

poses that a machine which slavishly obeys instructions will produce an artistic translation, but even a translation which showed whether the article were worth further study would be useful.

A surprisingly varied collection of problems connected with mechanical translation are discussed in the book under review. There is a natural emphasis on translation from Russian into English, just as in more recent Russian work the opposite emphasis occurs. Two or three of the essays are severely technical, and some others are marred by the tendency of scientists not to use a short word if a long one will do: 'As a consequence of the foregoing' is written for 'Because of this'. On the other hand several of the articles are models of their kind, and as there is a good deal of overlap these are sufficient to give the general reader a survey of the many and varied problems and of the ingenious solutions being tried. One such article describes an attempt at a modified form of English ('Model English') in which each word has essentially only one meaning, inflexions (which are hard to deal with mechanically) are eliminated, and so on. Such a form of English would be the answer to a translating machine's prayer, and the author suggests that a typist preparing an ordinary English text for input into a machine would have no difficulty in rewriting the text in Model English. To convince us that Model English need not appear unduly unfamiliar, the chapter heading has the footnote: 'This chapter be entirely written in Model English'.

The first two chapters are reprints of 'pioneer' papers by Weaver in America and Richens and Booth in England. As the historical introduction recalls, it was by these essays that many of the present workers in the field were first convinced of the possibility of machine translation. As far as scientific writings are concerned, this pleasantly printed and well-bound book will perform the same service for a wider public.

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STUDIES IN COMMUNICATION CONTRIBUTED TO THE COMMUNICATIONS RESEARCH CENTRE, UNIVERSITY COLLEGE, LONDON. (Secker and Warburg; 25s.)

Professor Ifor Evans explains in his illuminating foreword that the Communications Research Centre, set up in 1953, has not only produced this stimulating, irritating and fascinating collection of essays, but plans to publish further studies from time to time. It has inspired a more specialized volume on Communications in Industry; and it would be interesting to know whether it may later undertake the investigation of that vast everchanging complex of 'in-group' and 'out-group' dialects of class, place and occupation in England which Nancy Mitford and Alan Ross have attempted to immobilize in rather *simpliste*

terms. In any case it is to be hoped that, whatever further work is done, some attempt will be made to evaluate the problems of consciousness and of intention implicit in the whole subject. An exterior survey is a useful method of obtaining objective data, but, unless it is believed that such data are all that can be known—and this too is an interpretation, and should be formulated—there must come a time when some venture to form an hypothesis is necessary.

Like the cold air associated with a haunting, this theme breathes with unexpected chill throughout the whole collection; present, but repressed in the essay on Communication Theory, with its electronically determined imagery; present but ignored in the discussion of the language used in medicine; nearer to the surface in Professor Haldane's absorbing paper on communication in biology and the stimulus and response evoked by smells, colours, movement, suggestion, and even mathematical symbolism. This is in many ways the most valuable contribution to a valuable work, enhancing human understanding not only of the animal world but of much of our own, in its consideration of the function of gesture and of ritual in expressing and transmitting meanings sometimes inaccessible to words. With us, such meanings are transcendental; that these methods should however be used, in the precise movement of a bee dance, to get across a message like 'nine workers are to fly 560 yards N.E. by E. of the hive to a place with the smell of the drink I offer you', is staggering in its presentation of an unimagined mode of awareness. It seems almost impossible to believe that so elaborate a message and response can really lie in the sphere of reflex action, like a knee jerk.

Professor Wittkower's essay, on the Interpretation of Visual Symbols in the Arts, is particularly interesting in dealing with what he calls the function of magic (better amplified as 'direct suggestion') and aesthetic in visual symbols, remarking that an image may both help a man to concentrate his attention on what it represents and be aesthetically pleasing. It may be noted, as a subject for later investigation, that these functions are too often separated in contemporary religious art. Professor Webster's lively study of the Communication of Thought in Ancient Greece is remarkable for its discussion of the change in the meaning of the word *psyche*, over a long period, and its enquiry as to whether the Sophists were 'wrong in trying to fix the meanings so precisely that words could be used as if they were mathematical terms'.

It is not only the Sophists who make this attempt; but it may be observed that it is never successful until the language to which the words belong is dead.

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