XML-First Workflows

Making life easier for authors…?

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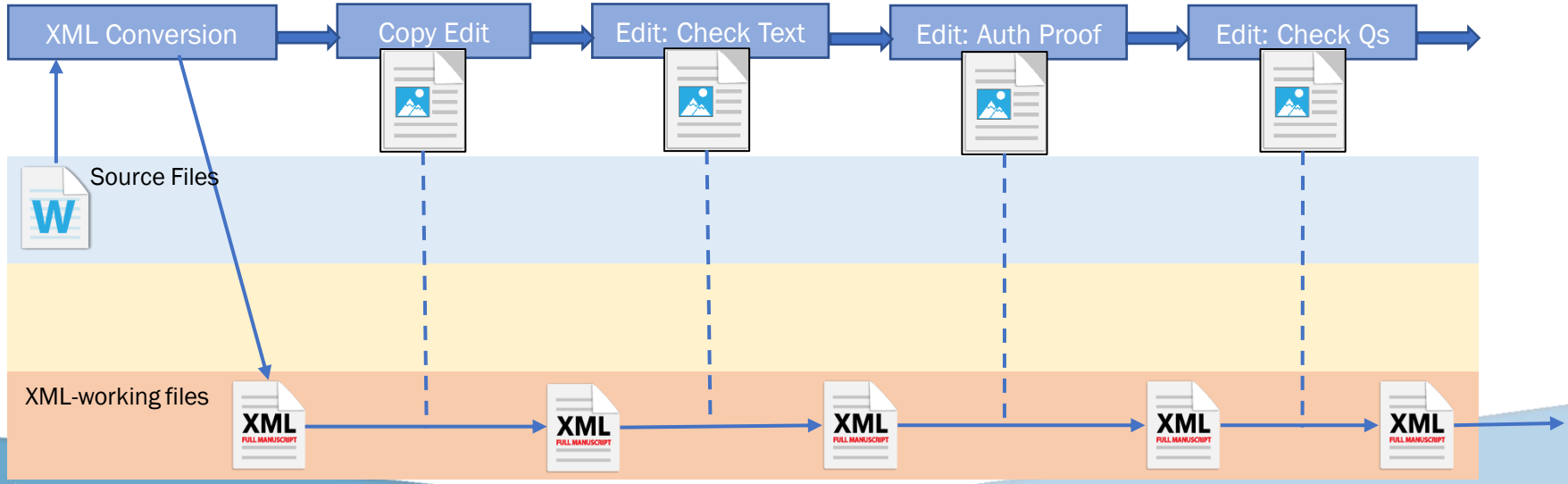
What is XML-First?

- In Production: base document files are XML throughout
  - Converted after Acceptance
  - All outputs based on processing/rendering XML
  - Corrections made to XML. Usually by expert, 3rd party operators
- For Peer-Review/Editorial: the same, only sooner
  - MS is rendered into XML format 'around' submission
  - So uses XML to represent the MS throughout Review process



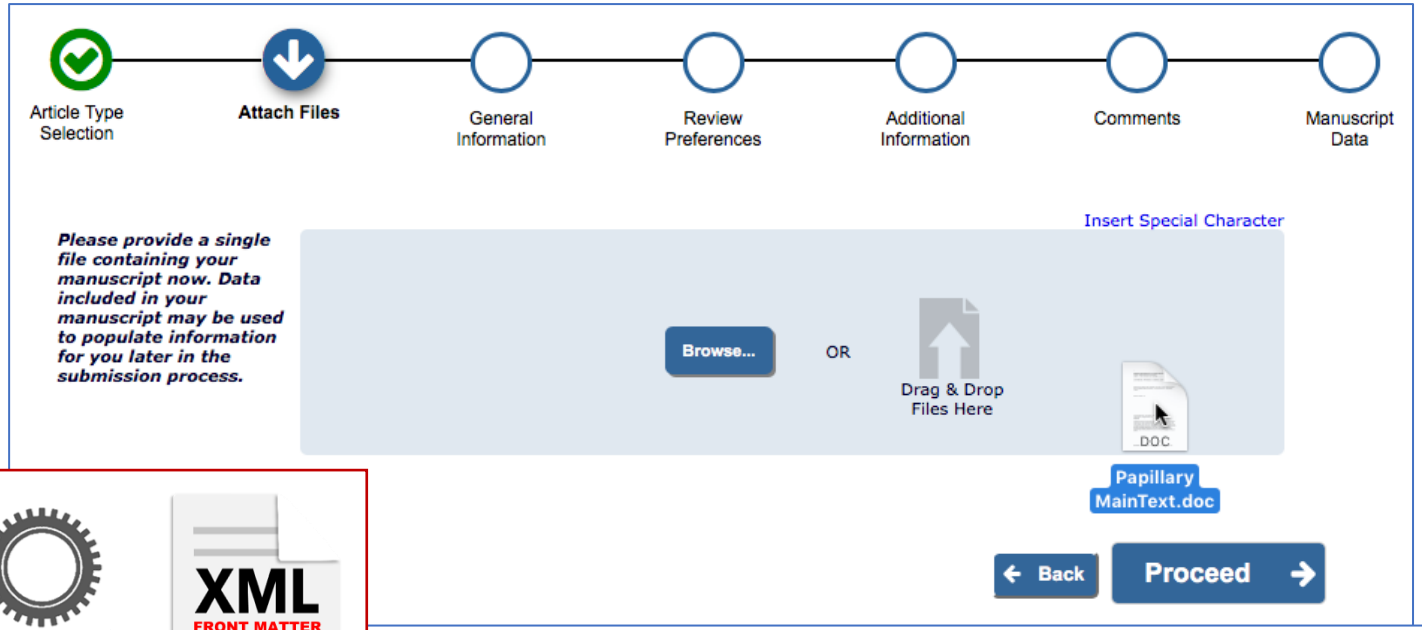
Making life easier for authors…?

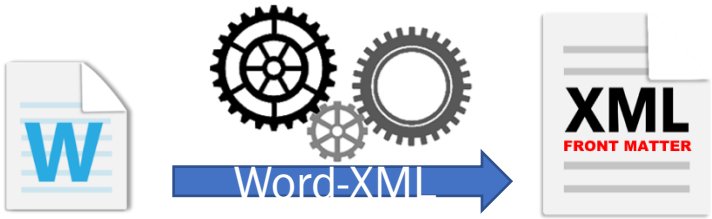
- Does it?
  - If done badly, could make their life more complicated
  - With the *right* tools, it can
- Why bother?
  - Give Authors control over their text
  - Faster to publication; fewer processes
  - Downstream benefits through publishing process
  - Better re-use, transfer and discoverability
  - More accurate/fewer errors introduced
- Illustrating Aries' approach for XML-First: 'LiXuid MS':
  - Our new Author Submission UI
  - Our XML Editor – a proofing tool for XML-First

Aries ‘LiXuid MS’

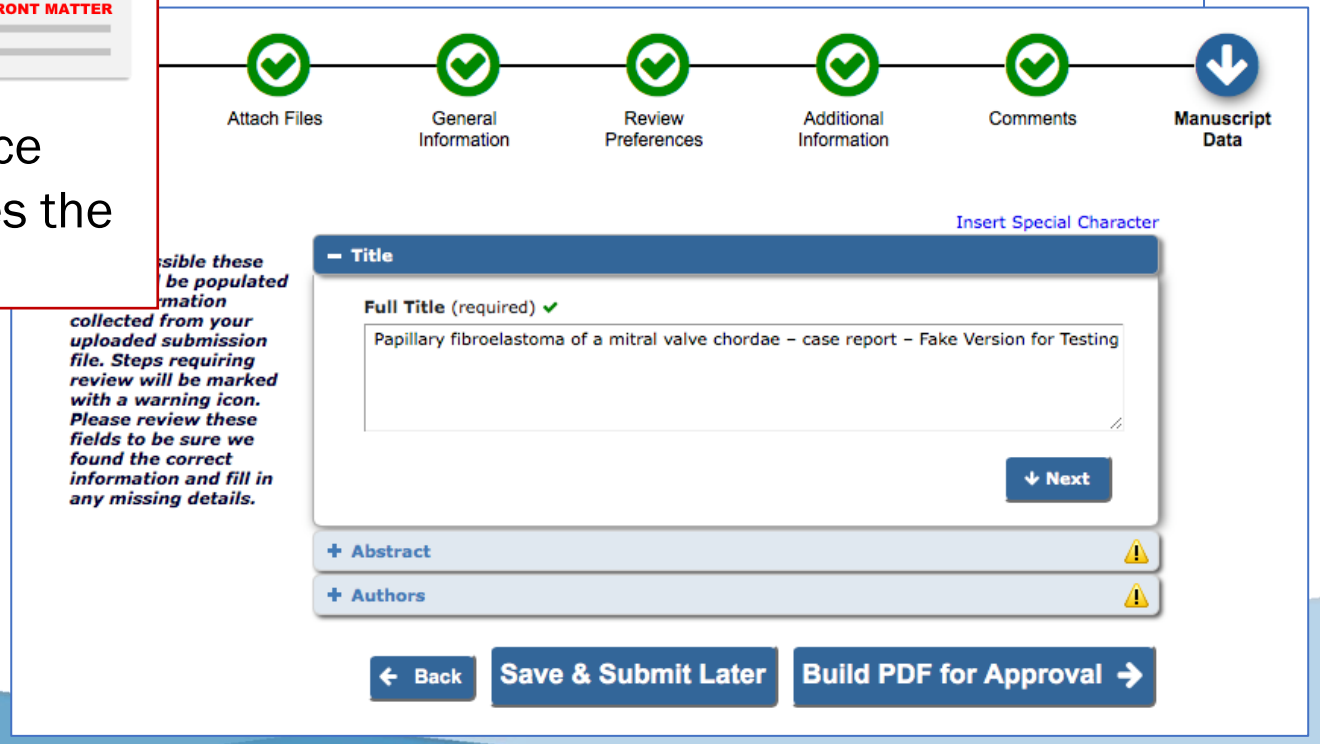
EM Xtract: Keeping it simple

- We redesigned our Author submission UI
  - This was done with XML-First in mind
- To pilot XML-First, we integrated a tool to extract submission metadata (Title, Abstract, Author list, Affiliations, Keywords)
  - This partially converts the MS to JATS XML elements
- Key principle was for the process to be invisible to the author
  - No 'special' submission route
  - No special formatting or templates to be required
- Already live; this is our standard submission UI
  - Saves the author time and increases accuracy





XML conversion takes place while the author completes the submission process



Early benefits

- Mini XML-First conversion reduces author workload
- With no impact on submission process
- We intend to keep it the same for XML-First in Peer Review
  - That ‘simply’ requires us to convert the whole document at this point

Next Steps: XML in Production

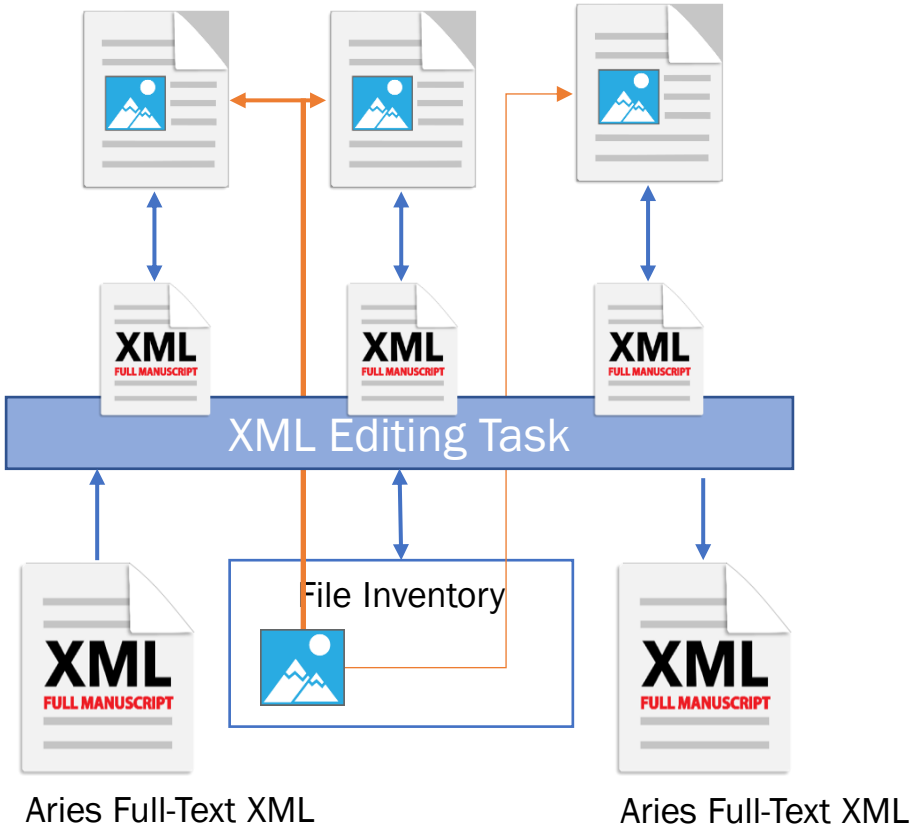
- Focus on Production in this next stage
  - Where most of those downstream benefits are realised
  - Production users are familiar with XML concepts
- We are developing new EM/PM Task-based XML tools
  - 'Tasks' currently allow EM/PM users to assign files to people to work on
  - Are being expanded to allow XML to be processed to support 'XML-First'
- Our intent is to hide complexity from users
  - Keep content experts focussed on content
  - Remove the need to know XML

Hiding complexity: Aries XML Editor

- We need a tool to allow the manuscript's content to be modified
  - Currently, this might only be done by a typesetter
- We want to allow content experts – Authors, Copy Editors – to be able to edit the text
  - Not mark up a PDF and then have changes transcribed/re-keyed
- We don't want them to have to be XML experts to do so
  - Concentrate on the content, not the format
  - But they should not be able to break the XML

Editing task

- Once we have XML, we can use XML-specific tools to process it
  - Aries XML Editor is one
  - Replaces PDF Mark-up
- It can access the 'XML-First' version of the submission
- It can access the submission File Inventory to pull in new images
- On completing the task the main XML stream is updated



Aries XML Editor

- Based on Fonto XML Editor
- A ‘Validating’ editor – it ‘understands’ the XML schema
  - It uses the XML itself to determine what the user can do
  - I.e. it understands the rules of XML so our users don’t have to
- This allows users to create new sections and elements without breaking XML rules
  - Not simply change the text in existing elements
  - Vital for major revisions in the peer-review process
- It warns of inconsistencies and omissions
- Extendable - we are customising it to meet your needs
  - E.g. adding an Author Query tool

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SECTION

2.3 Mutant preparation

Mutants of Pl-*scyllo*-IDH containing single amino acid substitutions with alanine (K106A, D191A, H195A, R178A, and H318A) were prepared using a PrimeSTAR mutagenesis kit (Takara Bio, Shiga, Japan) according to the manufacturer's protocol, with pET21a(+)-*lgdA* as the template. The primers used for construction of each mutant genes are shown in Table 2. Mutant enzymes were expressed and purified as described for the wild-type enzyme.

TABLE WRAPPER

Table 2

Primers used for mutation

K106A-f	CTGGAAGCGCCCATGGCGCTGAGCGTC
K106A-r	CATGGGCGCTTCCAGCCAGACATGCTT
D191A-f	GCTGCCATCTGGTC

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Word Processor-like Editing environment

Tabs for helper tools

Aries systems

In-line images and maths

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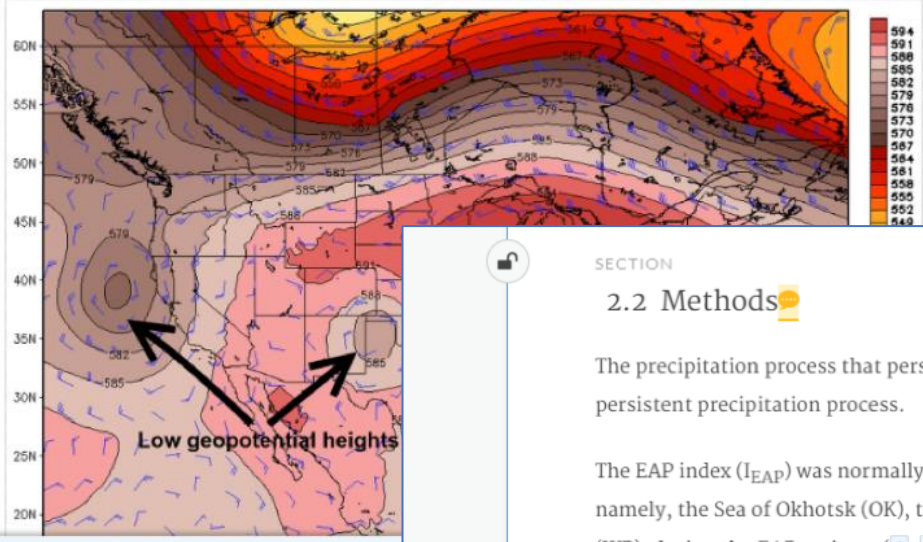
flow upstream, leading the cold/dry air to arrive in SC, and converge with the warm/wet air from the edge of the WPSH. Consequently, a persistent precipitation process occurs in SC.

FIGURE

FIG. 4

Composited 500-hPa geopotential height (contours; every 5 dagpm) and normalized height anomalies (shaded; every 0. 5σ). The vectors indicate wave activity flux (units: m^2s^{-2}). The number above each panel has the same meaning as in Figure 2.



Article > Body > Methods > Section > Paragraph > Equation

SECTION

2.2 Methods

The precipitation process that persisted for at least three consecutive days are referred to as persistent precipitation process.

The EAP index (I_{EAP}) was normally defined based on three key anomaly-center points; namely, the Sea of Okhotsk (OK), the mid-latitudes of East Asia (EA), and the western Pacific (WP), during the EAP regimes (1; 4; 9; Chen and Zhai, 2014):

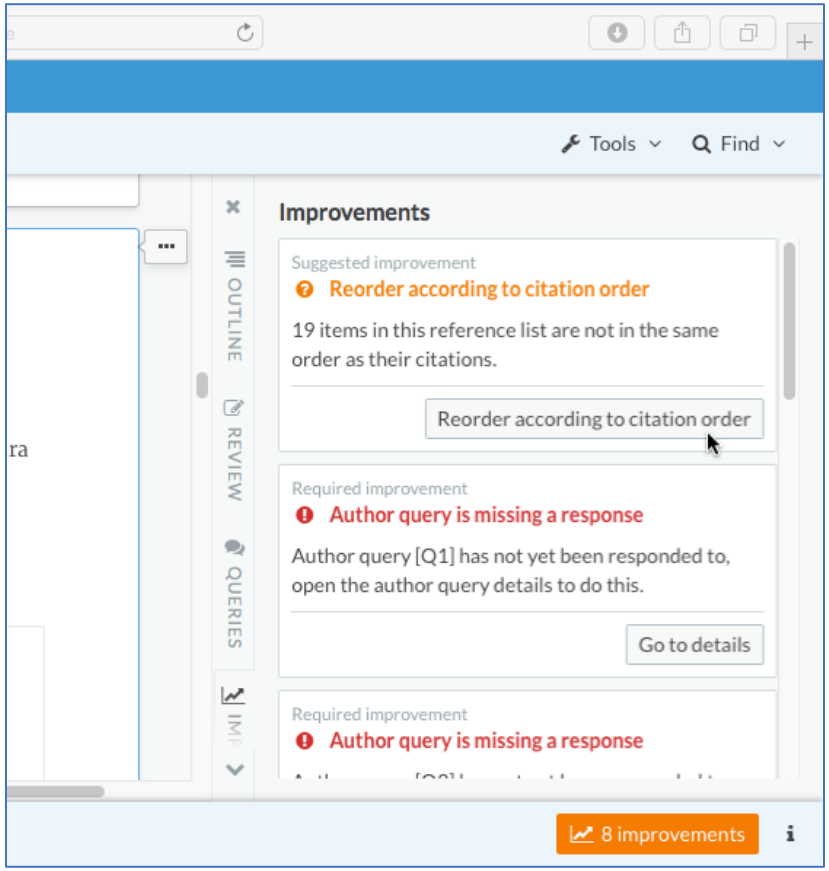
EQUATION

$$I_{EAP} = \frac{1}{3}H_{OK} - \frac{1}{3}H_{EA} + \frac{1}{3}H_{WP} \quad (1)$$

where H_{OK}, H_{EA}, and H_{WP} represent the normalized 500 hPa geopotential height anomaly of OK, EA, and WP, respectively. This study is based on the typical EAP teleconnection pattern responsible for no persistent heavy precipitation cases in the YRV in

A Validating XML Editor

- The Aries XML Editor constantly parses the XML
  - Knows what elements are valid, where
- Can warn of inconsistencies, e.g.
  - Missing citations
  - Missing images, tables
  - Uncited images
- Configurable, so warnings can prevent submitting edits, or just warn



Customisable: Author Query Tool

- Author Query component – Questions to Author
- Question – Response – Review cycle
  - Enforced by XML Editor
- E.g.:
  - Question to Author raised by Copy Editor
  - Response entered by Author; we can enforce this
  - Response marked as Viewed/reviewed by Desk Editor

Custom Author Query Tool

Search or enter website name

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B I U x_2 x^2 More | Tools | Find

Rudney H (1940) The Utilization of L-Glucose by Mammalian Tissues and Bacteria. Science 92: 112-113. 10.1126/science.92.2379.112 17755265

2. REFERENCE
Sasajima KI, Sinskey AJ (1979) Oxidation of L-glucose by a Pseudomonad. Biochim Biophys Acta 571: 120-126. 10.1016/0005-2744(79)90232-8 40609

3. REFERENCE
Q1 Nakamura A (2015) Paracoccus laeviglucasivorans sp. nov., an L-glucose-utilizing bacterium isolated from soil. International Journal Systematic and Evolutionary Microbiology 65: 3878-3884. 10.1099/ijsem.0.000508 26243274

4. REFERENCE
Shimizu T, Takaya N, Nakamura A (2012) An L-glucose catabolic pathway in Paracoccus species 43P. J Biol Chem 287: 40448-40456. 10.1074/jbc.M112.403055 23038265

OUTLINE | REVIEW | QUERIES | IMPROVE

Author queries | Add query

All queries | Details of Q1

0 of 7 answered
0 of 0 reviewed

Anonymous | Invalid Date

Medline reports the journal title should be "Int. J. Syst. Evol. Microbiol.", not "International Journal Systematic and Evolutionary Microbiology". (Ref. 3 "Nakamura, 2015")

This query has not yet been responded to.

Response

+ Click to add a response.

Article > Body > Section > Section > Title

8 improvements

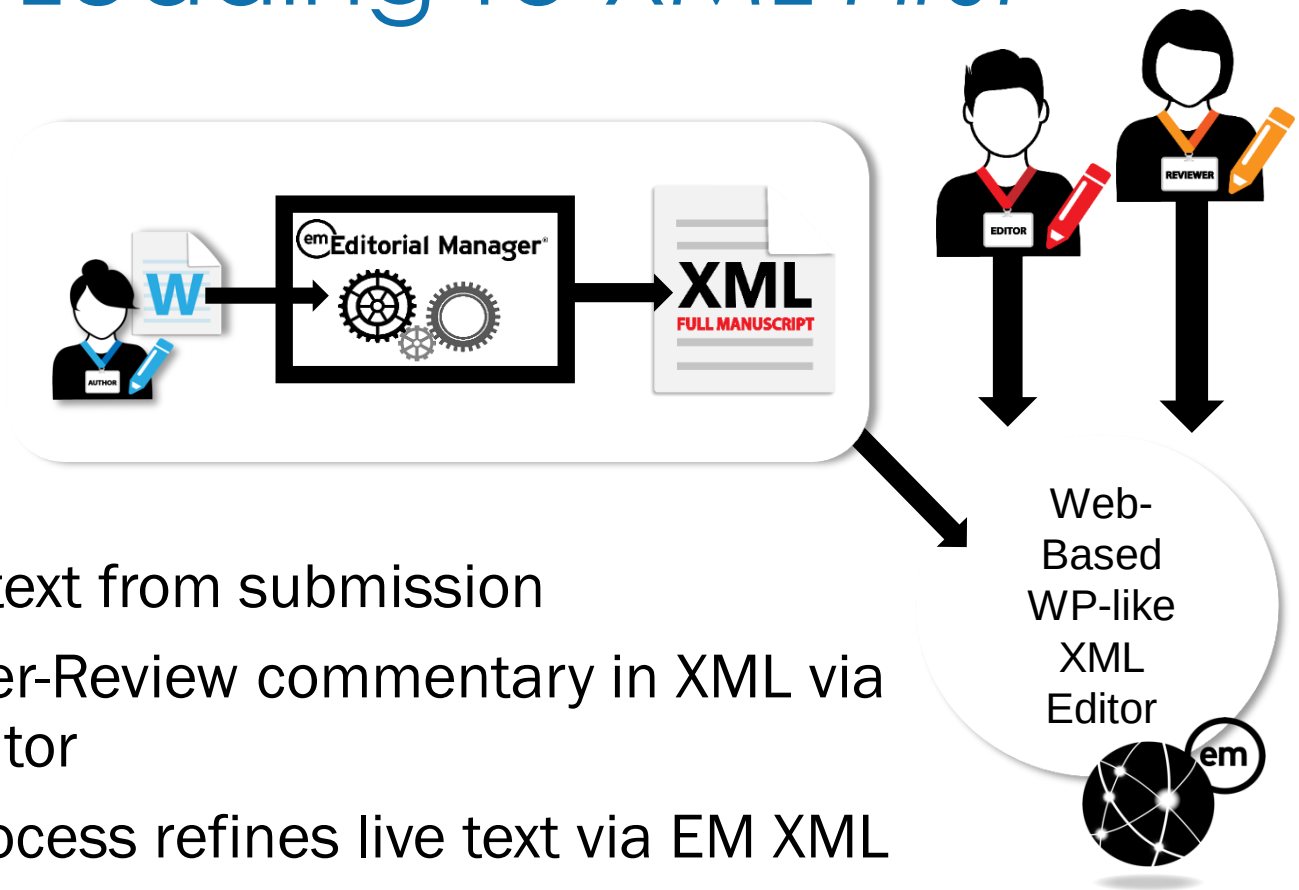
New Tools for Old Jobs

- XML-First flows require new tools to access the XML
- Should hide complexity, feel familiar
- Especially for Authors and Reviewers in full XML-First flows

LiXuid: Also under way

- General XML Process Task
  - Applies XSLT, Schematron rules, and DTD/Schema validation to *any* XML file
  - Imports third-party XML files into the Aries XML-First stream
- XML Assignment files
  - Allows Aries XML-First files to be sent to third-parties
- Auto-Pagination
  - Typesetting from Aries XML Files
- Automated Full-Text XML Conversion
  - Instead of just front matter, convert the entire MS
  - From unstructured source documents. Templates not required

Leading to XML *First*



- Structured text from submission
- Capture Peer-Review commentary in XML via EM XML Editor
- Revision Process refines live text via EM XML Editor
- Accepted text is ready to go

Future Benefits

- Once in XML, can extract what we need
- Easier to transfer parts of the submission to third parties for analysis
- ‘AI’ Analysis tools
  - Aries has worked with StatReviewer
  - Taxonomy/keyword analysis
  - New analysis services: SciScore, etc.

Thank you!

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