

1135-01-1706

G. Arthur Mihram* (dmihram@usc.edu), 301 N. Harrison St., Ste 9F-200, Princeton, NJ 08540, and **Danielle Mihram** (dmihram@usc.edu), University of Southern California, LVL 113, MC 2571, Los Angeles, CA 90089. *The Historical and Educational Role of Mathematics in the Arts and Humanities*. Preliminary report.

Science is that human activity devoted to the search for the very explanation for (i.e., for the truth about) any particular naturally occurring phenomenon. Our Modern Science's 'Method' [Teorema 28(2):35,2009] requires of any prospective scientist both observation and mental reflexion thereon [mathematician Cotes's Preface, Newton's *Mathematical Principles for Natural Philosophy*, 2nd ed., ca. 1713]. Yet, mathematician Quinn [AMS Notices 59(1):31,2012] notes that mathematics is not science, their respective validity criteria differing: internal vs. external, resp. One can add that mathematics is neither sufficient (e.g., pure mathematics) nor necessary (e.g. Darwin, Nobel Laureate Lorenz, sociobiologist Wilson) for Science. Why, then, has mathematics been recognized as a necessary curricular requirement in the arts and humanities (A+H)? Of course, we two have noted that mathematical faculty are rather unique, publishing statements which are irrefutably true, thereby providing an academic challenge. British 19th-Century university Calendars list mathematics as an art, a language, not in the Faculty of Science. But, most importantly, the graduate's mental discipline acquired in mathematics classes elicits him/her, throughout life, to reach conclusions, more likely impeccable. (Received September 24, 2017)