

595

1956 Cybernetics, preface to Japanese translation

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PREFACE TO THE JAPANESE TRANSLATION OF CYBERNETICS.

My book Cybernetics was written in 1947 and was published in 1948. Since then eight years have passed and I am asked to write a preface to its Japanese edition. I would like to use this opportunity to express my friendship for my colleagues in Japan who have been following up this line of work and in particular for my colleague and former student, Dr. Shikao Ikehara of the Tokyo Institute of Technology who has made this translation.

When I first wrote this book Cybernetics was a somewhat speculative program for future work. It has now become a working discipline. The statistical point of view in communication engineering is a well recognised way of approaching this field, and at the hands of Claude Shannon and others it has yielded considerable practical results. The automatic factory is no longer just beyond the horizon but represents serious technical and social problems which must be faced now and in the immediate future. The study of time series has developed enormously and is having a considerable influence in neurophysiology, meteorology and sociology, not to mention other fields.

In view of these matters it is probably worth while to draw the definition of cybernetics a little more tightly than I was able in the beginning. This definition still goes back in its essentials to the analogy of the steersman of a ship. I now define it as follows: let us have a situation in which two variables occur, one of which is beyond our control and the other of which is adjustable by us. We wish to achieve a certain optimum result by the determination of the adjustable variables in terms of the past and present of the uncontrollable variables. The art of achieving this is cybernetics. An example of this is when we adjust the position of the rudder of the ship in terms of the past vicissitudes of wind and sea to keep the ship as closely as possible on a given course.

Norbert Wiener

Tokyo, May 21, 1956.