

Urges Mineral Control for Peace

Mineralogy

A scientific proposal for real "teeth" to make the Kellogg treaty effective through a U. S.-British control of the mineral supplies of the world was laid before the meeting of the British Association for the Advancement of Science at Johannesburg. In his presidential address, Sir Thomas Holland, Rector of the Imperial College of Science, London, proposed an amendment to the resolution offered by Senator Capper of Kansas, rendering even more stringent the embargo proposed by the American statesman against violators of the terms of the treaty.

In Sir Thomas' opinion, Senator Capper's suggestion that war munitions be placed on the forbidden list does not go far enough. He said, in part:

"Those of us who had the painful duty of deciding between civil and military necessities in the Great War, know well that there is now but little real difference between the materials required to maintain an army on a war footing and those that are essential to the necessary activities of the civilian population; *materials* essential for one purpose can be converted to *articles* required for the other. Thus, if Senator Capper's resolution be adopted by those who have signed the

Kellogg Treaty, either sympathy for the civil population would be stirred, or the armies would be still supplied with many essential munitions: the definition of 'conditional contraband' would still remain as a cause for international friction.

"A formula, still simpler but equally effective, is indicated by this review of the new situation arising from the essential use of minerals. It is suggested, therefore, as an amendment to Senator Capper's resolution, that the simple words 'mineral products' be substituted for 'arms, munitions, implements of war or other articles for use in war.'

"The only two nations that can fight for long on their own natural resources are the British Empire and the United States. If they agree in refusing to export mineral products to those countries that infringe the Kellogg Pact, no war can last very long. As our friends across the Atlantic have recently learned, it is easier to stop exports than to prevent imports: the Customs' officer is more effective, less expensive and far less dangerous than a blockading fleet."

This possibility of U. S.-British cooperation to deny to warlike nations the means of working their warlike will, Sir Thomas said, is due more to

coincidence than design. When the nations of the world were working out their present outlines on the map, agricultural areas were about all their statesmen and kings thought about. Mineral resources were considered only incidentally, because metalliferous ores and other minerals figured only as incidentals in the lives of the people. They were worked only on a small scale and by relatively primitive methods.

But with the coming of the industrial revolution, minerals began to play an ever-increasing part in human welfare; until the first quarter of the twentieth century saw more minerals used than had been consumed in all the history of the world before that time. No nation is independent in a mineral sense, not even the British Empire or the United States, nor even both of them together. But between them they control more than nine-tenths of the mineral resources of the world, and by agreeing on peace they are in a position to bring powerful pressure to bear on other nations, without either making or threatening war upon anyone.

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Matter Between Stars

Astronomy

Space between the stars is not the empty nothingness that has previously been supposed. Great clouds of calcium and sodium, elements present on the earth in lime and table salt respectively, are in interstellar space and make their presence known by the way they affect the star light passing through them.

At the meeting of the section on physics and astronomy of the British Association for the Advancement of Science, Prof. A. S. Eddington, eminent astronomer of Cambridge University, discussed the problems connected with these cosmic clouds.

When the light from a star enters a telescope and is analyzed by the prisms of a spectroscope, dark bands are obtained that show the elements present in the star. If the star is approaching or receding from the earth, the lines are displaced one way or the other. But sometimes lines of sodium and calcium appear which are in the same position without regard to the star's motion. These are due to clouds of these elements through which

the star's light passes on its way to the earth. As these lines may appear in the spectra of all the stars from a certain region of the sky, the extent of the clouds may be gauged. They only appear in connection with the more distant stars, hundreds of light years away, and so the distance of the nearest of them can be roughly determined.

By a theoretical study of such diffuse clouds, Professor Eddington has found that they would absorb enough of even the feeble radiation from the stars to raise them to a temperature nearly as hot as the stars themselves—perhaps 15,000 degrees Centigrade. Professor Eddington has also calculated their probable density and finds them extremely rarefied. A one followed by 24 ciphers represents the number of times that they would have to be condensed to be of the same density as ordinary air, he believes. Such a density would account for spectrum lines of the strength observed.

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Diet Allays Pain

Medicine

A diet which will prolong life and relieve pain somewhat in patients suffering from certain types of cancer was reported by Dr. S. Monckton Copeman to the British Association for the Advancement of Science. The dietary measures can only be adopted when the disease does not interfere with normal eating.

The diet restricts as far as possible the eating of foods rich in fat-soluble vitamins of animal origin, such as meat other than pork, as well as eggs, butter and cream. The necessary vitamins are obtained mainly from fruit and vegetables, especially water cress. However, Dr. Copeman emphasized that the diet is by no means strictly vegetarian, as white fish of all kinds are allowed.

Some patients put on this diet actually gained in weight, Dr. Copeman reported. The treatment is especially helpful after operation, with the object of preventing, if possible, recurrence of the disease, he said.

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