Consume, Reproduce, and Extend: Reviving the Research Lifecycle by Capturing and Connecting Our Work

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Classic Scholarly Process

FRANKLIN'S EXPERIMENT, JUNE 1752.
Demonstrating the identity of Lightning and Electricity, from which he invented the Lightning Rod.
Scholarly Publication and Reproducibility
Did Franklin Really Fake the Kite Experiment?

Fact & Fiction

by Michael Brian Schiffer

Michael Brian Schiffer, a member of the Anthropology Department, University of Arizona, is the author of "Draw the Lightning Down: Benjamin Franklin and Electrical Technology in the Age of Enlightenment" (Berkeley, CA: University of California Press, 2003).

Was Benjamin Franklin’s account of a kite flight a scientific fraud? Yes, says Tom Tucker, author of Bolt of Fate: Benjamin Franklin and his Electric Kite Hoax (Parseecs, 2003). Tucker’s cynical thesis, however, is not shared by other Franklin scholars, including his scientific biographer, the late I. Bernard Cohen. In disputing the received view, Tucker fashioned a creative case against Franklin that is far from convincing.
Innovation and Spreading Ideas
How Do We Replicate This Process Today?
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Scholarly Workflow

Consume → Reproduce → Extend
Scholarly Network

- Researcher 1
- Software
- Lab
- Researcher 2
- Data
- Papers/Publications
- Archive
How Do We Replicate This Process Today?

- Capture
- Connect
- Disseminate
- Consume
- Reproduce
- Extend
Digital Curation and Preservation

Trusted Digital Repository

ISO 16363

Data Seal of Approval

Organizational Sustainability

Governance

Technology Infrastructure
Digital Curation and Preservation

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But Why Do We Care?
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But Why Do We Care?

It is a means to an end…

It facilitates the whole scholarly interchange
How Do We Replicate This Process Today?

- Capture
- Connect
- Disseminate
- Consume
- Reproduce
- Preserve
- Connect
The Challenge of Capturing and Sharing Computational Analysis

Computation requires extremely fast resources

Preservation requires stability and redundancy

Sharing for replication and re-use requires more than just a paper: software, data, platforms, and visualization tools.
How to get past work in the hands of researchers?
Connections Drive Innovation and Justify Sharing
Consume, Reproduce, Extend, and Connect
How to make connections?

Need to be able to find it

Need the information to properly understand, consider, and apply

Need information how to use data, recreate experiments -> e.g. software

Need to link together
Mission

SHARE is a higher education initiative whose mission is to **maximize research impact** by making research widely accessible, discoverable, and reusable. To fulfill this mission SHARE is building a **free, open data set** about research and scholarly activities across their life cycle.
SHARE is

Free, open data set of research and scholarly activities harvested from 129+ data providers
Notification service of >7 million research events of data mgmt plans, preprints, articles, repository deposits, and other scholarly activity
Harvester of diverse set of data providers: funders, publishers, data repositories, institutional repositories, scholarly activity
Community of international members such as funders, publishers, government orgs, universities
NDS OSF Dashboard integration

Contact: Ian Taylor
ian.j.taylor@gmail.com

bitbucket.org/nds-org/nds-dashboard
http://www.nationaldataservice.org/
http://ndspilot.com
Active Research in Open Science Framework

http://osf.io/
free, open source
The National DATA SERVICE
Updates (e.g., data release)

Software

Container

Reusable Container

SHARE

Reuse

Search

Notifications

API

Profiles

Dashboards
Connecting Globally

The National DATA SERVICE

SHARE

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More Information

SHARE Service: http://share.osf.io

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Center for Open Science, https://cos.io

Open Science Framework, http://osf.io

Our Digital Scholarly Workflow
What are Your Ideas?

*Let’s make some connections...*