

ently calculated to persuade laymen and grant-givers that something remarkable in the synthesis of living things had been accomplished. In time, no doubt, it will be commonplace for living things to be generated from inanimate components in the laboratory. Undergraduate teaching laboratories may have such exercises in their repertoires. So much is as certain as that, in due course, people will discover other kinds of living things exist outside the solar system. There is, however, a world of difference between a simple acknowledgement of what may eventually be possible and a statement tending to suggest that the future has arrived before the societies likely to be affected have had a chance to make suitable arrangements. The conference this weekend could help enormously to impress on professional biologists the need for a measured appraisal of the time-scale of change.

The conference may also do valuable work if it could help to detach the problems of modern biology in society from broader questions such as, for example, the relationship between science as a whole and society as a whole. To be sure, it is entirely proper and constructive, as one speaker advertised for the conference intends to suggest, that long-term planning in medical research requires an appraisal of the social benefits of alternative objectives. It is also fair to say that the intellectually subversive consequences of scientific discoveries are in themselves a leaven for society. But does it make sense to ask, as one speaker intends, in the context of a conference of social implication of modern biology, "is there a radical way of doing science?" It will be interesting to know what the answer is, but on the face of things, this looks like yet another issue sent to perplex the innocent and even the professional.

100 Years Ago



If we may judge from its last annual report, the proceedings of the Bombay Geographical Society are not much enlivened by the efforts of its members. During the entire session not a single member had favoured the Society with any original communication. For some time the Society has been considering the propriety of getting compiled an Anglo-Vernacular Index of Indian Geographical names. The scheme would supply a want that has long been felt, but it does not appear to have received much encouragement from the authorities, to whom an appeal for aid in the matter was addressed. The "Transactions" of the Society for the year ending December 1869, are made up of some interesting notes on Annesley Bay, by Mr. Edwin Dawes, and a brief paper by Mr. J. U. Yajnik, on the Hot Springs of Lasindrá, in the Kairá Zillá.

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OLD WORLD

LUNA-17

Lunokhod's Scientific Repertoire

from our Soviet Correspondent

AMONG all the excitement and justified self-congratulation in the Soviet press which greeted the successful first voyage on the lunar surface of Lunokhod-1, little was said of the experiments it is intended to perform. As the excitement in Russia over its television transmissions has waned, however, it has been possible to gather some of its scientific experiments, which include:

- the Franco-Soviet laser experiment, designed to determine more precisely the mean distance from Earth to Moon;
- determination of the chemical composition of the surface layers of the lunar soil, by means of X-ray spectrometry;
- determination of the mechanical properties of the lunar soil by means of impressing a special stamp;
- determination of the physical properties of the lunar soil by unspecified means;
- measurement of extra-galactic X-radiation, by means of an X-ray telescope; in particular, long-exposure study of weak, distant sources which cannot be studied from rockets and satellites;
- study of cosmic radiation from the Sun;
- and experiments "connected with the radiation from the Moon itself".



Lunokhod-1 tracks in the lunar soil.

These experiments fall into two groups, selenographical and astronomical. A third series of experiments is connected with the operation of the Lunokhod itself. A special system of telemetric sensors is being used to measure the forces acting on the "chassis" of the vehicle, and considerable television coverage has been given to its tracks on the lunar surface. This would suggest that one of the chief purposes of these experiments is the testing of the Lunokhod itself in field conditions. So far, Lunokhod-1 has moved only 125 m from the descent stage of the parent vehicle, Luna-17. But longer journeys of this or subsequent Lunokhods are clearly envisaged. The stated importance of the selenographic experiments is that chemical and physical determinations of the lunar surface can be made "considerable" distances apart. The term is a relative one,