tion with the International Catalogue. It was thereupon voted:

That it be referred to the executive committee, after consultation with the regional bureaus, to consider and decide as to what steps, if any, can be taken for cooperation with the proposed International Commission for the publication of annual Physical Chemical Tables.

The two following resolutions were then agreed to and as each was presented a general discussion of its merits followed. The final decision of the matter can not be better expressed than by quoting the resolutions in full.

The first was,

Resolved, That a committee be appointed to revise the schedules and to make such other alterations as may be necessary in the form of issue of the Catalogue. That it be an instruction to the committee that, so far as possible, the subject index be confined to abbreviated titles and authors' names and numbers to serve as references to the author index. That it be an instruction to the regional bureaus to have in mind constantly the need of maintaining the Catalogue of minimum bulk. That the committee consist of the executive committee and Dr. Deniker, Dr. Heintz and Professor Korteweg.

The executive committee being Professor H. E. Armstrong, Dr. Horace T. Brown, Professor A. Famintzin, Leonard C. Gunnell, Professor H. McLeod, Dr. P. Chalmers Mitchell, Professor R. Nasini, Professor H. Poincaré, Professor O. Uhlworm.

The second resolution was,

That in view of the resolution adopted unanimously by the representatives of the various countries constituting the convention, desiring the Royal Society to continue its responsibility for the publication of the International Catalogue for a further period, the committee appointed be instructed: (1) To take all possible steps to prevent reduplication by the publication of several annual and similar catalogues and indexes on the same subject, by making arrangements such as those now in force with the Zoological Society of London. (2) To obtain further assistance and cooperation in the preparation of the material of the Catalogue from the principal scientific societies and academies and the organizations which collect materials for indexing scientific literature.

The question of the publication of a decennial index referred to in the report of the executive committee was discussed and it was decided that on account of the financial difficulties involved unless the sales of the catalogue increased to a considerable extent the publication of the decennial index could not for the present be entertained. The matter was left for the action of the next meeting of the International Council which would be held within the next two years.

However short the time allotted for this subject may be an account would be incomplete without some mention of the numerous and gracious hospitalities extended to the foreign delegates by the Royal Society, the Royal Society Club and individually by the English members of the convention who lost no opportunity to show their guests every possible courtesy and consideration.

LEONARD C. GUNNELL
SMITHSONIAN INSTITUTION,
April 13, 1911

SOME PRUSSIAN EDUCATIONAL DATA

A MINE of statistical information concerning educational conditions in Prussia is Kunze's "Kalendar für das höhere Schulwesen Preussens" (Trewendt und Granier, Breslau), which has been issued annually for seventeen years. The 1910 edition has just made its appearance, and the German press is busy rearranging its data and forming conclusions. The interest which Americans in general show in German education warrants some discussion of its information with regard to Prussian secondary schools.

The steady growth in the population of the country is of course accompanied by an increase in the number of secondary schools. In 1900 there were in Prussia, in all, 564

Gymnasien (classical schools) and *Realschulen* (schools with French and English instead of the ancient languages); there are now 725. The city institutions have multiplied more rapidly than those supported by the state. There are now 474 city higher schools as against 251 state schools. In 1900 the figures were 344 and 220. The schools are not increasing in number as rapidly as a few years ago. In 1907, 26 new ones were established, in 1908, 22; in 1909, 12; in 1910, 14.

The practical trend of opinion which instituted the *Realschulen* is still making itself felt. In 1900 there were still 341 *Gymnasien* as against 223 *Realschulen*. Now there are 364 of the former and 361 of the latter. The extreme *Realschule*, however, which offers no Latin at all, is not gaining ground as rapidly as the compromise schools. In 1900 there were 85 *Realgymnasien*, with 138 *Realschulen* and *Oberrealschulen*. Now there are 161 of the former to match 200 of the latter. Here is a faint evidence of reaction against the ultra-practical educational theories of the century's beginning. The *Reformgymnasien*, which begin with a modern language—in all but two cases with French,—in *Sexta* (the lowest of the nine classes) and with Latin in *Untertertia* (the fourth class from the beginning), are increasing in popularity. There are now 110 of them. The *Reformrealgymnasium* in Geestemünde and the one in Osnabrück begin with English instead of French. The regulation *Realschule* offers nine years of French and six of English. There seems no reason for this arrangement except the inertia of French influence. It might be contended that the cultural importance of French warrants great attention to it in the old-line schools: but one would scarcely expect such a reason to have much weight with the ultra-practical *Realschulen*.

The line between *Gymnasium* and *Realschule* is not always one of absolute separation. There are numerous *Doppelanstalten*, in which a *Gymnasium* is joined to a *Realgymnasium* or a *Realschule*, and several in which a *Realgymnasium* and a *Realschule* are combined. Some of the regular *Gymnasien* allow students who do not wish to study Greek to substitute a modern language, and there are some instances where *Realgymnasien* and *Realschulen* offer Greek as an elective.

The German secondary schools have never been excessively large. In 1900 there were 60 which had more than 500 students each; in 1910 there are 136. In the former year the Royal Pauline *Gymnasium* in Münster-in-Westphalen and the Guerickeschule in Magdeburg (which was then a *Realschule* and *Realgymnasium* combined), counted 840 scholars each and headed the list. The Guerickeschule lost its *Realgymnasium* and its numerically commanding position, and the school in Münster ceased to grow. The largest Prussian institution is now the city *Gymnasium* and *Realschule* in Mülheim, with 948 boys. If we add the 157 children in the *Vorschule* or preparatory school, who recite in the same building and are under the control of the same director, the school numbers 1,100. The Mülheim school has an average of 31.6 students in a class; its present rival in size, the Royal Berger-Oberrealschule in Posen, with 896 students, has 44.8 in a class.

In 1900 these schools employed 6,860 teachers. In 1910 there are 10,150. The number of officially qualified candidates for these positions decreased considerably during the last decade. In 1895 the number on the waiting list had reached its maximum—1,472. In 1900 it had fallen to 693, and in 1906 to 124. In 1897 there were only 73 unfilled positions in the system. By 1900 the number had increased to 127, and seven years later high-water mark was reached, with 384 vacant places. In the last few years qualified candidates have grown more numerous again. There are now 384, as against 124 in 1906.

Prussian secondary school teachers are generally required to teach two or more subjects. It is interesting to note the equipment of the candidates. One hundred twenty-three are prepared to teach religion and Hebrew, 522 for Latin and Greek, 475 for French and English, 482 for mathematics and physics, 155 for chemistry and natural science, 554 for history and geography, 448 for German, 243 for ath-

letics. Last year's list stood, for the same subjects in the same order, 128, 391, 441, 452, 139, 406, 364, 195. History thus shows the greatest advance, and it is a little surprising to find Latin and Greek coming next. Least popular is religion, and there may be a connection between this fact and the wide-spread criticism of the status of religious instruction in the German schools.

New openings in these schools are not appearing as rapidly as was the case a few years ago. For the last four years the numbers are 355, 323, 286 and 222. Thus the new positions created in 1910 were 133 fewer than in 1907.

The higher schools for girls are, as was to be expected, growing much more rapidly, even though the feminist movement has not taken hold of Germany as vigorously as it has seized some other countries. In 1900 Prussia and her cities were maintaining 104 girls' secondary schools. Last year the number had reached 188, and it is now 225. It will be seen that the rapid increase in the number of these schools is a very recent affair. Twelve of the girls' schools are in charge of lady directors.

There are fifteen regular German secondary schools in other countries, located in Antwerp, Barcelona, Brussels, Belgrano near Buenos-Ayres, Buenos-Ayres itself, Bukharest, Cairo, Constantinople, Genoa, Madrid, Milan, Mexico, Rio de Janeiro, Rome and Tsingtau. Twenty-nine directors and instructors with regular positions in Prussia are at work for the year as exchange teachers or lecturers in other countries.

Roy Temple House

EDWIN E. HOWELL

On Easter Sunday Edwin Eugene Howell died at his home in Washington. Geologists, physiographers and educators of our country thereby lost an efficient and appreciated ally.

In the year 1861 the late Henry A. Ward, then professor of geology in the University of Rochester, erected on the college campus a building which he called Cosmos Hall and which was devoted to the assemblage and preparation of scientific material for museums of natural history. The establishment thus instituted grew and developed, and it still flourishes. Its work was performed largely by young men of congenial tastes, who there acquired the practical experience which commended them later to the trustees of larger responsibilities. It thus served incidentally as a training school in the natural sciences and especially in certain branches connected with museums. Among its graduates are Frederic A. Lucas, curator in chief of the Brooklyn Institute Museums; William T. Hornaday, director of the New York Zoological Park; F. C. Baker, curator of the Chicago Academy of Sciences; William M. Wheeler, professor of economic entomology at Harvard University; and Henry L. Ward, director of the Milwaukee Public Museum; and in addition to these the writer, who ranks himself somewhat proudly as senior alumnus. This was Howell's school, his real school despite the fact that the biographies mention only the country schools of his native county and the University of Rochester, which recognized certain special studies by making him a master of arts. He entered it in 1865, at the age of 21, and took his diploma—so to speak—in 1872.

For two years he was a geologist of the Wheeler Survey and then for a year held a similar position in the Powell Survey, his work consisting of geologic reconnaissance in Utah, Nevada, Arizona and New Mexico. Then, having become satisfied that this occupation was not the one for which he was best fitted, he resigned his position and returned to the Rochester Museum, becoming a partner where he had before been an assistant. A few years later he removed to Washington, where he established "The Microcosm," an institution somewhat similar to Ward's Cosmos Hall but devoted more particularly to geologic material and subjects. The modeling of relief maps, in which work he was a pioneer—if not *the* pioneer—for the United States, soon became a specialty; and his monument, for a generation at least, will consist in the plastic representations of physiography, topography and geologic structure which adorn the halls