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Peace and War in the Air

IT is one of the most tragic facts in the recent development of science that the conquest of the air, which on all grounds should have worked towards the unification of the world and the harmony of mankind, has actually become one of our most threatening dangers. No branch of science is more completely international in its history than aeronautics. Cayley, Lilienthal, the Wrights and Bleriot are a few names out of hundreds, all belonging to different nations, all having contributed something essential to what should be a common good. The air itself is obviously international, having a common constitution, enveloping and moving over us all, and having no possible fixed boundaries or divisions. Nothing, except the sunlight and rays from space, seems so clearly devised by Nature to keep us all together. Yet this heaven-sent unifier is finding in practice almost every possible man-made obstacle to the carrying out of its proper work. Men have used it almost from the first for what is simply murder, the killing, by the easiest wholesale way, of non-combatants—women and children—in the course of war. Moreover, though this practice is solemnly banned at international conferences and by the League of Nations, all the nations go on making their fighting planes so that they may do their destructive work more and more expeditiously. Now it is said that, even in the sphere of civil aviation, so many difficulties are put in the way of co-operation that an international authority is out of the question. In spite of the progress of science, the League of Nations and the extreme economic needs of the world, it is being made more difficult to secure a free passage through the air than free passage at sea.

There is this month, at The Hague, a conference of the International Air Traffic Association, and Mr. G. E. Woods-Humphery, the managing director of Imperial Airways, conscious of the nationalist animus which has been blown into the subject, writes in advance a very moderate article (in *Shell Aviation News*) trying to do a little deflation. Everyone must wish him well, but it is hard indeed to imitate the restraint of his language in speaking of the perversion of a good thing to bad ends by unrestrained rivalry, suspicion and ill-will.

Mr. Woods-Humphery begins by saying that the future of civilisation depends upon moderating this purely national spirit, and points out that the

extreme nationalism of the last decade "has undoubtedly militated against the growth of air transport". Each national reservation or restriction leads to a corresponding reprisal. He sees two ways by which "free passage in time of peace", which is his very modest desideratum, might be secured. The first is the internationalisation of air transport. He dismisses this as a course "much beloved by theorists", but to those having any knowledge of the matter "frankly an impossibility".

It is on this point that one would wish to reason a little with Mr. Woods-Humphery and, if possible, make him a little more hopeful. No one would dream of an international authority being forthwith, or indeed at any time, constituted to take over either the ownership, or the complete control, of the air lines of the world. But in fact, as history shows, that is not how things work. There are plenty of precedents. Our national railway system is one; the International Postal Union is another. In the first, the ownership of the lines rests—with little profit to them at the moment—in the hands of private owners. The State has, however, always retained a general control, and, from the first, passed Acts of Parliament regulating fares, the building of new lines, the protection of travellers against risk, etc. On the whole, while making allowance for the present depression which affects us all, this mixed system must be said to have worked well. British railways appear to serve the country as well—most people would say better—than foreign systems owned and entirely controlled by the State.

The International Postal Union, which has its offices in Berne, and grew up in the middle of the last century, affords an even closer analogy, of how an efficient system may be achieved by methods of gradualness, when different countries are concerned, and without infringing the possessory and self-governing rights of each. In each country an internal system of posts was evolved, mostly in the eighteenth and nineteenth centuries, as national organisations were improved. With us, the most important forward steps were taken in the forties of last century through the intelligent foresight of Sir Rowland Hill. The advantages were so great that the example quickly spread, and from the middle of the century onwards communications began to be set up with the similar organisations abroad on questions of common interest. From 1875, a quinquennial International Postal Congress was held, pledged to uniform actions on such matters as rates, the

transit of letters, etc. This body has permanent offices and its workings are so satisfactory that no one notices them. It should be studied, however, as an example of what can be done with perfect ease when men once recognise the necessity and apply their intelligence with general goodwill to securing it. No one thinks of the international post as a means by which packets of poison-germs could be transmitted to unloved neighbours.

The question of international air transport is more complicated because from the first it has been contemplated that machines used ordinarily for civil purposes should be convertible into war-planes, if need required. It seems that nothing can prevent this, if the devil drives. No written or spoken undertakings would bind the transgressors in time of war. The only feasible way, therefore, of approaching the problem is to build up, seriatim, a system of air transport for pacific purposes, so useful, well fitted together and generally accepted, that it would appear a monstrous perversion of it to murder people from the air. Mr. Woods-Humphery in his article mentions one obvious point to be secured by the earliest agreement possible. We must obtain for aircraft, proceeding on their "lawful occasions", similar facilities as are available for ships at sea. "The latter are free to follow any course which they desire, outside territorial waters" (a quite narrow limit), and are "allowed in territorial waters to pass unhindered to the port of their choice". This seems modest enough, but Mr. Woods-Humphery is willing to accept even a smaller instalment. "Possibly a temporary way (although it is only palliative) to meet the present difficulties would be to allow free passage to foreign air services for the carriage of their own national 'through' traffic."

It is well that attention has been directed to these extraordinary and pestilential obstacles, and that the *Times* recently gave full publicity to them. To obtain, however, so small and obvious a concession must be regarded only a first step to an agreed code of international civil aviation similar to that of the International Postal Union. Possibly the air traffic conference at The Hague will prove the germ of an international body to which the registration and carrying out of the necessary agreements will be entrusted. Other urgent points on which agreement is necessary, in order to secure an efficient and reasonably cheap air service, are the elimination of unnecessarily competing lines. Several of these are to be found in northern countries, notably in Scandinavia. It

should not be difficult to arrange compromises in such cases, which it is to the interest of all Governments to support, as subsidies will only become unnecessary as air transport becomes more popular, and it can only become more popular as those conducting it make their services more convenient by dovetailing the various lines, issuing joint timetables, aiming only at peaceful commercial and scientific purposes, with no *arrière-pensée* of war.

There is much to be done, and science has as great an interest in the matter as international peace. At the time of writing, we have not yet even been assured that the question of the planes of England being allowed to use the airways of France has been satisfactorily settled. It is a pity that flying and the air-post being at present rather a luxury of the rich, it is impossible to arouse the same popular interest in the matter as is now felt in other pacific questions. But it is none the less important for the future, and advance can be made in Mr. Woods-Humphery's spirit, but with more confidence and larger possibilities in mind and a larger objective in view. Science has provided in the aeroplane one of the most potent agents for peace and progress that the world possesses. It must be for the common sense of mankind to use it for its natural end.

F. S. M.

Periodicals and Reference

A World List of Scientific Periodicals published in the Years 1900-1933. Second edition. Pp. xiv+780. (London: Oxford University Press, 1934.) 63s.

WITH its first issue, 1925-27, the "World List" took rank as a notable addition to library resource. It essayed to catalogue the scientific periodicals of the world current at commencement of this century and thence onward to 1921. To each of the periodicals (more than 25,000) of its list it assigned a reference-title individually distinctive. Further, for each of those traceable to any of 150 given representative libraries in the British Isles, the list stated by which of those libraries the periodical was filed. This census of extant periodicals, and of the British intake of them, was undertaken at a significant time. Want of it was being acutely felt. A post-War world in being was making departures fresh. In various directions the recovery of scientific production was almost feverish. Renascent nations newly risen rejoiced to show their virility and culture by contributing to science through channels

natively and linguistically their own. However desirable might be a full inventory of all this activity, it was far from easily compassed. It meant search at sources emanating the world over. Their number proved to be yet greater than had been thought. Nevertheless the difficulties were overcome, and the results justified their undertaking.

Still the stream of scientific publication, far from abating, increases. Especially so its spate of periodicals. These, at recurrent short intervals, as they do, supplying so to say red-hot instalments of science in the making, possess ever wider public appeal and use. More than 5,000 new periodicals have arisen since the "World List's" census twelve years ago. A fresh edition of the List has therefore become urgent. For the production of this, now welcome before us, the same competent and devoted hands which provided the original have happily, with little change, been available once more. Sir Peter Chalmers Mitchell as chairman, a council of management, an advisory committee, and as editor, Mr. W. A. Smith, of the British Museum, have accomplished the revision and expansion needed. Their public-spirited service, costly in time and labour, has been rendered gratuitously, as though with a generous gesture *labor ipse voluptas* for the end in view.

The present edition is issued as a single volume. It has the improvement that for each periodical, all the given data are brought together in one omnibus entry, already in so far collated for the reader. The total of titles listed is some 10,000 more than in the former issue. Periodicals beginning since that issue are included to end of 1933. In supplying an individually distinctive abbreviated reference-title to each of the 35,000 periodicals listed, the International Code of Abbreviations for Titles of Periodicals (Paris 1930) has been followed. This has not entailed much change from the abbreviations used in the previous edition because the International Code is largely based on the practice of the original edition of the "World List". A standard abbreviation-title of international sanction and use for each periodical has been much wanted. The "World List" now, even more fully than before, provides this international desideratum. A writer of a scientific paper or review can here find it ready to his hand, and editorial management can therefore more stringently insist on its use. Neglect of it confuses citation. The need for it is shown by the co-existence, as given in the "World List" before us, of above 2,000 separate current *Bulletins*, besides *Bullens*, *Bulletinos*, *Bulletinals*, etc., crowding alphabetically toward one like initial abbreviation. *Journals*, too, form a great group scarcely less prone to ambiguity in referencing. The standard