NLM Tag Set Working Group Minutes
September 2007

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1 Tag Set Working Group Meeting

The Working Group meeting took place by conference call on September 26, 2007 to recommend changes for Version 3.0 of the NLM Tag Sets.

The next meeting will be October 9, 2007.

1.1 Attendees

1.1.1 Telephone Participants
- Mark Doyle (American Physical Society)
- Beth Friedman (DCL)
- Linda Good (Cadmus)
- Kathryn Heniss (Highwire)
- Evan Owens (Portico)
- John Meyer (Portico)
- Bruce Rosenblum (Inera)
- B. Tommie Usdin (Mulberry)

1.1.2 NLM Staff
- Jeff Beck (Moderator)
- Marilu Hoeppner
- Laura Kelly
- Moira Lee
- Adeline Manohar
- Kim Tryka

1.1.3 Secretariat (Mulberry Technologies, Inc.)
- Deborah A. Lapeyre

1.2 This Document

The following Tag Set icons appears with each suggested change to indicate to which of the Tag Sets a change might apply

 Archiving   Article Authoring

 Publishing   Book

A request may be described using the following:

- Request (a statement or restatement of what a user requested)

- Discussion (which may include rationale or use cases for the requested modification, description or repercussions of the change, expansion of the specific user request into similar elements, etc.)

- Recommendation (suggested course of action)

- Documentation Recommendation (suggested documentation to accompany the request or solve the problem)

To alert the Working Group, the following change-type icons have been used:

⚡ Backwards-incompatible Change

⬆ Make one tag set more like another

2 Backward-compatible Model Requests

2.1 Add <string-conf> element

Scope: **A** **B**

Request: Allow elements within conference to be any order. If the text says "the Learned Society's Conference on Something at the University of Wherever on 21-27 July 2007", the only way to capture this information in the current tag sets is to put the conference metadata in the appropriate slots, which loses the sequence and the flow of the statement.

Recommendation: Create, in Archiving and Book, a new element "string conference" <string-conf> to capture the exact sequence and the flow of the statement of the conference name.

- Allow the element to be used anywhere inside <conference>, in addition to or instead of the current conference metadata:

```
<conference>...
   <conf-date>...</conf-date>...other elements ...
   <string-conf>the Learned Society's Conference on
   Something at the University of...<string-conf>
   ...
</conference>
```

- Model <string-conf> as #PCDATA plus all of the conference elements so that pieces of the string can be identified as <conf-date> etc., in the same way that <surname> can be identified inside <string-name> .

Documentation Recommendation: Make it clear in the documentation that *best practice* would tag all the conference metadata in the current separate elements (<conf-date>, <conf-sponsor>, etc,) and only use the new <string-date> to capture wording order or style. [Realize that there are institutions that will choose to use only <string-conf>.]

Minutes: Not discussed. Recommendation accepted.

2.2 <citation> inside titles

Scope: **A**

Request: Allow <citation> inside <title> (such as title of a section) and <article-title> .

Recommendation:

- Allow <citation>s within all <title>s inside the body of an article in both tag sets.

- We recommend that <citation>s not be added to <article-title>s. Article titles are important metadata for tracking an article. Since the elements <related article>, <xref>, and <external-link> are already allowed within article titles, we believe

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the functionality can be accomplished without adding the complication of <citation>.

Minutes: Not discussed. Recommendation accepted.

2.3 Face markup in <edition>

Scope: **A** **P** **B**

Request: Add face markup to <edition>, since 4th may be indicated with a superscript or an edition may be a phrase rather than a number.

Minutes: *Working Group Recommendation*: In Archiving and Book, allow <sup> and <sub> anywhere that <bold> and the other face markup elements are allowed. In Publishing, keep the current constraints that do not allow face markup or baseline shifts inside <edition>.

Documentation Recommendation: Document the following example in Archiving:

```
<citation>... <edition>4<sup>th</sup></edition>; ...</citation>
```

And the following example in Publishing (which allows only this) and Book (which allows full face markup and <sup> and <sub>)

```
<citation>... <edition>4</edition><sup>th</sup>; ...</citation>
```

2.4 Face markup in <surname> and <given-names>

Scope: **P**

Request: Add <sup> and <sc> to <surname> and <given-names> to handle M^a as an abbreviation of Maria and McDonald.

Recommendation: We recommend against this. Archiving allows everything (including <x>s) inside name parts. Publishing strives to preserve names for indexing and retrieval as opposed to display. This seems to us to be a critical Publishing/Archiving distinction.

Minutes: Not discussed. Recommendation accepted.

2.5 <product> and <related-article> inside <front-stub>

Scope: **A** **P**

Request: Allow the element <front-stub> (which is available as an abbreviated alternative to <front> matter for a <sub-article>) to contain <product> and <related-article>

Recommendation: <front-stub> was intended as a useful short-cut and should not be limiting. It seems to us that there is no reason to prohibit a publisher from recording as much of the article metadata for a <sub-article> as seems reasonable, while retaining the convenience of not *having* to repeat the infrastructure required by <front> (which may already be provided for the main article).

We recommend allowing <front-stub> to contain anything allowed in <article-meta>, but not requiring any elements. The current model for <article-meta> in Publishing is:

```
article-meta    (article-id*, article-categories?,
                title-group, (contrib-group | aff)*,
```

```
                    author-notes?, pub-date+,
                    volume?, volume-id*,
                    issue?, issue-id*, issue-title*,
                    supplement?,
                    ((fpage, lpage?, page-range?) |
                      elocation-id)?,
                    (%address-link.class; | product |
                    supplementary-material)*, history?,
                    copyright-statement?, copyright-year?,
                    license?, permissions?,
                    self-uri*, related-article*, abstract*,
                    trans-abstract*, kwd-group*,
                    contract-num*, contract-sponsor*,
                    grant-num*, grant-sponsor*,
                    conference*, counts?,
                    custom-meta-wrap*)
```

Documentation Recommendation: In Publishing, <front-stub> will now differ from <article-meta> only by allowing the <article-title> and <pub-date> to be optional. In Archiving, the metadata will be the same for both<front-stub> and <article-meta>. The documentation for Archiving needs to warn that this was done so that Publishing would remain a subset of Archiving and that they are not to be used interchangeably.

Minutes: Not discussed. Recommendation accepted.

2.6 <isbn> in <article-meta>

Scope: A P

Request: Add <isbn> to <article-meta>.The element should be allowed to repeat, with a type attribute to differentiate between different <isbn>s or identify the reason for the <isbn>.

Minutes*: Working Group Recommendation:* Add <isbn> to <article-meta> for the journal articles.

- <isbn> will be repeatable

- It will take an attribute @content-type of type CDATA. The attribute cannot be named "pub-type" because @pub-type has a fixed value list in Publishing.

Action Item: Bruce Rosenblum will provide potential values for documentation of the type attribute (such as print, electronic, cloth cover, and some combined values). Evan will check with current Onyx material to see if there is anything relevant.

2.7 New reference elements for cited books

Scope: A P A B

Request: Consider enhancing the elements that can be used inside citations to better describe citations to books.

Recommendation 2.7a: New reference elements for books would be useful to preserve publisher tagging semantics without resorting to <named-content>. As a preliminary, we

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recommend adding the following reference elements:

- ⬥ Book subtitle (Non-backward compatible as current Tag Library documentation says to combine subtitle with title)

- Chapter title (section of a book title)

- Part title (for books in parts which then contain smaller sections like chapters)

- Series (a collection of books; not same as serial series)

Action Item: *Working Group:* Should the new book elements also be allowed in <product>? <related-article>?

Recommendation 2.7b: We recommend that the following elements not be added. Named-content may be used to capture:

- Binding (paperback, hardbound, cloth)

- Height (one case only)

Recommendation 2.7c: We recommend that the tag sets *not* make a distinction between <source> journal title and <source> book title.

Minutes*:* After much discussion, the current recommendations were left intact.

2.8 Add <issue-part> to <article-meta>

Scope: A P A B

Request: Add <issue-part> in <article-meta> immediately following <issue> number with the same content model, including the seq attribute. Consider allowing <issue-part> also in <citation>.

Recommendation:

- For Archiving and Publishing, add <issue-part> to <article-meta>. The sequence attribute is necessary to be consistent with the current definition: sequence within the type of element to which the attribute is attached.

- For all tag sets, add <issue-part> to the reference elements as well.

Minutes: Not discussed. Recommendation accepted.

2.9 Provide a container for Table of Contents categories

Scope: A P

Request: Add a container for the Table of Contents categories, i.e., the section in the Table of Contents to place the article for a ToC like this:

```
Reviews of Plays
    Latin America
        list of articles in this category
```

Documentation Recommendation: The current tag sets have such an element, namely <subject-group> in <article-categories>. Since the requester did not know that, the documentation for these elements needs to be enhanced. As part of that enhancement, the

following sample can be added:

```
<article-categories>
  <subj-group>
      <subject>Reviews of Plays</subject>
      <subj-group>
          <subject>Latin America</subject>
      </subj-group>
  </subj-group>
</article-categories>
```

The enhanced index currently under development should help with this as well.

Minutes: Not discussed. Recommendation accepted.

2.10 Enhance model for <bio>

Scope: A P B

Request: Enhance model for <bio> Several publisher DTDs have models for <bio> that have a more complex structure than NLM's, which has proved problematic during conversion to the NLM tag sets. More complex models seen in the wild include <bio>s that begin with a figure, contain nothing but a figure or graphic, use a <label> and contain headed sections of text.

Recommendation: Make <bio> into a section-style model.

Documentation Recommendation: In documenting the revised <bio>, remove the word "brief". Stress that a <bio> is about the person who wrote the primary content and it is not the content. If an article is about a person, that is an article, not a <bio>. Provide a sample of a <bio> with a label and sections.

Minutes: Not discussed. Recommendation accepted.

2.11 Add <graphic> to <contrib>

Scope: A P B

*Request :*Allow graphics in <contrib>

Recommendation: It seems to us that between the new model for <bio> (2.10 above) and the existing model for %contrib-info.class;, this has been handled. A <bio>, by the new model, could contain just a picture. The elements <ext-link> and <xref> could also be used to point to the graphic, depending on how the publisher has coded it.

Minutes: Discussion did not change the recommendation.

2.12 article dedication

Scope: A A P

Request: Add an element for an article dedication

Recommendation: It seems to us that dedications are just a few sentences or a footnote that are unlikely to have particular meaning for retrieval or indexing. Therefore it does

not seem like tag abuse to call a dedication one of the <notes>. <notes> can be found in front matter, back matter, and journal metadata, which ought to cover all eventualities.

Documentation Recommendation: Make it even more clear that notes are matter outside the *technical* content of an article that may be added by the author or during editorial processing. There is no set list of note types, but the current documentation of note types is sparse, mentioning "added in proof". Therefore we recommend adding the following note-type examples: dedication, added after electronic publication, editor's notes, added after print publication, and conflict of interest.

Minutes: Recommendation accepted. Documentation will show dedication as a note, and an epigraph as a block quote at the beginning of the article.

2.13 Add <series> to <article-meta>

Scope: A P

Request: Add <series> to article metadata

Recommendation: We suggest adding this information to <article-meta> with the name <volume-series>.

Documentation Recommendation: This will need to be carefully documented, to differentiate it from a series of articles, which would be tagged as article categories. Document this volume series exactly as the user described the use case.

Minutes: Not discussed. Recommendation accepted.

2.14 Remodel <ref-list>

Scope: A P A B

Request: Remodel <ref-list> to allow paragraphs of text to be interspersed with the references as in the Elsevier model:

```
<!ELEMENT further-reading - o (st?,(bib | p)+)>, (%ref-list.class;)* )"
```

Recommendation: We recommend against this change at this time.

Minutes: This is a tough question and the final recommendations were that:

- The NLM tag sets make no change to <ref-list> at this time.

- All the cases we can find use the interspersed paragraphs as the start of new unheaded reference lists. That said, one cannot know this fact without reading the material. An automated conversion does not read the material so there is no way to license the implication that the interspersed paragraphs are unheaded reference lists. Therefore, some conversion tag sets, will need to customize the <ref-list> model.

2.15 Expand locations of <ack>

Scope: A P

Request: Allow <ack> in front matter.

Minutes*: Working Group Recommendation*: Do not allow <ack> and <bio> at the end of

front matter. If you need these, make them <notes>, which are allowed in front matter.

2.16 Expand locations of <label>

Scope: A P B

Request: This came in as two requests:

- In Publishing, add a <label> to <ack>(which currently has only a <title>)

- Allow <label> in more places, such as <app-group>, <fig-group> (allowed in Archiving already), and <ref-list>.

Recommendation: Archiving already has a <label> in <ack>; we suggest adding one to Publishing. Further recommendation: Add a <label> to anything that can have a <title> in both Archiving and Publishing. Most of these are already in Archiving, but Publishing lacks <label>s in <table-wrap-group>, et al.

Minutes: Not discussed. Recommendation accepted.

2.17 Add a table head note

Scope: A P

Request: Add an element for the table head note, which is defined as text below the table title, e.g.

```
Tables 1. This is a Table
This table was complied from the data from Smith 1990
--- rows and columns here ---
```

Recommendation: The use case seems inadequate to add a new table structure. There is already enough information available that a publication could easily display <attrib> before the <table>s in a <table-wrap>.

Minutes: Not discussed. Recommendation accepted.

2.18 Placement of <fn-group>

Scope: A P B

Request: Allow <fn-group> inside <table-wrap-foot>

Recommendation: Add <fn-group> to <table-wrap-foot> (<copyright-statement> may disappear in this context, see <permissions> 7.3)

Minutes: Not discussed. Recommendation accepted.

2.19 Add a unit of measure element

Scope: A P A B

*Request: A*dd a unit of measure element as a floating element allowed in text

Recommendation: We recommend against this.

Minutes: Not discussed. Recommendation accepted.

2.20 Expand locations of <price>

Scope: A P A B

Request: Allow <price> inside <citation>. Consider it also for addition to <notes>, <article-meta>, and <license>

Recommendation 2.20.1: Using <price> directly inside the article metadata (we have a publisher's example where it follows the page information) seems rare enough that <named-content> should suffice, so we recommend against it.

Minutes: Not discussed. Recommendation accepted.

Recommendation 2.20.2: Allow <product> be allowed inside <note>, which would give allow <price> and <isbn> and <publisher> to be inside <note> by way of being inside <product>.

Minutes: Not discussed. Recommendation accepted.

Recommendation 2.20.3: Allow <price> inside <license> (see request 2.21).

Minutes: Not discussed. Recommendation accepted.

Recommendation 2.20.4: Allow <price> inside <citation>

Minutes: Without examples, we do not know whether to place <price> directly inside <citation> or to place <product> inside <citation>. Make no change at this time.

Action Item: Evan Owens promises examples; secretariat will adjust the recommended model as needed based on the samples.

2.21 Add a CCC-statement

Scope: A P B

Request: Consider adding a CCC statement to Book, possibly inside <license>

Recommendation: CCC statements need to be handled, but we do not believe that they warrant a new element. We suggest that they are a type of <license> and suggest:

- Allow <license> to repeat in Archiving, Publishing, and Book

- Document that the "license-type" attribute can say "ccc".

- ⬦ Remodel license to allow <price> inside. This would mean creating a new license paragraph element which includes <price> (just a paragraph with price). The other benefit of this is that the license paragraph can be expanded easily later if more license-specific semantics are requested.

Minutes: Scope was expanded from Book to include Archiving and Publishing in which license is allowed to repeat

In addition, all elements inside permission should be allowed to repeat in Book, Archiving, and Publishing, changing the permission model from

```
        (copyright-statement?, copyright-year?,
         copyright-holder?, license?)
```

to the following:

```
(copyright-statement*, copyright-year*,
 copyright-holder*, license*)
```

Documentation should be checked to see that multiples of any element, for example, <copyright-year>, are explained as multiple elements and not multiple values within a single element.

Action Item: Please provide an example of a CCC statement as a license. Please provide examples of the PMC use of "href" for common licenses.

2.22 Expand locations of Address

Scope: **A** **P** *A* **B**

Request: Allow <address> to be used at the same level as a paragraph <p>.

Recommendation: Allow <address> inside paragraph. (Note that this was not the direct request.)

Minutes: Group argued against allowing <address> at the same level as a paragraph, but felt it should be treated as a display equation is treated within a paragraph.

*Action Item***:** Please provide examples of addresses being used within paragraphs.

2.23 Add <roman>

Scope: **A** **P** *A* **B**

Request: Add <roman> to the emphasis elements.

Recommendation: Add <roman> to all.

Documentation Recommendation: Document <italic> as a toggle. That is, if the italicized phrase is inside a context that would be displayed as italic, then phrase is considered to be in roman.

*Action Item***:** Portico has agreed to provide an example.

Minutes: Not discussed. Recommendation accepted.

2.24 Add subelements to <institution>

Scope: **A** **P** *A* **B**

Request: Create one or more new elements for the subdivisions of an institution (such as departments).

Recommendation: We recommend against adding such elements. <named-content> seems an excellent way to handle this. Keeping all the pieces of the organization name in one element bucket should improve retrievability.

Minutes: Not discussed. Recommendation accepted.

2.25 Add Supertitle/eyebrow

Scope: **A** **P**

Request: Create a new element for the supertitle (aka eyebrow).

Documentation Recommendation: There need to be many more examples of article categories, including more complex examples. The documentation should show article categories used 1) for supertitles (such as 'Review" or an article whose title is 'Reviews"), 2) for an in-every-issue feature example (such as "From the Castle"), 3) for subject categories for the titles of series that span issues, 4) for a group of papers scattered throughout the issue, etc. We need to illustrate running titles and show how they are tagged differently than article categories.).

Minutes: Not discussed. Recommendation accepted.

Action Item: Portico and Mulberry to provide complex subject category examples.

2.26 Add Standing "type"

Scope:

Request: Create a new element for the standing type.

Documentation Recommendation: This problem should be fixed by providing sufficient documented examples to make it clear how to tag the content using current elements. Some standing type or boilerplate text is one of the <notes>, some is <series-text>, some is just a paragraph at the beginning of the body of an article. We need to provide a series of examples that will include each type.

Minutes: Not discussed. Recommendation accepted.

Action Item: Please provide examples that can be quoted in the Tag Libraries.

2.27 New element for styled content

Scope:

Request: Clarify the use of <name-content> vis-à-vis formatting information. If <named-content> is semantic and recording formatting is not an appropriate use, create a new element for formatting name/value pairs.

Recommendation: Add a phrase-level element named <styled-content> whose purpose is to describe typographic or display style or other usage variation. The element can be used anywhere <named-content> is used.

Documentation Recommendation: Stress that <named-content> is not for print-versus-online, styling, or display options. Documentation should illustrate both types.

Minutes: The recommendations to create and document the new element were accepted, and an attribute discussion included suggestions such as:

- There should be a "style-type" attribute to record a specific name, as styles may recur throughout a document (though most are one-offs).

- There should be a specific-use attribute.

- There should be an attribute similar to (or the same as) the @style attribute used on <table> that can record the CSS or other formatting (such as "lime green

flashing”).

- There should *not* be any specific link attributes, although “style-type” can point to a <custom-meta> name-value pair, which may contain or point to additional style information.

In addition, the Working Group recommended:

- Allow the <named-content> element everywhere, for example inside <author-notes>, in <corresp>, in <addr-line>, etc. (It is allowed in some of these contexts in Archiving already.)

- Make sure that named and styled content can nest.

- Make sure that the @specific-use attribute is on structures such as sections, paragraphs, and block-display elements such as figures.

- Stress the semantic distinction and urge the use of <named-content> in the documentation.

2.28 Expand the location of <named-content>

Scope: A P A B

Request: Allow the <named-content> element everywhere, for example inside <author-notes>, in <corresp>, in <addr-line>, etc. (It is allowed in some of these contexts in Archiving already.)

Recommendation: Allow <named-content> in many more places. Since it is already allowed inside any text, this means finding places in element content elements and various OR groups for it to be. Allow the new <styled-content> in all the same places.

Minutes: Not discussed. Recommendation accepted.

2.29 Add structural <named-content>

Scope: A P A B

Request: Create a new element that will capture unknown hierarchical structures as the element <name-content> captures name/value pairs.

Recommendation: We recommend against this.

Documentation Recommendation: Provide an example of a multi-hierarchical <named-content>, for example one that is identifying a species type identification with order, family, genus, species, variety, etc. Also make a nested example that illustrates an RDF triple.

Minutes: Not discussed. Recommendation accepted.

2.30 ISSN

Scope: P

Request: Make the <issn> element optional in Publishing.

Minutes: Bruce officially withdrew his request for this. Make no change.

3 Attribute Requests (Backward-compatible)

3.1 <glyph-data> attributes

Scope:

Request: Add the attributes to <glyph-data> that APS (the originator of the element) uses in their DTD.

Recommendation: Add the new attributes, taking the documentation of values directly from APS (with thanks and attribution):

```
fontchar CDATA #IMPLIED
fontname CDATA #IMPLIED
format CDATA #FIXED "PBM"
resolution CDATA #IMPLIED
xml:space #FIXED "preserve"
```

Minutes: Not discussed. Recommendation accepted.

3.2 <source> in <citation> attributes

Scope:

Request: Add an attribute to <source> to make it possible to distinguish whether a source in multiple formats was web-accessed or a print version was used.

Minutes: Further information is needed.

Action Item: Get some serious examples, check the Chicago Manual of Style and other major style sources for how to cite online versus print and how to distinguish one inline source from another.

3.3 "article-type" attribute

Scope:

Request:[This request is related to the requested <super-title> element, item 2.25] Add an article type tag in addition to the subject classifications.

Discussion: The user reports: "This request partially intertwines with 'supertitle', but many editors do not want to publish/print above the article a note" (such as "Letter to the Editor", "Technical Note", etc.)

Recommendation: We recommend against this. Between the current type attribute and article categories, this is already covered in the tag sets.

Minutes: Recommendation accepted.

3.4 "page sharing" attribute

Scope:

Request: Add a way to record that a small (or continued) article shares a page with previous, subsequent, or even more than one article.

Recommendation: We recommend against this; this is not information that these tag sets

need to carry; this is a page makeup issue.

Minutes: Not discussed. Recommendation accepted.

3.5 "pub-id-type" suggested values

Scope: A P B

Request: Add value "isbn" to suggested list of values for the "pub-id-type" attribute on
<issue-id>.
Recommendation: Add at least "isbn.

Minutes: Not discussed. Recommendation accepted.
Action Item: Provide Working Group with a starter list of values.

3.6 <related-article> attribute

Scope: A P A B

Request: Add an attribute like "elocation-id" to <related-article> to perform the same
function that the element <elocation-id> does for a regular article.

Discussion: Sometimes, just like regular articles, related articles do not have traditional
page numbers but instead use article identifiers such as a DOI.

Recommendation: Add an "elocation-id" attribute to <related-article>.

Minutes: Not discussed. Recommendation accepted.

4 Non-Backward-Compatible Model Requests

4.1 ⬦ Richer Model for Funding Information

Scope: A P A B

Request: Create a richer model for funding information

Recommendation: We propose the following model (terms defined after the model)

```
funding-group (award-group*, funding-statement?, open-access?)
```

- <funding-group> — a metadata container for all funding information for an
  article

- <award-group> — a metadata container for information concerning one
  award.

- <funding-statement> — a prose bucket for a displayable funding statement
  for the work reported upon in the article (analogous to <copyright-statement>)

- <open-access> — a metadata bucket for information on who paid the open
  access charges or which model of charging was used

```
award-group  (funding-source*, award-designator*,
             principal-award-recipient*, principal-investigator*)
```

- <award-group> will have an attribute for type of award, an unbounded list to record the difference between grants, sponsorship, corporate proprietary work, etc. Examples given will include "grant" and "contract".

- <funding-source> — Agency or organization that funded the work, for example the Wellcome Trust, NIH, or Alcoa

- <award-identifier> — an identifier for the award, for example the grant number, grant reference number, contract number, et al.

- <principal-award-recipient> — the institution or individual(s) to whom the award was given, for example, the principle grant holders

- <principal-investigator> — the individual responsible for the intellectual content of the work.

Minutes: There was a wide-ranging discussion of this one. Attribute suggestions were made:

- A CDATA-style @type attribute on (at least) the funding source, as some publishers classify such sources into groups might be useful.

- Suggested values for the CDATA-style @type attribute on award group should include at least: contract and grant.

- Funding Source could also take a @type attribute, so that codes for specific NASA centers can be identified as such. (It is left up to the publisher if the code is a data value or an attribute value or both.) This could also be used to mark all NSF and all EDU.

- Award designator will not take a @type attribute at this time, although a good use case would change our minds.

The group agreed that, in many ways, this is planning for the future not tagging what is found in the wild. Most publishers now place this information (if at all) in a footnote, in an acknowledgement, buried in the abstract, in a second abstract, in a note, etc. If funding data is merely found in text, it is unlikely to be replicated in the metadata, that is just too costly for most archives. We hope to establish a useful model for publishers who wish to capture this information.

So, recommendation accepted after discussion with only change being <award-designator> renamed <award-identifier>.

4.2 Journal title/subtitle and Translated title/subtitle

Scope:

Request: Add wrappers so that paired titles/subtitles remain together and so that translations and transliterations are associated with their appropriate titles.

Minutes: *Recommendation:* Add wrappers that pair a title and its subtitle with the translations and transliterations that belong to it. Allow the entire wrapper to repeat for multiple titles and translations.

Thus, the model for journal metadata will include a title group instead of any specific title elements. In Publishing, the model will read:

```
journal-meta   (journal-id+, journal-title-group*, issn+, publisher?,
                  notes?)
```

And for Archiving, Book, and the default the model will read:

```
journal-meta   (journal-id+, journal-title-group*, issn+, publisher?,
                 notes?,
                custom-meta-wrap?
```

where those <journal-title-group> will be modeled as:

```
journal-title-group  (journal-title, journal-subtitle?,
                       trans-title-group*, abbrev-journal-title*)
trans-title-group    (trans-title, trans-subtitle?)
```

Since a journal that had both a translated and a transliterated title would take two <trans-title-group>s, following attributes currently residing on <trans-title> should be placed on <trans-title-group>:

- A CDATA-style @content-type on the <trans-title-group> used to distinguish between, for example, translated and transliterated titles.

- id   ID   #IMPLIED

- xml:lang   NMTOKEN   #IMPLIED

4.3 ⬦ New Kinds of Keywords

Scope: 🅰 🅿 𝓐 🅱

Discussion: There have been several requests to enhance the model for keywords. There may be a need for several parallel structures for keywords and subject classification data. For example, one user reported having structured keywords, for example, 'optimization: branch-and-cut'". There are many types of complex keywords, so the discussion below has been divided into parts, each with a separate recommendation.

4.3.1 ⬦ Add String Keywords

Request: Add a <string-kwd> element to be used wherever <kwd> is used. Give it the same model as <kwd>.

Recommendation: 🅰 To allow for keywords that contain stings of keywords, for example:

```
<keywords>molecular chaperones, surface plasmon resonance, dynamic
light scattering, trypsin digestion, citrate synthase, <i>Neurospora
crassa</i>, prot&eacute;ines chaperonnes, r&eacute;sonance des plasmons
de surface, diffusion dynamique de la lumi&egrave;re, digestion par
la trypsine, citrate synthase, <i>Neurospora crassa</i></keywords>
```

create a new element <unstructured-kwd-group> within the <article-meta> as an alternative to <kwd-group>:

```
(kwd-group | unstructured-kwd-group)*
```

Keyword group will retain its current model and be used when individual keywords are tagged explicitly:

```
kwd-group    (kwd+)
```

The unstructured keyword group will have a model of #PCDATA plus the rendition elements and will be used for undifferentiated lists of keywords:

```
unstructured-kwd-group  (#PCDATA | all rendition elements | x )*
```

Tagged examples of such unstructured keyword strings might look like this:

```
<unstructured-kwd-group>XML; DTD; schema; RELAXNG; XSD; models;
UML; modeling languages; Schematron</unstructured-kwd-group>

<unstructured-kwd-group>molecular chaperones, surface plasmon resonance,
dynamic light scattering, trypsin digestion, citrate synthase,
<i>Neurospora crassa</i>, prot&eacute;ines chaperonnes,
r&eacute;sonance des plasmons de surface, diffusion dynamique
de la lumi&egrave;re, digestion par la trypsine, citrate synthase,
<i>Neurospora crassa</i></unstructured-kwd-group>
```

Minutes: Not discussed. Recommendation accepted.

4.3.2 Complex/Compound/Nested Keywords

Request: Create one or more new kinds of keywords in addition to the current keyword model that can handle complex keywords.

Discussion: Complex/compound keywords are needed to handle situations such as:

- keywords that include both a term and a code

  ```
  <kwd>863 Icelandic sagas<kwd>
  ```

- keyword elements used to hold abbreviations and their expansions. Some of these may be tagged now as hierarchical keywords:

  ```
  <kwd>WT<kwd>WildType</kwd></kwd>
  <ce:keyword>CFU<ce:keyword>Colony-forming
   unit</ce:keyword></ce:keyword>
  ```

Recommendation 4.3.2a: We recommend that a model for complex keywords be created by the following tag set modifications:

- Change the definition of the type attribute on keyword group so that it can be either an authority (as it is defined now) or a descriptor (such as "abbreviations") to say what the group of keywords has in common.

- Model the compound keyword as a series of repeatable parts. (The Working Group may suggest better element names.)

  ```
  compound-kwd  (compound-kwd-part+)
  ```

- Each <compound-kwd-part> will allow an attribute to describe what it is, the role it plays, or otherwise how it functions within the keyword. Attribute values for parts probably occur in logical pairs:

  ```
  <compound-kwd>
     <compound-kwd-part type="ISO-463-code">863</compound-kwd-part>
     <compound-kwd-part type="ISO-463-text">Icelandic sagas
     </compound-kwd-part>
  </compound-kwd>
  ```

```
            <compound-kwd>
              <compound-kwd-part type="abbrev">WT</compound-kwd-part>
              <compound-kwd-part type="expansion">WildType</compound-kwd-part>
            </compound-kwd>
```

<compound-kwd>
  <compound-kwd-part type="abbrev">CFU</compound-kwd-part>
  <compound-kwd-part type="expansion">Colony-forming unit
  </compound-kwd-part>
</compound-kwd>

Recommendation 4.3.2b: However, there are other keywords in the wild that are modeled similarly, but that we feel are not keywords (or abbreviations) at all.

- One large publisher tags selected keywords as topics (blood brain barrier) which are nested inside themes (cellular and molecular biology):

```
<kwd-group type="neurosci">
  <kwd>Cellular and Molecular Biology
      <kwd>Blood&ndash;brain barrier</kwd>
  </kwd>
</kwd-group>
```

These seem like subject groups to us and we recommend that they be translated as such rather than as keywords, possibly with an subject group type of "kwd".

```
  <subj-group subj-group-type="kwd">
    <subject content-type="neurosci">Cellular and
      Molecular Biology</subject>
    <subj-group>
      <subject content-type="neurosci">Blood&ndash;brain
      barrier</subject>
    </subj-group>
  </subj-group-type>
```

Minutes and Afterward: The recommendation above represents the ideal. Evan Owens made it clear to us that this solution (while very practical for new material) does not work in the programmatic conversion world, since the objects come in tagged as keywords and only human agency could detect that they are not.

It seems to us that the compound keyword model will work for these keywords as well, if the <compound-kwd> is also given a @content-type attribute, for example:

```
  <compound-kwd content-type="neurosci">
    <compound-kwd-part content-type="level1">Cellular and
      Molecular Biology</compound-kwd-part>
    <compound-kwd-part content-type="level2">Blood&ndash;brain
      barrier</compound-kwd-part>
  </compound-kwd>
```

This has the advantage of being programmable and the disadvantage that one is left unclear concerning the exact relationship between the compound keywords parts. But no inferences are licensed, just reported.

Minutes: Recommendation 4.3.2b. Recommendation accepted.

Documentation Recommendation: Make it clear that keywords are for searching and identification, where subject terms are hierarchical for browsing. The Tag Libraries do not currently point from either element to the other. We need (in the documentation) to point back and forth between keywords and subject terms and

to explain the difference. Both the "Cellular and Molecular Biology/Blood–brain barrier" and the "Geochemistry/Surface Geosciences" should be illustrated as subject hierarchies.

Recommendation 4.3.2.c: This still leaves a few other types of keywords. While we admit that the tag set cannot cope with these, we suggest that it may never need to do so.

- There is, for example, another publisher's DTD which has modeled keywords as follows:

```
<!ELEMENT kwd - -
((#PCDATA
   | (a|ar|arrow|box|f|fen|fr|hsp|inf|inline-fig|lim|ov|ovl|ovr|rad|
            sup|un|unl|unr|vsp)
   | (b|ge|it|of|rm|sc|scp|ssf|ty)
   | (dl|enun|fd|fig|l|qd|tbl|textbox|upi)
   | anchor|cross-ref|fn|inter-ref|intra-ref)*, kwd* )>
```

We think that there are several types of information here and suggest dealing with each as needed. Some of these (figure, table, textbox inside a keyword) may never occur in the wild.

- The tag set documentation of one large publisher describes the following nested keywords that provide (we quote) "primary" and "secondary" classifications". We cry "Uncle".

```
<kwd-group type="msc">
   <kwd>54A10</kwd>
   <kwd>54A40</kwd>
   <kwd-group type="msc">
      <kwd><kwd>54A10</kwd><kwd>54A40</kwd></kwd>
      <kwd><kwd>01A65</kwd></kwd>
   </kwd-group>
</kwd-group>
```

Minutes: Recommendation 4.3.2c not discussed. Recommendation accepted.

4.4 Add Editors and Sponsor to Issue Information

Scope: A P

Request: Please add elements for the editors of an issue and sponsors of an issue (as supplements and other special issue are frequently sponsored).

Recommendation:

- Add <issue-sponsor> to the current issue information inside <article-meta>.

- We recommend against adding issue-editor, since this can be modeled as a contributor group, where the role attribute declares the sponsor. Editing is just another contributor role, like translator, illustrator, or author, and it can be named using the" content-type" attribute.

Documentation Recommendation: Document that issue contributors should be in a special contrib-group and with type values such as "issue-editors".

Documentation Recommendation: Modify the name and definition of <collab>, which

currently reads:

> "A group of authors (contributors) credited under one name, either as a collaboration in the strictest sense, or when an organization, institution, or corporation is the author"

to include other groups such as editors.

Minutes: Not discussed. Recommendation accepted.

4.5 Remodel <glossary>

Scope: A P A B

Request: Swap names of <glossary> and <gloss-group>, or remove <gloss-group> and make <glossary> recursive as <ref-list> is now.

Recommendation: We recommend:

- Change the <gloss-group> (optional, repeatable) in the definition of <glossary> to <glossary>, making <glossary> recursive. The effect this will have to allow unlimited nesting of glossary, as with sections:

      (title?, (%para-level;)*, glossary*)

- Delete the <gloss-group> element since <glossary> is the only use of the element.

Minutes: Not discussed. Recommendation accepted.

4.6 Richer model for <sig-block>

Scope: A P B

Request: Add the elements of contributor and contrib-info to <sig-block>

Minutes: The Working Group agreed that:

- We are not fond of <sig-block> but need to retain it because: 1) it is current practice for many publishers and 2) it may contain information such as a graphic signature, a nick name ("Cordially, Jack"), or a closing phrase that is not in the contributor metadata.

- A major reason we do not like <sig-block> is that we fear that contributor information will be tagged within it and not in the <contrib> in the article metadata. Information not within <contrib> is not easily available for searching. If the duplicated information disagrees, then what? In an ideal world, all contributor information garnered from footnotes, header, of the sig-block would be recorded within <contrib>.

- There was a fascinating philosophical aside asking: do we desire to capture the data (our current metadata model) or represent the text (more TEI-like)?

- We recommend an attribute of type IDREFS on <sig> so a signature can point to an actual <contrib> entry (for Joe Blow) or several <contrib> entries (for John and Jane, Editors). [Note: It seems to the Secretariat, that this attribute needs to be placed on <sig-block> as well, since there is no guarantee that a <sig-block> will

contains a <sig>. Documentation will need to state clearly that you use the <sig> if you can't and the <sigblock> only if you do not have a <sig>,]

- For Archiving only, follow industry practice and allow <contrib> and <aff> inside <sig-block>.

4.7 Replace <title> with <caption> in <boxed-text>

Scope: A P A B

Request: Since boxed text is a major structural element that is positioned on the page like figures and tables, model it as having a caption rather than a title. Captions contain <title>s so nothing is lost.

Recommendation: Replace <title> with <caption> inside <boxed-text>. Leave the rest of the section-like model unchanged.

Minutes: Accept recommendation.

4.8 Add a Related Object

Scope: A P A

Request: Add an element similar to <related-article> but with broader applicability.

Recommendation: Add a <related-object> element. Follow the attributes in the Book <related-object>, which allow multiple-level pointing to a figure inside a chapter inside a related book, for example. Also allow for the related object to be some form of supplementary material, such as a dataset.

Minutes: Not discussed. Recommendation accepted.

4.9 Richer model for <collab>

Scope: A P A B

Request: Allow additional elements inside <collab> (<contrib-group>, <institution>, <address>, and all the components of address).

Recommendation: Increase the potential content of <collab> to include: <contrib-group> as well as all the components of the %contrib-info.class:

```
address | aff | author-comment | bio | email | etal | ext-link |
on-behalf-of | role | uri | xref
```

Documentation Recommendation: Document some of these more elaborate collaborations.

Minutes: Not discussed. Recommendation accepted.

Action Item: Please provide examples of some of the more elaborate collaborations.

4.10 Enhance <nlm-citation>

Scope: A P A B

Request: Modify the <nlm-citation> element to be more universally useful.

Recommendation: We recommend the following modifications to <nlm-citation>:

- Add the new book citation elements such as book subtitle.

- Add more citation types. Currently, there is a short fixed list. Add at least legal citations to the list of attribute values.

- Add <uri> to <nlm-citation>.

Also, as of the last Working Group meeting there will be an alternative to both <citation> and <nlm-citation>. The <citation> element will contain #PCDATA with all the reference elements; the new element will contain all the reference elements in any order, repeatably; and <nlm-citation> will be an ordered model as it is now.

Minutes: Not discussed. Recommendation accepted.

4.11 ⬦ Remove <page-count> from <product>

Scope: A P A

Request: Allow <size> within <citation> and <product> and remove <page-count> from both elements.

Recommendation: Now that <size> element exists within <product> and <citation>, there is no need for an EMPTY <page-count> element within <product> or <citation>; remove <page-count> from <product> and <citation>.

Minutes: Not discussed. Recommendation accepted.

4.12 ⬦ Restrict <mml:annotation-xml>

Scope: A P A B

Request: Modify the default MathML DTD by restricting the model for <mml:annotation>

Recommendation: Remodel the MathML annotation as multiple paragraphs (p+).

Minutes: Not discussed. Recommendation accepted.

4.13 Richer <address> model

Scope: A P A B

Request: Provide a richer, more internationally-friendly address model, adding at least city, state, and zipcode.

Minutes: The Working Group recommended the following:

Recommendation 4.13a: Do not new address elements, even the common ones such as "postal-code" and "state", as we fear that they cannot be consistently recognized and used we believe that they are of limited utility in a long-term archive. Such elements can be

tagged with <named-content>.

Recommendation 4.13b: Allow <country>, <institution>, <fax>, <phone> inside <addr-line>

4.14 Remodel <verse-group>

Scope: A P A B

Request: Remove the (title?, subtitle?) and the (attrib | copyright-statement | permissions)* from verse-group.

Recommendation: We recommend against this. These are not enforcing tag sets, these are enabling, descriptive tag sets. While this model does allow nonsensical tagging, it is unimportant.

Minutes: Not discussed. Recommendation accepted.

5   Non-backward-compatible Attribute Requests

5.1   @citation-types

Scope: A P A B

Request: Change the current @citation-type attribute to allow for more than one value (for example, a report published by the government) so that a reference can be viewed as more than one type of object.

Recommendation: We agree that a change is needed in citation types. The problem with the old attribute values for @citation-type is that apples, oranges, and tinker-toys were mixed together. This created not merely fruit salad, but also confusion. We recommend three new attributes to replace the current @citation-type:

- "publication-type" — values such as book, communc, conf-proc, journal, list, patent, thesis, discussion, report, standard, working-paper, et al.

- "publisher-type" — values such as gov, std-body, et al.

- "publication-format" — values such as web, print, et al.

Minutes: The three-part system seems to work, but some participants were a little unclear as to what values for the three might entail and requested examples in the documentation.

Action Item: Evan Owens promised real world examples beyond government report. Bruce Rosenblum will look at CrossRef (et al.) for inspiration. Mulberry will look for controlled vocabularies in this space.

5.2   @date-types

Scope: P

Request: Allow any values for "date-type" attribute that names the reason for the inclusion of a <date> inside the articles publishing <history>.

Recommendation: Make the attribute CDATA for all tag sets and use the current list as a

---

list of suggestions. Other suggestions welcome.

Minutes: Everyone agrees that this is a great idea, but some felt that a controlled vocabulary or at least a few good examples would help a lot.

Action Item: Evan Owens promised to write to the NISO/ALSCP committee on which he serves to determine if their work is relevant.

6 Format-related Modifications

6.1 Font element and its attributes

Scope: **A** **B**

Request: The font element is an anomaly in the tag sets. Users have made several (incompatible) requests:

1) Remove the <font> element from the tag sets.

2) Restrict the use of the <font> element to inside <td> and <th> (table cells).

3) Add the attributes "font-name" and "font-size" attributes to <font>.

4) Add the "class" attribute to <font> to hold additional formatting parameters.

Recommendation: Remove <font> from Archiving. Replace it with the new <styled-content> element.

Recommendation: Do not add font-name, font-size, and class attributes; font no longer exists.

Minutes: Recommendation accepted.

6.2 Print versus Online

Scope: **A** **P** **B**

Request: Add a wrapper element for inline material and a set of attributes for block-level objects such as paragraphs, section, lists, boxed-text, etc to indicate whether the elements are intended for online-only display or print-only display. Any element not so labeled would be assumed to be for both print and online.

Minutes: *Recommendation*: Add "specific use" attribute (not just print versus online, but teacher version, student version, doctor versus nurse versus patient) to all paragraph, section, named-content, and all block-level display elements as well as to the new <styled-content> element.

6.3 Mark Lists as Continued

Scope: **A** **P** **A** **B**

Request: Add an attribute to say that a list is continued and (possibly) an attribute to say that a list restarts numbering from this item.

Recommendation: A List can take an ID. Add a "list-continued" attribute that takes an IDREF pointing back to a previous list. This attribute says that the current list is a

continuation of something else. Document that the attribute does not mean that there more of this list later. One could auto-number from this if needed.

Minutes: Do not make this change just to facilitate automated numbering.

6.4 Add Layout-hint Attributes to <table-wrapper>

Scope: A P B

Request: Add specific formatting attributes with values such as "pgwide" and "landscape" to (at least) tables and potentially other floating elements such as figures and boxed text.

Recommendation: We recommend against colwide, pagewide, foldout, legal, and the similar attributes.

Minutes: *Recommendation*: Add an orientation" attribute to tables, figures, boxed-text and similar block object. Values are "portrait" and "landscape". Avoid degrees of rotation.

6.5 Add "border" attributes to <table> elements

Scope: A P A B

Request: Add border styles to cells, row, or tables for semantic interpretation

Recommendation: Add "border" attribute to tables and table parts to create rules inside tables. The "border" attribute can be given to table, row, col, and cell (pixel-data type as in CSS2).

Minutes: Make sure that all current W3C border attributes are available within tables.

6.6 Potential "type" attributes

Scope: A P A B

Request: Revisit the concept of a "type" attribute for the formatting-related elements:
- <bold>
- <break>
- <font>
- <hr>
- <italic>
- <monospace>
- <overline>
- <overline-end>
- <overline-start>
- <sans-serif>
- <sc>
- <strike>
- <underline>
- <underline-end>
- <underline-start>
- <sc>
- <year>

Recommendation: We recommend against adding "type" attributes to these elements.

Minutes: Not discussed. Recommendation accepted.

7   Non-Backward-Compatible Housecleaning

7.1 ⬩ Change CDATA IDs to IDs on Lists

Scope: A P A B

Request: There are several attributes in the current tag sets that are named "id" but that are of type CDATA not of type ID. Make these into type ID attributes.

Discussion: The elements <def-list> (Definition List), <list>, <list-item>, and <tex-math> (Tex Math Equation) have an attribute that is named "id" but defined as CDATA, rather than an XML ID type. This is a hold-over from a previous Tag Set.

Recommendation: Make all CDATA ids (<def-list>, <list>, <list-item>, and <tex-math>) into attributes of type ID; for example, this means that the list attributes would change from:

```
    id   CDATA #IMPLIED...
```

to:

```
    id   ID    #IMPLIED...
```

Minutes: Not discussed. Recommendation accepted.

7.2 ⬩ Chemical Structure and Chemical Structure Wrap

Scope: A P A B

Request: Allow <chem-struct> anywhere that <inline-math> is used.

Recommendation: Although it was not the intent when the DTDs were written, it seems that users are treating <chem-struct> as an inline object and <chem-struct-wrap> as a block structure. Therefore, we recommend the following changes:

- Add <chem-struct> to the parameter entity %inline-math.class; so that a <chem-struct> element can be used anywhere <inline-math> can be used.

- Change %simple-display.class; from <chem-struct> to <chem-struct-wrap>.

- Add the <chem-struct> element to <td>, <th>, <chem-struct>, <disp-formula>, <fig>, and <term> to maintain backward compatibility.

Minutes: Not discussed. Recommendation accepted.

7.3 ⬩ Permissions

Scope: A P A B

Request: Allow <copyright-statement>. <license>, and <copyright-year> only inside <permissions> instead of both inside it and outside it as modeled currently.

Recommendation: Allow <copyright-statement>. <license>, and <copyright-year> only inside <permissions> instead of both inside it and outside, both in the metadata and at the end of such structures as tables.

Minutes: Not discussed. Recommendation accepted.

7.4 ⚡ <target> attributes

Scope: A P A B

Request: Make the ID-type attribute required on the <target> element. Make the attribute "target-type" optional.

Recommendation: Make the ID-type attribute required on the <target> element. Make the attribute "target-type" optional. Change from:

```
<!ATTLIST target
    id              ID          #IMPLIED
    target-type     CDATA       #REQUIRED
```

to

```
<!ATTLIST target
    id              ID          #REQUIRED
    target-type     CDATA       #IMPLIED
```

Minutes: Not discussed. Recommendation accepted.

7.5 ⚡ Parameter entity %doc-back-matter-mix;

Scope: P A B

Request: Replace the %sec-level; parameter entity within the parameter entity %doc-back-matter-mix; with the class parameter entity %sec.class;.

Recommendation: Replace the %sec-level; parameter entity within the parameter entity %doc-back-matter-mix; with the class parameter entity %sec.class; to increase consistency.

Minutes: Not discussed. Recommendation accepted.

8 Internal DTD Documentation (Housekeeping)

8.1 Cleanup Internal DTD Change History

Scope: A P A B

Request: Consider removing all old change histories from the DTD modules

Recommendation: Remove all the old change histories in the DTDs, leaving a pointer to where you find it on the web. Make a narrative of all previous change histories.

Recommendation: For Version 3.0, publish no change history in the modules at all. As Version 3.0 moves to 3.1, reestablish module change histories.

Minutes: Not discussed. Recommendation accepted.

8.2 Internal DTD Documentation

Scope: A P A B

Request: Remove the attribute value comments. Previous versions of the DTD modules have commented on attribute values in more than one place: 1) at the place the parameter

---

entity (if any) for the distinct values is defined; 2) at the place the parameter entity for the attribute list of each element is defined, and 3) in the comment for the element/attribute declaration for each element. To no one's surprise, these have not been kept in sync.

Recommendation: Remove all the detailed paragraph-style comments from elements, attributes, and parameter entities, leaving only identifiers. This material should be read from the Tag Library, where the latest and greatest version can always be found.

Minutes: There was a strong sense that the DTD documentation (or its schema equivalent) is all that some folks ever see, they do not read Tag Libraries. At the same time, the Working Group understood the Secretariat's classic challenge with maintaining parallel documentation.

Recommendation: replace the detailed internal documentation with a URL to the appropriate Tag Library page. Ideally, these URLs would not wrap lines in the DTD file. The URL will be a redirect rather than an actual URL, with the pattern self-evident to users, who should be able to construct a URL from knowledge of what they are looking for.

9 Documenting Common Practice

Scope:

Request: Provide common (not single best) practice documentation.

Recommendation: Provide short "common usage" essays as part of the documentation that provide an example (as a graphic or PDF file) of a common style of publishing some material, for example the affiliations of the authors that was just discussed, and talk about a few of the common ways such material might be tagged correctly providing extensive tagged examples. Some of the PMC Guidelines can be repurposed as a start to such material.

Minutes: Not discussed. Recommendation accepted.

10 Addendum 1: "-Group" And "-Wrap" Names

Scope:

Request: The journal literature is full of multiple objects grouped into a unit, for example groups of figures and groups of tables and other clustering that are not explicit groups, such as a group of individually numbered, captioned graphics inside a single figure, groups of equations cited with a single equation number, etc. These are groupings that are directly experienced by the user. Some of the current names are inconsistent.

Recommendation: We recommend:

- Regularizing the names of most groups and wrappers

- Adding additional clustering mechanisms

- Providing documented samples of grouped objects to illustrate several ways it can legitimately be accomplished (many graphics in one figure, many figures in one figure-group, etc.).

Minutes: The sections below were discussed separately; specific decisions are detailed below.

Proposed Working Definitions

There are several elements named with -groups and -wraps suffixes in the current tag sets. Based on them, we propose the following definitions:

- Groups contain multiple examples of the same type of object or multiple examples of similar objects

- Wrappers "wrap up" up all the parts of one object

10.1 Groups

Groups are containers whose main function is to contain multiple occurrences of the same type of object or several similar objects. The type specimen is <kwd-group> which contains a bunch of <kwd>s. Groups may have some additional structure besides the objects they contain, for example, the <kwd-group> element may take a title.

10.1.1   Explicitly Named Groups of Like Objects

These are collection of like-objects that are named as groups in the current tag sets. They may also contain additional structure or metadata for the entire group.

Recommendation: We recommend that the following are groups and should remain groups:

```
<app-group>, <contrib-group>, <fig-group>, <fn-group>, <kwd-group>
<person-group>, <subj-group>, <table-wrap-group>, <verse-group>
```

Minutes: Recommendation accepted.

Recommendation: We recommend that the following group was named incorrectly and should be renamed:

```
<gloss-group> Renamed <glossary> in previous change (4.5 of this document).
```

Minutes: Recommendation accepted.

10.1.2   Potential Groups of Like Objects

Recommendation: The following might be considered groups, but we recommend no name changes.

```
<author-notes>    Author Note Group - The element name says it all;
                  this really is a group and could have had the "-group"
                  suffix. Recommendation: Yes, this is a group, but we
                  recommend no change, not worth it.
<history>         History: Document History - This is really one document
                  history, that happens to be described by including a group
                  of dates. We recommend no change, this is not a group.
```

Minutes: Recommendation accepted.

10.1.3   Explicitly Named Groups of Unlike Objects

Recommendation: The following might be considered groups, but we recommend no name change:

```
<title-group>
```

Recommendation: The following element might not be considered a "group" in the strict sense, but we recommend no name change .Unlike the other -groups, this element is a grouping of related, not identical objects, mostly titles. This is similar to the model for <article-meta> or <journal-meta>, so a better name originally might have been <title-meta>. But this element was named for historical reasons, all the AAP, ISO-12083, and TEI DTDs (and spin-offs based on them) use <title-group>. It is not worth the effort and potential confusion to rename it now.

Minutes: Recommendation accepted.

10.1.4 Potential Groups (Of Unlike Objects)

Recommendation: The following could be considered as potential "groups", but they contain collections of *related* objects rather than collections of the same object (or a small number of interchangeable objects). In our opinion, that makes them agglomerations, but not really groups and we recommend no name changes.

```
<address>            Address/Contact Information
<article-categories> Article Grouping Data
<conference>         Conference Information
<counts>             Counts (tables, figures, etc.)
<permissions>        Permissions
```

Minutes: Recommendation accepted.

10.2 Wrappers

Wrappers "wrap up" up the parts of an object, that is, a wrapper is a container element for all the element pieces of a *single* object. The type specimen is <table-wrap>, which holds all the parts of one table: its label, title, caption, rows and columns (the <table>), the table foot, etc.

10.2.1 Explicitly Named Wraps

Recommendation: The following are named as wraps and we recommend that they should remain wraps.

```
<chem-struct-wrapper> (renamed to <chem-struct-wrap> to match other wraps)
<table-wrap>
```

Minutes: Recommendation accepted, including <chem-struct-wrap>.

10.2.2 Awkwardly Named Wraps

Recommendation: The following are really groups and could be renamed to group. The Working Group should consider renaming.

```
<custom-meta-wrap>
<floats-wrap>
```

Minutes: The Working Group discussed this for a while. While all seemed to agree that <custom-meta-group> and <floats-group> might have been better names initially, there was reluctance to change. We did not want to enforce mindless consistency, but we wanted to make it easier for new users going forward. The simplicity of the change ruled and the group recommended <custom-meta-group> and <floats-group>.

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