

THURSDAY, SEPTEMBER 10, 1914.

## THE WAR—AND AFTER.

THE terrible war which is now raging, not only near our shores, but also much further afield, is teaching us many lessons, among them that the things which make most for a nation's life are apt not to be considered by the partisans of party politics. But it also shows that the British nation is sound enough at heart to throw off the trammels of party politics when a supreme moment arrives. Such a supreme moment is now on us and Britain is struggling for life with a foe who now shows his true colours. Many of us have been great admirers of Germany and German achievements along many lines, but we have now learned that her "culture" and admirable organisation have not been acquired, as we do not doubt was thought by the workers themselves, for the purpose of advancing knowledge and civilisation, but, in continuation of a settled policy, they have been fostered and used in order that a military caste in Germany, with the Kaiser at its head, shall ride roughshod over Europe, all treaties and national rights abrogated, all conventions set aside, all honour thrown to the winds, all laws of war and even of humanity disregarded. We are back in the days of the Huns. There is no doubt that in the complete plan of the great schemer the conquest and subsequent effacement of Britain were included.

Thank God, after many days of the most terrible fighting which the world has ever seen, it seems as if the day of the humiliation of France, which was to be the first stepping-stone to the final achievement, is not yet, and that before long the arch-plotter may be caught in the toils which he set for others. His final humiliation and overthrow are necessary for the world's peace, and will certainly come.

It is not for a scientific journal to chronicle the progress or to predict in detail the possible consequences of a war so brutally brought about, so brutally carried on by our enemy. Our task rather is to point out the importance not only of strengthening the troops in the field, but of seeing that our industries shall not suffer too greatly, for industry can alone supply in the long run the sinews of war for whatever period the conflict lasts; industry, moreover, to be most effective, must be broadly based on science.

In the latter direction the Government has taken a very wise step. The following communication has been issued from Downing Street:—

NO. 2341, VOL. 94]

"Bearing in mind the sudden cessation of the oversea trade with Germany and Austria, the Secretary of State for the Colonies, with a view to alleviating to some extent the loss of business and employment both in the United Kingdom and the Colonies, telegraphed on the 15th inst. to some of the more important colonies not possessing responsible government to remind them that it is of the utmost importance to have full information up to date respecting the principal imports into each colony from Germany and Austria and as to the products of each colony hitherto exported to those countries. The Secretary of State has further desired that he should have by the earliest opportunity particulars as to the leading lines of articles of trade with Germany and Austria, illustrated by samples in the same way as was arranged in 1895.

"The Secretary of State has it in mind that action on the above lines will not only be an immediate benefit as regards employment in the United Kingdom, but should also lead to the permanent advantage of British trade in general.

"It is understood that the Trade Commissioners in the various self-governing Dominions are already kept closely in touch with the requirements of the trade in those Dominions, and collections of samples of different lines of goods in which British manufacturers might compete have recently been sent, or are on their way from certain parts of those Dominions.

"As regards neutral foreign countries the Secretary of State for Foreign Affairs has undertaken to send a similar request to his Majesty's Consuls in all places where such an inquiry is likely to have a useful result.

"The present intention of the Secretary of State for the Colonies is that, as soon as the samples from different parts of the Empire and from neutral countries are collected the traders and manufacturers of the United Kingdom shall have an opportunity of inspecting them in a central exhibition, possibly at the Imperial Institute. At any rate, no time will be lost in making suitable arrangements to carry out this intention."

"The Board of Trade are moving on the same lines, and have devised what promises to be a fruitful campaign for assisting British manufacturers and traders to take advantage of the war by establishing themselves, in neutral as well as Colonial markets, in those branches of business which have hitherto been largely in the hands of their German, Austrian, and Hungarian rivals.

"There are two great and undoubted factors which tend to ensure such a development of British Overseas trade to a very considerable extent. One is to be found in the safety of the trade routes, together with the protection afforded by the State scheme of insurance against war risks, and the financial measures also taken by the Government for the continuance of business transactions. The second is that German and Austro-Hungarian trade with foreign countries is at a standstill.



"In pursuance of this scheme the Commercial Intelligence Branch of the Board of Trade (73 Basinghall Street, E.C.) are issuing to manufacturers and merchants, trade associations and chambers of commerce, monographs giving information with regard to possible foreign and Colonial developments in certain important trades carried on by them or in their respective districts. The trades dealt with in the first series of monographs are cutlery, iron and steel wire, hollow-ware (enamelled or tinned), woollen and worsted piece goods, and cotton hosiery (stockings and socks)."

To those who have followed the German "culture" for the last thirty or forty years it is well known that the fostering of their industries in that country by technical instruction in all forms has been increasing, and it will be found that our manufacturers will have the greatest difficulty in carrying out the Government's intention precisely in those branches of industry in which technical instruction of the most advanced kind, with accompanying research, has been most lacking in Britain.

For some time before the war a committee of the British Science Guild was preparing a statement showing the disadvantages under which the optical trades suffer in this country, and we are glad to see that the President of the Board of Trade has now appointed a committee "to consider and advise as to the best means of obtaining for the use of British industry sufficient supplies of chemical products, colours, and dye-stuffs of kinds hitherto largely imported from countries with which we are at present at war." Of this Committee Lord Haldane is chairman, and Dr. Beilby and Profs. Meldola and Perkin are among the members.

Let us hope that these and other similar efforts will be fruitful of result. Let us increase our "culture," not as part of a settled plan for the detriment of other countries, but as a serious endeavour to advance our own Empire and modern civilisation generally with all that it brings with it.

#### BIOLOGY OF THE SEX- AND BLOOD-CELLS.

- (1) *Artificial Parthenogenesis and Fertilisation.* By Jacques Loeb. Originally translated from the German by W. O. Redman King. Supplemented and revised by the Author. Pp. x+306. (Chicago: University of Chicago Press; London: Cambridge University Press, n.d.) Price 10s. net.
- (2) *The Biology of the Blood-cells. With a*  
NO. 234I, VOL. 94]

*Glossary of Haematological Terms.* By Dr. O. C. Gruner. Pp. xii+392+plates. (Bristol: John Wright and Sons, Ltd., 1913.) Price 21s. net.

(1) THE development of the female cell or egg without fertilisation by the male cell or sperm—parthenogenesis—has been known to occur among the plant lice, or aphides, since the eighteenth century, but the artificial production of a similar phenomenon—artificial parthenogenesis—is essentially an accomplishment of the closing decades of the nineteenth century. This book gives an excellent and fascinating summary of the considerable amount of experimental work which has now been performed on this subject. Artificial parthenogenesis has been principally carried out with the eggs of sea-urchins, but the same kind of results have also been obtained with those of starfish, annelid worms and molluscs, and also with frogs and toads. Although there is usually considerable mortality among the artificially fertilised forms during the earlier periods of development, Delage has reared two parthenogenetic larvæ of the sea-urchin during sixteen months to a stage of sexual maturity, and Loeb and Bancroft raised tadpoles, and even a young frog with eggs in the sex-glands, from artificially fertilised frogs' eggs!

Commencing with some general remarks on the morphology of development, the influences of oxidation and of membrane formation on the development of the fertilised egg are considered. Apparently oxygen is necessary for development, and all observations point to the conclusion that the processes determining or underlying nuclear division depend upon oxidation. While a certain amount of oxidation proceeds in the unfertilised egg (and ultimately leads to its disintegration and death), the essential effect of the entrance of the sperm seems to be an acceleration, it may be to six-fold, of the oxidation processes, and if fertilised eggs be deprived of all oxygen no nuclear or cell division occurs; other reactions, such as hydrolyses, also doubtless take place. Another result of fertilisation is the immediate formation of a membrane, the fertilisation membrane, which surrounds the egg, after which the chemical processes that underlie development ensue.

The earlier successful attempts to induce artificially the development of sea-urchin eggs were obtained by the use of hypertonic sea-water (100 c.c. sea water + 2 grams sodium chloride). The eggs are first soaked in the hypertonic solution for 2-4 hours, and are then returned to ordinary sea-water; if allowed to remain in the