in many colleges, when he says (p. 149), "Elementary studies are not maturing studies: they do not make the fibre of a student firm. To studies of a solidifying sort the last years should be devoted. I should like to forbid seniors to take any elementary study whatever, and to forbid juniors all except philosophy, political economy, history, fine arts, Sanscrit, Hebrew, and law. Under such a rule, we should graduate more men who would be first-rate at something; and a man who is first-rate at something is generally pretty good at any thing."

Professor Palmer's forceful thinking is interpreted by a lucid style, which adds greatly to its charm. No one interested in our American colleges can afford to leave the book unread.

N. M. B.

NOTES AND NEWS.

THE 'Bibliography of the Eskimo Language,' by James C. Pilling, is the first of a series of bibliographies of American languages which will be published as bulletins of the Bureau of Ethnology. A few years ago Mr. Pilling published a bibliography of North American languages, of which a limited number of copies were printed. The material has so rapidly increased in the hands of the author as to make a revised edition desirable. We consider the new form of the publication a great improvement, as the division of the material according to linguistic stocks makes the volumes handier. The arrangement of the material is alphabetic, both the names of the authors and the titles of the works being given. Thus the finding of any desired material is made very easy. Particularly valuable are the cross-references given under the heading of 'Greenland,' 'Aleut,' and other localities or tribes, and those under the heading of 'grammar' and 'vocabulary,' as they contain all material on these subjects. Mr. Pilling has comprised in his bibliography, books which contain only occasional remarks on Eskimo dialects in the text, though no connected accounts of the language are given. This made the compilation very difficult, as the material of this kind is scattered over an enormous literature. Notwithstanding this difficulty, Mr. Pilling has succeeded in bringing together an enormous amount of material. We do not think that many works of great importance are omitted, though the number of works containing remarks on Eskimo dialects might be considerably enlarged. We miss the important vocabulary of Rev. Gasté from Chesterfield Inlet, which was published by Petitot. Furthermore, the earliest records of the Eskimo language are older than Pilling states. In the description of the second voyage of Martin Frobisher, which was published in 1577, we find the name of a chief, 'Catchoe,' mentioned. In the 'Second Voyage attempted by Master John Davis, with others, for the Discovery of the North-west Passage, in anno 1586,' which was published in Hakluyt's, 'Principall Navigations,' 1589, a brief vocabulary is given. But these are slight defects which are unavoidable in a bibliography. The work will be indispensable for the student of Arctic ethnology and philology.

— The following is a list of the United States Coast and Geodetic Survey parties in the field, or assigned to field-duty, for the present season: Prof. George Davidson, primary triangulation in southern California, and in charge of work on Pacific coast; C. O. Boutelle, reconnaissance for triangulation to furnish points for State survey, Minnesota; H. L. Whiting, directing work of State survey, Massachusetts, and survey of Vineyard Sound, etc.; A. F. Rodgers, physical hydrography, San Diego Bay, and topography south coast of California; G. A. Fairfield, transcontinental triangulation in Indiana; J. S. Lawson, primary triangulation in California; C. Rockwell, topographical reconnaissance, coast of Oregon; W. H. Dennis, topographical reconnaissance, Long Island Sound; A. T. Mosman, transcontinental triangulation in Ohio; J. W. Donn, topography, District of Columbia; C. H. Boyd, triangulation, coast of Maine; Charles Hosmer, topography, coast of Maine; C. T. Iardella, topography, Long Island; R. E. Halter, in charge Magnetic Observatory, Los Angeles, Cal.; Gershom Bradford, triangulation in Massachusetts, furnishing points for State survey; H. L. Marindin, physical hydrography, New York Bay; William Einebeck, transcontinental triangulation in Utah; F. W. Perkins, reconnaissance for triangulation in Indiana; J. J. Gilbert, triangulation and topography, Washington Territory; Stehman Forney, topography, southern California; O. H. Tittmann, triangulation, coast of Maine; F. D. Granger, transcontinental triangulation, Kansas; Edwin Smith, telegraphic longitudes, Western States; Eugene Ellicott, topography, coast of Maine; E. F. Dickins, triangulation and topography, coast of Oregon; W. I. Vinal, survey Vineyard Sound, etc.; J. F. Pratt, triangulation and topography, Washington Territory; J. B. Baylor, magnetic work, Northern States; C. H. Sinclair, telegraphic longitudes, Western States; C. H. Van Orden, triangulation, Massachusetts; W. C. Hodgkins, topography, District of Columbia; R. A. Marr, re-survey Vineyard Sound; J. E. McGrath, levelling New York harbor; E. L. Taney, re-survey Vineyard Sound, etc.; J. H. Gray, topography, coast of Maine. Prof. George Davidson is just completing a new edition of the 'Pacific Coast Pilot' (to include the coasts of California, Oregon, and Washington Territory), about eight hundred pages of which have been received at the Coast Survey office, ready for the printer.

— The cable informs us that a letter from Emin Pacha dated Feb. 10, 1887, has been received. It seems that the attitude of King Mwanga towards Emin is far more friendly than some time ago, for Emin says that he hopes to make his retreat from his province by way of Unyoro. If he shall have succeeded in doing so, Stanley will be too late; but it is more probable that Emin, on hearing of Stanley's expedition in Unyoro or Uganda, will stay on the Mvutan Nsige, and await his arrival, or will try to meet him.

— We learn from *The Athenæum* that the government of India have undertaken a topographical survey of the native states of Travancore, Pudukota, and Cochin. The last survey was made seventy years ago. Some of the mountainous tracts of Travancore and Cochin are still absolutely blank, so that there will be much original work to be done.

— Professor Helmholtz, says *The Athenæum*, has been appointed president of the *Kuratorium* of the Physical and Technical Imperial Institute, which is to be opened at Berlin in 1888. Dr. Werner Siemens, who laid the foundation of the institute by his liberal gift, and Dr. Förster, the director of the Berlin Observatory, will also be curators.

LETTERS TO THE EDITOR.

*** The attention of scientific men is called to the advantages of the correspondence columns of* SCIENCE *for placing promptly on record brief preliminary notices of their investigations. Twenty copies of the number containing his communication will be furnished free to any correspondent on request.*

The editor will be glad to publish any queries consonant with the character of the journal.

Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.

Temperance-Teaching.

MY attention has been called to the article on temperance, in *Science* of July 29. As evidence that I have given the subject some thought, I enclose you a copy of questions used last April in the schools of my county, in which no reference is made to stimulants or narcotics. I am inclined to think that constant reference to these subjects may tempt some of that age to a trial, in order to satisfy themselves if the sensation is as represented. General Grant says, "I know from my own experience, that, when I was at West Point, the fact that tobacco in every form was prohibited, and the mere possession of the weed severely punished, made the majority of the cadets, myself included, try to acquire the habit of using it."

JNO. TERHUNE.

Hackensack, N.J., Aug. 1.

Audubon's Grave.

THE Audubon matter stands about thus: the great ornithologist is buried in an old family vault, not in the best order, at the extreme south-west corner of Trinity Cemetery. Only the name 'Audubon' over the door gives any indication.

Some street alterations are to be made ere long, which will cut close to this vault. An offer has been made by the trustees of the cemetery, and accepted by the Audubon family, to remove the remains, and place them in a plot (granted for the purpose) at the head of Audubon Avenue. The movement now proposed is to raise funds among the ornithologists for a worthy monument to mark the spot. The orphan grand-daughters are not able to do

much — perhaps any thing — towards it; nor should they be expected to. It is a matter in which American naturalists surely should be proud and glad to aid. It is intended to bring it before the American Association in some form, next week, and I should be very glad to have a notice in *Science* regarding it.

D. S. MARTIN.

New York, Aug. 1.

Four Large South African Diamonds.

A MODEL of the Victoria, the Great White Diamond, or the Imperial as it has been more recently called, having been sent to this city lately, and nothing having been published in any scientific periodical concerning this stone, it occurred to the writer that some illustrations showing it in its natural, uncut form, as well as after cutting, might be of interest. Concerning its early history very little is known: in fact, where the stone was found is only a matter of conjecture, — a remarkable circumstance when we consider that this is the largest brilliant in the world.

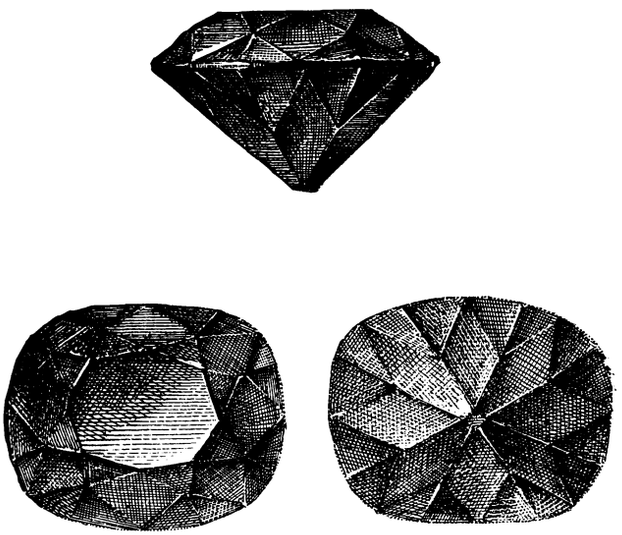
An explanation by a letter in the *London Times* was given, as follows: "that this stone was not found in English dominions at all, but in the neighboring Orange Free State; that it had been found by a boor on his farm, who, knowing it to be a diamond, but fearing being turned out of his farm by a mob, kept the secret a whole year, until a Mr. Allenberg of Porth-Elizabeth saw it, and forwarded it to London."

It is, however, believed that it was found by some one in one of the Kimberley mines, South Africa. The first intimation that any of the various mining companies had of its existence was when they heard of its safe arrival in London. It is generally supposed that in the month of June or July, 1884, the stone had been found by one of the suveillance officers of the Central Mining Company in the Kimberley mines. It being his duty to search others, he had the privilege of not being searched himself, and so the stone was passed through the searching-house, and he was afterwards supposed to have found means of communicating with four illicit diamond-buyers. Owing to the stringency of the diamond laws of Griqualand-West, the trading in rough diamonds is forbidden any one not owning one of the 'patents' or 'licenses,' as they are called, costing £200 and a guaranty of £500. All purchases made by them must also be entered in a special registry, and are duly signed every week by the police authorities. £3,000 was the price paid to obtain the stone from the first possessor. To prepare themselves for the ordeal of transporting the stone out of the district, they assembled at night, commenced drinking, then gambling, and after a night's debauch two of the party lost their share in the big stone. The other two reached Cape Town in safety, where the diamond laws are not in force, and from a dealer there received £19,000 cash for their stone. An outward duty of one-half per cent is collected on all shipments of diamonds from Cape Colony; but this diamond is said to have been carried by one of the passengers of a mail steamer, and was hence undeclared. We next hear from it in London, causing considerable sensation at Hatton Garden, the great diamond-market. After considerable time had been spent in trying to find a capitalist who could afford to buy such a gem, it was at last arranged by a former resident of the Cape mines to form a company of eight persons, who bought the stone together for £45,000 cash, on condition that if they should dispose of it each should receive a ninth share in the eventual profits.

Before cutting, it was estimated that the crystal would furnish either of the following gems; if cut as a briallette, 300 carats; as a drop, 230 to 240 carats; as a lozenge, 250 carats; and as a mathematically perfect brilliant, 150 carats. If cut in the latter form, it would have furnished cleavages that would cut into one 40-carat, one 20-carat stone, and 40 carats of smaller stones. It was finally decided to cut it into the largest possible brilliant, still preserving a good shape, and Amsterdam was selected as the place where the gem could best be cut.

It was accordingly sent to the polishing-mills of Jacques Metz, who erected a special workshop for the purpose. In order to better obtain the brilliant form of cutting, a piece was cleaved off which furnished a 19-carat diamond, and was sold to the King of Portugal for £4,000. The cutting of the large stone, which was commenced on the 9th of April, in the presence of the Queen of Holland, took about twelve months, since, instead of being cut by abrasion with another diamond, as diamonds are usually cut, it was polished down on the scaif; and a great amount of time was consumed by the cooling of the stone, as it heated after an hour's running on the wheel. The cutter of the stone was M. B. Barends. The stone in its finished condition weighs 180 carats, and is a beautiful, perfect, steel-blue diamond, and is the largest brilliant in the world.

It is 39.5 mm. ($1\frac{9}{16}$ inches) long, 30 mm. ($1\frac{11}{64}$ inches) wide, and 23 mm. ($\frac{15}{16}$ of an inch) thick, being exceeded in size by one diamond only, the Orloff, belonging to the Russian crown, which weighs $194\frac{3}{4}$



FIGS. 1, 2, 3.

carats, but is a large deep rose, and not a brilliant. The Victoria exceeds the Regent in weight by $44\frac{1}{8}$ carats. The Kohinoor weighs only $106\frac{1}{16}$ carats.

The three figures (Figs. 1, 2, 3) give the front, back, and side features of the stone. It will be observed that the form is not entirely even, and that on one side of the girdle there is quite a flat place, a natural unpolished surface, necessary, in cutting, to preserve the large weight of the stone. It is, however, a perfect 58-facet brilliant.

The original weight of the stone was $457\frac{1}{2}$ carats, $3\frac{1}{60}$ ounces

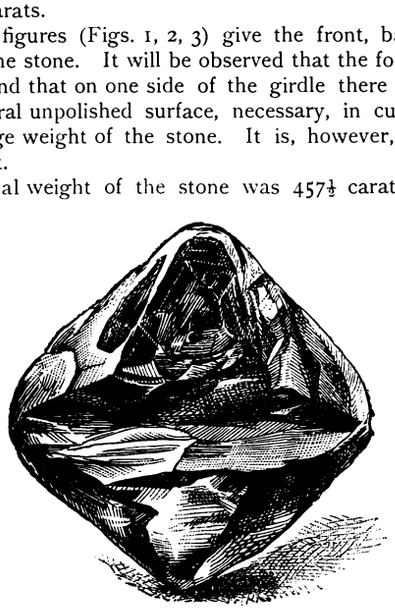


FIG. 4.

Troy. The figure (Fig. 4) is drawn from two photos, that, strange to say, had been taken by a Cape photographer, and fortunately passed through my hands; and the stone to-day is held by a London syndicate for £200,000.

The Tiffany Company large yellow diamond (Figs. 5, 6, 7) weighs $125\frac{3}{8}$ carats, is absolutely perfect, is a 'double-deck' cut brilliant, as it is termed, and is undoubtedly the finest large yellow diamond known. It was found in the Kimberley mine about nine years ago, and was cut in Paris. One of the most pleasing features is that it not only retains its rich yellow color by artificial light, but is even more beautiful than by day. It has 40 facets on the crown, 44