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Timothy G Hall* (info@pqic.com), PQI Consulting, P. O. Box 425616, Cambridge, MA 02142-0012. *Synthetic Mathematical Thought*.

Many grand achievements and breakthroughs in mathematics as well as in the sciences have been inspired by simply reading the past ideas of authors long gone, whose work has planted the seeds of new, greater ideas in the next generation of mathematicians and scientists. With the incredible library of mathematical thought now available through electronic communication, perhaps it is time to let those electronic machines assist the human mind in mathematical discovery by accentuating what computers do best: The rapid, accurate, and precise manipulation of incremental pieces of information in coded form. In support of advancing this noble effort, would electronic computing not be an excellent tool to quickly, precisely, and accurately search through potentially an unlimited number of mathematical expressions, searching for patterns, compatible material, and linked conditional statements? Perhaps to alert a mathematician to an intricate conclusion that may be valuable in its own right, but which may never have been found due to its obscure pedigree? This paper presents the foundations for implementing synthetic mathematical thought in a modern computing environment, along with some proposed nomenclature and logical processes. (Received August 11, 2008)