

## Viewpoints

The logistic S curve appears to fit DeFleur's experimental data well. In general, the S-shaped curve is a plausible hypothesis about the relationship of market response to advertising stimuli.

C. B. WEINBERG

London Business School

### REFERENCES

- <sup>1</sup> B. BENJAMIN and J. MAITLAND (1958) Operational research and advertising: Some experiments in the use of analogies. *Opl Res. Q.* 9, 218.
- <sup>2</sup> M. DEFLEUR (1956) A mass communication model of stimulus response relationships: An experiment in leaflet message diffusion. *Sociometry* 19, 12.
- <sup>3</sup> E. C. RHODES (1940) Population mathematics—III. *J. R. Statist. Soc.* A103, 362.

### SYSTEM DYNAMICS RESEARCH GROUP AT BRADFORD UNIVERSITY

IN THE late 1950's and early 60's Jay Forrester of M.I.T. and his co-workers published a series of books, papers and articles on what they called "Industrial Dynamics". Since then they have expanded their area of interest into areas such as city management and regional planning.

Their basic idea was that any socio-economic organization had important feedback properties and these strangely influenced its dynamic behaviour. In order to analyse these problems the M.I.T. group proposed a modelling method and developed the DYNAMO compiler with which Industrial Dynamics is often confused.

Forrester's work has not enjoyed wide usage and has been criticized by several authors (see Ansoff<sup>1</sup> and the reply by Forrester<sup>2</sup>). The main criticisms seem to come down to it being rather hard to see from the published literature how one goes about applying Industrial Dynamics and how the model is to be analysed when it has been written.

It does, however, seem likely that the ideas of feedback and control in business organizations are worth pursuing and the University of Bradford has recently established a new research group to do this. Basically we hope to build on Forrester's work but the ultimate product may well be rather different. The new group is a joint venture between the University's Management Centre and Department of Control Engineering and it is hoped to achieve some kind of synthesis between the two fields.

The basic research strategy is to study actual cases and this develops the theory and practice side by side. We would very much like to hear from anyone interested in the field.

R. G. COYLE

Bradford University

### REFERENCES

- <sup>1</sup> H. I. ANSOFF and D. P. SLEVIN (1968) An appreciation of industrial dynamics. *Mgmt Sci.* A14, 383.
- <sup>2</sup> J. W. FORRESTER (1968) A response to Ansoff and Slevin. *Mgmt Sci.* A14, 601.