to deterioration at a rate almost unknown in temperate latitudes. A single rainy season can completely destroy the fertility of a tropical soil unwisely exposed.

Soil Destruction in Malaya

The damage done to agricultural land by various forms of mining is considered by Sir Lewis L. Fermor in his exhaustive "Report upon the Mining Industry of Malaya" (Kuala Lumpor: Gov. Press, 1939. 6s.). The destruction of land by the stacking of waste rock and gangue is small because the prevalent forms of tin-mining result in floods of water, heavily charged with silt, either as coarse as sand or as fine as mud. This silt, carried by the effluent water, chokes streams and causes flooding to such an extent that silt-retention schemes, necessitating dams or weirs, are obligatory. But much damage has been done in the past, and some is still being done, especially in the mining process of destroying hillside by water under hydraulic pressure. Again, the removal of the top layers of soil and their mixing with lower layers, which is unavoidable in the process known as dredging, render the whole surface within a mining concession unfertile by the time the land is returned to agricultural use. Against these objections to mining must be placed the fertilizing value on flooded land of a thin deposit of silt. The writer is insistent that rubber cultivation is equally harmful, in fact more so, in ruining land by encouraging soil erosion and leading to the removal of fertile surface layers. Clean weeding, a fetish of the rubber planter, causes soil removal between the rows of trees, and can be prevented only by the wise use of cover crops. Sir Lewis estimates that rubber cultivation has caused the addition of 33,000,000 tons of silt to the river systems since 1905, while tin-mining has contributed only 16,000,000 tons. The debris from the rubber lands is both coarse and fine, and does more harm than the fine silt from the mines, some of which is carried to sea, and some of which fertilizes the land.

Newton's Letters

In *Osiris* (7, 523–555; 1939) M. Jean Pelseneer, whose interest in the subject is well known, has reproduced some nine letters from Newton's unpublished correspondence. Four documents are shown in reduced facsimile, and all are accompanied by explanatory notes. The first four letters, between Newton and Oldenburg, are taken from the Portsmouth Collection in the University Library, Cambridge. The next two, between Newton and Hooke, are in the Library of the Historical Society of Pennsylvania at Philadelphia. Of all these the main theme is optical. Two other letters between Newton and Hooke come from the Pierpont Morgan Library in New York; their subject-matter is of very minor interest. For the period covered by these eight letters (1672–78) little original material bearing on Newton's life has been published. The ninth document is a joint report signed by Newton and Halley on the performance of a magnetic needle. This is an official paper dated 1712, and preserved in the Public Record Office. It is two years since M. Pelseneer, writing in *Ciel et Terre*, pointed out with a reference to Stukeley's Memoirs of Sir Isaac Newton's Life, edited by A. H. White and then lately published, that the story of Newton and the apple certainly did not originate in the fertile imagination of Voltaire.

Early History of Antarctic Exploration

The criticisms levelled by Prof. W. H. Hobbs at certain English explorers of West Antarctica of the early part of last century (*Trans. Amer. Phil. Soc.*, 31, Part 1, Jan. 1939) were discussed in Nature of April 29, 1939, p. 731. A much fuller and a most scholarly treatment by Mr. A. R. Hinks of Prof. Hobbs's strictures appears in the *Geographical Journal* of October under the heading "On Some Misrepresentations of Antarctic History". The title indicates the nature of the conclusions which Mr. Hinks reaches. From a study of relevant documents, including original maps, he shows conclusively that Prof. Hobbs's claim that Palmer and not Bransfield discovered the Antarctic continent is false and that there is no foundation for Prof. Hobbs's contention that the chart signed by Bransfield which is in the Hydrographic Office is not genuine, and that Prof. Hobbs has no justification for discarding the account of Bransfield's voyage which appeared in the *Literary Gazette* (vol. 5, November 1821). No argument that Prof. Hobbs brings to this discussion can shake the authenticity of the documents on which Bransfield's claim to the discovery of Trinity Land, the first sighting of the Antarctic continent, is founded. Mr. Hinks raises many other points in his articles, including Prof. Hobbs's aspersions on the good faith of J. Weddell, whose discoveries conclusively stand the test of any inquiry and criticism. The article may be accepted as a final reasoned answer to the attacks made by Prof. Hobbs on these English navigators of Antarctic seas.

Germany's Oil Supplies

In a carefully reasoned article published in the November issue of the *Industrial Chemist*, Dr. A. J. V. Underwood explains why in his opinion it is unlikely that Germany's belligerent activities will be suspended owing to shortage of oil. The present rate of production of oil and alternative fuels in the German Reich is estimated as 4,300,000 tons. This figure includes potential production of plants expected to be in operation by the end of this year. If plants which are likely to be in production by the end of 1940 or beginning of 1941 are included in the estimate, the potential rate of production of oil from all sources becomes 6,550,000 tons per year. In addition, imports of oil are at present available to Germany from Estonia, Rumania and the U.S.S.R. These with home-produced oil bring her total resources to 7,000,000 tons a year. If home production is increased as is anticipated, Germany will have access to 9,300,000 tons of oil a year. In 1938 Germany, including Czechoslovakia, consumed 7,900,000 tons of oil. This is substantially less than the 9,300,000 tons per annum poten-

tially available, but has reference to peace-time conditions. In war-time, consumption by the fighting services will obviously increase even beyond the figure for 1938 when Germany was mobilizing, but at the same time civilian consumption will drop on account of the stringent rationing schemes now in force; also less oil will be used by Germany's mercantile marine, the activities of which have been so severely restricted of late. It is probable, therefore, that Germany's potential resources of oil will be sufficient for her war-time needs, and as reserves are available to supplement home production until such time as all projected plants are in operation, it is unlikely that she will go short of oil, unless through drastic changes in the international situation.

Folsom Man: Further Investigation in Colorado

A further season of excavation on the Lindenmeier site in northern Colorado has again failed to produce any trace of skeletal remains of Folsom man. Until such evidence is forthcoming, and on the assumption that it will afford some certain indication of the relation of the authors of the culture to the Amerindian peoples, the Folsom industry, with its distinctive characteristics, hangs in the air. The geological interpretation of the Folsom deposits on the Lindenmeier site assigns them to the last phase of the glacial period at an approximate dating of 12,000–25,000 years ago, and an association with an extinct fauna including mammoth, camel and extinct forms of bison. In the course of excavations carried out by Dr. F. H. H. Roberts, jun., in the past summer, the fifth season of his investigations on the site, it is reported in a statement issued by the Smithsonian Institution of Washington, that among animal bones, which had been chopped and split by man, was found the skull of an extinct bison measuring 36 inches between the tips of the horn cores—fully a foot wider than the spread between the horns in the modern species. In four months' work Dr. Roberts opened up a new section of the site over an area of some 45 ft. by 60 ft. to an average depth of six feet. His finds, in addition to the characteristic projectile points and previously known artefacts, included new forms of knives and scrapers, two to three times as large as those found before. A new feature in the culture is the bone bead, not hitherto found in Folsom deposits. Of those found here, one shows definite ornamentation in the form of a simple geometric design scratched on the surface.

Mental Hygiene in Old Age

In a paper on this subject read before the Section on Care of the Aged, Welfare Council, New York City (*Mental Health*, 23, 257; 1939), Dr. George Lawton, psychological adviser to the Andrew Freedman Home, New York City, maintains that there is no group of persons whose mental welfare is more neglected than that of old people. This indifference, he declares, is world-wide even in countries with advanced social services. Although there has been for many years a guidance clinic for the aged in San Francisco, no definite steps have been taken for establishing a similar one in New York. Dr. Lawton asserts that what little knowledge we have of old people is based on pathological material, while we possess very little information about non-psychotic old persons. He suggests that the psychological difficulties presented by aged people should be classified as follows: (1) the problems of neurotic, borderline psychotic, psychotic, feeble-minded, and deterioriated individuals; (2) the minor mal-adjustments of fairly adequate old people caused by excessive economic pressures and inhibitory social attitudes; (3) the stresses and strains of persons undergoing normal mental and emotional decline. According to Dr. Lawton, the management of the problem of senescence should include the following measures, among others: (1) intensive, systematic studies over long periods of time, of the mental abilities, interests, recreations, emotions and personalities of larger groups of men and women in town and country in each decade from forty to sixty, (2) when such facts have been collected, guidance clinics should be set up to function in a similar manner to child guidance clinics; (3) courses in geriatrics should be established in the medical schools to give future physicians a better understanding of the effects of mental attitudes on the bodily ailments of the aged.

Wild-life Restoration in the United States

In the United States, as in other progressive countries, the existence of many wild creatures has been threatened by the appropriation of lands for farming and industrial purposes, the destruction of living places and breeding places, and the gradual disappearance of natural food and cover. To check this decrease of wild-life, the Federal Government passed two years ago one of the most beneficial measures of recent years, the Federal Aid to Wild-life Restoration Act, briefly known as the Pittman-Robertson Act of 1937. The co-operative scheme which it envisages is one that might well be adopted in other countries, and a summary of its provisions and explanation of the co-operation which it seeks are now given by Albert M. Day (*U.S. Dept. Agric. Misc. Pub.* No. 350; 1939). The Act recognizes the fundamental principle that wild-life is linked with the land, and aims at the restoration of suitable environment in which wild birds and mammals may live and multiply. The Federal Government is willing to contribute materially towards this restoration programme, since it is known that individual States have been unable to cope with the situation because of lack of funds. But a State to qualify for a share of the grant—up to 75 per cent of the cost of work performed on approved projects—must have passed laws for the conservation of wild-life, which shall include a prohibition against diverting fees paid by hunters to any other purpose than the administration of the State fish and game department. Already the Act appears to be working effectively. The grand total allocated for conservation projects in 1939 was 1,186,666 dollars, of which State legislatures