PANEL DISCUSSION:
TₑX and Math on the Web

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Panelists:
- David Carlisle, LATₑX3 Project (UK)
- Michael Downes, American Mathematical Society
- Andre Kuzniarek, Wolfram Research
- Jeffrey McArthur, Atlis Publishing Services
- Ross Moore, Macquarie University (Australia)

Moderator's summary of views

The moderator started the discussion by asking how soon his non-negotiable demand for math symbols on the Web would be met.[1]

Various panel members reported that *partial* solutions are provided by PDF, Scientific Word, Tech-explorer, Publicon, and MathType, and that the Netscape-affiliated Mozilla Organization will soon provide Windows rendering of MathML (albeit typographically poor at the moment).

McArthur pointed out that searching and indexing of the contents of PDF documents is not currently possible. This set off a lengthy colloquy among various members of the audience and panel on whether indexing of mathematical expressions makes practical sense in the first place.

McArthur said that TₑX should be fixed to emit XML, and its cousins. From the audience, Sebastian Rahtz stated that Ω already does this. Carlisle observed that sub-expressions are hard to handle.

The key need, said audience member Art Ogawa, is MathML rendering in the browsers. Carlisle replied that math symbols will soon be incorporated into UNICODE (as a tiny perturbation on its linguistic riches), and it will then be easy to map them into existing font sets. Kuzniarek pointed out that the *Mathematica* fonts are freely available. Don DeLand raised the issue of server vs. client support for fonts.

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[1] The panel discussion was based on the 13-point "Dreams and Difficulties" handout provided by the moderator. -Ed.

McArthur suggested that TₑX can be treated as a language, like Chinese, for which input editors exist. The editor could convert to MathML, and also convert backwards to something editable. Kuzniarek said that the translation might be trickier in this case, but Peter Flynn replied that the Euromath Grif [object-oriented editor recently adopted by the Euromath consortium] already performs such conversions adequately.

Timothy Murphy and Michael Doob predicted that most mathematicians will stick with TₑX, no matter what; mathematics is a separate world, which TₑX serves very well. These comments provoked a spate of "on-the-other-hand" remarks:

- Carlisle: TₑX users need to get onto the Web somehow.
- Patrick Ion: Engineers at Boeing (for example) use math too, and they need to read and write it.
- Fulling: We can't reach our students if they encounter mathematics only in an environment that is alien to them.
- McArthur observed that TₑX has surprising difficulty in dealing with elementary-school math.

Ogawa summarized the task before: Both rendering and document creation are crucial needs, and both will be hard sells as the small TₑX community struggles to integrate itself into the XML/MathML world.