

The trouble with reputation as a reward for scientific teamwork

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Academic Reputation

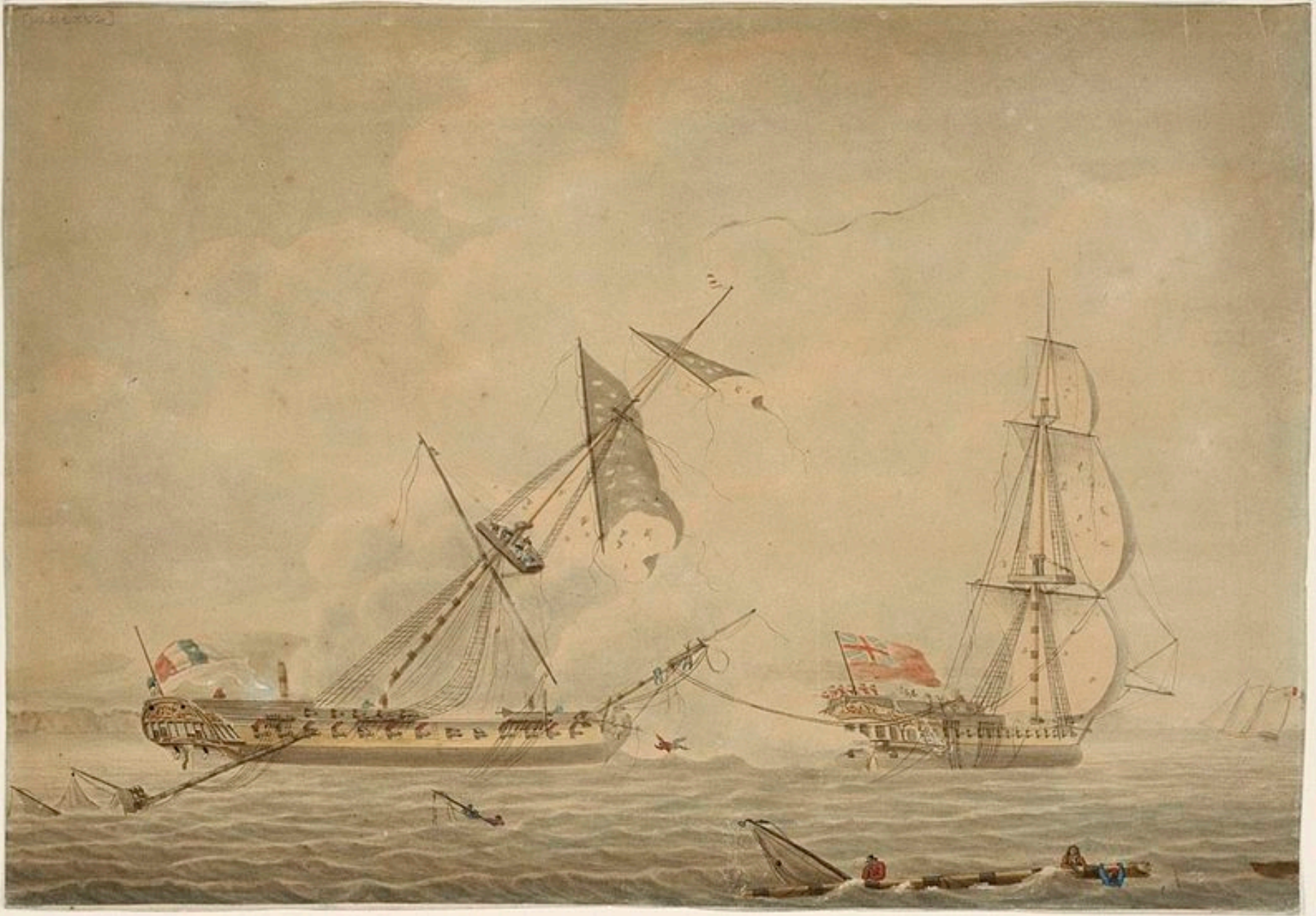
- What makes academia different? We give away results and earn reputation in exchange
- The 'currency' of academia
- Certainly not the only motivation or reward, but a key one.
 - Colors our interpretation of team research from outside

“Division of claims”

Who gets what?

(when a group achieves together)

(Baldwin and Clarke, 2001)



"HMS Blanche and Pique" by Robert Dodd (1748-1815) - 1. Collections of the National Maritime, Greenwich.
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Shareholder Structure

The proportion of voting rights held by the investors listed in the following table is taken from the respective latest shareholder notification to Infineon. The stated percentages in the second column refer to the share capital held at the date of the respective notification. The percentages in the third column refer to the current share capital and shall present a simplified overview on the current shareholder structure.

More information about the reporting and disclosure requirements can be found below the table.

100% Free float	relating to the number of shares at the date of the notification	relating to the current share capital (1,127,689,897 shares)	Notification pursuant to
Allianz Global Investors Europe GmbH	5.03% (as of July 24, 2014)	5.03%	§§ 21, 22 WpHG
BlackRock, Inc.	5.08% (as of April 26, 2011)	4.89%	§§ 21, 22 WpHG
thereof:			
BlackRock HoldCo 2, Inc.	5.003% (as of July 22, 2011)	4.82%	§§ 21, 22 WpHG
BlackRock Financial Management, Inc.	5.003% (as of July 22, 2011)	4.82%	§§ 21, 22 WpHG
BlackRock Advisors Holdings, Inc.	4.77% (as of June 19, 2012)	4.59%	§§ 21, 22 WpHG

Infineon's Shareholder table. Screenshot from website of public information.

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Jan 30 2014

Dear Lab smart people,

dirty construction workers
were in your lab this am,
(plumbers, eww) if anything
is out of place or just
not right let SE Johnson
know and we'll try to make
it right. that being said all
I ask is that if you
make a world altering discovery
today, a breakthrough even,
that you don't forget me.
Just include me in your
nobel peace speech. That's all.
KCCO

Sourced via Twitter, original author
unknown, presumably KCCO of SE
Johnson plumbers.

Motivations and “division of claims”

- There are many different kinds of motivations or rewards
 - E.g., intrinsic/extrinsic (Deci and Ryan)
- I offer an alternative taxonomy: by their relationship to division of claims.

Experiential motivations

- Examples: Learning, Fun.
- These are always already divided, they adhere to each participant during the team process.
- Hard to remove after the fact
 - Direct quote from education loan lobby?

Shared artifacts

- Examples: software, a telescope, a specimen collection
- Can be divided through copies or time-wise access
- Key motivation in open source (“use-value”)

Money

- Nearly ideal for solving “division of claims”
- Easily divisible (at least physically)
- Directable (stays where it is put)

Reputation

- Neither experience, substance, nor artifact.
- It's information; it's a relationship
- The perceptions of others
 - Of quality, of achievements, of contributions.
 - Instantiated through action, must be enacted, repeatedly.
- An “accounting system” but without formal accounts

Reputation cont.

- In some ways great as a reward:
 - Available and “Mintable” (but not unlimited)
 - Prompts openness
- But also problematic:
 - Very hard to give away (to redirect)
 - Thus hard to divide
 - Hard to maintain through indirection
 - Via artifacts and via teams
- Particularly problematic at greater distances

Secretary of Defense of the United States of America



Incumbent

Tim Howard

since July 1, 2014

Department of Defense
Office of the Secretary of Defense

Style

Mister Secretary

Member of

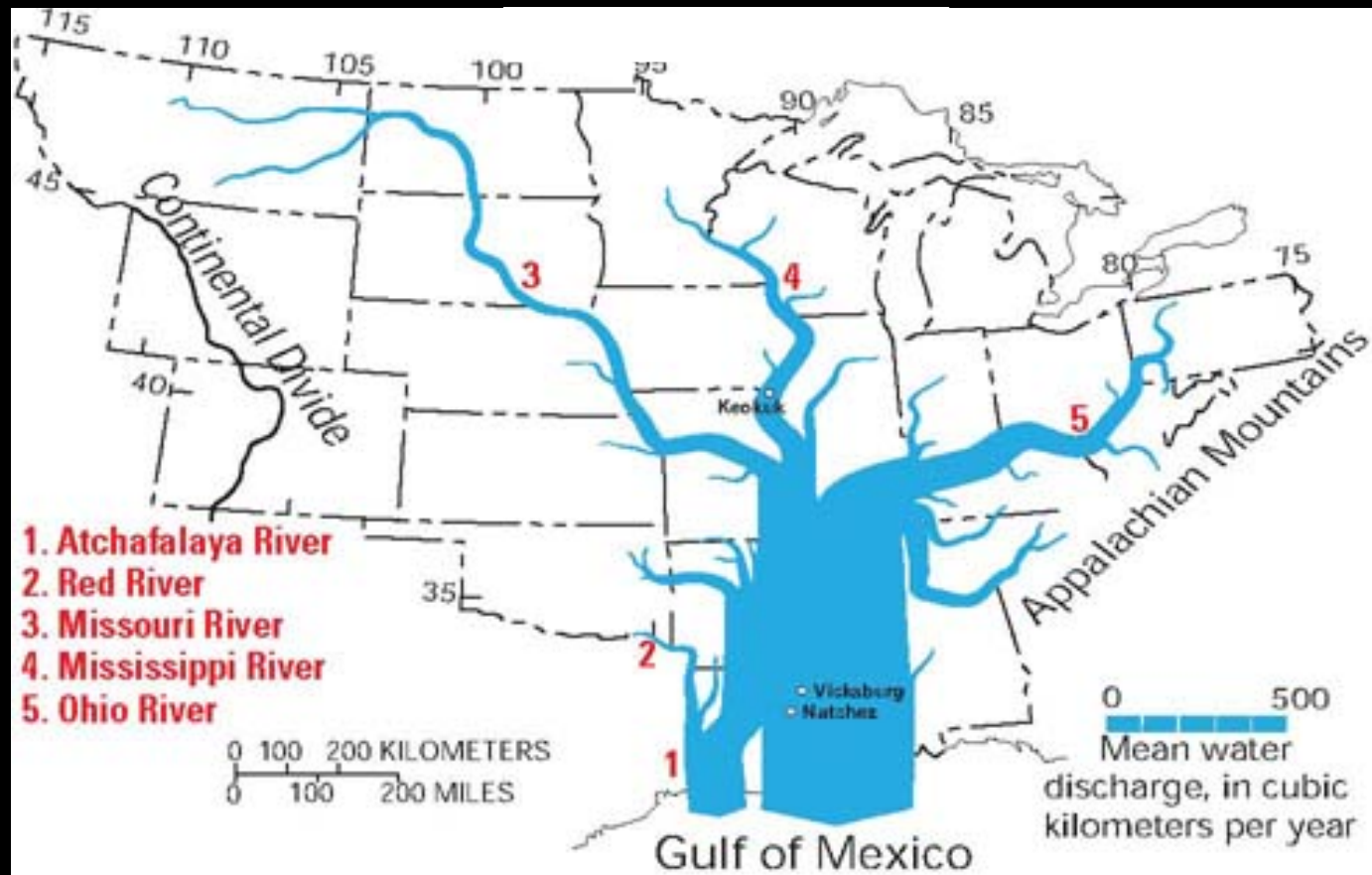
Cabinet

National Security Council

Source: the interwebz

Remember the Allegheny?

Integration removes an object of regard



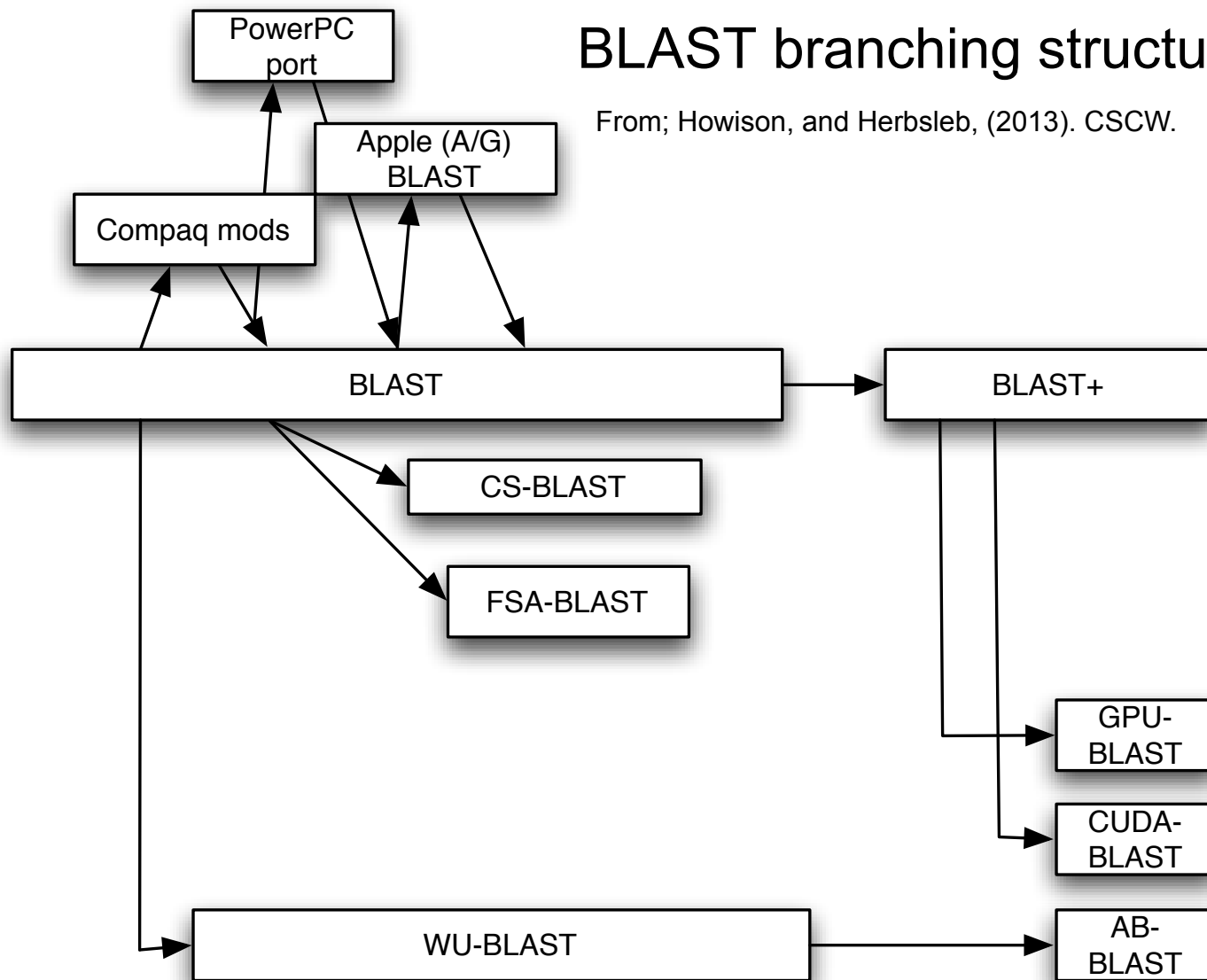
Source: USGS (2005) Trends in the Water Budget of the Mississippi River Basin, 1949-1997. Fact Sheet 2005-3020.

How does this affect collaboration?

- The “Matthews effect” (Merton)
 - The (reputationally) rich get (reputationally) richer
 - Many torrid tales of scientific contributors ignored by history (esp. women).
- My innovation (if any) is to argue that this is related to the materiality of reputation

BLAST branching structure

From; Howison, and Herbsleb, (2013). CSCW.



Motivational conflicts

- Academic reputation seems to operate specifically here
 - Motivating development and revealing,
 - but *counter-motivating* integration
- Financial and experiential motivations seem well motivated to integrate
 - Either complementary or irrelevant
 - Reducing maintenance costs a bonus

But ... what about open source?

- Reputation held to be key motivational reward in open source (e.g., Lerner and Tirole; Hahn et al.)
- And yet open source works very well

A real puzzle

Two explanations

- Importance of reputation in open source may be overblown
 - Actual effort driven more by use-value and experiential effects (see review in Crowston et al, 2012).
- In open source reputation has value close to the work
 - In science reputation gains in value at distance (long route to the Provost's office)

What can be done?

1. Decide on authorship or credit division in advance
 - Collaboration authorship
 - MoUs
2. Build clearer accounting systems
3. Outsource
4. Collaborate without publications

Collaboration authorship

- The physics solution
- “The Collaboration” did it
- But ...
 - Breaks systems of evaluation (literally)
 - Creates “old boys club” (Birnholtz, 2008)
 - If everyone did it, no one did it

MoUs and pre-agreements

- Agree in advance who will publish what where
 - Can work well, especially for interdisciplinary collaborations
 - Key outcome of Collaboratories research (“collaboration readiness”) (Olson et al.)
- But,
 - Hard to know what research will find
 - Yet, perhaps works better in prospect than memory

Outsourcing

- No one gives their plumber authorship (eww, plumbers)
- Paying for materials, artifacts, assistance
- But,
 - Who wants to pay market rates?
 - Payment undermines openness

Improved accounting systems

- Record diversity of contributions
- Facilitate tracing of impact beyond publications
- Wait ... haven't I heard this somewhere?
 - VIVO
 - Carol Goble's Keynote speech and systems

Collaboration without publications

- Use-value can be a key driver
 - Many scientific software projects
 - Data/Specimen collections (GenBank/PubMed)
- Experiential rewards
 - Joint experiences that emphasize learning and fun
- Ask: how might we work *alongside each other to with mutual benefit*, rather than working *together*
 - *Howison and Crowston (2012) Collaboration through superposition MISQ.*

Takeaways

1. Teams need to solve the 'division of claims' problem
2. Reputation is in the eyes of others: it's hard to direct and hard to divide.
3. This makes solving division of claims with it particularly hard, especially Academic reputation.
4. Some techniques are available, but all are imperfect.
5. Don't ignore other motivational rewards as a sound basis for (indirect) scientific collaboration.