

**To: Unicode Technical Committee**  
**From: Debbie Anderson, SEI, UC Berkeley**  
**Subject: Egyptian Hieroglyphs: Summary of Script Ad Hoc Discussion, April 2021**  
**Date: 20 April 2021**

**Below is a summary of the discussion at the Script Ad Hoc on Egyptian Hieroglyphs. This summary was relayed to European Egyptologists who have been participating in regular meetings with Unicode experts.**

Script Ad Hoc members did not want the encoding model to be too complicated, since this leads to multiple representations of the text and ambiguity. It is already recognized that some ambiguity already exists with Egyptian Hieroglyphs, since some of the already encoded characters could be represented as sequences with control character. Regarding possible ambiguity: Some guidance is contained in the TUS (p. 439), described explicitly below:

- If an atomic character can be expressed as a sequence and form is being used as a standalone form *in toto*. Then the atomic encoding is preferred.  
An atomic form is likely to have a better presentation form than the sequence if one exists in the font. It is also easier to work with an atomic character.
- If a sequence of signs have an atomic representation, but occur as a unit with a more complex quadrat, then the sequence encoding is preferred.  
The reason for this is that the control connections implicit in an atomic form cannot participate in the format controls precedence order and therefore can distort the analysis or presentation of the overall quadrat.

There is a trade-off between having Egyptologists request more characters be encoded vs. generatively produced sequences that follow structural norms. It is hard to draw a clear line defining when atomic encoding is to be preferred over a sequence that can be generatively produced.

There was support for atomic encoding for complicated edge cases. How many such cases are there?

There is no formal mechanism equating Egyptian Hieroglyph sequences and atomic characters, but a higher-level protocol could be utilized, equivalent to an orthographic checker/spell checker.

A list of sequences is needed so implementers will know which ligatures to implement in fonts. (Note that emoji recommends use of certain sequences, "RGI" ["Recommended for General Interchange"] for interchange.)

The requirements for fully supporting Egyptian hieroglyphs will involve supporting complex OpenType requirements and a huge character set, so it is not likely there will be multiple Egyptian Hieroglyph fonts that compete against one another. Andrew recommends an open-source font database, which can be contributed to. The 64K limit on fonts was noted.

It is important for Ptolemaic characters to be represented in the set of proposed characters.

Michel Suignard will talk to Andrew Glass about containers/enclosures.