calculating and measuring, that there is really nothing new in mathematics, that two and two always make four, that the sum of the angles in a triangle always make two right angles, and that all progress in mathematics is merely a question of intricacy, a never-ending process of increased complication by which you can puzzle even the cleverest calculator. To them the history of mathematics would be something analogous to the history of games like whist or chess, the resources and complications of which seem to be inexhaustible. So they think [1] that the intricacies and refinements of elementary and higher mathematics will supply endless material for training the minds of schoolboys or trying the ingenuity

[1] "Some people have been found to regard all mathematics, after the 47th proposition of Euclid, as a sort of morbid secretion, to be compared only with the pearl said to be generated in the diseased oyster, or, as I have heard it described, 'une excroissance maladive de l'esprit humain.' Others find its justification, its *raison d'être*, in its being either the torch-bearer leading the way, or the handmaiden holding up the train of Physical Science; and a very clever writer in a recent magazine article expresses his doubts whether it is, in itself, a more serious pursuit, or more worthly of interesting an intellectual human being, than the study of chess problems or Chinese puzzles. What is it to us, they say, if the three angles of a triangle are equal to two right angles, or if every even number is, or may be, the sum of two primes, or if every equation of an odd degree must have a real root? How dull, stale, flat, and unprofitable are such and such like announcements! Much more interesting to read an account of a marriage in high life, or the details of an international boat-race. But this is like judging of architecture from being shown some bricks and mortar, or even a quarried stone of a public building, or of painting from the colours mixed on the palette, or of music by listening to the thin and screech sounds produced by a bow passed haphazard over the strings of a violin. The world of ideas which it discloses or illuminates, the contemplation of divine beauty and order which it induces, the harmonious connexion of its parts, the infinite hierarchy and absolute evidence of the truths with which it is concerned, these, and such like, are the surest grounds of the title of mathematics to human regard, and would remain unimpeached and unimpaired were the plan of the universe unrolled like a map at our feet, and the mind of man qualified to take in the whole scheme of creation at a glance" (Prof. J. J. Sylvester, Address before Brit. Assoc., see 'Report,' 1869, p. 7).