of unique historical duration, furnished him, as they did other investigators, with the data for the construction of charts, which showed, for example in scarlet fever, not only a short cycle for that country of four to six years, but also a long undulation of from fifteen to twenty years or more, which, as he said, might "be likened to a vast wave of disease upon which the lesser epidemics show like ripples upon the surface of an ocean swell" (Epidemiological Society's Transactions, 1881–82).

Dr. Ransome wrote much also on general public health subjects, always with a keen appreciation of the value of vital statistics and of the pitfalls to be avoided. Thus, in any population, except that of a life-table, in which births equal deaths and migration is absent, a death-rate of 10 per 1000 does not mean an average duration of life of 100 years. As he put it: "under present conditions such figures . . . can only be looked for in the millennium, when, as Isaiah says, the child shall die an hundred years old."

Dr. Ransome taught at an early date that "preventible" mortality extended far beyond epidemic diseases; and was singularly accurate in his forecast that infant mortality, which "had not yet received full attention from the sanitary administrators of the country," would hereafter prove largely controllable.

In a paper contributed to the *Lancet*, July 11, 1896, Dr. Ransome drew a striking comparison between leprosy and tuberculosis, arguing that in view of the close analogy between the two diseases there is reason to hope for a diminution of tuberculosis as striking as that already experienced in leprosy. The subject is too large to be expanded in this column, but this paper deserves to be consulted.

The above illustrations of some portions of Dr. Ransome's life-work show how wide were his studies and how prescient his teaching. A special shelf will always be reserved for his writings by students of tuberculosis and of general epidemiology. Many years ago Dr. Ransome retired to Bournemouth, where, until a few weeks before his death,—when the present writer received a letter from him on an epidemiological point,—he maintained his interest in his life-studies.

Prof. Gisbert Kapp.

By the death on August 10 of Prof. Gisbert Kapp, the country loses one of the few remaining pioneers of electrical engineering. Prof. Kapp was born at Mauer near Vienna in 1852, his father being German and his mother Scottish. At the Zürich Polytechnic he was a pupil of Zeuner and Kohlrausch. In 1875 he came to England, but spent several years afterwards in travelling on the Continent and in North Africa. He was appointed engineer to the Chelmsford Works of Messrs. Crompton and Co. in 1882, and in conjunction with Mr. (now Colonel) Crompton he invented a system of compound winding for dynamos. At this period England was the leading country in the world in electrical engineering. In 1886—the year in which John and Edward Hopkinson published their classical paper on dynamo design—Kapp read a paper on a similar subject to the Institution of Electrical Engineers. He pointed out clearly the analogy between the magnetic circuit of a dynamo and an ordinary electric circuit. In this year also he published his book on the transmission of electrical energy which gave a very clear introduction to the whole problem. In the autumn of 1894 he accepted the post of secretary to the German Association of Electrical Engineers. He was also a lecturer to the Technical School at Charlottenburg and was editor of the *Elektrotechnische Zeitschrift*. In 1904 he was appointed the first professor of electrical engineering to Birmingham University.

As an inventor Kapp was in the front rank. The Kapp dynamos were very useful in their day. The Oerlikon Company, of Switzerland, built many large Kapp machines. But like all the other early types they are now superseded by machines with revolving fields and armature windings embedded in slots. Kapp also invented many types of measuring instruments, a method of making dynamos self-regulating, several types of transformer, a high-speed steam-engine, a system of distributing alternating currents, and a method of boosting the return feeders on electric railways. This last method has still considerable vogue in this country and in Germany.

Kapp was an excellent teacher. Many of the present-day electricians acquired their first ideas of the working of electric machinery from his books. His mathematical theorems were original and in several cases strikingly simple—for example, his formulæ for the free period of coupled alternators. He invented many laboratory methods of testing machines. His test for the efficiency of dynamos and his method of getting the moment of inertia of the rotor of a machine are particularly valuable. He also invented a method of getting the insulation resistance of a three-wire network without the necessity of shutting down the supply. He was one of the earliest to recognise the importance of the phase difference between the alternating current and the alternating potential difference. Developing the theory of the power factor he gave a very simple geometrical explanation of electrical resonance. In recent years he invented a vibratory type of phase advancer and pointed out that considerable economies might be effected by using these machines in everyday supply.

Kapp was a past president of the Institution of Electrical Engineers and was president of the Engineering Section of the British Association in 1913. Personally he was of a very kindly disposition and was always pleased to give his colleagues the benefit of his great engineering experience. He was most hospitable, and was learned in many branches of study outside his professional work. A. R.

Mrs. J. A. Owen Visger.

Readers of natural history works at the end of the last century were somewhat mystified as to the authorship of a number of books published under the pen-name of "A Son of the Marshes," with the editorship of "J. A. Owen." The latter was the name under which Mrs. Jean A. Owen Visger preferred to be known, whose death at Ealing on July 30, in her eighty-first

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