difference, tinged perhaps with contempt for that ancient record. Meanwhile, theological opponents to science were either retiring defeated from the field of debate, or were taking up the task of adjusting their systems of philosophy to the new knowledge.

In contrast with the intellectual combats of a half century ago the present is characterized by a rapprochement between informed theologians and leaders in scientific investigation which is marked by a growing mutual understanding and respect. As a warrant for this statement it is necessary to refer only to such an organization as the American Institute of Sacred Literature of Chicago under the leadership of Professor Shailer Mathews, and the cooperation of such well-known scientific men as E. G. Conklin, Robert A. Millikan, Edwin B. Frost, Henry Fairfield Osborn, and others. A correspondent puts it this way:

> It seems to me that one can hardly say that there has been a recrudescence of medievalism; there has rather been an awakening on the part of some of the traditionalists to the rapid spread of a real interest in religion among men of scientific spirit. These men have the scientific habit, and they carry it with them into fields that such men would hardly have chosen for their specialty in former generations.[19]

Whether that be a correct diagnosis of the situation or not, I think that between the intellectual leaders in the physical sciences and in theology there is a growing disposition to work, each in his own field, without fear and without distrust, each desirous to press outwards, as far as may be, the boundaries of the known.

As for the active enemies of science, they may be dismissed as portents of evil with the Psalmist's words: "Why do the nations rage (marginal reading, "tumultuously assemble"), and the peoples imagine (marginal reading, "meditate") a vain thing?" The hope may still be entertained that, in spite of their emotional hostility to knowledge, their bondage to superstition, and their fear of the truth, they may yet adopt the scientific method of investigation suggested by Philip to Nathanael, and "come and see."

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ELLSWORTH BETHEL

ELLSWORTH BETHEL was born at Smyrna, Ohio, in 1863. In 1890 he became instructor in biology in the East Side High School, Denver, a position which he held until 1917. During this long period he enthusiastically studied the plant and animal life of Colorado, paying special attention to those obscure and difficult groups, such as the fungi and slime molds, which had been little investigated in the West. Many hundreds of pupils passed through his hands, and to the great majority he was able to communicate a fair measure of his own interest in nature. Some eventually became competent investigators, and all spoke of him with affection and respect. As a collector, Bethel was extraordinarily active, by no means confining himself to those groups which he personally studied. He was continually calling attention to facts and problems in such fields as entomology and conchology, in which he did not pretend to be an expert. The great accumulations of plants, especially fungi, in the State Museum at Denver, ran far ahead of the possibility of critical study with the available resources. It was always Bethel's hope that he would be able, in his later years, to thoroughly revise many of these materials. Unfortunately, the state of Colorado could not appreciate the importance of work on the native fauna and flora, and in the absence of financial support progress was difficult. Thus Bethel was led to take up work on economic mycology with the U. S. Department of Agriculture, and in this field has left a distinguished record.

Bethel's scientific discoveries were numerous. In the grand canyon of the Colorado, close to the trail where hundreds of tourists pass every year, his keen eyes detected a peculiar snail, which proved entirely new to science, and was named after him by Professor Junius Henderson. In California, one April day in 1923, Bethel picked a mariposa lily, and noticed an unusual looking bee in the flower. It turned out to be a new genus, which received the name *Betheliella*. Among the insects, those forming galls came in for special attention, and many new species were discovered. There are very few whose natural history interests are so wide, and fewer still who have the sort of intuition which leads them to collect unknown or little known species in groups they do not personally study. In these respects Bethel combined the qualities of a naturalist of the old school with aptitudes more characteristic of modern times. He was a pioneer in the West, and although cut short in his prime, and variously handicapped during his life, he has left a name which will not be forgotten.

Dr. Haven Metcalf, Bethel's chief in Washington, sends me the following statement, with permission to quote:

> In 1917 Bethel was appointed to the office of Forest Pathology as an associate pathologist. At the time we were in confusion over the question whether the white pine blister rust was or was not a native of America. A rust had been collected in Kansas many years ago, which

[19] Hon. Henry W. Temple, M.C.

was passing in the literature as blister rust. Suspicion pointed to the probability that this was a rust having its alternate stage on some pine other than a white pine, and Bethel was the only man to whom we could turn for help on this particularly complicated matter. His work played the dominant part in leading to the demonstration that the western rust was a new species, *Cronartium occidentale*, with its alternate stage on piñon pine, thus disposing of the fear that the white pine blister rust might be native. Upon this conclusion rests the value of the whole campaign against the white pine blister rust. Bethel's knowledge of the rusts of the Rocky Mountain region, or indeed of the whole West, was prodigious. He was the best collector that I ever saw in action. . . . He is profoundly missed by a large group of coworkers and correspondents. There is no one to take up his work.

Other botanists express themselves in similar terms, all emphasizing Bethel's tremendous industry and enthusiasm, and readiness to assist others working in the same field. Ellsworth Bethel died suddenly at Denver, Colorado, September 8, 1925.

T. D. A. COCKERELL

THE UNIVERSITY OF COLORADO

SCIENTIFIC EVENTS

THE FOURTEENTH INTERNATIONAL GEOLOGICAL CONGRESS

THE second circular of announcements covering the Fourteenth International Geological Congress to be held in Spain is of interest to all geologists, but is of special importance to all those who contemplate attending the meeting.

The formal scientific and business meetings of the Congress will be held in Madrid, from May 24 to May 31, 1926.

Consistent with the traditional democracy of previous geological congresses, membership requires no professional title nor credentials, but participation in the excursions is reserved to official delegates of the different nations, geologists, geographers, mining engineers, and all persons engaged in the study or application of any branch of geology. The membership fee is 30 pesetas, which covers admission to the sessions and receipt of the memoirs of the congress. The present exchange value of the peseta is 14.12 cents.

Following the custom established at a number of preceding congresses, the coming session will be marked by the presentation and issue of an outstanding monograph relating to some important mineral commodity or commodities, which for this congress will cover the world's resources in phosphates and pyrites. American geologists will recall the invaluable report on the coal resources of the world similarly issued by the Twelfth International Congress, which met in Toronto in 1913.

Additional topics which will be made the subject of special discussion at Madrid include: (A) "Geology of the Mediterranean"; (B) "Cambrian and Silurian Faunas"; (C) "Geology of Africa and its Relation to that of Europe"; (D) "Tertiary Invertebrates"; (E) "Hercynian Folds"; (F) "Tertiary Foraminifera"; (G) "Modern Theory of Metallogeny"; (H) "Vulcanism"; and (I) "Geophysical Studies, their Application to Geology and the Necessity of Unification of Gravimetric Methods."

Contributions may be made in English, French, German or Spanish, and abstracts or summaries, which in length should not exceed one page of printed text, should be submitted to the general secretary on or before April 1. Final manuscripts should be sent typewritten in duplicate and in corrected copy.

The excursions planned to cover the principal geologic provinces, mining centers, types of resources and special geologic features are of exceptional interest from many points of view and reflect the pains taken by the Spanish government to make this congress most enjoyable as well as successful. Most of them will take place in advance of the congress, a few short ones during the congress and several longer ones after the congress. The earliest begins on May 5. Though mainly geologic in purpose, matters of scenic and historical interest are also included. Following is a mere list of these excursions, the various and attractive objectives, the itineraries and other details of which are given in the "second circular":

A–1. Gibraltar, Seville, Algeciras and northern part of Morocco, covering iron deposits of Melilla, the Tertiary of the lower Guadalquivir, Tetuan, the Mount Uixan ore deposits, and other points of special interest; 12 days, starting May 10; 575 pesetas.

A–2. Structure and petrography of the Mountains of Ronda, via Melaga, the metamorphic area of "Los Llanos del Jaunar," and Seville; 6 days, starting May 14; 400 pesetas.

A–3. Mining regions of Linares and Nuelva, the richest lead and copper districts of Europe, including the famous Rio Tinto mines; 10 days, starting May 13; 415 pesetas.

A–4. Tectonic study of the Guadalquivir valley and petrology and paleontology of the Cordova Mountains; 7 days, starting May 16; 315 pesetas.

A–5. Tectonics, stratigraphy and paleontology of the Andalusian Mountains from the border of the Iberian Plateau to the Sierra Nevada, an excursion of notable paleontologic, historic and artistic importance, including Granada and the Alhambra; 12 days, starting May 11; 570 pesetas.

A–6. The Continental Tertiary of the vicinity of Burgos; 2 days, starting May 20; 160 pesetas.

A–7. Review of the volcanic, petrologic, historical and scenic features of the Canary Islands; via Seville, Cadiz and South American steamer; 17 days, starting May 5; 800 pesetas.