

An Apology by Clifford Truesdell, 1956

Indeed, I must conclude with an apology for rational mechanics. It is not likely to become a popular field. No prizes are awarded for rational mechanics, and it would make a poor showing in a poll of the public or of scientists in general. The monetary cost of a century of rational mechanics will not equal what is spent in this year on computing machines. *The work I have described was done slowly, by individuals working alone or with a single other of like tastes.* The great teams that produce bombs and vaccines would not have multiplied or deepened the output here. In an age and country where numbers, cost, and statistics count, rational mechanics will never gain much notice. In itself, notice is not what we need, but nowadays he who is not noticed is unlikely to survive. In rational mechanics the monetary need is on so small a scale that often it goes entirely unrecognized, in favor of more costly and more glittering projects. Whether in universities or outside them, several of the persons whom I have named here tonight lack a proper library, secretarial help, and even adequate stationery, not to mention a reasonable allowance of time for work free of teaching or other community responsibility. There is no society for rational mechanics, nor are its individualist students likely ever to be numerous enough to afford one, cooperative enough to establish one. In the National Academy of Sciences, for at least twenty-five years no member has been elected for achievement in rational mechanics.

As far as costs and numbers, there has been little change. It would be most incorrect to presume either that the “classical” mechanics we learn today as the first step in physics and engineering was produced by a co-operative effort of organized science, or that in those old fashioned days no large projects existed. Indeed, 200 years ago money was spent on science: on calculating great numerical tables, on extensive experiments for the betterment of mankind, on the design of warships, on boards and committees to organize science. *But these efforts did not produce the “classical” mechanics, which was the work of a handful of men, scattered over a continent and a century: willful, uncompromising, quarrelsome, arrogant, and creative.*

Thus I have come before you with a purpose. Some years hence, when tonight’s initiates are deans and vice-presidents, the persons whose names I have mentioned may well be retired or dead in mind if not in body. *I ask those deans and vice-presidents, remembering what I have said tonight, to give a chance to the queer and arrogant young man without a laboratory and without a computing machine who claims he can do research in mechanics just by thinking.*