SATURDAY, NOVEMBER 1, 1930.

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Editorial and Publishing Offices:

MACMILLAN & CO., LTD.,

ST. MARTIN'S STREET, LONDON, W.C.2.

Telephone Number: GERRARD 8830.

Telegraphic Address: PHUSIS, WESTRAND, LONDON.

No. 3183, VOL. 126]

Science and Broadcasting.

IT has been rather bitterly remarked that the most attractive feature of a wireless set is that there is no necessity to have one. Many people, indeed, hold that the violation of domestic privacy by the telephone, and more particularly by the wireless set, is a thing to be deplored; and this attitude is by no means confined to those unappreciative of the benefits science has lavished upon us. Dislike of broadcasting is frequently based upon the feeling that the public is far too prone to take its opinions and its entertainment ready made—something to be bought and paid for as one would buy a box of cigarettes. There is good cause for this feeling. The popular Press, for example, is in many ways admirable; but it would be idle to deny that the enormous circulations of modern newspapers inevitably tend forcibly to mould and stereotype public opinion, while the very fact that they cater for the masses necessitates (or apparently necessitates) a comparatively low level of intellectual outlook. The mental indolence of much of the nation is accompanied by an emotional or æsthetic indolence in choice of amusement. Instead of amusing or entertaining themselves, many people prefer to pay to be amused, and generally select that form of amusement which involves the least effort on their own part. "I like to go to the cinema once a week," said Miss Pinnegar in "The Lost Girl". "It's instruction, you take it all in at a glance, all you need to know, and it lasts you for a week. You can get to know everything about people's actual lives from the cinema." Although cinema-goers are now much too sophisticated to imagine that the film bears any sort of relation to "people's actual lives", it yet remains true that "you take it all in at a glance", and if your amusement is solely of this soporific character, taste for intellectual pleasure cannot fail to atrophy.

Those who condemn broadcasting on such grounds as have been thus briefly indicated can surely have listened-in but seldom. Whatever may be said of certain foreign stations, the British Broadcasting Corporation has consistently and steadfastly striven at a much higher aim, and on the whole with a success that must have been as gratifying to its directors as beneficial to the nation at large. It cannot have been an easy matter to plan and to realise policies and programmes that have met with such widespread and well-merited approval, not merely from the general public but also from those best qualified to

pass a critical and considered judgment on moral, æsthetic, and cultural grounds. One of the chief difficulties lies in the varied types of listeners, many of whom are only too ready to find fault with any programme that does not coincide with their personal preferences. In a foreword to the list* of broadcast talks for September to December 1930, the Hon. Harold Nicolson describes, with his usual felicitous wit, the ideal qualities of a reasonable listener: he should be unselfish, modest, patient, and able to exercise judicious selection. "He may be a busy City magnate," says Mr. Nicolson, "and, as such, feel that his attitude towards 'Ways of Cooking Fish' is, to say the least, impersonal. But there are countless other people whose days are darkened by this problem, and for whom the voice of an instructor on the subject is the voice of a true friend." As to patience, Mr. Nicolson himself seems to have little of this virtue to exercise on the 'twiddler'—the man whose chief delight is to tune in one station after another simply for the satisfaction of having got them. While we can sympathise with Mr. Nicolson's irritation at "that impatient type of egoist", we confess to a weakness for wandering off to Langenberg, Milan, or preferably Toulouse (for the ever-flowing and inconceivably soothing voice of its announcer!) when the B.B.C. is prattling of League football results or 'Autumn ailments of the Wyandotte'.

Small grumbles often conceal a great satisfaction, and men of science must feel especially satisfied with the quality and quantity of scientific matter included in this autumn's programme. Sir James Jeans is giving six lectures on "The Stars in their Courses"; Lord Moynihan, Sir Humphry Rolleston, and others of equal eminence, are talking on the future of medicine; Dr. D. Jordan Lloyd is speaking on the possibilities of synthetic food-stuffs; and Mr. B. H. C. Matthews is dealing with the electricity in our bodies. These names and subjects by no means exhaust the scientific section of the programme, but they serve to indicate that the B.B.C. committee casts its net widely and well, and that the adult portion of our population may still, if it will, be initiated into some of the habits of scientific thought and become familiar with important aspects of scientific progress and discovery.

A study of the programme shows that the ground covered—and covered by authoritative exponents—is really very extensive, and we feel that all who

are in a position to do so should make an effort to ensure that the listening public derives as much benefit as possible from the fare thus generously and intelligently spread before it. It would, for example, be attractive to arrange group discussions of such talks as those on Tuesdays at 7.25 ("A Study in Population" and "The Future of the Race") and 8 o'clock ("The Mind of a Child" and "The Stars in their Courses"); adult education societies, debating clubs, and young men and women's societies ought to welcome opportunities of this kind, particularly if someone trained in science, medicine, or psychology would take the chair and direct the discussion. Free interchange of thought and opinion upon subjects of immediate interest will always be welcomed by large numbers of people who, in the absence of such stimulus, would spend their evenings in less profitable and probably more lethargic ways. Those of us who have given semi-popular lectures on scientific topics to audiences in small provincial towns or villages will agree that the desire for knowledge, in the middle classes and better sort of working classes in particular, is refreshingly vigorous; one may, indeed, go so far as to call it pathetically vigorous, for at present it is far from likely to be adequately fulfilled. The B.B.C. lectures, properly utilised, might do much to foster this love of knowledge and to train it upon the best lines. To bring about a widespread understanding of the nature of science, in a world that owes its continued existence to science but is nevertheless dangerously ignorant of that fact, would be an achievement full of the happiest prospects for the future of civilisation.

The possibilities of broadcast talks in connexion with school work ought also to receive more consideration than appears to be the case at present, though several educational associations have sub-committees to watch the matter. There are admittedly difficulties of time-table, and the school curriculum is already overcrowded, but it would surely be of great value to boys and girls if they could listen to such lectures as those on "Keeping Fit in Everyday Life". The cost of reliable receiving sets is now so small that expense can scarcely be regarded as a serious obstacle to the general use of wireless in schools; yet we think we are right in saying that a school which will cheerfully pay several guineas to a lecturer may often be found innocent of a loud speaker. The B.B.C. has shown itself so ready to comply with reasonable requests, and so enthusiastic for the cultural advancement of the nation, that we

* Broadcast Talks, September to December 1930. (London: British Broadcasting Corporation, Savoy Hill, W.C.2.) Gratis.

can be sure it would immediately respond to any approaches made to it by those responsible for the education of children. There would certainly be an immense stimulus to school science if, say once a week, one could tune in to a lecture on some scientific subject by an expert.

The present occasion is perhaps one on which a point of more general interest may be raised. Men of science, in spite of a popular but quite fallacious belief in the contrary, are keenly concerned over speech, language, and pronunciation, and view with alarm the growth of what one can only describe as a 'broadcast accent'. Uniformity of pronunciation over the whole country may or may not be desirable, and there may be technical difficulties in transmission; but we would respectfully inquire of the B.B.C. whether the familiar phrase 'forecast of to-day's weather' must necessarily be rendered 'fahcast of ta-dess wetha', and why the final *r* in 'tar' has been removed from its rightful place to form an unlovely appendage to 'law'.

E. J. HOLMYARD.

Schiaparelli's Studies of Mars.

Le opere di G. V. Schiaparelli. Pubblicate per cura della Reale Specola di Brera. Tomo 1. Pp. x+515+19 tavole. 220 lire. Tomo 2. Pp. iv+486+30 tavole. 220 lire. (Milano: Ulrico Hoepli, 1930.)

WITH the appearance of these two stately volumes, we are witnessing the erection of yet another of those literary monuments which are raised from time to time by foreign countries to the memory of their great men of science. Tycho Brahe, Galileo, and Huygens have thus been commemorated during the last few years, while Kepler is under discussion for a similar honour, and now Italy is once more adding to her laurels by undertaking the publication, in a superb edition, of the complete works of Giovanni Virginio Schiaparelli.

For some time past, a need had been felt for a reprint of certain of the works of Schiaparelli, more especially of those which by reason of their scarcity were practically unobtainable by the student, so that when this matter was brought forward by Prof. Francesco Porro on the occasion of the fourteenth congress of the Italian Society for the Advancement of Science, held at Pavia in May 1925, it was unanimously decided to undertake the publication of the complete works of Italy's greatest astronomer in an edition which should have national importance and should be modelled on the following lines:

- (1) All Schiaparelli's works to be included.

- (2) Writings dealing with one particular subject to be printed in immediate chronological sequence. Thus, the two first volumes now before us contain all that Schiaparelli has written about the planet Mars, while future ones will deal with his important work on the connexion between comets and meteors, his researches in ancient astronomy, and the many other scientific questions that engaged his attention.

- (3) The new edition to be based on the author's own corrections and emendations, as existing in the copies of his works preserved at the Brera Observatory.

Schiaparelli's actual correspondence with scientific men, however, which was most voluminous and is now scattered throughout the pages of the world's scientific journals, will not be included in the proposed volumes, but may possibly follow later as a separate publication. That this is a wise decision on the part of the committee working on this new edition will be readily conceded when it is recalled that Schiaparelli's scientific labours are to be found in some 256 separate publications ranging over the whole domain of astronomy, both ancient and modern, not to speak of numerous papers trenching on the realms of literature and art, for he was a profound classical scholar whose versatility was without apparent limit.

Although our author's remarkable discovery so early as 1866 of the connexion between the orbits of comets and meteors—a discovery for which he was awarded the gold medal of the Royal Astronomical Society—as well as his noteworthy researches many years later on the rotation periods of Mercury and Venus, were fully equal to any of his other achievements in astronomy, introducing, as they did, wholly new and unexpected elements into our views concerning the heavenly bodies, it is unquestionably with his work on Mars that the world in general will always associate his name. Beginning his observations of the planet during the opposition of 1877, and continuing them until the opposition of 1897, Schiaparelli gave to the astronomical world the most complete description of the physical appearance of Mars that had ever been published, and it is these early studies in areography which have been chosen to form the contents of the two volumes recently issued.

Considering the great name Schiaparelli afterwards made for himself as an authority on Martian phenomena, it is interesting to read in the introduction to his first memoir on the planet's axis of rotation and topography (vol. 1, p. 11), presented to the Royal Academy of the Lincei in May 1878, that, in directing his attention to Mars during