deciding correct nomenclature is not now so much the weight of old literature which has to be perused in order to ascertain which authority has priority, heavy as this burden is, but the keeping up to date with new work constantly appearing which brings forward new facts necessitating alterations. Thus every day new data turn up, old names must be abandoned and new relationships admitted.

One of the obstacles to be met in making a natural classification is the absence of detailed knowledge of the life-histories of the various molluscs. A thorough acquaintance with the eggs and larvæ at all stages would do away with much that is obscure. Mr. Winckworth in his preliminary remarks refers to work lately begun at the Marine Biological Laboratory, Plymouth, which is an attempt to supply this want. Already it is proving useful in determining the natural relationships of gastropods.

Another serious disadvantage is the inability of workers in general to see a large enough series of shells. Work such as has lately been published by Mr. John Colman ("A Statistical Test of the Species Concept in Littorina". *Biological Bulletin*, 42. No. 3. June, 1932) is valuable.

In 1931 the Marine Biological Association published a second edition of the "Plymouth Marine Fauna" in which the nomenclature of the Lamellibranchiata and to a less extent the Gastropoda were revised by Mr. Winckworth. In his new list, however, quite a number of the names (family, genus and species) have been changed; for example, *Erato lævis* altered to *Erato voluta* on account of a few months priority of Montagu over Donovan: *Psammosolen candidus* (Renier) altered to *Solecurtus scopula* (Turton) and many others. This is a good example of the difficulties encountered in undertaking such an arduous piece of work.

The "List of British Marine Mollusca" can be purchased from the Secretary of the Conchological Society of Great Britain and Ireland, Manchester Museum, The University, Manchester, or from Messrs. Dulau and Co., Ltd., 32 Old Bond Street, London, W.1, price 9*d*.

The Iron and Steel Industry

THE last of the present series of lectures on industrial affairs at the Imperial College of Science and Technology was delivered on February 23 by Sir William Larke who took as his subject "The Iron and Steel Industry". He pointed out that although the smelting of iron ore with charcoal has been carried on since 2500 B.C. or even earlier, smelting with coal or coke was not established successfully until 1730–35. Between 1740 and 1840 the production of pig iron in Great Britain rose from 17,350 tons to 1½ million tons, but it was not until about 1860 that the 'iron age' gave place to the 'steel age'. This change was signalised by the rapid development of railways and by the substitution of steel for iron in shipbuilding. As the birthplace of the iron and steel industries and of the blast furnace, the steel furnace and the rolling mill, Great Britain was for many years the leading producer, but owing to intensive developments in other countries, especially the United States and Germany, it had fallen to third place in respect of pig iron production by 1913.

After the War, the important iron ores of Lorraine came under French control, and when Germany recovered her economic freedom in 1925 the products of this district were thrown upon the world markets. In the meantime, other countries were building up iron and steel industries and Great Britain was practically the only accessible free market for the huge surplus Continental production. It is noteworthy, however, that if the world consumption of pig iron had continued to increase at the average rate of 6 per cent a year which was maintained between 1810 and 1910, it would have reached 186 million tons in 1932: the actual production in that year was only 38 million tons and the productive capacity 120 million tons.

Sir William Larke believes that we are suffering to-day from under-consumption rather than from over-production. The organisation of the German iron and steel industry on a national basis was followed by the formation of a Continental steel cartel, but with contraction in demand, prices could not be maintained and fell eventually below the cost of production. The cartel ceased to function in 1930. The British market was the cockpit in which the price warfare was waged: after the introduction of protection Continental producers were endeavouring to maintain their sales at prices as much as 40 per cent less than the cost of production.

It might be supposed that the fall in prices of iron and steel would react to the advantage of those industries which use these commodities as their raw materials. Under pre-War conditions, when the general demand for goods was expanding rapidly, this would have been true, but it must be realised that these conditions no longer prevail. Undertakings involving the large-scale consumption of steel, for example, shipbuilding, are actually held back lest a further fall in price should render the enterprise uneconomic at the new level. In fact the present economic situation is probably unique in the history of mankind, and the solution of its problems cannot be found on pre-War lines. In Great Britain steps have been taken and are being taken towards the establishment of a strong national organisation of the iron and steel industry. Unrestricted competition, which was formerly advantageous in promoting efficiency and stimulating enterprise, now requires to be strictly limited. Since what we call the iron and steel industries really consist of about a dozen related industries, there are many conflicting interests to be reconciled; but much has already been done in the establishment of co-operation, not only at home, but also at Ottawa with the Dominions.

The next step is international co-operation to regulate production in relation to demand and to stimulate consumption. So long as the British market was open, little could be done in this direction. The adoption of a protectionist policy has, however, brought about conditions favourable for negotiations with foreign producers, and our co-operation is now being actively sought. In fact, at the beginning of this month an agreement was signed for a new cartel, which is to deal with export trade only. This cartel will be maintained only if sales agreements can be made and a stabilisation of price levels achieved.

In conclusion, Sir William Larke referred to the prospects for scientifically trained men in industry.

In the iron and steel industry there is scope for chemists, physicists, metallurgists and engineers—provided that they have the gift of establishing human relations. In industry, the understanding of one's fellow men is more important than technical knowledge. Sir William decried the modern pose that enthusiasm is 'bad form'. We live in an age of great difficulties and responsibilities, but also of great possibilities—and we need all the enthusiasm that we can muster.

Flora of East Anglia

"THE East Anglian Flora—a Study in Comparative Plant Geography" is the title of the presidential address by Prof. E. J. Salisbury to the Norfolk and Norwich Naturalists' Society, reprinted from the Society's *Transactions* (vol. 13, pt. 3, 1932, pp. 191–263).

While treating specially of the flora of East Anglia, Prof. Salisbury has extended the scope of his address to include a survey of the major problems of geographical distribution in Great Britain as a whole. Eight components are recognised in the British flora, four of which are further subdivided into eleven constituent elements, and stress is laid upon the importance of viewing these groups in relation to the distribution of the species on the continent of Europe. The largest components are the southern, the oceanic and the continental. The majority of the southern species exhibit in Britain a diagonal limit running in the south-west—north-east direction, indicative of their comparative intolerance of oceanic conditions, while in contrast to these, most of the oceanic species show a diagonal limit passing in a south-east—north-west direction. The continental component includes the steppe species, many of which are located in East Anglia, and it is held that their occurrence there is correlated with a combination of low rainfall and favourable edaphic conditions.

Two strikingly contrasted climatic areas are found in the East Anglian region, in which marked difference in rainfall is accentuated by differences of soil and topography, resulting in the juxtaposition of both continental and oceanic species. The general conclusion is reached that climate is the most important factor determining the distribution of plants in Britain, though evidence is adduced in certain cases to show that soil preferences and the competition factor may act as modifying influences.

A noteworthy feature of the paper is the large number of maps, 106 in all, clearly illustrating the range of individual species within the British Isles, while numerous photographs are included depicting certain interesting species in their natural habitats. Copies of the paper (price 5*s*.) may be obtained from Dr. S. H. Long, 31, Surrey Street, Norwich.

University and Educational Intelligence

BIRMINGHAM.—The annual meeting of the Court of Governors on February 23 presided over by the Chancellor (Viscount Cecil of Chelwood) was marked by a general feeling of regret at the retirement from the Council of Mrs. C. G. Beale (widow of the first Vice-Chancellor) and the resignation of his office as Pro-Chancellor by Sir Gilbert Barling after many years of highly valued service to the University. Mr. Walter Barrow was elected Pro-Chancellor and, after the Chancellor had signified his approval of the election, Sir Gilbert Barling rose from his seat and divested himself of his robes of office saying that these robes, originally worn by the first Vice-Chancellor, had been given to him by Mrs. Beale when he succeeded to the vice-chancellorship. Sir Gilbert now desired, with Mrs. Beale's approval, to present them to the University and he proceeded forthwith to invest with them the new Pro-Chancellor. The Chancellor paid a tribute to Sir Gilbert Barling, whom he described as a man possessed of a great faculty which he could only describe as the faculty of being right. His advice was always to be trusted.

Sir George Kenrick moved a resolution in which the Court gratefully acknowledged the services of the retiring Pro-Chancellor as demonstrator in anatomy in Queen's College in 1885, as professor of pathology in 1886–1893, joint professor of surgery in 1893–1913, dean of the Faculty of Medicine in 1905–1912, member of the Court of Governors since 1900 and of the University Council since 1903, as Vice-Chancellor and chairman of Council in 1913–1927 and Pro-Chancellor from 1927 until the present time. Prof. F. W. Burstall in seconding the resolution paid a tribute on behalf of the academic side of the University. The dean of the Faculty of Medicine (Dr. Stanley Barnes) spoke in very warm and appreciative terms of Sir Gilbert whom he characterised as a great surgeon, a great teacher and a great administrator.

The title of emeritus professor was conferred on Prof. W. S. Boulton (geology and mineralogy) and Prof. J. T. J. Morrison (forensic medicine and toxicology).

CAMBRIDGE.—A University demonstrator in geography will shortly be appointed. The duties will commence on April 1. Particulars can be obtained from Prof. F. Debenham, at the Department of Geography, to whom applications should be sent on or before March 7.

The Balfour studentship in biology has been awarded to F. R. Parrington of Sidney Sussex College.

It has been recommended that the plans prepared by Sir Herbert Baker for the Scott Polar Research Institute be approved.

EDINBURGH.—His Majesty the King in Council has approved of the ordinance providing for the affiliation of the Heriot-Watt College to the University.

Prof. Heinrich Wieland, of the University of Munich, has been invited to give the first Romanes lecture. These lectures are provided from an endowment fund in memory of Dr. Robert Romanes, and James Manners Romanes, brother of the late Miss I. D. Romanes. Part of the endowment is used to bring distinguished chemists from other centres to lecture in Edinburgh.

LONDON.—His Majesty the King, who will be accompanied by the Queen, will lay the foundation stone of the new University buildings on June 26.

The following appointments have recently been made: Prof. J. B. S. Haldane, since 1922 reader in biochemistry in the University of Cambridge and since 1927 head of the Genetical Department at the John Innes Horticultural Institution, to be professor of genetics at University College; Mr. W. P. Yetts, lecturer in Chinese art and archæology at the Courtauld Institute of Art, to be professor at the Institute; Prof. Cyril L. Burt, to the Heath Clark lectureship for 1933.