

Saunders Mac Lane, *The American Mathematical Society Report of the President for 1974*. Notices of the American Mathematical Society **22** (1975), 66 – 68.

[Excerpt from pages 67 – 68]

8. **State of Mathematics.** As this incident indicates, our meetings and publications continue to show that mathematical research really advances. The long run health of our science will surely depend upon direct conceptual advances and on effective relations to the applications. Of late I have been troubled to read many extreme formulations of this issue. On one hand, some appear to say that only applicable mathematics matters, while on the other hand, there are firm suggestions that pure mathematics could continue to be healthy for a couple of hundred years without having any contact whatever with its applications. Both statements are vigorous and extreme but neither extreme seems sensible. My positive observation is rather to the effect that mathematics is concerned with the understanding the deep structure of the universe as may be revealed by straight abstract thought, by building on previous notions, and by careful examination of examples and applications. When mathematics is truly directed at this deep structure, then it fits. This is the ultimate reason why mathematics does work, and why all aspects of the endeavor are important. Today mathematical methods and mathematical models are indeed used in very many connections, especially in many policy studies, and of late I have noted too many occasions when some of these uses were careless, superficial, or incomplete. My fundamental hope is that the high conceptual standards and real understanding, traditionally available in the mathematical community, can be brought effectively to bear on these methods. A more thorough use of mathematics and its deeper techniques on policy questions should be of vital assistance to society — and, at the same time, should provide some real and substantive correction for the present difficulties in the employment of mathematicians.