

THURSDAY, JULY 21, 1870

WAR

THE dogs of war are again let loose, and in the two most highly civilised countries of Europe, where, a week ago, science, education, and commerce were in full sway, all the arts of peace are already neglected, and in prospect have gone back a quarter of a century. We can hardly yet realise that at the present moment railways are being torn up, lighthouses dismantled, lightships towed into harbour, and monuments of engineering skill, such as the bridge over the Rhine at Kiel, undermined, so that they may be destroyed at a moment's notice. But these, after all, are calamities of the second order; education is stopped; science schools are broken up; while we write both professor and pupil are forsaking the laboratory and the class-room, and the whole machinery of progress has come to a stand-still.

This journal, of course, has nothing to do with Politics: the function of Science is to unite the whole human family, whereas the function of Politics seems to be, both in the case of the human family and of each nation, to create parties and to emphasise them as much as possible, the object in each case being place for the partisans—whether that place be an income of a few thousands a year in one case or increased territory in the other. But although we cannot discuss politics, we may point out that as Science advances such policies will be overridden—that when Science and Education have taken their proper position—when the sword has given place to brain—when more of the best men of each nation take part in each nation's counsels, the dreadful thirst after blood will give way to something better; monarchs will see the folly of being surrounded merely with empty helmets and uniforms, or at all events if they do not, others will; and much will have been done when the pampering of armed men shall cease.

There is one point however in connection with the coming war which we cannot point out too strongly—one duty which England owes to herself, and which, if it be well done, may make her after all a gainer from the dreadful strife. We have already stated, and the statement is not an exaggeration, that the war will throw the countries engaged in it back a quarter of a century. Now, England at the present moment, be the cause what it may, is in many things a quarter of a century behind France and Prussia, notably in education of all kinds, and especially in scientific education.

The following extract from the Report of Mr. Samuelson's Committee on Scientific Education—a report which we believe has not even yet been taken into consideration by our Legislature—is so much to the point that we give it here:—

“Nearly every witness speaks of the extraordinarily rapid progress of Continental nations in manufactures, and attributes that rapidity, not to the model workshops which are met with in some foreign countries, and are but an indifferent substitute for our own great factories, and for those which are rising up in every part of the Continent; but, besides other causes, to the scientific training of the proprietors and managers in France, Switzerland, Belgium, and Germany, and to the elementary instruction which is universal amongst the working

population of Germany and Switzerland. There can be no doubt, from the evidence of Mr. Mundella, of Prof. Fleeming Jenkin, of Mr. Kitson, and others, and from the numerous reports of competent observers, that the facilities for acquiring a knowledge of theoretical and applied science are incomparably greater on the Continent than in this country, and that such knowledge is based on an advanced state of secondary education.

“All the witnesses concur in desiring similar advantages of education for this country, and are satisfied that nothing more is required, and that nothing less will suffice, in order that we may retain the position which we now hold in the van of all industrial nations. All are of opinion that it is of incalculable importance economically that our manufacturers and managers should be thoroughly instructed in the principles of their arts.

“They are convinced that a knowledge of the principles of science on the part of those who occupy the higher industrial ranks, and the possession of elementary instruction by those who hold subordinate positions, would tend to promote industrial progress by stimulating improvement, preventing costly and unphilosophical attempts at impossible inventions, diminishing waste, and obviating in a great measure ignorant opposition to salutary changes.

“Whilst all the witnesses concurred in believing that the economical necessity for general and scientific education is not yet fully realised by the country, some of them consider it essential that the Government should interfere much more actively than it has done hitherto, to promote the establishment of scientific schools and colleges in our great industrial centres.”

It is impossible that we can say anything stronger than this in favour of taking the fullest advantage of the opportunity of regaining our intellectual and therefore our commercial prestige.

If England is to prepare for war, the abnormal condition, so let it be; but surely, *a fortiori* she should *prepare for peace*, the normal one, as well. This has never struck her ministers, and the reason is not far to seek.

But this is not all; the same disregard for science, arising from the ignorance of science among our rulers, has probably placed us in another position of disadvantage. While France and Prussia have been organising elaborate systems of scientific training for their armies, a recent Commission has destroyed what little chance there was of our officers being scientifically educated at all. As there is little doubt that a scientific training for the young officer means large capabilities for combination and administration when that officer comes to command, we must not be surprised if the organisation of our army, if it is to do its work with the minimum of science, will, at some future time, again break down as effectually as it did in the Crimea, or that our troops will find themselves over-matched should the time ever come when they will be matched with a foe who knows how to profit to the utmost from scientific aids.

While, therefore, the Continent is being deluged with blood, let us *prepare for peace* as well as for war; let us prepare ourselves for victories in the arts, conquests over nature; let us, by means of a greater educational effort, more Science Schools, a truer idea of the mode in which a nation can really progress, fit ourselves to take our place among the nations when peace returns. Surely if there be statesmen among us, such a clear line of policy will not be overlooked.

Education and Science at the present moment are England's greatest needs.