discovery that neon, which is comparatively poor in ultra-violet light, can by using suitable powders be made to excite luminescence. These luminescent materials will probably be largely used in electric discharge lamp lighting. They will add the missing colours to light given out by vapours and gases, thus making objects illuminated by them appear as they do in daylight.

It was found four years ago that very great yields of light could be obtained from the passage of electricity through mercury vapour, if the pressure of the vapour was increased to about one atmosphere instead of using only one hundredth of an atmosphere

as in the older types of lamp. This has led to the improved lighting of hundreds of miles of streets in Britain. There are now about 15,000 street lighting posts fitted with these lamps.

Light is becoming so cheap that it is foolish not to make full use of it. Its liberal use contributes greatly to safety. It enhances the beauty of our homes and increases the efficiency of our workshops. Gardens and highways at night can be made beautiful by its use. Blackpool, perhaps more than any other town, has improved its amenities by using artificial light. Incidentally, this gives a royal welcome to its visitors.

Plant Hunting and Exploration in Tibet

THE second evening discourse at the Blackpool meeting of the British Association was delivered on September 15 by Capt. F. Kingdon-Ward. He said that however much we may regret some of the results of the industrialization of Britain—the destruction of forest, the urbanization of pasture land, slums, and so on—our country is in some respects a vast improvement on the England of four centuries ago. It was then a colourless land, especially during the winter. Thanks to the great interest taken in horticulture and silviculture to-day, it is that no longer. About twelve thousand species of introduced trees, shrubs and herbs are cultivated in the open—nearly ten times the total number of flowering plants which occur wild. Thus the British climate must be singularly elastic, and the plants themselves highly adaptable. Probably in no other country in the world of equal area can so many alien plants be grown. Some are difficult, but more are easy, and not a few naturalize themselves.

Tibet, the highest plateau in the world, is not as is generally supposed a complete desert. There is a gradual increase in the flora from west to east, and from north to south, corresponding with the change in the physiographical nature of the country; the vegetation slowly changes from tundra to scrub and grassland, and from scrub to forest. Naturally, the most prolific and varied flora is found in the forested south-eastern region. This flora is a mixed one. The climate varies greatly from warm temperate at the bottom of the gorges where Tibet reaches its lowest altitude at 5,000 feet, to subarctic on the high snow-

clad ranges the peaks of which attain 25,000 feet. All adjacent regions—China, Indo-Malaya, the Himalaya—have contributed to the flora of Tibet. Not every plant found there is hardy in Britain, but a surprising number are. Nor is it possible to forecast whether a given plant will be hardy or not; experience enables one to make a shrewd guess, but no more. On the whole, the plants which have proved most adaptable to our gardens are those which are not found growing under extreme conditions; that is to say, the plants, not of the tundra, nor of the deep forested river gorges, nor of the highest alpine ranges, but those of the intermediate scrub-clad plateau country, at 10,000–12,000 feet altitude.

Throughout the summer, one is busy collecting plants in flower. In late autumn, one starts harvesting seeds. It is not necessary to mark the plants when in flower, of which seed is required. Most plants are found over extensive areas where the climatic conditions are similar, and constant practise enables one to recognize a given plant by its fruits as readily as by its flowers. Particular plants occur in prodigious numbers; most species are at least common; the difficulty is to discover a rare plant! Capt. Kingdon-Ward said that he could recall very few of which he discovered but one specimen—*Leycesteria crocathyrrus* is one of them.

Tibet has become famous as the land of the blue poppy (*Meconopsis betonicifolia*) and the scarlet creeping rhododendron (*R. repens*). But it is equally the home of many other beautiful flowers, as gentians, lilies, barberries, primulas and many more.

Science at the International Peace Congress

SCIENTIFIC concern for the preservation of world peace found abundant expression at the International Peace Congress held at Brussels on September 3–6. Special commissions considered the bearing of art, science and letters, medicine, agriculture and education on the problems of peace and war, the report of the Science Sub-Commission, formed by a small but internationally representative body of scientific workers under the chairmanship of Dr. J. D. Bernal of Cambridge, being typical of the

constructive attitude of the professional delegates.

This committee clearly recognized the effects of war in disintegrating the humane purpose and international character of science, and declared that scientific workers should do their utmost to strengthen international amity not only by a general determination to oppose war but also by definite practical activity. "We have to consider," it decided, "how we can best assist in preventing an immediate

outbreak of war, and in permanently removing its fundamental causes. The International Peace Campaign offers us the great opportunity of working effectively for both these ends." Stressing the importance of the radical approach, it added that scientific workers should co-operate "in the task of removing the causes of war by subjecting them to scientific and historical analyses and by exposing the theories of those who strive to excuse and justify war."

It was unanimously agreed, therefore, that a permanent Science Commission of the International Peace Campaign should be set up "with the general object of uniting all scientists in the struggle for peace". Its proposed activities include (1) the co-ordination of the work of the existing peace organizations of scientific workers and their extension to countries in which they do not exist; (2) the formation of joint commissions on (a) science and war and (b) the removal of the basic causes of war; (3) propaganda for a peace oath by all scientific workers and the incorporation of such a declaration in the oaths of those taking university degrees and diplomas; (4) concrete support for those scientific workers who are made to suffer for refusing to take part in research or other activities concerned with war.

The joint commission on science and war is to include chemists, physicists, engineers, aeroplane technicians, doctors, bacteriologists, geologists and military experts, who will endeavour (1) to study the technique of modern warfare and its probable effects on the military and civil populations; (2) to co-operate effectively in the international suppression of chemical and biological warfare; (3) to publish the results of its investigations promptly and clearly, without minimizing or exaggerating the dangers of modern war or seeking to claim an unobtainable accuracy; (4) to issue critical bibliographies on the technique of warfare and other special studies on

this subject; (5) to impress on scientific workers themselves the part they are playing, directly or indirectly, in preparations for war, and to direct attention to the utilization for military purposes of funds intended for civil research and development; (6) to serve as an information bureau on technical military questions to all peace organizations.

The committee concerned with the fundamental causes of war is to include biologists, psychologists, anthropologists, medical men, sociologists, historians and economists, whose immediate task it will be to produce a concise statement on the causes of war and the ways in which men of science can help to eliminate them. It will also neglect no opportunity to expose pseudo-scientific and pseudo-historical theories used for war propaganda, such as those which postulate the biological necessity of war, the need for colonial expansion because of population pressure, the innate inequality of races, the degenerating effects of miscegenation, and so on. The regular work of this committee will therefore include (1) continuous propaganda in the scientific and popular press; (2) the exposure of subtle and direct war propaganda in schools and colleges; (3) appeals to learned societies and other organizations to defend scientific truth against distortion and unjustified rationalization; (4) the provision of study facilities by the publication of critical bibliographies and such other assistance as a central bureau can provide.

The translation of these objectives into effective practice will require considerable funds, organizational ability and individual support, but the success of the Peace Congress as a whole, combined with other evidence of a widespread appreciation of the duty and purpose of scientific endeavour, suggests that these essentials will not be lacking. They must not be if the lust for war is to be overcome by an organized will for peace. CEDRIC DOVER.

Molluscs of Northern Asia

MR. ALAN MOZLEY, after several studies of the Mollusca of Canada, has recently made expeditions into Siberia and northern Kazakhstan during the open seasons of the years 1932 and 1933, when typical areas in several of the great natural regions were examined in some detail, and extensive collections made with the object of obtaining fresh and accurate information regarding the constitution and distribution of the molluscan fauna ("The Fresh-water and Terrestrial Mollusca of Northern Asia". *Trans. Roy. Soc. Edin.*, 58, Part 3 (No. 24), 1935-36). The area covered includes the greater part of continental Asia to the north of latitude 50°, not including Outer Mongolia and Manchuria.

The aquatic species inhabit three types of water—ponds, lakes and streams. Of these the ponds and pond-like lakes only have an abundant molluscan fauna, and these are mostly hardy northern European species. Both the large lakes, which are uncommon, and the streams, usually present special conditions unfavourable to the molluscs. There is found to be a small group of circumboreal, a large number of Eurasian species, a few which are common to North America and north-eastern Asia, and several endemic

forms. On the basis of these groups, Northern Asia may be divided into four faunal regions, the Great Siberian Region, the Baikal Region, the Far Eastern Region and the Chuckchee-Kamchatka Region.

In the northern part of Kazakhstan and Southern Siberia there are numerous drainage basins in which the reservoirs are saline to a varying degree, the main salts being chlorides and sulphates which are detrimental to the molluscs. The presence of old shore lines round many of these indicates their greater extent during previous pluvial periods, fossil molluscs being found in some of these old shore-line deposits, in some cases the number of species decreasing in the descending series of beaches, giving evidence of a progressive decrease in molluscs. The species most tolerant of these conditions are *Planorbis planorbis* L., *Limnæa palustris saicalensis* Mozley, and *Limnæa palustris kazakensis* Mozley.

Temporary ponds formed by melting snow in spring are characteristic habitats in the steppe and forest steppe region both in Canada and Siberia, conditions of life being severe; but numbers of invertebrates manage to exist in them, including five species of molluscs in Northern Asia.