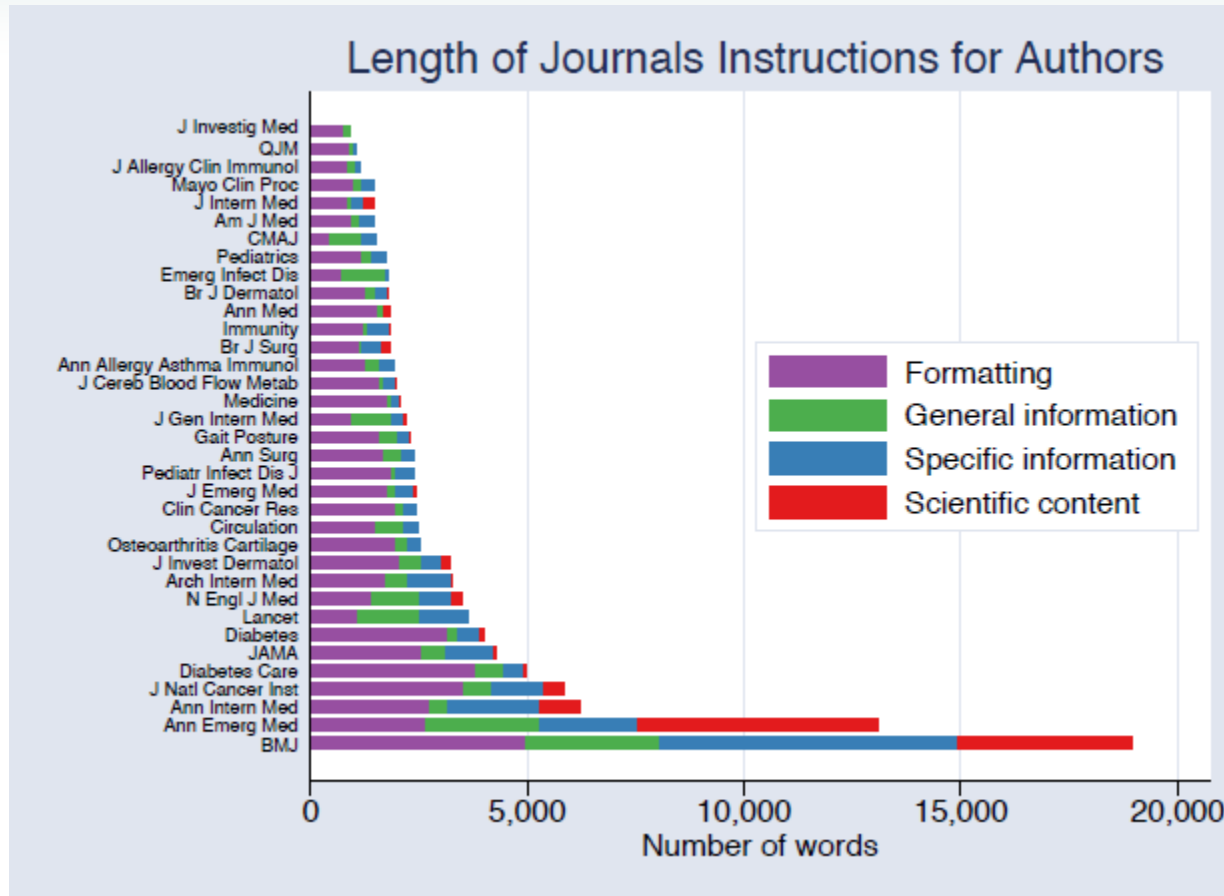
*"the [pirate] code is more what you'd call 'guidelines' than actual rules"*

*Barbossa, Pirates of the Caribbean*

# How helpful are journal instructions? (even to authors who want to follow them)

- 100/122 (82%) did not publish a retraction policy  
(*Atlas J Med Libr Assoc* 2004;**92**:242-50)
- 100/234 (43%) had no guidance on authorship  
(*Wager Medscape Gen Med* 2007;**9**:16)

# Most instructions are about formatting



Schriger et al *Ann Emerg Med* 2006;**48**:743-9



# What do editors actually do?

# Editors should acknowledge misconduct

*“If editors do not recognize ethical problems, they cannot act on them – and, until recently, most did not”*

**Richard Smith**


in Wells & Farthing (eds)  
*Fraud & Misconduct in Biomedical Research*, 4e,  
RSM Press, London, 2008

# Are editors alert to misconduct?

- Survey of science editors (231 responses)
- Asked about 16 ethical issues including:
  - falsified or fabricated data, plagiarism, redundant publication, unethical research design or conduct, image manipulation
  - authorship problems, reviewer misconduct, undisclosed commercial interests

Wager et al. *J Med Ethics* 2009;**35**:348-53

## Editors asked about 16 ethical issues relating to their journal:

<i>Score</i>	<i>0</i> 	<i>3</i>
<b>Severity</b>	not a problem	a very serious problem
<b>Frequency</b>	never	very often (>once/month)

# Editors' ratings of severity and frequency of ethical issues at their journal (average on scale of 0-3) (n=231)

0 = not a problem

0 = never  
1 = < 1/yr

	Severity	Frequency
Redundant pub	1.09	1.39
Plagiarism	0.86	0.96
Duplicate sub	0.79	1.01
Author CoI	0.73	0.90
Reviewer CoI	0.69	0.94
Fals/fabr data	0.56	0.58
Image manipulation	0.30	0.80

## Some editors think misconduct only happens in other people's journals (n=231)

	Not a problem at my journal	Never occurs at my journal
Redundant pub	14%	17%
Plagiarism	24%	19%
Duplicate sub	27%	9%
Author CoI	33%	22%
Reviewer CoI	31%	22%
Fals/fabr data	39%	35%
Image manipulation	64%	47%

# Our conclusions

- *'Most editors of science journals seem not very concerned about publication ethics and believe that misconduct occurs only rarely in their journals'*

Wager et al. *J Med Ethics* 2009;**35**:348-53



# What should editors do?



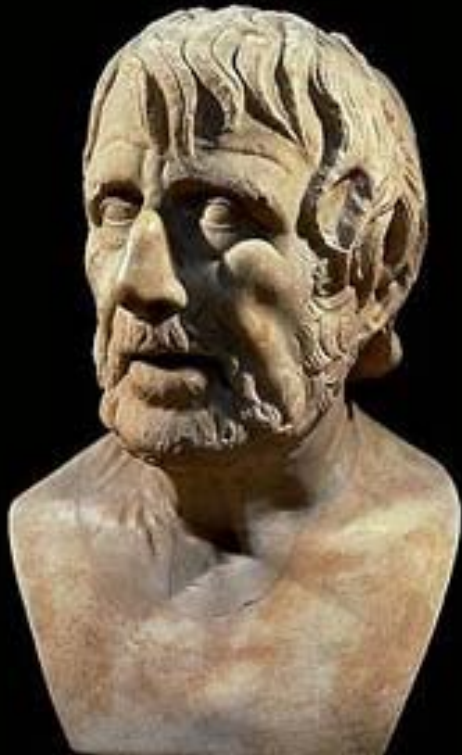


# Conclusions

- **Editors can / should:**
- **Prevent, detect, publicise and correct misconduct**
- **By informing, educating, screening, retracting, liaising with institutions**

# Guidance available

- COPE
- Committee on Publication Ethics
- [www.publicationethics.org](http://www.publicationethics.org)



*“It is a vice to trust all,  
and equally a vice to trust none”*

Seneca 4 BC – 65 AD



# Editors battling misconduct: working with institutions

Liz Wager *PhD*  
Chair, Committee on  
Publication Ethics (COPE)

[www.publicationethics.org](http://www.publicationethics.org)



## UK situation

### UKRIO

- voluntary advisory body
- no statutory / investigational powers
- originally funded by RCUK, UUK, DoH, COPE
- main funding withdrawn October 2010
- transferred to University of Sussex
- registering for charitable (not-for-profit) status

# Aim of UKRIO



- Advisory
- Multi-disciplinary / national
- Independent / impartial
- Provide advice / expert panel / policy making / promote best practice

# COPE experience



In many countries

- Hard to identify right person to contact
- Institutions often unresponsive
- Institutions / official bodies unwilling to share information with editors
- Editors NOT automatically informed of misconduct findings
- Communication sometimes ambiguous

# COPE



- Code of Conduct emphasizes duty to instigate (but not perform) investigation into allegations / suspected misconduct
- Retraction guidelines offer advice *re* retraction vs correction vs Expression of Concern
- Code / Audit expects journals to have policy in place for responding to institutions and other bodies (eg ORI) *(but many do not)*



# What makes it tricky?



- Threats of legal action (from authors and institutions!)
- Dealing with several institutions (buck passing)
- Unaffiliated researchers
- Limited remit of organizations (eg ORI)
- Needing to translate (lengthy) documents / correspondence
- Lack of 'higher body' (if no response)
- Superficial / unfair investigations (what next?)
- Contacts with conflicts of interest / not impartial

# What works?



- Sending registered letter (rather than email)
- Using local advisors (eg editorial board members) to advise re contacts / procedure
- Working jointly with other editors
- Approaching professional / licensing bodies (where available)
  
- Persistence ...