1114-01-34   **Shirley B. Gray, Ph.D.*** (`sgray@calstatela.edu`), Dept. of Mathematics, California State University, 5151 State University Drive, Los Angeles, CA 90032. *Archimedes Redux Eureka Meets Mathematica, MATLAB & a 3-D Printer in 2015.*

No area of mathematics has attracted more international attention in the past decade than the Palimpsest of Archimedes. The 1998 auction at Christie's, followed by collaborative work centered at the Walters Art Museum led to traveling museum exhibits, newspaper articles, television specials, and dozens of presentations. Mathematicians and other scholars attracted a new and significant audience. The singed, battered, faded, mildewed, damaged 10th century manuscript - the world's oldest copy of The Method of Archimedes - sold for $2 million "under the hammer." Mathematicians and classical scholars have long wondered just how close Archimedes (287-212 BC), a mechanical genius, had come to formulating modern calculus. The clues would surely lie in Propositions 13 and 14, if only they could be read. Though now transcribed, the content may contain copyists' errors. In the true Archimedean experimental tradition, we decided to avail ourselves of the opportunity to look not retrospectively at the content of propositions in The Method but rather in terms of 21st century mathematics and technology. Moreover, we believe we participated in every scholar's quest to have a Eureka moment - we found the Golden Ratio in our attempts to image the footprint of Archimedes. (Received June 27, 2015)