sigma range of 430 AD-672 AD (AA-12623) but as we move farther back in Time our results improve as a Papyrus of 172 BC (AA-14736) renders a two-sigma result of 170 BC-80 AD and this just misses the two-sigma range while a Papyrus of 257 BC (AA-22269) places at 30% of the two-sigma range of 390 BC-30 AD.

If one were to submit a sample from an ancient manuscript for Accelerator Mass Spectrometry C-14 dating one would in the course of time receive the test result. Of interest would be two items: Fraction of Modern Carbon and dC13. With these we can duplicate the work done in this paper.

The Fraction of Modern Carbon would be a four digit decimal of 1. This is the value of the material at –25 per mil (the dC13 for wood) which allows us to convert the sample into that of wood so we can read the historical date from the Tree-rings. Also given is the dC13 for the material. This value allows us to use the Fraction of Modern Carbon and calculate the Laboratory measured C-14 sample content. This may be illustrated by AA-22269 (Mich. Inv. 3137; P. Mich. I 17). The Fraction of Modern Carbon is .7667 and the dC13 is –10.0 per mil. So 1-.010/1-.025 = x/.7667, so .99/.975 = x/.7667, Hence x = .99 times by .7667/.975, therefore x = .7785 and this is the Laboratory measured C-14 sample content. This value is placed in the equation's denominator. What is placed in the equation's numerator is the material's initial C-14 content. In the case of Papyrus this would be a value of 1.0240. The common Logarithm of this fraction is then multiplied by 18985 to render the number of historical years before the present which is how old the material is.

The present study is based on limited samples. More extensive known-age material may provide a broader view of metabolic similarities and differences. Perhaps