

INTERNATIONAL CONVENTION FOR THE PROTECTION OF BIRDS

ON the invitation of the French Government, a conference was held in Paris during October 17-18, 1950, to discuss proposals put forward by the International Committee for Bird Preservation for the revision of the International Convention for the Protection of Birds useful to Agriculture, signed in Paris on March 19, 1902. In addition to France, the following countries were represented: Austria, Belgium, Denmark, the Netherlands, Portugal, Spain, Sweden, Switzerland, Turkey and the United Kingdom; Bulgaria and Greece sent observers. The conference was opened by M. Merveilleux du Vignaux (directeur-général des eaux et forêts), representing the Minister of Agriculture, and the delegates were welcomed by Prof. René Jeannel, director of the Muséum d'Histoire Naturelle where the meetings were held. Prince Paul Murat, chairman of the French National Section, International Committee for Bird Preservation, was elected to preside over the deliberations and in his opening speech gave a survey of the history of events leading up to the present Convention.

The first attempt at bird preservation on an international scale appears to have originated at the twenty-sixth general assembly of German agriculturists and foresters, held in Vienna in 1868, when a resolution was sent to the Minister of Foreign Affairs of Austria-Hungary to request the Government to join with other countries to procure international agreements for the protection of animals useful to agriculture and forestry. This resolution was accepted on condition that the agreements should be restricted to the protection of birds useful to agriculture, and negotiations with other countries were commenced.

The first project was to form a series of treaties; but it was soon realized that an international convention setting forth certain declarations of principles in general clauses would be more efficacious. In 1872, therefore, the Swiss Federal Council, supported by the German Government, proposed the formation of an international commission to draft an agreement; but the commission never met, as preliminary negotiations failed. Individuals, however, continued to work on the question, and in 1873 at the International Agricultural Congress in Vienna the problem of the protection of birds was included in the agenda. It was proposed by the Swiss delegate, and agreed, that the Austrian Government should draw up a draft convention based on various points which had been put forward. This was carried out, and in 1876 a draft convention was sent to a number of European countries but did not arouse much interest.

Little progress was made until the matter was raised at the First International Ornithological Congress, in Vienna in 1884. At this meeting the aesthetic as well as the economic point of view in bird protection was put forward; but there was much dissension on the subject of useful and harmful birds, and the only practical result was the setting up of a permanent international Ornithological Commission charged with the elaboration of a proposal to be discussed at the next Congress in Budapest; but the Commission never met.

At the Congress in Budapest in 1891, bird protection formed a large part of the programme, and a resolution was sent to the Ministers of Agriculture

in Austria and Hungary requesting them to take steps to promote an international convention for the protection of birds useful to agriculture. From then on, a far wider interest in bird preservation was shown throughout Europe, and in 1895 a conference on the protection of birds was held in Paris at which a draft convention of ten clauses was put forward by the French Government. After a good deal of argument, particularly with regard to the schedules of birds considered beneficial or harmful, a modification of the proposals was provisionally accepted by a number of countries, but others, including Great Britain, withdrew from the discussions. Nothing further was done until the Third International Ornithological Congress met in Paris in 1900, when it was agreed that the Governments of European countries should be asked to study the food habits of wild birds in order that they might be separated into useful and harmful species. This was a somewhat tardy step, and in point of fact little work was done; but the interest aroused nevertheless resulted in the International Convention for the Protection of Birds useful to Agriculture, which was signed in Paris in 1902 by the representatives of Austria, Belgium, France, Germany, Greece, Hungary, Luxembourg, Monaco, Portugal, Spain, Sweden and Switzerland, other countries being given the possibility of adhering later. The Convention accorded protection to certain birds enumerated as useful and also to their nests, eggs and young, while another list of species pronounced harmful was excepted from protection. Certain methods of taking and killing birds were prohibited, as also the sale of protected birds during the close season. France, Belgium and Hungary ratified the Convention, Sweden shortly followed suit and, at a later date, the Netherlands announced the intention of adhering to the Convention.

No modifications were made to the Convention in the ensuing years, and, though at an international conference on bird preservation, held in Luxembourg in 1925, a commission was set up to study the possibility of modifications to render the Convention more effective, nothing resulted. The subject of bird preservation had always formed part of the deliberations of the International Ornithological Congresses, but it was agreed at the Eighth Congress, held in Oxford in 1934, that this subject should in future be left entirely to the International Committee for Bird Preservation which was formed in 1922.

In 1935 the Finnish, Norwegian and Swedish Governments drew up a draft convention which was put before a conference in Brussels that year of the International Committee for Bird Preservation; but it was agreed that an entirely new convention was not practicable and that proposals for the revision of the Paris Convention of 1902 should be drawn up. The subsequent action taken by the International Committee for Bird Preservation has already been described¹; and it was reported how, after two years of work by an international sub-committee, the proposals were completed and agreed at a meeting in Vienna during 1937 of the International Committee for Bird Preservation and were laid before the French Government. The intervention of the Second World War, however, prevented further progress. In 1947, at a meeting in London of the International Committee, it was decided that, in view of the increased knowledge of, and progress in, bird preservation, the proposals should be further revised, and work was begun again, the new proposals being agreed in Paris in 1948.

The present revised Convention has far more hope of success than its predecessor, for it is broader in outline and the vexed question as to whether birds are harmful or beneficial does not enter into it; also, the inclusion of schedules of species which caused so much disagreement in the past has been abandoned—each country is left to draw up lists or schedules according to its particular needs. The main principle is the acknowledgment that all birds should have some measure of protection, at least during their breeding season and, in the case of migratory birds, during their return to their nesting sites. Birds in danger of extinction or of particular scientific interest are protected at all times, and all measures of protection include nests, eggs and young. The traditions and needs of local populations are appreciated, and exceptions for scientific research, protection of crops, etc., and control of birds harmful to other species are provided for. Certain methods of taking and pursuing birds are prohibited; but the various countries are given time in which to bring such measures into force. Import, export, transport, selling and buying of birds are also dealt with. Governments are urged to take measures to prevent the destruction of birds by oil pollution of waters, by lighthouses, electric wires, insecticides, poisonous substances and other dangers, and to educate children and public opinion on the necessity for bird preservation. An entire article of the Convention is devoted to the need for bird reserves, which is a matter of ever-increasing urgency all over Europe.

The Convention was signed *ad referendum* on behalf of their Governments by all delegates present (France in addition being empowered to sign on behalf of the Principality of Monaco), and other Powers have the right to adhere at a later date. The United Kingdom was represented by Mr. H. McCullagh, of the Home Office, with Sir Norman Kinnear and Miss Phyllis Barclay-Smith as technical advisers.

¹ *Nature*, 162, 422 (1948).

LIFE AND WORK OF AUGUSTO RIGHI

By DR. A. von ENGEL

Clarendon Laboratory, University of Oxford

IN September 1950 the Italian Physical Society, together with the University and the City of Bologna and the Italian Institution of Electrical Engineers, celebrated the centenary of the birth of Augusto Righi, once Italy's leading physicist¹. Righi was a well-known figure both in his own country and abroad, unassuming and versatile, and an ingenious and skilful experimentalist with a strong theoretical background. Born and educated at Bologna, he first read civil engineering and later turned to physics. He started his career in 1872 as senior demonstrator to E. Villari, who was professor of physics in the University of Bologna, and became a year later head of the physics department and assistant professor in the Technical School of Bologna. In 1880 he was appointed to the chair of physics in the University of Palermo. Five years later he went to Padua, and returned in 1889 to Bologna, where he held the chair of physics until his death in 1920.

The outstanding contributions by Righi were recognized by many learned societies. In 1875 he won a prize (1,000 lire) of the Academy of Science at Bologna, in 1891 the King's Prize for Physics (10,000 lire) of the Reale Accademia dei Lincei and in 1905 the Hughes Medal and Prize of the Royal Society. He was elected an honorary fellow of the Physical Society (of Great Britain) in 1903, a foreign member of the Royal Society (1906) and of the Royal Academy at Uppsala (1908). Other honours that Righi received were the honorary membership of the Institution of Electrical Engineers (of Great Britain) in 1917 and of the Imperial Academy of Science in Moscow (1914), his election as senator of the Italian Parliament (1905), and the degrees of doctor *honoris causa* of the Universities of Göttingen, Erlangen, etc.

Righi's interest covered a great variety of physical problems. His first paper appeared in 1872. Altogether he published about 240 papers and several books². In 1888, that is, at about the same time as Hallwachs in Germany, he discovered that a substance can become positively charged under the influence of light; the first signs of a photo-electric effect had been observed by Hertz a year earlier. Righi found that when a radial electric field is applied to a hollow cylinder of a solid dielectric substance it suffers a change in length (1879). He searched in vain for an 'electrostriction' of a metallic conductor through which a current was passed. At the same time as Leduc (1883), Righi discovered that the thermal and electric conductivities of bismuth decrease in the presence of a magnetic field and that a temperature difference is established in a direction perpendicular to that of a heat flow and the magnetic field.

Righi carried out a large number of experiments to verify the identity of electromagnetic radiation and light waves. He developed the well-known oscillator consisting of two metal spheres which were immersed at a variable distance in an oil-filled compartment. These oscillators produced radiation of a wave-length of 3–20 cm. For detecting short waves he used oblong glass plates of a few millimetres width, one side of which was covered with a silver layer. The latter was ruled along the middle and formed a micro-gap, the sparks being observed with a magnifying glass. He investigated the reflexion of electromagnetic radiation from metals and dielectric substances and found good agreement with Fresnel's equations, which give the intensities of the reflected and refracted ray as a function of the index of refraction and the angle of incidence. He investigated total reflexion by means of a prism and made extensive experiments with simple interferometers in order to determine the refractive index of paraffin and sulphur. He used electromagnetic waves to carry out the two-mirror and the biprism experiments of Fresnel. Moreover, he investigated the diffraction on slits, dielectric cylinders and gratings which were made of parallel wires; he also studied polarization and birefringency.

Another of Righi's main fields of interest was the conduction of electricity in gases. So early as 1876 he found that the sparking potential in air does not depend on the substance of the electrodes. In 1890 he found that an ionization current which flows between two plane-parallel electrodes—one of which is irradiated with light—passes a maximum when the gas pressure is gradually increased. The explanation was later given when the variation of Townsend's ionization coefficient with the electric field was understood. Righi studied extensively the influence