Book Reviews

One Language for the World and How To Achieve It. Mario Pei. Devin-Adair, New York, 1958. xvi + 291 pp. $5.

Albert Guérard's *A Short History of the International Language Movement* was published in 1922. It was the work of a master of English prose, a past master in the art of presenting a chaotic subject in smoothly surveyable form. It has long since gone out of print. The fast-moving events in the field of interlinguistics have long since made it go out of date as well. To state that Mario Pei's newest book satisfies completely the very urgent need for a new and up-to-date Guérard is high praise indeed. It is fully merited. Unfortunately, Pei's book tries to do even more.

Part I of *One Language for the World* presents a survey of the world's linguistic maze and the resulting problems of international communication. This makes fascinating reading. Here Pei is concerned with a theme which only a linguist who is simultaneously a sociologist can handle in a meaningful fashion. Pei's encyclopedic fund of information enables him to handle his job superbly.

Part II is an account of past and present developments and proposals concerned with the problem of Babel. How the polyglot impasse solved itself for the nonce as a matter of historical fact in numerous specific situations and how individuals and groups have worked to solve it by planned intervention are described vividly, urbanely, and fairly. As for the planned or guided solutions, one has the impression that Pei takes seriously only the approaches represented by Esperanto and Interlingua. This is entirely as it should be. Esperanto emerges as a dream which the faithful believe will come true. Interlingua appears as a tool effective today in the specialized applications for which it was designed. Yet, it must not be thought that Pei as a historian and as a reporter fails to do full justice to the multifarious complexities—the amateurish naïveté, the sound philological research, the antics of the lunatic fringe, the philosophical probing, the chiliastic idealism—which make up the scientific, prescientific, and pseudo-scientific phases of interlinguistics.

The colorful appeal of Pei's subject matter and his grand skill in giving it its dramatic due cannot conceal the fact that the linguist Pei refuses steadfastly to come to grips with the anthropological associations of his science. He speaks of language and society and has nothing to say about language and culture. Surely we have no right to expect that every student of language should be a dyed-in-the-wool general semanticist or metalinguist, but we do have a right to expect him to heed the problems whose insistent reality has been clear ever since Korzybski and Whorf first pointed them out. It is perhaps symptomatic that in his entire volume Pei finds no occasion at all to mention Korzybski, and about Whorf there is only the misleading (or downright erroneous) remark that he—along with Duns Scotus and Scaliger—dreamed about a universal grammar.

Pei's refusal to take seriously the suggestion that diverse linguistic patterns are specific to diverse patterns of thought and that both are related in a unique and functional manner to specific cultural courses of development serves him in good stead in the third and final part of his book. Here he presents his own ideas on how to achieve one language for the world.

It's all very much simpler than most of us thought. The universal language will be selected by a congress of authorized representatives of the world's governments. What language will be chosen does not matter as long as all agree to adopt it. It may be oriental or occidental, obscure or illustrious, planned or natural, Chinese or English or Finnish or Ojibway or Volapük or Interlingua. It will take the delegates little more than a week to select it. It will take a committee of linguists a year to retouch it and the governments of the world five years to train the necessary teachers. Immediately thereafter it will begin to be taught in all the world's kindergartens on a par with the children's native speech. The beneficiaries of this type of training will reach adulthood as full-blown bilinguists. And "long before the middle of the twenty-first century, the person unable to speak, understand, read, and write the universal world language will be far more rare than the illiterate is today."

There are many reasons why this plan cannot work. The most important one is doubtless that it will never be tried. And it will never be tried because too many of us have recognized as real the problems we associate with the names of Korzybski and Whorf.

It is to be hoped that there will be a revised edition of Pei's book, restricted to Parts I and II—even though there is reason to fear that the whole venture was embarked upon exclusively for the sake of Part III. Minus the part for the sake of which it was written, Pei's book may well become a classic, as Guérard's has.

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Chemistry of Carbon Compounds. A modern comprehensive treatise. vol. IV, part A, *Heterocyclic Compounds.* E. H. Rodd, Ed. Elsevier, New York, 1957 (order from Van Nostrand, Princeton, N.J.). xxvi + 807 pp. $28.

This volume of Rodd is the first of three which will deal with heterocyclic compounds. A remarkable amount of information has been condensed into this book, which describes the synthesis and properties of thiiran, aziridine, oxetan, thietan, azetidine, pyrrole, furan, thiophen, pyrazole, iminazole, oxazole, thiazole, triazole, tetrazole, pyridine, and their hydro derivatives. Benzo derivatives of these compounds (indole, carbazole, quinoline, acridine, and so forth) are also included. The more complex natural products, such as alkaloids and porphyrins, which contain these heterocyclic rings will be discussed in the later volumes. Three of the more esoteric heterocycles described are an oxaazacyclobutane (page 27), a derivative of diazacyclopropane (page 20), and 1-azatricyclo-[3,3,3,0]undecane bromide (page 137).

The literature has been well covered, and a random check of 200 references showed that 24 percent had their origin in the years 1950–57, 23 percent in 1940–49, and 21 percent in 1930–39. Typographical errors seem to be inevitable in a book of this size. Thirty-one were detected; the majority were missing or extra bonds in the otherwise excellent structural formulae. Structures IX, XII, XIII, and XV on page 241 are incorrect.

The various chapters (by T. S. Stevens, J. D. Loudon, E. Hoggarth, and N. Campbell) are uniformly written and maintain the high standard set by the previous volumes. Owners of volumes I to III will need no further recommendation.

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Proceedings of the Rehovoth Conference on Nucular Structure. Held at the Weizmann Institute of Science, Rehovoth, 8–14 Sept. 1957, under the auspices of the International Union of Pure and Applied Physics. H. J. Lipkin, Ed. North-Holland, Amsterdam; Interscience, New York, 1958. xvi + 614 pp. Illus. + plates. $12.50.

The rapid growth of the volume of publications makes it almost impossible even for the specialist to keep abreast of current scientific work. Large conferences, devoted to a reasonably narrow field, increasingly become the means of communication among physicists. The proceedings of such conferences are almost the only up-to-date record of the available results and of the current thinking in a field. The present volume, appearing only five months after the conference took place, is bound to become useful, both by refreshing the memory of the participants of the conference and also by serving as an orientation, and perhaps even as an introduction to the subject, for those who were not present. It shares with other similar volumes the characteristic of great readability which records of verbal proceedings have, and also a certain sketchiness, which is, unfortunately, quite unavoidable.

The volume contains about 125 contributions. Most of these are, naturally, short communications. However, there are more or less comprehensive summaries on all the principal subjects of discussion: the shell-model (Eden on the theoretical foundation and Kurath on some of the detailed results); the unified model (Mottelson and Peierls); group-theoretical methods (Racah and Flowers); electromagnetic transitions (Wilkinson); finite size of the nucleus (Rose); beta decay and parity (Konopinski on theory and Langer on measurements); extranuclear effects (Abragam on theory and Frauenfelder on measurements); instruments (Gerholm); and measurement of short life-times (Devons and S. G. Cohen). About two-thirds of all the contributions were theoretical in nature, about one-third experimental. The average length of the summary papers is perhaps a shade shorter than most readers would prefer: few of them extend to more than ten pages. Some of the short communications do not cover a page.

The Rehovoth Conference had its full share of announcements of new and important results; these give added zest to such gatherings and a significance beyond that of disseminating information. Apart from a discussion of the parity problem (by Lee and by Wu), there was a discussion of the calculation of binding energies based on the shell-model, by Talmi; Elliott's views of the unified model—which promise to grow much beyond their present importance—were reviewed by Flowers; Peierls spoke on his and Yoccoz' views on the same subject; and Bromley reviewed evidence for collective properties of light nuclei. Very probably other important ideas have been proposed, the significance of which I have failed to appreciate. There are also three interesting and detailed articles on specific subjects: one by Bergstrom on the nuclei in the Pb^{208} region, one by Zweifel on the K-capture phenomenon, and one by Steffen on the measurement of β-γ angular correlations.

It must have been an interesting and spirited conference, and the record of it does great credit to the editor. There was also some good-natured fun, recorded at the end of the volume. It should be noted that Pauli appears twice in the group picture of the participants but only once as contributor.

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Puzzle-Math. George Gamow and Marvin Stern. Viking, New York, 1958. 119 pp. Illus. $2.50.

This is a very enjoyable collection of 32 amusingly told little stories. Each story consists of two parts. The first part, printed in ordinary type, leads up to a neatly formulated puzzle; the second part, printed in italics, presents the solution of the puzzle. The ambitious reader should lay down the book when he has finished the ordinary type; he should try to find the solution by himself and, having found it, compare it with the italics. In doing so, he will learn more and have more fun than the lazy reader who reads the italics right away. Yet even the lazy reader may derive a lot of pleasure and profit from these little stories, because they are not pointless. There are whimsical details, some of which are emphasized by amusing drawings. Yet behind such details there is an essential mathematical principle in some stories, or an instructive method of solution or a side glance on physics in other stories. Still, the great majority of the puzzles are in all details accessible to the intelligent layman. Less than half a dozen solutions use a little high-school algebra, and in some of these cases the reader can skip the algebra and still understand the main point.

In such matters, it is difficult to be original. Three or four problems were new to me. I knew the rest, except certain details of presentation; of course, details of presentation are important here. I saw certain old acquaintances, with which friends used to tease me when I was an undergraduate, printed here the first time. And so the authors deserve praise also as collectors of mathematical folklore.

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Problema Protivorakovikh Antibiotikov. (Problem of Anticancerous Antibiotics.) N. G. Klueva and G. I. Roskin. Gosudarstvenoi Kontrolnoi Institut Sivorotok i Vaksin imeni L. A. Tarasevicha, Moscow, U.S.S.R., 1957. 247 pp. 10 rubles.

Shortly after World War II, considerable interest was aroused by the work of Nina Klueva and Gregory Roskin of Moscow, who reported that lysates of *Trypanosoma cruzi* (called "KR" from the initials of the authors) inhibited the growth of tumors in mice and had beneficial effects in some patients with cancer. Hauschka [*Cancer Research* **7**, 717 (1947)] and Belkin [*ibid,* **9**, 560 (1949)] could not duplicate the effects in mice, although their work included trypanosomes from the same source as those used is Moscow. Malisoff [*Science* **106**, 591 (1947)] claimed to have reproduced the findings, but his work was shown to be faulty.

Discussion of the KR preparation then became enmeshed in political complications and disappeared from the Soviet medical literature until 1956. This book summarizes the investigations and includes the findings in the use of the lysate in over 100 patients; of these cases 30 are reported in some detail. Unfortunately, the data raise more questions than they answer.

Daily intramuscular injections were administered for several months to 24 patients with carcinoma of the lip. The authors state that some effect was observed in 19 patients, and reports are presented on nine. Review of these suggests that these include three acceptable