cataclysmic disaster. The tremendous energy of the forces now stirring in society is too valuable to be wasted even if we could suppress it. It should be guided into the performance of valuable work. Led off through the proper channels and connected with the reorganized machinery of society it could do great things. But it must be led to service of society as a whole and not to service of any privileged class, proletariat, bourgeoisie, or aristocracy.

Class prejudice, class rivalries, class hatreds, any organized or individual self-seeking at the expense of others, must be fought wherever found and the open unselfish mind promoted. In leading and in upholding the hands of the leaders the men of true scientific spirit will effectively serve. They will be the leaven, helping the people to understand and accept the new order. The road to the new and better order is through intelligence and altruism, through appreciation of and devotion to the truth, that is through the scientific spirit. Does this seem a tame conclusion? It is old fashioned, as old fashioned as the man of Nazareth who is still unsurpassed in clear vision into the heart of the truths underlying human relations and in unselfish devotion to the truth as seen.

Maynard M. Metcalf

The Orchard Laboratory,
Oberlin, Ohio

SCIENTIFIC EVENTS

INTERNATIONAL COOPERATION IN MEDICINE

According to the London *Times* a very large sum of money has been promised to found what will amount to a headquarters of the American Medical Association in England. The headquarters are to consist of a hospital, a library, lecture theaters, and demonstration rooms, reading rooms, and so forth. American doctors will thus possess a rallying point when visiting London, and the spirit of English medicine will be made free to them in a manner impossible by any other means.

It is understood that Lord Reading has accepted the presidency of the scheme and that Mr. Taft is much interested in it. The names of Messrs. Newton Crane and Van Duzen are also associated with the work, while the secretary of the American College of Surgeons, Dr. Franklin Martin, of Chicago, has taken a prominent part in furthering it. The new hospital may, it is hoped in some quarters, become a kind of Rockefeller Institute in London. British medical men are anxious to give all the help they can.

The forthcoming general meeting of the American Medical Association at Atlantic City is likely to be attended by, among others, Sir Arbuthnot Lane and, it is hoped, Sir Bertrand Dawson, who will thus help further to cement the friendship which now exists between the profession in the two countries.

Efforts are also being made in Paris to increase the usefulness and importance of the British Hospital there. This hospital, the Hertford, is rather small and the site has certain drawbacks. A scheme recently put forward would transfer it to a new site in the Bois de Boulogne and would considerably enlarge its scope. Speaking at an informal gathering recently, Dr. Monod, a distinguished French doctor, declared that British doctors would receive the warmest welcome in his country, and expressed the hope that French doctors would be encouraged to go to England to study. This gathering, which was presided over by Sir Bertrand Dawson, included some of the most outstanding physicians, surgeons and medical officers in the British and Colonial professions.

THE TOTAL ECLIPSE OF THE SUN

Professor Henry Norris Russell, of Princeton University, writes in the *Scientific American* as follows:

The present month is notable for the occurrence of a great eclipse, which happens on the 29th, and affords the longest view of the surroundings of the sun, while its own disk is hidden, which has been possible for many years.

At the time of this eclipse the moon is within a day of perigee, and unusually near the earth—her distance being a little less than 224,000 miles. In consequence her tapering shadow is still nearly 150 miles in diameter where it reaches the earth's surface, and observers situated within the belt, about 8,000 miles in length, over which this shadow sweeps as it crosses the earth's disk, will see a

total eclipse of unusual duration, which, at maximum, may amount to six minutes and fifty seconds.

The eclipse track is rather unfortunately situated. Beginning in the Pacific Ocean, just off the coast of Peru, it sweeps across South America, traversing the Bolivian Mountains, the forests of Brazil, and the higher lands of the eastern coast. Then it crosses the Atlantic, almost along the equator, just grazes the southern coast of the great western projection of Africa, passes temporarily out to sea again, and crosses the main part of the dark continent by way of the Congo basin and Lake Tanganyika—finally leaving the earth's surface at a point in the Indian Ocean not far from the African coast.

The region within which a partial eclipse is visible extends far northward and southward, including practically all of South America except the extreme southern trip, and all of Africa except the Mediterranean coast. The region where totality is longest lies in the Atlantic, and the maximum duration of eclipse observable from land stations is about four minutes, which is reached on the east coast of South America and the west coast of Africa. There is, to be sure, one small island in the Atlantic, lying almost in the central line of totality, where the eclipse lasts fully six minutes; but as this spot, known as St. Paul's Rocks, consists of a few jagged rocks rising to a height of 60 feet from deep water, with no anchorage and no fresh water, it is hardly an inviting station for even the hardiest astronomer, in spite of the fact that certain optimistic souls have nominated it as a way station for transatlantic airplane flights.

The climatic conditions along most of the track are unfavorable—the best chances of fine weather being on the high lands back of the eastern coast of Brazil, and in central Africa above Tanganyika. On account of the remoteness of these stations, and of the disorganization resulting from the war, few expeditions appear to be projected to view the eclipse. One English and one or two American parties, however, are likely to make the journey.

MAPPING FROM THE AIR

REQUESTS made to the United States Geological Survey, Department of the Interior, for information concerning the possibilities of photographic surveying from airplanes or other aircraft have recently become so numerous that it is deemed necessary to issue a statement on this subject. For two years the United States Geological Survey, which prepares and publishes more maps than any other organization in the world, has devoted much time and labor to the study of problems to be solved in photo-aerial surveying. The camera has long been used in surveys on the ground, and the Geological Survey has been making studies to determine the best methods of using it in aerial work. Before the war the panoramic camera was employed by the Geological Survey for mapping in Alaska, and it had been widely used for photographic surveying in Canada and in Europe. Aerial photographic surveying involves no new principles, yet it differs essentially from photographic surveying on the ground, for the line of view from a camera in a balloon or an airplane is vertical, not horizontal. A complete statement of the Geological Survey's investigations in photographic mapping from the air will later be prepared for publication.

The problem of photographic surveying from the air is dominantly an engineering problem. Photographic technique is of course an essential part of the work, but it is a subordinate part, for the best photographs are valueless as map-making material unless they are accompanied by the requisite engineering data. Projections, adjustments, and other details of map-making technique are as necessary in photo-aerial surveying as in other surveying, and all map-making work should therefore be the work of experienced engineers.

Photographic mapping from aircraft is entirely practicable but it has not yet been brought to the point where it can supersede ground surveying. The science of cartography will no doubt be greatly advanced when the aerial method is perfected, but fundamental problems remain to be solved, and this fact should be recognized and all possible energy should be devoted to the solution of those problems. It is hoped that solutions of the essential problems in photo-aerial surveying will soon be obtained, and that this method will be put to practical use in map-making.

FIFTH NATIONAL EXPOSITION OF CHEMICAL INDUSTRIES

THE Fifth Annual National Exposition of Chemical Industries will be held this year in