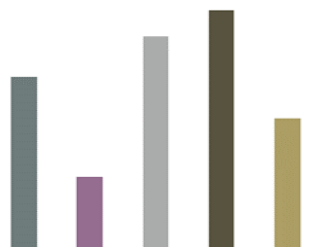


# Navigating the waters around “wicked problems”: Perspectives on misconduct from COPE



# Charon Pierson

Clinician and academic for 40 years

Nurse practitioner in geriatrics for 30 years

PhD in medical sociology

Journal editor for 20+ years

Member of COPE since 2009

Elected to COPE Council 2012

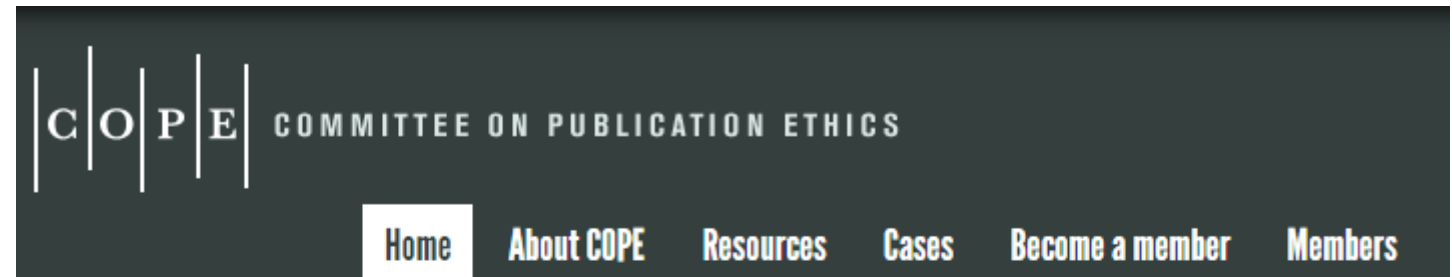
Elected secretary of COPE Trustee Board 2015

Investigated 2 cases of misconduct that resulted in retractions

Requested a misconduct investigation against an author via University and ORI

Independent contractor to AANP to edit our journal published by Wiley


No other competing interests to declare

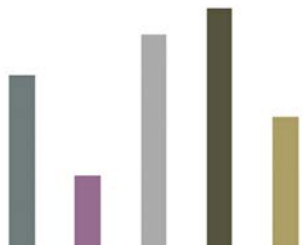


## Promoting integrity in research publication

COPE is a forum for editors and publishers of peer reviewed journals to discuss all aspects of publication ethics. It also advises editors on how to handle cases of research and publication misconduct. [Read more about COPE...](#)

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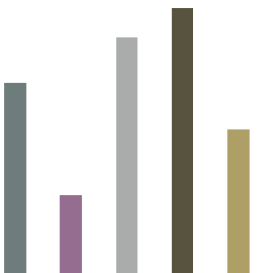
# About COPE

Began in London in 1997 as small, informal group of journal editors to discuss issues related to publication ethics

Registered Charity and Corporation under UK law

Today we have more than 10,000 members from 103 countries from Algeria to Zimbabwe

Membership is international in scope and fully inclusive in subject matter



COPE Council  
strategy day retreat  
June 16, 2016

18 Council members  
3 staff



## Geographical diversity of Trustee and Council Members



01. Virginia Barbour  
 02. Chris Graf  
 03. Geraldine Pearson  
 04. Charon Pierson  
 05. Chris Leonard  
 06. Mohammad Abdollahi  
 07. Gary Akehurst

08. Sally Weatherall  
 09. Vivienne Bachelet  
 10. J Patrick Barron  
 11. Mirjam Curno  
 12. Tara Hoke  
 13. Muhammad Irfan  
 14. Elizabeth Moylan

15. Zoë Mullan  
 16. Deborah Poff  
 17. Alison Taylor  
 18. Heather Tierney  
 19. Helena Wang  
 20. Michael Wise  
 21. Adrian Ziderman

### Key

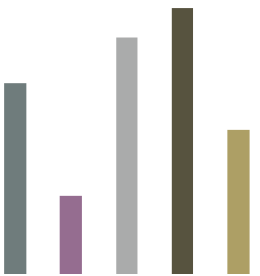
- Chair
- Co-Vice-Chair
- Secretary
- Treasurer
- Council Member
- Trustee

# COPE Aims

Provide practical resources to educate and support our members

Provide leadership in thinking on publication ethics

Provide a neutral, professional voice



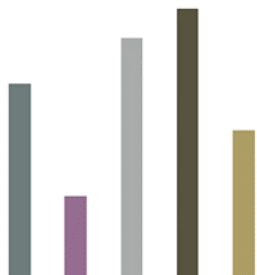




“Research is iterative and necessitates a clean “pool” of knowledge. “

What did we learn yesterday?

How does COPE think about these problems?





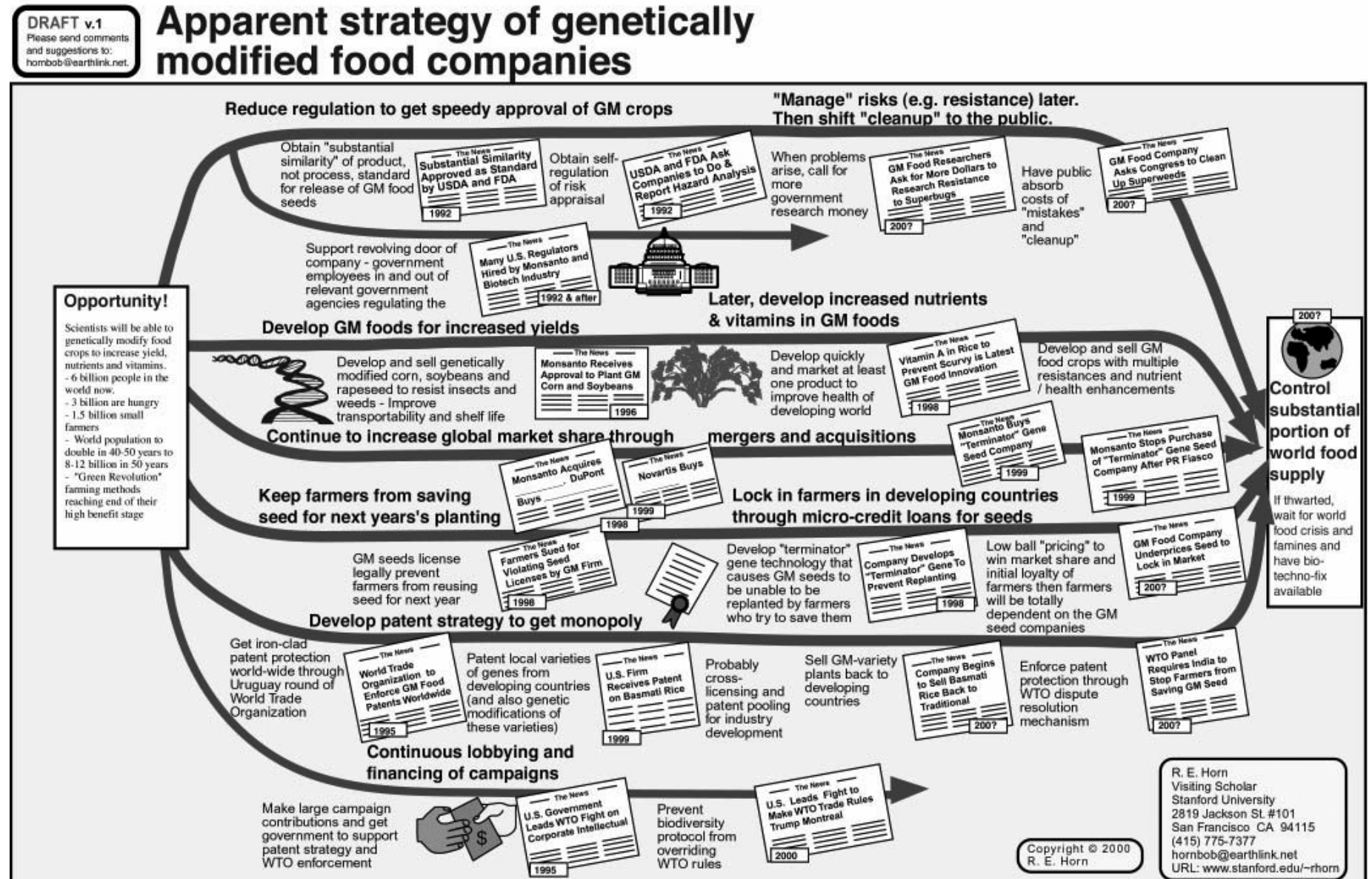
# What does a wicked problem look like?

Known as  
Wicked Problem  
(Horst Rittle)

Ill structured Problem  
(Ian Mitroff)

Social Mess  
(Robert Horn)

To see this map in full  
detail go to  
<[www.macrovu.com/GM\\_Unknownterritory.html](http://www.macrovu.com/GM_Unknownterritory.html)>



# Horst Rittel's original 10 characteristics

1. There is no definite formulation of a wicked problem.
2. Wicked problems have no stopping rules.
3. Solutions to wicked problems are not true-or-false, but better or worse.
4. There is no immediate and no ultimate test of a solution to a wicked problem.
5. Every solution to a wicked problem is a "one-shot operation"; because there is no opportunity to learn by trial-and-error, every attempt counts significantly.
6. Wicked problems do not have an enumerable (or an exhaustively describable) set of potential solutions, nor is there a well-described set of permissible operations that may be incorporated into the plan.
7. Every wicked problem is essentially unique.
8. Every wicked problem can be considered to be a symptom of another [wicked] problem.
9. The causes of a wicked problem can be explained in numerous ways. The choice of explanation determines the nature of the problem's resolution.
10. [With wicked problems,] the planner has no right to be wrong.

Rittel & Webber, 1973, Dilemmas in a general theory of planning, *Policy Sciences Magazine*.

# What is a “wicked problem”?

Complex

Difficult to define

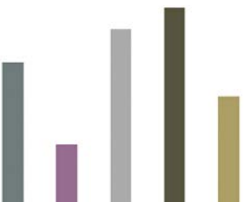
No easy solution

Candidate solutions create even more problems

Multiple stakeholders involved

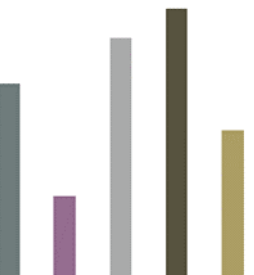
Multiple competing interests

No clear indication a solution has been reached after much discussion



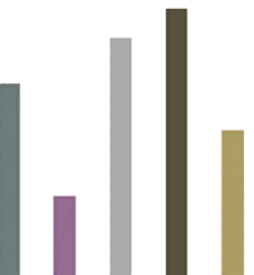
# How complex is the problem?

- New models of publishing and accessing information
- Increasing number of journals in which to publish
- Increasing strain on peer reviewers to review the science
- Increasingly complex analytic techniques being used
- Incentivized to publish more articles without regard to quality
- Academics incentivized to publish in high impact journals
- Institutional reputation tied to publishing volume and metrics
- Institutional silos



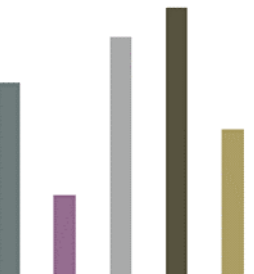
# How is the problem defined?

- Non-reproducibility of science
- Push to do “safe” research
- Push to publish quickly before everything is properly vetted
- Unintentional errors not caught in peer review
- Intentional errors difficult to catch
- Scientific integrity is at stake
  - Average person does not trust science
  - Researchers do not trust journal articles and want to see data
- Journal editors do not have resources to conduct investigations



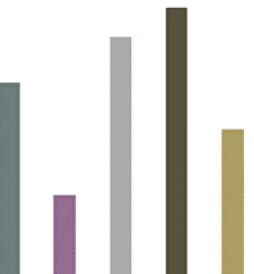
# What solutions have been tried and failed?

- Naming and shaming
- Criminal prosecution
- Sanctions on future grant applications
- Complaints to COPE to adjudicate the science rather than the process
- Institutional investigations in some cases
- Websites for commentary like PubMedCommons and PubPeer
- Bloggers noted for critical commentary
- Whistleblowers



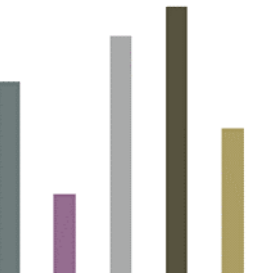
# What new problems have been created?

- Requiring submission of data with a manuscript
  - Journals have to change processes
  - Data have to be secured and managed
- Reputational risk for innocent parties
- Junior scientists taking the “fall” for problems
- Sophisticated technologies to fake all kinds of things
  - Peer review
  - Figures, data
  - Work-arounds to thwart plagiarism detection software
- Programs that generate gibberish papers
- Companies supplying new articles complete with data for money



# Who are the multiple stakeholders?

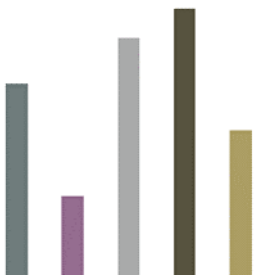
- Funders
- Publishers
- Journal editors
- Academic institutions
- Research Integrity Offices
- Legal system
  - Lawyers specialize in representing whistleblowers or those being investigated
- Political systems
- The public who use and rely on science





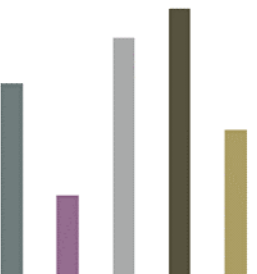
# What are the multiple competing interests?

- Authors being paid to publish in high-impact journals
- Publication in reputable journals is the “coin of the realm” in academia and research institutions
- Highly citable articles boost journal/publisher reputation
- Being “first” to publish breakthrough research
- Authorship – who is an author and who is named an author?
- Data ownership - who owns the data?
- Computer hacking, system manipulation
- Open access vs paid access

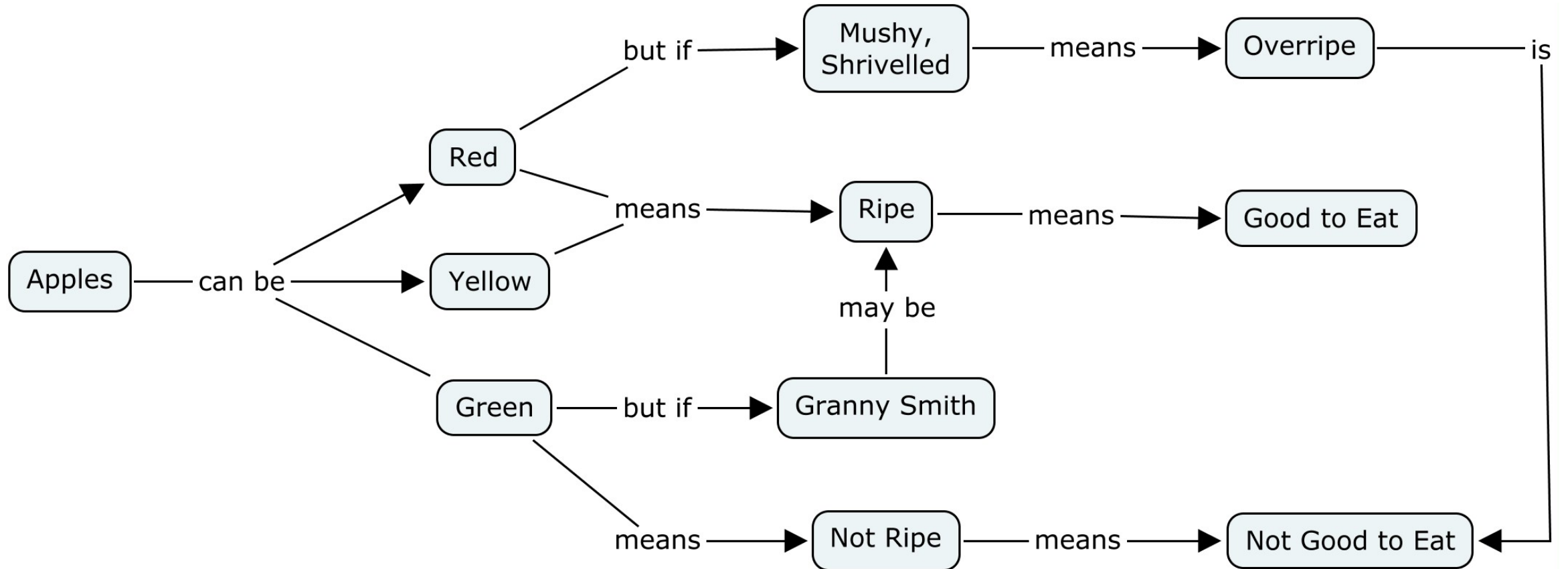


# How will we know when we have a solution?

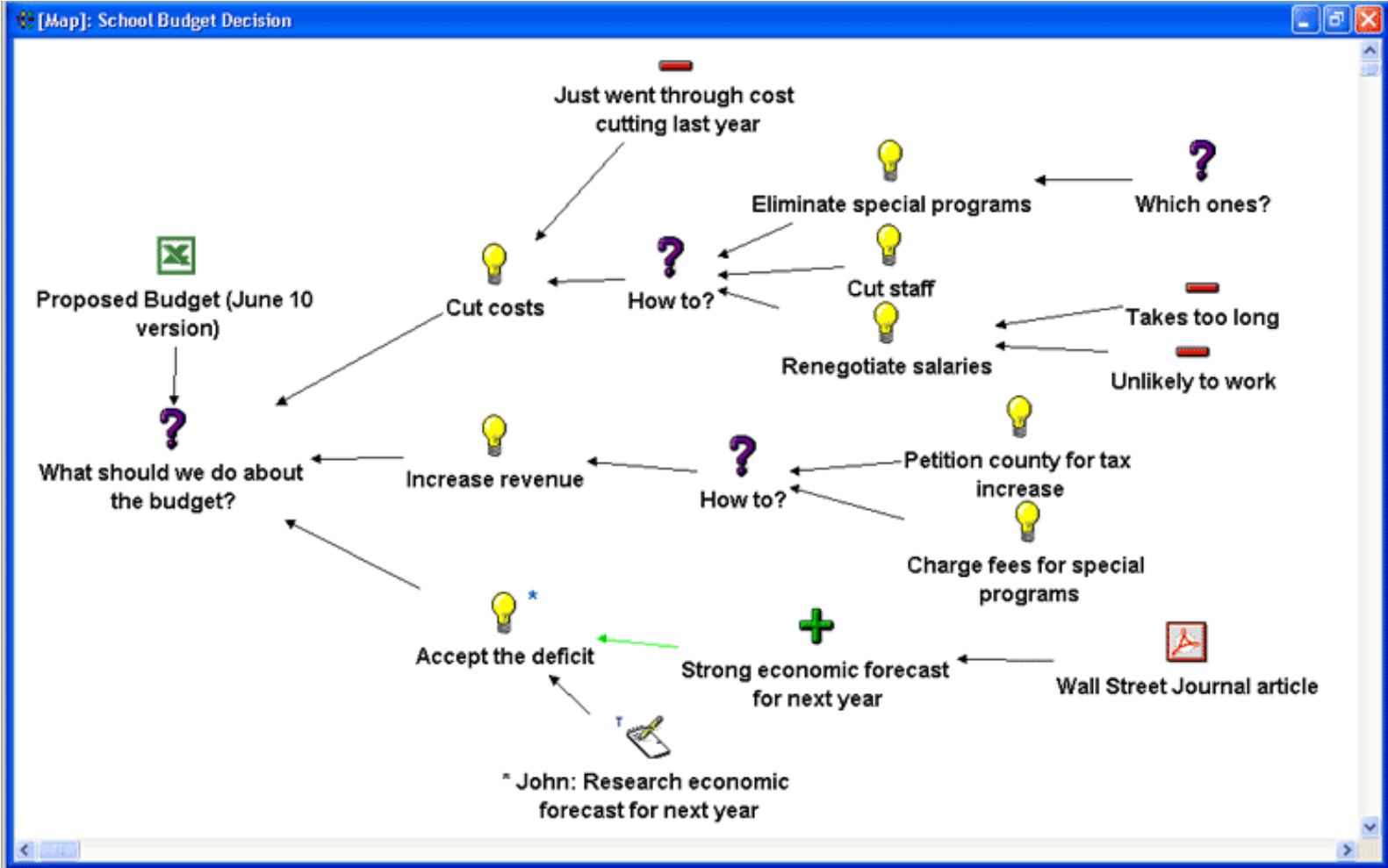
- Accommodation for alternative options
- Better communication among stakeholders
  - Dialogue mapping, knowledge mapping
- Improved collaboration among those equipped to handle the problem
- Everyone “owns” the problem
- Flexibility – i.e., changes with changing environments
- Ongoing commitment – problem is not necessarily solved but everyone “remains in the mess” (Horn)



# Knowledge Map – from mapitknowit.wordpress.com



# Dialogue Map – from CogNexus Institute



# Looking toward the future

- Generate a visual map or representation of the solution space
- Generate a shared understanding of the problem space
- Increased ownership of the problem among stakeholders
- Attention to improving communication about the problem
- Increase awareness of infrastructure to solve problems
- Increased attention to perverse incentives that fuel the problem
- More sharing of educational options to early career researchers
- More people working to increase transparency in conducting and publishing research

# What do we need to consider in solutions?

- Don't generate new problems with solutions
- Get buy-in from key stakeholders
- Embrace efforts inclusive of current and future possibilities
- Promote education of all involved
- Collaborate with multiple groups
- Goals need to embrace concept of changing the climate in the conduct of research and publication

Criterion 10: “Planners are liable for the consequences of the actions they generate.” H. Rittel



Via Twitter from @boomerang

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