lum ultimately as the need and demand become imperative through the diffusion of knowledge.

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SCIENTIFIC EVENTS

THE FILM PHOTOPHONE [1]

THE announcement in the *Times* of September 24 of the successful synchronization of speech and action in kinematography by means of photographic films bearing suitable sound records is the natural outcome of the work expended on this problem in numerous different countries. Sweden, through MM. Bergland and Frestadius, has apparently been fortunate enough to reach success first. It is indeed surprising that the achievement has been so long delayed. Speaking-films, apart from synchronization, have been in existence for a long time, having been first made by Ernst Rühmer about 1900, and called by him the "photographophone." Rühmer made his films by photographing upon them the fluctuating light proceeding from a "speaking arc," and the reproduction was effected by making use of the well-known property of selenium of controlling a telephonic current when actuated by variable illumination. More recently Professor A. O. Rankine has made speaking-films by a different method, in which the voice imposes fluctuations of intensity on a beam of light issuing from a constant source, the reproduction from the film record again being by means of selenium. The whole problem is closely related to telephony by light. In photo-telephony the speech is transmitted by light and reproduced immediately; in speaking-films a photographic record is made for future reproduction. The *Times* article does not make quite clear by what process M. Bergland makes the sound-film, but it probably does not differ fundamentally from those previously used. The novelty of M. Bergland's work appears to be the successful realization of synchronism between the picture-bearing and the sound-record-bearing films. This has been done by the obvious method of running the two films on the same shaft, both during the taking of the double record of action and speech and during reproduction. In addition, sufficient valve amplification to actuate a loud-speaking telephone has been successfully applied to the selenium-controlled currents.

[1] From *Nature*.

RADIUM FOR ENGLAND

DR. FREDERICK SODDY, professor of chemistry in Oxford University, travelling as a King's Messenger, has arrived in London from Prague, bringing with him the largest quantity of radium, valued at about £70,000, ever brought into England. The consignment consists of two grams and is the first to be received under the terms of the recent agreement between the Imperial and Foreign Corporation of London and the Czecho-Slovakia Government. The radium was deposited at the Foreign Office and will remain there for the time being, its exact future, according to Professor Soddy, being a matter for negotiation.

Professor Soddy is reported in the London *Times* from which we obtain this information to have said that while on holiday with his wife in Czecho-Slovakia he visited the Joachimsthal mines and was given every facility for inspecting them and the various processes by which the radium was extracted from the uranium obtained in the mines. The agreement mentioned above having been concluded, he was asked by the Corporation, to whom he is the expert scientific adviser, to make arrangements for the transport of the radium to England, a task of considerable responsibility and some danger, in view of its malignant penetrative properties. The two grams were distributed in nine glass phials, packed in a lead case 3 in. thick and weighing about 70 lb. This was contained in an ordinary Foreign Office dispatch-bag, which was finally sealed by an official of the Czecho-Slovakia Government.

"I am sure," Professor Soddy added, "that this radium will be an enormous help to British science and medicine. It is of exceptionally pure quality. The cry of the