Are the article and journal containers fit for purpose for a researcher in the modern world?

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In this presentation

Three questions:

• What is a container?
• What should a container contain now?
• What should it contain in the future?
What is a container?

**container**

konˈteɪnər/ noun

an object for holding or transporting something.
"the cakes will keep for up to two weeks if kept in an airtight container"

**synonyms:**
receptacle, vessel, holder, repository, canister, drum, box, case

"an airtight container"

a large metal box of a standard design and size used for the transport of goods by road, rail, sea, or air. "a container lorry"
Discovery and Discoverability

Do articles take too long to discover?

- Discovery currently aided by:
  - Publisher Marketing, Library, Indexers, Google (other search engines available), Social Networks, Scholarly Collaboration Networks, Metadata, PIDs, SEO.

- Current gaps and future needs for better discoverability:
  - AI, ORCID, Organization Identifiers, licence indicators, more “about you”, interoperability across versions, ALL sharing networks using PIDs for discoverability.
  - And much more: party identification, project PIDs, research protocols, physical sample identifiers, instrument data...
Form and Format

Article

• Retrospective view of the research.
• “Just give me the results”.
• Many versions.

• **BUT much experimentation being done on form, format and process.**

Journal

• Issues/ volumes/ page budgets?
• Container for non-textual and textual content.
• Proxy for trust.

• **BUT from Twitter journal to Mega-journal, they carry peer review, ethics policies, expert editorial boards, teams of editors, special issues, special sections, early career mentoring, bring local research to global audience, the best journals lead the way for the modern research, not hold it back.**
Reading experience

Does the article serve the modern reading experience?

• Some but not all:
  • Just look for the results/ conclusions.
  • Dip into articles just to harvest reference lists.
  • Dip in to find data (and then validate them).
  • Look for methodology.
  • Dip in to find supplementary material.
  • Find a quote.
  • Readers are machines too.
Aims and scope

Look at your aims and scope – are they author-friendly?

Before (first paragraph)

No recent decade has been so powerfully transformative in the United States and much of the world as the 1960s. The era’s social movements - from civil rights, to feminism, student and youth protest, environmentalism, and nascent conservativism - dramatically changed the political culture of the developed west. Meanwhile, the decade’s decolonization struggles altered the nature and balance of global power. In Communist Europe, incipient democracy movements set the stage for the revolutions that ended the Cold War. Collectively, these movements gave the 1960s their signal identity, and dominate understandings of their historical legacy.

After

*The Sixties: A journal of History, Politics and Culture* is the only academic, peer reviewed journal to focus solely on this transformative decade of history. Launched in 2008, this cutting-edge journal features cross-disciplinary, accessible scholarship from academics and public intellectuals. Focusing on “the long Sixties” (roughly 1954 to 1975) and rooted in historical study, the journal addresses how this period continues to be studied and redefined in politics, education, literature, film, music, the visual arts, and new media. *The Sixties* includes research on global events and developments, and encourages transnational and comparative analyses.
Instructions for Authors

Many journals follow prescriptive IFAs, amenable to quick submission, transfer between journals?

• Diffuse.

• Non-standard.

• Long and text heavy.

• Push a lot of work onto the author.
What is the opportunity cost?

- Services and tools are appearing that serve the researcher at all stages of their career.
- More tools needed.
- More support needed.
- Persistent everything, with standards for interoperability and machine learning:

  “A data citation should include a persistent method for identification that is machine actionable, globally unique, and widely used by a community.”

Data Citation Synthesis Group: Joint Declaration of Data Citation Principles. Martone M. (ed.) San Diego CA: FORCE11; 2014 [datacitation]
Abstract

Who does the abstract serve?

Abstract

In the field of brain-computer interfaces, one of the main issues is to classify the electroencephalogram (EEG) accurately. EEG signals have a good temporal resolution, but a low spatial one. In this article, metaheuristics are used to compute spatial filters to improve the spatial resolution. Additionally, from a physiological point of view, not all frequency bands are equally relevant. Both spatial filters and relevant frequency bands are user-dependent. In this article a multi-objective formulation for spatial filter optimization and frequency-band selection is proposed. Several multi-objective metaheuristics have been tested for this purpose. The experimental results show, in general, that multi-objective algorithms are able to select a subset of the available frequency bands, while maintaining or improving the accuracy obtained with the whole set. Also, among the different metaheuristics tested, GDE3, which is based on differential evolution, is the most useful algorithm in this context.
Peer Review Process

Subject to time lag, is the peer review process lean?

Many challenges: lack of credit, open to abuse, time consuming, slow, biased, inconsistent…

Current gaps and future needs:

• Calls for a less adversarial system. More gamification?
• Reports of gender bias.
• ECRs — “we need new ideas from other industries to make our own lives easier…we have to jump through hoops to get tenure”.
• Peer review systems – deal with scale and complexity.
• Interoperability and standard export format for peer review (trust not portable).
• AI to improve our workflows – recommend/ pre-review/ machine write/pre-score.
• Change the incentive system = more experimentation with transparent, open, post-publication.
• Findable, Accessible, Interoperable and Reusable (FAIR) standards for data publication, use and reuse.
• Make underlying ethics data publicly available?
The journal was also never intended to be a proxy for quality in research assessment, but it has become an evaluation tool and a mentoring tool.

Value of Outcome

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Research Assessment

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Final thoughts

- **Interoperability** becoming a “must have” not a “nice to have”.
- **Linked, persistent digital objects** in the “containers” essential.
- Balance between **privacy and convenience** needed.
- There is opportunity, capability and desire for more **credit**.
- More identifiers, protocols, instrument, material standards **help reproducibility**.
- **Research incentives** must continue to evolve.
- All the above to turn **research to actionable knowledge**.
- Increased **collaboration** essential.