

explanation of the map this particular memoir is too long and as a reference source of all the geological information needed for practical purposes it falls short.

It also seems desirable to consider again the desirability of publishing the maps in a pocket with the memoirs. Too often the memoirs are used ineffectively, for example, in libraries, because the maps are not there. More attention might be drawn to the 6 inch : 1 mile maps. These are not mentioned in the list on the dust jacket and the reference in the preface to the page where they are listed is incorrect. They are very valuable maps which could be more widely used.

R. M. SHACKLETON

## MACHINE TRANSLATION

### Machine Translation

Edited by A. D. Booth. Pp. ix + 529. (Amsterdam: North-Holland Publishing Company, 1967.) 180s.

SOME years ago, machine translation (MT for short) was regarded as one of the more important and promising applications of computers. However, promise was not backed up by performance, and gradually, as public interest waned, MT disappeared from view. Indeed, one would have been inclined to describe it as dead were it not for the appearance of this volume, like Petrouchka's ghost defiantly shaking its fist at an unbelieving world. The volume includes contributions from all the currently active groups in the field, and shows the state of development of the subject around 1965, when most of the articles were written. I was immediately struck by the fact that most of the groups here represented have been active in MT from its inception, displaying a product loyalty stronger than is usually found in the computer field.

The papers in this volume cover a wide range of topics, from highly detailed accounts of specific projects to more general surveys of the work of some groups.

Although interesting, the paper by M. Levison on the computer in literary studies is out of place, for it is not concerned with MT. Also, the paper by K. H. V. Booth on machine aided translation with a post-editor has an inappropriate title, for it is concerned chiefly with statistical studies of the frequency of occurrence of word combinations as an aid to efficient translation. The paper includes extensive tables obtained by an analysis of extracts from the Canadian Hansard. No attempt has been made by the editor to arrange the papers in functional groups. If there is any common factor to be discerned in these papers it is the importance of predictive methods of analysis and the use of a statistical approach to pick out commonly related groups of words. But in the main there are no broad conclusions to be drawn, save perhaps that nobody has so far got anywhere near a completely automatic translation system. The paper most likely to interest the lay reader is that by V. H. Yngve on MT at MIT, 1965. The other papers are of interest only to specialists: indeed, the whole volume will be required reading for anyone starting research in MT. But the lay reader or computer man who wants to know what MT is about will have to look elsewhere.

D. W. BARRON

### University News

Mr B. C. Leighton, King's College Hospital Medical School, London, has been appointed to the chair of orthodontics tenable at that school.

Dr S. Gregory, University of Liverpool, has been appointed to the second chair of geography in the University of Sheffield.

**CORRIGENDUM.** In the communication "Formation of Polymeric Carbon Suboxide during Gamma Radiolysis of Liquid Carbon Monoxide at 77° K" by J. P. Briggs and P. G. Clay (*Nature*, 218, 355; 1968) the last three lines of Table 2 should read:

4	1.46	0.97
5	1.43	0.96
Average	1.49 ± 0.05	0.98 ± 0.03

**ERRATUM.** In the communication "Structure of Chymotrypsinogen B compared with Chymotrypsinogen A and Trypsinogen" by L. B. Smillie, A. Furka, N. Nagabhushan, K. J. Stevenson and C. O. Parkes (*Nature*, 218, 343; 1968) the sentence beginning on the seventeenth line of the second paragraph should read: "High-voltage electrophoresis on paper has been the principal means of peptide purification in this work, giving low yields, and so considerable importance has been attached to the isolation of the appropriate overlapping sequences". The second sentence of the fifth paragraph should read: "It has been shown that the autolytic cleavage of the leucine-13 to alanine-14 peptide bond in chymotrypsin B does not occur". In Table 1 the three amino-acid sequences are shown in the order Chymotrypsin A, Chymotrypsin B, Trypsinogen. Ref. 22 is a manuscript in preparation and not in the press.

## CORRESPONDENCE

### New Name for the Kilogram

SIR,—C. W. Allen discussed a new name for the kilogram in his letter published in *Nature* (218, 209; 1968). If a new name for kilogram is required beginning with "q", why not adopt the Portuguese name for kilogram which is quilo?

Yours faithfully,

M. FULTON

Amancay,  
Colwinston,  
Cowbridge, Glamorganshire.

### Biosatellites are a Waste of Money

SIR,—Your leading article (217, 899; 1968) contained a number of errors of fact and a number of misinterpretations. The article attempted to make a case that NASA was proceeding with a Biosatellite Programme which was not supported by the scientific community, and that the results so far are of little value. We would like to address ourselves to these points and ignore the unpleasant insinuations which, even if answered, would contribute little to scientific understanding.

Early in NASA's history, American scientists urged that biological research be conducted in the space environment because space flight offered two conditions unobtainable in laboratories on Earth. One, of course, is sustained weightlessness, and the other is the absence of cyclic disturbances associated with the rotation of the Earth.

The establishment of the Biosatellite Programme was recommended by the Space Science Board of the National Academy of Sciences—National Research Council.

A large number of bioscientists were notified of the opportunity to propose experiments and almost 200 scientists submitted proposals for experiments to be carried in the Biosatellite Programme. The experiments to be flown were selected on the recommendation of panels of outstanding specialists throughout the scientific community.

Approximately half a year after the first successful Biosatellite flight, in response to numerous requests for information on the results, a symposium was held at the