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Catastrophe theory: *Selected papers*, 1972–1977, by E. C. Zeeman, Addison-Wesley, London, Amsterdam, Ontario, Sydney, Tokyo, 1977, x + 675 pp., $26.50 (hard binding), $14.50 (paper binding).

For the general public, catastrophe theory (or CT) has become the biggest thing in mathematics. René Thom and Christopher Zeeman are the two leaders of this field. L'Express (October 14–30, 1974) asserts that the "new Newton" is French (i.e. Thom). An announcement of Zeeman's lecture at Northwestern University in the spring of 1977 contains a quote describing catastrophe theory as the most important development in mathematics since the invention of calculus 300 years ago. Newsweek has given similar comparisons. Zeeman juxtaposes Newton and Thom in the volume under review (briefly ZCT), p. 623. Thom writes "... CT is–quite likely–the first coherent attempt (since Aristotelian Logic) to give a theory on *analogy*." [p. 637, ZCT]. On the back cover of Thom's book, *Structural stability and morphogenesis* [English translation, Benjamin, 1975 or Thom's SSM], is the quote from the London Times review, "In one sense the only book with which it can be compared is Newton's *Principia*."

Recently however, the importance of CT has been sharply and publicly challenged by Hector Sussman and subsequently by Sussman and Raphael Zahler [*Catastrophe theory as applied to the social and biological sciences*: *A critique* to appear in Synthese]. A critical story on CT by Gina Kolata in "Science", April 15, 1977, is headed: *Catastrophe theory*: *The emperor has no clothes*. A front page story on the New York Times, November 19, 1977 focuses on the challenges to CT.

To write a review in this environment has a very personal side for me. On one hand my own work on dynamical systems is closely connected to the origins of CT. I have had a long and close personal and professional relationship with both Thom and Zeeman. More than 20 years ago I was discussing singularities of maps, transversality, and immersions with René Thom. Thom tried to interest me in an early draft of chapters of his book *Structural stability and morphogenesis* in 1966.

On the other hand I have remained skeptical and aloof from CT, perhaps due to my conservatism in science. While my colleagues and students were showing enthusiasm for CT, I gave critical lectures, one at the University of Chicago in 1974, one at the Aspen Institute of Physics in 1975. More recently I have been quoted negatively in the "Science" and New York Times references above. This is the first time I have written on the subject, and I should warn the reader of this negative bias, far from shared by many of my fellow mathematicians.

Some of the mathematics underlying CT, especially transversality, and singularities of maps, has played a constructive role in outside disciplines, and is destined to play an ever increasing role. On the other hand I feel that CT itself has limited substance, great pretension and that catastrophe theorists have created a false picture in the mathematical community and the public as