general apparatus of civilised life will be drawn directly from the source, to provide for those born in a hitherto barbarous land such as Southern Rhodesia " the best substitute for that rich background of long-established civilisation which is the unconscious inheritance of every child in an older community " As regards the second objective, the Commission lays emphasis on the educative value of the study of " the natural life of Rhodesia, its plants, animals, insects, climatic phenomena and so forth ; the life of the natives which so intimately and subtly concerns the welfare of every child ; the main industries ; the history of African settlement ".

Regarding the third objective the Commission refers to " the danger of moral degeneration which threatens the youth of a country, where the services of others are so easily come by, and where the labour that serves the first needs of life is apt to be despised as menial and dishonouring ". It recommends strongly that the expert aid of psychologists should be enlisted to investigate the influences on the life of white children through their many contacts with the native peoples, particularly in connexion with the attitude of the former to the latter. The fourth objective will be best attained, it believes, by the multiplication of centres to provide facilities for training skilled workers, and better and more systematic co-operation between the schools on one hand and organised industry and the technical departments of Government on the other.

There follows a critical survey of the existing facilities for the education of the whites in Southern Rhodesia. Various recommendations are made for the improvement of the system. Southern Rhodesia is warned of the dangers of parochialism in education, and in particular is advised to lose no opportunity for friendly and fruitful co-operation with the Union of South Africa. Equally important are the suggestions made for the co-operation of parents with school authorities. The tendency on the part of parents to regard teachers as a class apart, and schools as institutions with no links with the homes of the scholars, is not uniquely a Southern Rhodesian phenomenon : it is almost universal. In this connexion the Commission's suggestion, that one means of promoting co-operation between parents and the education authorities would be by designing better home-tasks for pupils, merits the most careful consideration in Great Britain.

This is by no means the only need Southern Rhodesia and Great Britain have in common. Where secondary schools exist in any British colonies, they appear to be based on home models, that is to say, the school curricula are designed to meet the needs of the universities to which only a very small proportion of secondary school scholars will proceed. Parents and the public generally condone this, the former because they lack the courage to resist the demand by employing bodies for the stereotyped educational hall-marks prescribed by universities. The needed change will only be brought about, as the Commission states, by the public realising that " Secondary schools should be regarded as the final stage of school education for the many rather than as the preparatory stage for the few ". The need in all countries of the Empire is for the provision of a variety of secondary courses of equal status, not " one selected body of studies having a traditional pre-eminence over others, any more than it can be regarded as the exclusive privilege of a select class ". In any course, however, the Commission strongly recommends the inclusion of manual training and general science subjects, including biology. What is surprising is the reaction of the Commission to the suggestion made by certain witnesses that some provision should be made in the white schools for the study of native languages. The Commission says quite definitely that " the advantage to be gained from the introduction of native languages as a school study is not sufficiently great to justify the encroachment that would be involved on the time available for other studies ".

A chapter of the report is devoted to agricultural education. " Comparatively little has been done in Rhodesian schools to develop interest in the problems and the life of the countryside, and to produce what may be called rural-mindedness." This the Commission attributes mainly to the fact that " primary education in the Colony has been dominated by secondary education, and the secondary schools have been developed under teachers whose own education and training have been in the main on purely academic lines " But Rhodesian parents also object to their children " digging and hoeing ", or doing any other form of manual work, since such occupations are regarded as ' Kaffir ' work, too degrading for whites. The result in Rhodesia as elsewhere is the progressive migration of the rural population to the towns.

The staffing of the white schools in Rhodesia is adequate to the extent of generosity, but there is an undue proportion of untrained teachers, particularly in the secondary schools. This the Commission regards as a grave defect. It considers that both a university degree and training are essential for secondary school work, and backs its opinion

and in the south Cretaceous limestones and subaerial sandstones. The gneiss and schists are probably pre-Palæozoic. At In Nuguren, west of the Aïr massif, there are well-preserved Turonian fossils affording evidence of a connexion of the sea in Angola with that of the Mediterranean across the Central Sahara. Some terrestrial deposits earlier than the Turonian limestones contain silicified fossil wood identified as *Dadoxylon*. The igneous rocks collected represent a northern extension of the Kainozoic volcanic series of Kenya and Kordofan. The Cretaceous limestones indicate that the Central Sahara was partly submerged by a Turonian transgression, which connected the Angola Gulf and the Lower Niger with Tunisia. It had a branch westward through In Nuguren towards the Middle Niger, but had no known connexion across Abyssinia with Somaliland or the Gulf of Aden.—**J. V. Harrison**: The geology of some salt-plugs in Laristan (Southern Persia). The area is contained in the rectangle between lat. 27° and lat. 28° 20′ N., and long. 54° 20′ and long. 57° E. Much of the district is covered by normally folded rocks which range in age from Ordovician to Recent, and reach an aggregate thickness of 25,000 feet. The only general angular unconformity occurs high in the Mio-Pliocene. On the north and east the frontal part of the nappes overrides and ploughs into the normally folded rocks. South and west of the line of nappes the normal folds have been invaded by plugs of salt, which have brought up quantities of gypsum and blocks of sedimentary and igneous rocks. The extrusive salt has come to the surface at different times, from Oligocene to late Mio-Pliocene. The intrusive salt-masses, sheathed with autochthonous sediments tilted around them, form, in some cases, brightly coloured mountains of very striking and characteristic appearance. The formation of the salt-plugs is attributed to tangential forces acting on Cambrian salt, which, on account of its comparative plasticity, has acted as something analogous to an igneous magma in its behaviour.

PARIS.

Academy of Sciences, Jan. 13.—The president announced the death of Auguste Rateau.—**Ch. Fabry** and **E. Dubreuil**: A supposed transformation of lead by the effect of solar radiations. Criticism and correction of some results recently published by Mlle. S. Maracineanu. No trace of either gold or mercury could be found in the specimens of lead examined.—**Ch. Achard** and **M. Enachesco**: The reciprocal action of chlorination and alkalinisation of the organism in acute diseases.—**Maurice de Broglie**: The use of gratings at grazing incidence for spectrophotography of the extreme ultra-violet. J. Thibaud was the first to apply the use of a grating at grazing incidence to the study of the radiations in the ultra-violet. An account is given of subsequent developments of the method, with special reference to the X-rays.—**Pierre Weiss**: The diamagnetism of the ions.—**S. Lefschetz**: Continued transformations of closed ensembles and their fixed points.—**Marcel Brelot**: The exterior problem of Dirichlet for the equation $\Delta u = c(x, y)u(x, y)(c>0)$.—**A. Métral**: An essential character of conformal representations utilisable for planning the profiles of the wings of aeroplanes.—**Carl Störmer**: The absence of retarded (wireless) echoes during totality of the eclipse of May 9 in Indo-China.—**L. Gaurier**: The alteration of the alluvium of lakes converted into reservoirs.—**L. Pirot**: The deviation from the vertical round the peninsula of Brittany.—**Guichard, Clausmann, and Billon**: The variations of the hardness of certain metals and alloys as a function of cold hardening.—**Carl Benedicks**: The density of some iron alloys in the liquid state.—**Edlén** and **Ericson**: The condensed spark spectrum in the extreme ultra-violet to 88 A.—**Georges Fournier**: An arithmetical relation between the atomic weight and the atomic number.—**P. Mondain-Monval** and **Pierre Galet**: The anomalies of the physical properties of the vitreous state. The case of amorphous sulphur and selenium. The viscosity measurements of sulphur, which were made by a form of penetrometer, showed a sharp change in viscosity at −21° C.: a study of the density changes showed a point of transformation at −20° C. Similar measurements with selenium gave a clear point of inflection on the viscosity curve at 45° C. and on the density curve at 31°-33° C. As in the case of glass, at a temperature slightly below the softening point, sulphur and selenium undergo an allotropic transformation: this takes place with a diminution of viscosity, an increase in the coefficient of expansion, and a sensible heat absorption.—**Pierre Brun**: The boiling points of aqueous alcoholic liquid mixtures. Experiments on ternary mixtures of water, ethyl alcohol, and isoamyl alcohol have been made and the results given in a triangular diagram.—**Maurice Francois**: The action of concentrated ammonia on the compound $HgBr_2 2NH_3$. The formation of HgH_2NBr and Hg_2NBr.—**Marcel Guillot**: An attempt to prove the existence of a non-electrolytic complex of polonium. The experiments described point to the probable existence of a complex substance of the formula $Po(-S-CS-NR_2)_3$.—**Daniel Schnéegans**: The presence of radiolarites in the Briançonnais sheet.—**Pierre Dangeard**: The influence of oxygen in iodo-volatilisation. Experimental proof that gaseous oxygen is necessary for the emission of iodine by *Laminaria*. It is suggested that the negative results obtained by H. Kylin were due to the non-recognition of this fact.—**Raymond-Hamet**: The action of ouabaine on the intestine *in situ*. The intestine when isolated is contracted by ouabaine, but the intestine *in situ* is relaxed by the alkaloid.—**J. Enselme**: Contribution to the study of the acid hydrolysis of the proteids.—**Mme. Phisalix**: Natural immunity against snake poison and the virus of rabies of the common dormouse, *Eliomys nitela*. This animal shows no sign of poisoning after being bitten by the viper. In battles between the dormouse and the viper, the former always takes the offensive and the snake is invariably killed. The dormouse is also immune to intra-muscular injections of the rabies virus. The serum of the dormouse *in vitro* neutralised the rabic virus. The immunity of this animal towards both snake poison and the virus of rabies is due to the existence in the blood of anti substances.

GENEVA.

Society of Physics and Natural History, Dec. 19.—**F. Chodat**: A new demonstration of the Traube cell. The author proves the penetration of water into the semi-permeable copper ferrocyanide membrane cell. The progressive flocculation of egg albumen incorporated in the cell allows the measurement by nephelometry of the velocity of penetration by the water.—**Ed. Parejas**: Would the Geneva basin lend itself to a study of glacial varves? The author, from the researches which he has made in the eastern part of the Lake of Geneva, considers it probable that the Geneva basin (western part) would lend itself, by the study of the varves, to an attempt at the synchronisation of the Alpine and Scandinavian post-glacial deposits.—**G. Tiercy**: On four 'mean' curves relative to the Cepheids. The author has recently terminated the study of two variable stars of the Cepheid type; he proves that the new results agree very well with those that he has previously obtained for other Cepheids.