The Forthcoming Pasteur Centenary Celebrations at Strasbourg.

WE have already announced that the Government of the French Republic has desired to commemorate this year the centenary of Louis Pasteur, and Strasbourg, where this illustrious savant commenced his scientific and university career, has been very fittingly chosen as the scene for the celebrations. Chief among these will be an international scientific exhibition—L'Exposition Internationale du Centenaire de Pasteur—which has been organised with the object of setting forth the fruits of Pasteur's work, not only in the domain of medicine but also in those of industry and agriculture. This exhibition will be officially opened on June 1 in the presence of the President of the French Republic, members of the French Government, and scientific delegates from all over the world. On the same day a monument erected to the honour of Pasteur in the Place de l'Université will be inaugurated, and a further permanent memorial is to take the form of a Museum of Hygiene. This will consist of a collection of exhibits illustrative of the various researches of Pasteur, and will constitute a history, in concrete form, of the early years of the science of microbiology.

The International Exhibition promises to be a most extensive and complete demonstration of the manifold results of Pasteur's work, both in pure and in applied science. It is to be organised in twelve groups, namely, microbiology, chemistry and chemical industry, collective hygiene, general hygiene, physical training, town hygiene, alimentary hygiene, food industries, refrigeration, agriculture, silks and sericulture, and finally a group devoted to scientific literature. In order that the exhibition should attain to that plane of excellence which would make it at once worthy of the man in whose honour it is being held, and an attraction to men of science, the organisation of the various groups and their sections has been entrusted to those who, by their work, are specially qualified in the various branches of science represented.

The groups of microbiology and collective hygiene are naturally the largest and perhaps the most interesting. The former, under the presidency of Dr. Roux, comprises in all nine sections. There will be a section devoted to diseases of man, including bacteriological and immunological technique, and sections dealing with vaccinia and vaccine institutes, tropical diseases and hygiene, diseases of plants, veterinary diseases, diseases of silkworms and other insects, parasitic insects, nitrification and sterilisation of soil —a most comprehensive list. The group of collective hygiene, with its six sections, is to deal with matters of the greatest importance, such as industrial diseases, tuberculosis, venereal diseases, cancer, maternity and infant welfare, military hygiene, and the organisation and installation of hospitals; and the names of such well-known scientific men as Dr. Calmette and Dr. Louis Martin, among the presidents of these sections, is a guarantee of the standard of excellence which will be reached in this group. But it is not only the man of science who will find interest in this exhibition. The sciences of chemistry and microbiology find their application throughout industry and in all phases of our modern civilisation. It is one of the objects of this exhibition to emphasise this interdependence of science and industry, and, to judge from the list of industries which will be represented by exhibits in the various groups, this aspect of the question has not been overlooked.

The exhibition will remain open till October, and during this period congresses on various subjects are to be held. In this manner it is proposed to discuss such subjects as tuberculosis, housing, town hygiene, cancer, leprosy, syphilis, puerperal fever, and milk. The general secretary of the exhibition is Prof. Borrel, director of the Institute of Hygiene and Bacteriology of Strasbourg.

Chemical Characteristics of Australian Trees.

MR. HENRY G. SMITH, of Sydney, in his presidential address to the section of Chemistry at the meeting of the Australasian Association for the Advancement of Science, held at Wellington in January last, dealt particularly with the elucidation of some chemical characteristics of Australian vegetation, treating the subject in relation to the generalisations that may reasonably be advanced from the consideration of the results secured by the phyto-chemical study of the principal Australian genera, such as Eucalyptus and Callitris. This study extended over a period of more than thirty years, and was undertaken in conjunction with his botanical colleague, Mr. R. T. Baker.

Some of the chemical peculiarities brought to light during this investigation appear to be characteristic of this unique flora, and indicate a distinct uniformity in progressive characters, suggesting evolutionary processes as the directing influence in the production of the numerous groups and species which, in the aggregate, go to form the more important genera.

The genus Eucalyptus apparently originated in what is at present the western and north-western portions of Australia, and as it spread eastward and experienced varying degrees of soil and climate the conditions demanded by these new locations and climatic changes were met by the responding characteristics of the genus.

The chemical peculiarities of nearly two hundred distinct species were determined, so that many data were obtained upon which to formulate the more recent theories regarding the formation of the distinctive groups.

Eucalyptus is essentially an oil-producing genus, and already about forty distinct chemical constituents have been isolated and characterised. These include 11 alcohols; 9 aldehydes; 2 phenols; 7 esters; 5 terpenes; 1 ketone; 1 sesquiterpene; 1 paraffin; and also cymene and cineol.

The two main factors controlling the chemical sequence throughout the genus may be stated in the following terms: (1) The same species of Eucalyptus has chemical properties of a comparatively constant nature wherever found growing under natural conditions, and (2) each constituent follows the sequence of species in increasing amount until a maximum is reached in one or more of them.

These conditions are not only true for the several oil products, but may also be applied to the astringent exudations or kinos produced in varying amounts by all the species. The characteristic features of these exudations are traceable right through the genus, and are particularly noticeable with the two crystalline substances, aromadendrin and eudesmin, found in the older species of the genus. These substances become extinct when the group of "ironbarks" is reached in the sequence of evolution, and are, of course, absent in all the more recent species, such as those belonging to the "stringybarks," "pepper-