

locality begins about 9 miles south of Adelaide, and is included in the area bordered by the Adelaide to Melbourne railway on the eastern side and the Sturt Gorge on the western. It forms an isolated patch, rather more than a mile square, the base being on the south-eastern side and the upper limits on the north-western, while the beds are determined on the northern side by an east and west fault.

Within the area that has come under observation in South Australia it is probable that the glacial material was dropped from floating ice. The grounds on which this deduction is made are as follows:—(a) The great extent of country covered and the (original) continuity of the deposits within the area. (b) The absence of any glacial floor or evidence of unconformity at the base. (c) The erratics have not been gathered from the beds which, for several thousands of feet, underlie the glacial horizon, but are gathered from the Pre-Cambrian complex that formed the boundaries of the Cambrian geosyncline on the south and west. (d) While the beds consist, for the most part, of a characteristic till, the latter, in places, is interbedded with laminated shales, sandstones, grits, and impure limestones, which are either destitute of erratics or possess these to a sparing degree, suggestive of intervals when the absence of floating ice permitted ordinary sedimentation of suspended matter in the water to take place. On the other hand, there are evidences that indicate that the permanent snow-field and centres of dispersion were at no great distance. Many of the erratics can, with some degree of confidence, be identified as belonging to Pre-Cambrian forms that occur in the outcrops of rocks of that age in southern Yorke Peninsula, Port Lincoln region, and the Gawler Ranges—regions which, at that remote period, probably formed a highland plateau. As the Pre-Cambrian basement occurs as far south as the Neptunes and Kangaroo Island, it is probable that the ice-clad plateau extended far into what is now the Southern Ocean.

3. Persistence of Natural Records.

These climatal facts, as bearing on the earth's condition in the past, are of very great importance in influencing geological deductions. It had previously been thought, chiefly on account of the very wide distribution of certain genera and species in these early times, that there was a marked uniformity of temperature on the earth's surface at this period, and that it was of a mild type. It is now evident that there were temperature zones on the earth's surface in Cambrian times as strongly marked as they are in the present day—extensive regions in which permanent snow and ice must have existed and which, in some localities, must have come down to sea-level. It supplies a further proof of the uniformity and persistence of natural processes, and in the preservation of such frail indications as scratches left by moving ice, fossil rain-pits left by a passing shower, and the track of a marine worm that had crawled over the sand on the shore, we have remarkable instances of conservation in Nature. Nature has blazed her track through the ages, with her tool marks, her fitful changes, her ideals of animal structure, her derelicts, leaving at every step her footprints and an imperishable record of the stages by which she has risen from a primitive simplicity to the complexity of the present age.

§ 20. International Currency.

1. *Coinage*.—Half a century ago economists were much concerned with the possibility of establishing an international coinage. For this purpose it is not necessary that the coinage of every country in the world should be unified. But, if the currency systems of the most important trading countries of the world are examined, it will be found that very close relationships can be established between simple multiples of their units. Thus, the British sovereign contains 7.32238 grams of fine (pure) gold: the American 5-dollar piece 7.52299 grams: the French 25-franc piece—if such a coin were in circulation—would contain 7.25805 grams: the German 20-mark piece 7.16846 grams: and the Japanese 10-yen piece 7.50000 grams. The nearness of these results suggests that if these nations could be induced to make such alterations in their respective currencies as to bring these five values into exact agreement, then one single piece of gold-money could be struck, circulating in the British Empire as a sovereign, in America as a 5-dollar piece.

in France and the Latin countries as 25 francs, in Germany as 20 marks, and in Japan as 10 yen. Such a coin, with its decimal subdivisions, would then constitute an international coinage, and be current in all countries.

The initial work involved in such a transformation would, of course, be considerable, but this would be offset by solid advantages. Firstly, the work of the cambist in passing from one currency to another would be immensely lightened; and, incidentally, it would be still more lightened if the sovereign were decimalised. Secondly, the interpretation of the foreign exchanges would be very much simplified, since the mint pars of exchange would be expressed in simple integers (*e.g.*, the par of exchange with France would be 25 instead of 25.2215). Thirdly, great encouragement would be given to backward monetary countries to reform their currency. By taking the international coin as their highest coin of account they would secure immediate recognition in the larger countries, and thus help in the establishment of a uniform coinage and the dissipation of the present confusion.

For fifty years the matter has been largely an academic one, until the European war led to a revival of interest therein. The following table gives the main points for consideration in connexion with any inquiries into the subject. By "weighting" the coins according to the populations in which they circulate, it is found that the mean weight is 7.33381 fine grams, only slightly in excess of that of the British sovereign.

INTERNATIONAL COINAGE (GOLD).

Suggested International Coin.	Value, in Pence.	Countries using Coin or its Equivalent.	Population Involved, in Millions.	Weight, in Fine Grams (Gold).	Deviation from Mean Weight (a)	Deviation from Mean Value (b).
					Fine Grams.	pence.
Sovereign	240.000	United Kingdom, New Zealand, Australia, South Africa, Chili, Ecuador	59	7.32238	-0.01143	-0.374
20 marks	234.955	Germany ..	65	7.16846	-0.16535	-5.419
10 yen ..	245.822	Japan, Mexico ..	78	7.50000	+0.16619	+5.448
5 dollars	246.575	United States, Canada	110	7.52299	+0.18918	+6.201
25 francs	237.891	France, Spain, Italy, Belgium, Balkan States, Finland, Argentina (c), Netherlands (d), Scandinavia (e), Russia (f)	295	7.25805	-0.07576	-2.483
			607			

(a) Mean weight is 7.33381 fine grams; (b) Mean value is 240.374 pence; (c) Argentine dollar = 5 francs exactly; (d) 12 florins = 25 francs exactly; (e) 18 kroner = 25 francs exactly; (f) 7½ roubles = 26 francs exactly.

N.B.—1 fine gram of gold = 32.7762 pence.

(ii) *International Unit of Exchange*.—When international units of exchange were discussed sixty years ago the proposals centred entirely round coins, since economists then appear to have thought mainly in terms of money. The latest proposals on the subject reflect the changed attitude in this matter. A proposition has been made in two forms: one due to Dr. Vissering, president of the Netherlands Bank, and the other to two Swedish experts (Axelson and Bittner). The nature of their suggestions may be illustrated by the following extracts from the recent presidential address by Dr. Walter Leaf to the Institute of Bankers, London:—

"Both pamphlets deal, on somewhat different lines, with the same problems, the pressing and urgent need of some combined action to rescue the distressed nations of

Europe from the frightful economic crisis through which they are passing. But both suggest the same means as a practical method of dealing with the purely financial side, the technical difficulties of which are enormously increased by the chaotic state of the exchanges throughout Europe. Both think it necessary that machinery for the barter of goods, to which the world has now practically been reduced, should be created in the form of *an international unit of exchange based on gold*; a purely book currency, not represented by any coins, but following the lines of the old 'mark Banco' of Hamburg. The bank mark served for about a century as a common unit for the whole of the petty German States, each of which had its own system of coinage; the confusion that resulted was such that German trade would have been paralysed had there not been one common denomination to which all could be reduced, and in which all important transactions alike between the German States, and between Germany and other countries, were in fact carried out."

"The Swedish authorities have drawn up a detailed scheme for the foundation of what they call an Associated Bankers' Clearing—A B C for short. No money movement between different countries is to be legal except through the A B C. The effective capital is to be four times the amount of metal coins and securities in its vaults. Each country is to deposit metal coins or securities corresponding to its presumable importations, against which it will be granted a credit of four times that amount. The credits will be granted in denominations called 'Monos,' the 'Mono' being a value in account equal to about 5 francs, 4 shillings, 2 yen, one American dollar, and so on."

It is to be noticed that the new currency is a money of account only. The obligations are only ultimately convertible into gold, and meanwhile would be simply a medium of barter, convertible in each country into the currency of the country. Dr. Leaf expresses no opinion as to the practicability of the larger scheme. But, as regards the financial machinery, he suggests that there are obvious theoretical advantages in an international unit of exchange, especially at a time of confusion like the present. In normal times the pound sterling might have acted as an international unit, but it has lost a certain amount of prestige, which will probably not be restored until London is re-established as a free market for gold.

It will be seen from the foregoing that the idea of an international unit of exchange—so far from being academic—has become intensely practical. It might become necessary at a later stage to assign a value to the "mono," and then the table prepared for this article would become of interest. It might be considered advantageous to link up the international monetary unit with the international system of weights and measures. In that case the "mono" could be defined as the exact equivalent of $1\frac{1}{2}$ grams of fine gold. This would make it precisely equal to two Japanese yen, or two Mexican pesos, and its value in English currency would be about 49½d.