

that if the rays were visible the appearance would be that of a room filled with smoke and lighted up by a candle. When a plate impervious to the rays is placed between a fluorescent screen and a source of the rays the platincyanoide of barium nevertheless becomes luminous, and this luminosity is visible even when the screen lies directly upon the plate. If, however, the screen placed on the plate is covered by a cylinder of lead 0.1 cm. in thickness surrounding the fluorescent screen the fluorescence disappears. Professor Röntgen has further been able to measure the intensity of the rays and to study the influences on which this depends. Dr. Brandes' observations that the X-rays may be made visible, presumably by causing fluorescence of the retina, are confirmed. Professor Röntgen sums up the present state of our knowledge in regard to the rays as follows: (1) The rays proceeding from the discharging apparatus are a mixture of rays varying in absorbability and intensity. (2) The composition depends chiefly on the duration of the discharging current. (3) Different bodies absorb different kinds of rays. (4) The X-rays are produced by the cathode rays and the phenomena of both are probably of the same nature.

THE compilation of the statistics of coal production in the United States in 1896, which has just been completed by Statistician E. W. Parker, of the U. S. Geological Survey, shows that the product in 1896 was 190,639,959 short tons, valued at \$195,557,649, against 193,117,530 short tons, valued at \$197,799,043 in 1895, a decrease of 2,477,571 short tons in amount, and of \$2,241,394 in value. The decrease in product was entirely in that of Pennsylvania anthracite. The output of bituminous coal shows an increase of about one and three-quarters million tons. The anthracite product of Pennsylvania decreased nearly four and a quarter million tons. It is a notable feature, however, that there was a decrease in the value of the bituminous product of over \$1,600,000, notwithstanding the increased output, and that there was a comparative increase in the value of anthracite, although, on account of the smaller production, it did not equal the value in 1895. The average price obtained for

anthracite at the mines increased from \$1.41 in 1895 to \$1.51 in 1896. The average price for bituminous declined from 86 cents to 83 cents.

At the coming International Leprosy Conference, to be held in Berlin on October 11th, Dr. Hutchinson, of London, will report on alimentation and leprosy; Professor Virchow on the pathological anatomy of leprosy; Dr. Neisser, of Breslau, on its origin; Dr. Bernier, of Paris, on its etiology, and Professor Koch will discuss the question of its infectiousness.

WE learn from *Natural Science* that the Natural History Museum of Halifax, which was handed over to the County Borough Council about eighteen months ago by the Literary and Philosophical Society, has now found a permanent home in the old mansion named Belle Vue. The geological and botanical collections are very extensive and valuable, but zoology is as yet very imperfectly represented. The herbarium has lately been much enriched by the fine Gibson collection of British plants, the gift of Lady Trevelyan. The Curator, Mr. Arthur Crabtree, is making an attempt to render the Museum of general educational value by adequate labelling, and wishes to secure a competent committee of management to direct and second his efforts.

#### UNIVERSITY AND EDUCATIONAL NEWS.

THE Supreme Court of New York State issued on July 6th its final decision in the Fayerweather will case. The executors were required to distribute within ten days the three million dollars in question to the twenty colleges to which they were bequeathed.

THE only colleges so far as we have noticed which have this year given the Ph. D. degree *causa honoris* are Union, Dartmouth and Tufts. These colleges have acted unwisely and Union College, as we understand it, illegally.

PROFESSOR WILLIAM A. ROGERS, who recently accepted the Babcock professorship of physics in Alfred University at Alfred, N. Y., delivered the principal address at the laying of the cornerstone of the Babcock Hall of Physics at Alfred on June 22d. The hall is named after the late George H. Babcock, of Plainfield, N. J., who left \$100,000 to Alfred University.

At the University of Indiana A. L. Foley, Ph. D. (Cornell), has been elected professor of physics; R. J. Aley, Ph. D. (Pennsylvania), professor of mathematics; E. B. Copeland, of the University of Wisconsin, assistant professor of botany, and E. B. Bryan, assistant professor of pedagogy.

HENRY C. MINTON, of San Francisco, was elected President of Centre College this week.

DR. G. J. PIERCE has been elected assistant professor of botany in Stanford University.

IN the newly organized high schools of New York City, as the result of a competitive examination, there have been appointed as first assistants, at a salary of \$3000, Mr. Frank Rollins, chemistry; Mr. R. H. Cornish, physics, and Mr. E. W. Sampson, physical geography.

THE University of Strasburg has celebrated, by fêtes lasting several days, the 25th anniversary of its foundation.

PROFESSOR W. TH. ENGELMANN, of the University of Utrecht, has been offered the chair of physiology at Berlin, vacant by the death of Du Bois-Reymond, but it is stated that he will not accept. The position had previously been twice declined.

DR. JAEGER and Dr. Brodhun have been appointed professors at The Reichsanstalt at Charlottenburg; Dr. Ignaz Zakezewski has been made full professor of experimental physics at the University at Lemberg, and Dr. H. Finger, of Giessen, has been appointed assistant professor of organic chemistry at the Polytechnic Institute in Darmstadt.

#### DISCUSSION AND CORRESPONDENCE.

##### A BRILLIANT METEOR.

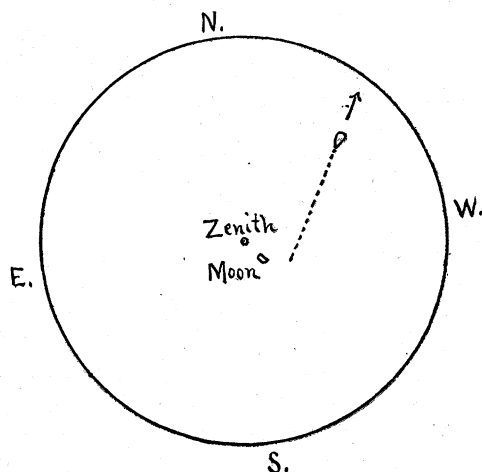
TO THE EDITOR OF SCIENCE: On June 22d a brilliant meteor was observed in broad daylight passing over Cape Breton Island, Nova Scotia. In order that some permanent record of the fact may exist, I beg to forward for publication a letter received from Mr. George Kennan, who was an eye-witness of the occurrence.

ALEXANDER GRAHAM BELL.

BEINN BHREAGH, NEAR BADDECK, C. B.,  
NOVA SCOTIA, July 1, 1897.

#### Letter from Mr. George Kennan.

MY DEAR MR. BELL: I will gladly give you all the information I can in regard to the meteor. Between half-past eight and nine o'clock, Tuesday morning, June 22d, as I was going into my garden to work, a very large and extraordinarily bright meteor suddenly made its appearance nearly southwest of the zenith, at a height of about 70 degrees from the horizon and almost directly under the old waning moon. I happened at that time to be looking upward and westward, and I think I saw it at its place of origin—that is, at the point where it first became visible. It was not a mere point of light, like a brilliant star, but seemed to have a large, well-defined disc, resembling in shape a somewhat elongated and almost inverted balloon with its top or larger end foremost—that is, turned in the direction of its fall. It came into



the field of vision so near the waning moon that I was able to compare the one with the other in point of size, and the impression made upon my mind was that the disc of the meteor was nearly as large as the filled-out circle of the moon would have been. Of course, the eye unconsciously exaggerates the size of a brilliant object, and it probably did so in this case, but such was the impression made upon me, and I give it for what it may be worth. I don't think the meteor had any decided color. At any rate, all that I noticed was its extraordinary brilliancy. If it had been decidedly green, red,