Among the most ambitious of these European oil pipelines is undoubtedly the Trans-Alpine Pipeline (commonly known as TAL), from Trieste, at the head of the Adriatic, to Ingolstadt in South Germany, the centre of a large refinery complex; some details of this venture have already been recorded in these columns (*Nature*, **208**, 435; 1965). The largest pipeline at present operating in Europe, completed in 1962, runs 782 km from L'Avera on the Mediterranean, northwards to feed refineries in Strasbourg, Karlsruhe and Mannheim. This pipeline is sponsored by the Société Du Pipe-Line Sud Européen (SPLSE), a consortium of major oil companies operating in France and Western Germany (including Compagnie Française des Pétroles—a French Government concern); by means of another system (Rhine Donau Oelleitung, RDO), supplies are fed to other refineries in Bavaria. Other notable lines are from Ludwigshafen to Wilhelmshaven (Nord West Oelleitung, NWO); also the Central European (CEL) system serving Italy, Switzerland and Southern Germany. An informative article, with a good explanatory map of locations of existing and projected pipelines and refineries, by R. E. Watkins, is included in what is, most regrettably, the last issue of *BP Magazine* (British Petroleum Company, London. No. 18; winter 1965). This magazine first appeared in 1960 and it has consistently set a remarkably high standard in design, illustration and presentation of subject-matter.

The San Mateo–Hayward Bridge, California

A NEW bridge of unusual design is under construction which will eventually carry four to six lanes of traffic across the southern part of San Francisco Bay, California, when it is completed in 1967. This bridge will incorporate nearly a mile of orthotropic spans in its 7-mile length. In this particular orthotropic design, the deck carries most of its own weight and this eliminates the need for the overhead steel supports and cables common to conventional steel bridges. Use is made of new high-strength steels, pressed into corrugated form; the resulting ribs possess enough strength to enable the deck to be self-supporting over spans of up to 750 ft, the length of the central span in this new bridge. It is claimed that the orthotropic design for bridges offers advantages both in economy and speed of construction. A similar bridge has already been completed from Montreal to an island in the St. Lawrence River, the site of the 1967 World Exhibition. According to an article entitled "A Big Order" (*The Lamp*, Standard Oil Company (New Jersey), New York, **47**, 1965), all supporting towers of the San Mateo Bridge will be aluminium in colour, the body of the bridge being in gold. A remarkable ancillary feature of this construction is the very large quantity of the protective coatings required for coating the steel of the structure. The Humble Oil and Refining Company (a subsidiary of Standard Oil Company (New Jersey)) is scheduled to supply 25,000 gallons of undercoat ('Rust-Ban 191') and 125,000 gallons of vinyl-based top-coat to protect all the steel. These protective coatings are being applied to the prefabricated steel sections in a specially constructed building 15 miles away from the site, to which the sections are afterwards transported by barge.

Syntex Corporation of America

THE Syntex Corporation is internationally known for its pioneer research activities and manufactured products in the pharmaceutical industry. It operates through various marketing subsidiaries, of which, in the United States, Syntex Laboratories, Inc., with administrative and research centres at Palo Alto, California, is the principal. Other subsidiaries are located in Mexico (Syntex, S.A.), in Canada (Syntex, Ltd.), while in England the group has now established its own marketing organization to cover Great Britain and most Commonwealth countries. To accelerate the dissemination of medical and marketing information to distributors of Syntex products, new regional offices have been opened in London, Madrid and Milan, to augment the work of the centre previously established in Zurich. Among the distributors of Syntex products are such well-known firms as Imperial Chemical Industries, Ltd. (United Kingdom); Laboratories Cassenne (France); Chemie Gruenenthal GmbH (West Germany, Austria and Switzerland); Instituto Farmacológico Latino, S.A. (Spain); Recordati Laboratorio Farmacologico S.p.A. (Italy); and Tanabe Seiyaku Co., Ltd. (Japan). According to the *Annual Report of the Syntex Corporation for the Fiscal Year ending July 31, 1965* (Pp. 24. Panama: Syntex Corporation, 1965), substantially increased sales resulted in net earnings of more than 10 million dollars, the highest in the history of the Corporation. Sales for the United States market constituted 46 per cent of total sales in the fiscal year 1965, Europe accounted for 29 per cent, Latin America for 14 per cent, and other countries 11 per cent. Of the drugs and other products with which Syntex is concerned may be mentioned steroids for treatment of inflammatory diseases, including the 'Synalar' group comprising compounds for treatment of skin conditions; drugs used in the area of reproductive physiology, consisting primarily of several oral contraceptives; steroid intermediates, and finished sex hormones. Animal health products feature strongly in another category of Syntex manufacture. During the year under review, a new form of 'Synalar' (fluocinolone acetonide) was introduced to veterinarians in the United States, designed for animal therapy. This was followed by the drug 'Flucort' (flumethasone), a new anti-inflammatory corticoid used in treating various rheumatic, allergic and metabolic disease conditions in large and small animals.

The California Bearing Ratio Test on Loess

THE California bearing ratio test, one of the mainstays of soil mechanics and conventionally popular with civil engineers, especially when concerned with highway and aerodrome runway construction, has undergone some critical modifications both in technique and interpretation, since O. J. Porter first described his original methods in two papers, "The Preparation of Subgrades" and "Foundations for Flexible Pavements" (*Proc. U.S. Highways Res. Board*, **18**, Part 2, 1938; and **22**, 1942, respectively). Porter's original text was essentially a soil classification test, as we know it to-day. With the advent of the Second World War, the U.S. Corps of Engineers had to build many aerodromes and access roads under many different subgrade conditions, often in a very short space of time. From various flexible pavement design methods the California bearing ratio test was selected, and after a thorough examination of its merits and applications, the U.S. Corps of Engineers made some important changes in Porter's original procedures. These were, briefly, the use of dynamic compaction instead of static compaction; the compaction of soil to dry density and the use of the moisture content expected during compaction in the field (thus the test became a measure of soil shear-strength, not just a classification test); a correction was also introduced for California bearing ratio load-penetration curves (initially concave-upwards). After 1945, the test was universally adopted in highway construction work. In Britain, however, further amendments were made, such as dispensing with soaking procedure, and reversion to static compaction. It is clear from a timely paper by J. P. Blakeley entitled *The California Bearing Ratio Test on Loess* (National Roads Board: Road Research Unit. Bulletin No. 2. Pp. 18. Wellington, New Zealand, 1965) that further modifications of this test are both desirable and imminent. As he points out, the trend towards the use of bound base-courses and stiffer surfacings is causing difficulty in the application of the California bearing ratio test, and this method of pavement design will have to be modified to make rational allowance