

Journal Article Versions (JAV): Recommendations of the NISO/ALPSP JAV Technical Working Group

April 2008

*A Recommended Practice of the
National Information Standards Organization
in partnership with the
Association of Learned and Professional Society Publishers*

Prepared by the
NISO/ALPSP Journal Article Versions (JAV) Technical Working Group

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Introduction

These NISO/ALPSP Journal Article Versions (JAV) Technical Working Group recommendations provide a simple, practical way of describing the versions of scholarly journal articles that typically appear online before, during, and after formal journal publication.

Researchers, their institutions, and journal publishers are rapidly moving on from using static, single copies of research papers that are essentially “images” of a printed document. Changes in the way we create, edit, circulate, validate, publish, find, use, and update articles are producing multiple versions whose status and provenance is often unclear. Online searching now allows multiple versions to be found but rarely makes clear the relationships between them.

This is not simply a problem for the journals themselves. Repositories want to provide authoritative records of their faculty's work; libraries want to offer “appropriate copies” to different users; readers need to know what has been peer reviewed; and authors may wish to update their work and ensure that the latest version is used.

In September 2005, NISO (the National Information Standards Organization) launched a partnership with ALPSP (the Association of Learned and Professional Society Publishers) to bring together experts from the publishing, library, library systems, and user communities to examine the problems associated with the proliferation of different article versions. A Technical Working Group produced the recommendations in this report, with feedback and advice provided by a wider Review Group (members are listed above).

The recommendations have been agreed by all members of the Technical Working Group. The Review Group provided many points of feedback, advice, and criticism. This process was very valuable and led to improvements throughout the document. It was not possible to obtain a consensus from all members on all issues. However, all the proposals, comments, and responses are available to read on the NISO website and the comments received during the formal review period are incorporated here in [Appendix 3](#) together with the responses to them.

The Technical Working Group created use cases to explore the lifecycle of journal articles, starting from a base case that describes a typical interaction between author, institutional repository, and publisher. Analyzing these led us to identify common lifecycle stages, the dimensions that describe the evolution of articles, and possible attributes of each instance of an article version.

Considering attributes helped us to agree upon the most important variables for describing versions. Ownership, bibliographic context, identifiers (e.g., DOI), relationships, fixity, and peer review are explicitly stated in the terms and definitions that we recommend. They can be described by the article version names and some are already covered by standard metadata elements (e.g., bibliographic reference, date, DOI). Other variables describe digital copies or variants, but are less closely related to the academic content of the article: visibility (limited, general), version status (known/unknown), source (different websites), scope (text, fully-featured, resolution of images, etc.), delivery context, and format (PDF, HTML, etc.). These are important factors and could be described in article metadata; however, in most cases it is

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possible to distinguish properties inherent to the article version and properties derived from the delivery system. Our focus has been to describe which version of the intellectual content of the article a reader has encountered.

These variables led us to identify important dimensions for an article version:

- Time: from first draft to latest version
- Added value: from rough draft to polished publication
- Manifestation/Rendition: different document formats and layouts
- Siblings: multiple mappings between technical reports, conference papers, lectures, journal articles, review articles, etc.
- Stakeholders: author, editor, referee, publisher, librarian, reader, funder

Manifestation was largely excluded from the nomenclature as being too dependent upon technology changes and the creator or user's computer systems (though it is relevant for describing our Enhanced Version of Record). Siblings were discussed at length and eventually excluded, as the relationships are complex and conventions vary considerably between disciplines. Our recommendations could be used to describe, for example, a technical report validated by a funding agency and published in an institutional repository, but we stuck strictly to our brief of considering only journal articles as a first goal.

The variables, dimensions, and use cases reveal the difficulty of describing all possible lifecycle stages in clear terminology. However, the vast majority of journal articles do pass through the same milestones and lie within a limited range of use cases. This remains true even though different users will value different versions for different purposes. From these common milestones we have produced six terms to describe journal article versions. The variety of activity illustrated in the 26 use cases ([Appendix 2](#)) shows just how much can be described by these high-level semantic terms. We have focused on changes to content, the formal social process of validation, and the ways in which journal articles are used. We have also noted the tradition that journal articles record the “minutes of science” and are intended as a fixed record of a body of work at a moment in time chosen by the scholar. This leads us to the Version of Record as a useful definition for formalizing academic achievement, distributing authoritative information, and building upon the established knowledge in a field.

In line with the JAV Technical Working Group's charge, the group submits the following:

- Background and Rationale: a narrative that explains the background to our project and the rationale for our recommended terms and definitions
- Recommended Terms and Definitions for Journal Article Versions
- [Appendix 1](#) – Graphical Representation of Journal Article Versions and Relationships with Formal and Gray Literature; Assumptions, Primary Challenges, and Best Practices
- [Appendix 2](#) – Use Cases: a set of use cases showing the application of these recommended terms

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- [Appendix 3](#) – JAV Review Group Comments: comments received from the JAV Review Group to an earlier Technical Working Group document submission, and the Technical Working Group's responses

We propose that the terms as defined be promulgated by NISO/ALPSP to the full journal article stakeholder community (authors, readers, libraries, publishers, aggregators, archives, repositories, research institutions, funding agencies, and service providers such as search engines and link resolvers). The JAVTWG recognizes that adopting a standard terminology will not be enough; to avoid version confusion, terminology needs to be implemented in such a way that readers (whether human or machine) encountering any version can immediately ascertain which it is and know whether it is trustworthy.

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Background and Rationale

The NISO/ALPSP Journal Article Versions (JAV) Technical Working Group work plan was as follows:

- Creation of use cases to identify the most common journal article lifecycles.
- Analysis of use cases to determine common lifecycle stages.
- Selection of preferred vocabulary for the most common lifecycle stages.
- Development of appropriate metadata to identify each variant version and its relationship to other versions, in particular the definitive, fully functional published version.
- Establishment of practical systems for ensuring that the metadata is applied by authors or repository managers and publishers.

In addition to the above, the Technical Working Group spent some time considering abstract data models and the attributes that could apply to various versions of a journal article. The working group website (<http://www.niso.org/workrooms/jav>) contains a full set of minutes and documents.

As a result of our analysis, the JAV Technical Working Group decided to focus on the following key points:

1. Our brief was limited in scope to *journal articles*—even so, we have recognized the possible and important, if not frequent, relationships between journal articles and other scholarly document types (such as working papers, conference papers, book chapters, wikis, blogs, etc.). Rather than creating a full set of semantics and proposed metadata disambiguating these document types, we focused on the minimum necessary to show the *relationship* between an instance of these document types and one or more journal articles. Of course, some of these other document types will be similar enough to journal articles to be able to use the same (or similar) semantics; others will not.
2. In most cases we believe the relationship needs to be codified through the retrospective act of including an unambiguous reference or link within the metadata of a “previous” version to the version of record. Although this act creates a high and potentially onerous standard of performance for some, enabling it through standard metadata and semantics and its promulgation as a best practice is crucial for establishing the relationships that the use cases suggest are necessary.
3. We decided to concentrate on a reasonably high-level set of semantics—let’s say the “phylum” rather than the “species”. We believe that these high-level terms give sufficient distinction for 80% of article versions—and distinction where it most matters to the reader and secondarily to the author or the publisher.
4. Each term identifies a significant value-added “state change” in the progress of a journal article from origination to publication. Five of the versions (Author’s Original; Submitted Manuscript Under Review; Proof; Corrected Version of Record; Enhanced Version of Record) may have a number of iterative stages. We have not attempted to identify

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these stages, although date stamps, version numbers, and metadata records may be used to differentiate them. Two of the versions (Accepted Manuscript; Version of Record) represent fixed stages. A Submitted Manuscript Under Review that is accepted for publication becomes an Accepted Manuscript at the point of acceptance. A Proof that is corrected and published becomes a Version of Record.

5. In our first set of recommendations, which were reviewed by the JAV Review Group, we had proposed only one stage after the Version of Record—the “Updated Version of Record”. However, we received strong representation that this was an oversimplification, and that it was important for users of versions to know whether an update was a correction or an enhancement.

See [Appendix 1](#): Graphical Representation of Journal Article Versions and Relationships with Formal and Gray Literature; Assumptions, Primary Challenges, and Best Practices for a graphical representation of formal and gray literature and the related assumptions, primary challenges, and conventions and best practices that were associated with this figure by the JAV Technical Working Group.

Recommended Terms and Definitions for Journal Article Versions

We propose that metadata be associated with each document object designating its status as one of the following:

AO = Author's Original
SMUR = Submitted Manuscript Under Review
AM = Accepted Manuscript
P = Proof
VoR = Version of Record
CvOR = Corrected Version of Record
EVoR = Enhanced Version of Record

Full descriptions, including definitions and notes, follow.

Author's Original

Definition: Any version of a journal article that is considered by the author to be of sufficient quality to be submitted for formal peer review by a second party. The author accepts full responsibility for the article. May have a version number or date stamp. Content and layout as set out by the author.

Notes:

1. In all definitions, the singular "Author" includes the plural "Authors". For multi-authored works, one author (the "corresponding author") takes responsibility for submitting the article for review and dealing with later stages, such as proofs.
2. We propose "Original" rather than "Draft" because "Draft" implies incompleteness, whereas an Author's Original (in our terminology) defines the point at which an article is deemed good enough by the author to be released for review.
3. This stage is *sometimes* described as a "personal version", a "draft", or a "preprint", but these terms are not synonymous.

Submitted Manuscript Under Review

Definition: Any version of a journal article that is under formal review managed by a socially recognized publishing entity. The entity recognizes its responsibility to provide objective expert review and feedback to the author, and, ultimately, to pass judgment on the fitness of the article for publication with an "accept" or "reject" decision. May have a version number or date stamp. Content and layout follow publisher's submission requirements.

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Notes:

1. This stage highlights the contribution made by the peer review process to the formal record of scholarship.
2. This stage is typically characterized by intellectual critique that often leads to one or more revisions of the Author's Original, though it is possible that the critiques lead to the next stage, Accepted Manuscript, without any content changes whatsoever. Nonetheless, we propose to recognize this as a significant stage in the evolution of a journal article *whether the content changes or not*.
3. We propose "Submitted Manuscript Under Review" rather than simply "Submitted Manuscript" to emphasize the *process* taking place and the possibility of iterations. And we propose it rather than "Manuscript Under Review" to emphasize the formal act of submission undertaken by the author to transfer responsibility to a publishing entity.

Accepted Manuscript

Definition: The version of a journal article that has been accepted for publication in a journal. A second party (the "publisher"—see "[Version of Record](#)" below for definition) takes permanent responsibility for the article. Content and layout follow publisher's submission requirements.

Notes:

1. Acceptance must follow some review process, even if limited to a single decision point about whether to publish or not. We recommend that there should be a link from the Accepted Manuscript to the journal's website that describes its review process.
2. If the Accepted Manuscript (AM) is processed in such a way that the content and layout is unchanged (e.g., by scanning or converting directly into a PDF), this does not alter its status as an AM. This will also apply to "normalized" files where, for example, an author's Word file is automatically processed into some standardized form by the publisher. The content has not changed so this essentially constitutes a shift of format only, and our terms are format neutral.
3. This stage is also known as "Author's Manuscript" by, for example, the NIH, but we believe that the key point is the acceptance of the manuscript by a second party. Elsevier refers to it as "Author's Accepted Manuscript". SHERPA/RoMEO refer to it as "Postprint", but this term is counterintuitive since it implies that it refers to a version that comes after printing.