American Association for the Advancement of Science. Professors A. A. Knowlton, Reed College, and F. A. Osborn, University of Washington, are in charge of the program and local committees, respectively. The Meany Hotel will be headquarters for the meeting.

THE fifth summer colloquium for college physicists will be held on June 13 to 15 at the State University of Iowa. There will be an exhibit of new laboratory experiments, one day devoted to consideration of the first course in physics for non-technical students, and a discussion of applied subjects in the oil and radio industries and in music.

THE twenty-fifth annual meeting of the American Association of Industrial Physicians and Surgeons, together with the first annual meeting of the American Industrial Hygiene Association, will be held at Hotel Pennsylvania, New York City, on June 4, 5, 6 and 7. The convention will be intensively devoted to the problems of industrial health in all their various medical, technical and hygienic phases, with particular stress on prevention and control of occupational hazards. Important programs have been prepared, and technical and scientific exhibits will be a feature of the convention. The dinner on Thursday evening, June 6, will be the occasion of the presentation of the Wm. S. Knudsen award for the year of 1939–40. All who have an interest in these phases of industrial health, including industrial hygienists, safety engineers, chemists, plant engineers and personnel managers, are urged to attend.

THE Field Conference of Pennsylvania Geologists will be held in New Jersey on May 30 and 31 and June 1, with headquarters at Cochrane House, Newton, N. J. There will be an all-day excursion to Culver's Gap and to McAfee Quarry on Thursday, and on Friday to the Franklin ore deposits, to Mine Hill, Dover, and if time permits to Muggy Hollow. It is planned to spend the night at New Brunswick. On Saturday a study will be made of the stratigraphy of the coastal plain, with a luncheon at Cliffwood.

APPLICATIONS for grants from the Cyrus M. Warren Fund of the American Academy of Arts and Sciences should be received by the chairman of the committee, Professor James F. Norris, Massachusetts Institute of Technology, Cambridge, Mass., not later than May 1. Grants are made to assist research in the field of chemistry. On account of limited resources, grants to an individual are seldom made in excess of $300. The application should be accompanied by an account of the research to be undertaken, a statement of the sum requested and the manner in which the money is to be expended.

THE office of the secretary of the American Institute of Chemical Engineers was moved to The Chemists' Club Building, 50 East 41st Street, New York, on April 1. The membership of the institute has increased from about 1,500 members to 2,400 during the past three years and the quarters in the Engineering Societies Building had become inadequate.

TWO new scholarships to aid students in the Medical College in New York were recently established by the Trustees of Cornell University. The Jeremiah S. Ferguson Scholarship Fund of $5,000 memorializes a member of the original Medical College Faculty, secretary of the college since 1914, who died on June 30, 1939. The income of approximately $200 a year will be awarded annually to outstanding students in the third and fourth years in need of financial aid. An anonymous gift of $10,000 endows the Charles R. Stockard Scholarships, in memory of Dr. Stockard, who had been a member of the faculty since 1906 and who died on April 17, 1939.

ACCORDING to an Associated Press dispatch, Homer Cummings, the former Attorney-General, has established a clinic in George Washington University Medical School as a memorial to the late Mrs. Cummings. The clinic, the only one of its kind in the country, will investigate high blood-pressure and concomitant ailments.

Nature writes that the *Anglo Soviet Journal* "has been started with the purpose of supplying 'the more scientifically skilled and specialized workers in the British Commonwealth with a regular flow of information, accurate and reliable, on the progress and developments that are being realized in the U.S.S.R., in their own field, the field which they understand best.' The first issue is largely devoted to accounts of exhibitions, particularly of the great Agricultural Exhibition held in Moscow last summer, which was unquestionably the most magnificent effort of its kind the world has ever seen."

DISCUSSION

A TIGER SHARK AND A BASKING SHARK RAMMED BY STEAMERS

THAT the great sluggish whale shark, entirely unafraid of ships, should occasionally be rammed by steamers should arouse no incredulity. And thanks to the invaluable help of the U. S. Hydrographic Office, I have recorded 12 such cases between 1922 and 1938. These have all been brought together in an inclusive article, now seeking publication. One of these cases is of a whale shark (*Rhineodon typus*) rammed near the Isle of Perim in the Strait of Bab el-Mandeb by the Dutch steamship *Johan van Oldenbarnevelt* in 1933.

Dr. H. C. Delsman was on board, saw the fish and made the first record in 1934. Later I secured further data and published them, and for the general paper I secured a splendid photograph of this rammed *Rhineodon.*

A TIGER SHARK RAMMED OFF PERIM ISLAND, RED SEA

In 1936, Major Stanley Flower sent me a clipping from a London paper which read as follows: "Finding her speed reduced by a 25-foot tiger shark impaled on her bow, the 10,786-ton Union-Castle liner *Landaff Castle* had to stop off Perim, the coaling station in the [mouth of the] Red Sea, to remove the shark." In the light of the experience of the *Johan van Oldenbarnevelt* off this very island and of another steamer off Socotra Island nearby in ramming whale sharks, I naturally thought this a whale shark and not a tiger. However, through the help of the U. S. Hydrographic Office, I got in touch with Captain G. H. Gogden, master of the *Landaff Castle,* who kindly gave me full data about this interesting matter.

Where and when the fish was impaled is uncertain, but it was first noticed when close to Perim Island. The shark was rammed just behind the right pectoral fin. The head on one side the bow was turned so that the mouth and white under parts could be seen. The hinder part of the body on the other side of the stem showed the stripes. The exact position of the head and tail on the bow plates was carefully noted and, when the ship docked at Mombasa, these were measured and it was shown that the shark must have been from 35 to 37 feet long. An attempt was made to photograph the fish, but the bow waves prevented this. The ship was stopped and backed, whereupon the shark sank, accompanied by a flock of other sharks which attacked it as it went out of sight.

Captain Gogden knows both the whale shark and the tiger. His shark had a pointed snout with the mouth underneath and having "the form of a curve or half-moon." The body was dark brown, particularly in the region of the stripes. These stripes were wide and extended diagonally from top or left to bottom or right. There are in the Indian Ocean and Red Sea two striped sharks—*Rhineodon,* with terminal mouth and vertical narrow stripes, and *Stegostoma tigrinum,* with mouth and coloration as noted. From this it seems that Captain Gogden's shark was surely the Indian Ocean tiger shark, *Stegostoma tigrinum.* As to the size it attains, I can find little. It is recorded up to 15 feet but must grow longer, since in Ceylon it has been confused with the whale shark (well known there) which grows to 30 or 40 feet.

THE BASKING SHARK, *Cetorhinus maximus*

Whale and tiger sharks are warm-water dwellers, but the basking shark is a cold-water fish. However, *Cetorhinus* grows large—30, 40 or 50 feet—rivalling *Rhineodon* in length. But *Cetorhinus* has a pointed snout and is small forward, whereas *Rhineodon* has a broad blunt head and is tadpole-shaped. *Cetorhinus* is rather sluggish in movements, and here follows an account of an individual rammed by a steamer. This is contained in a clipping from a Norwegian newspaper (dated Oslo, August 6, 1935) kindly sent to me in 1935 by Dr. C. H. Townsend, then director of the New York Aquarium.

On a return trip from the North Cape, the Norwegian ship *Stavangerfjord* is reported to have rammed a giant shark [Brugde, the Norwegian name for the basking shark]. The shark hung fast to the bow and the vessel had to be slowed down in the endeavor to set it free. The crew attempted to get the fish aboard, but failed through lack of proper tackle. The shark eventually got free from the stem while the ship was moving at slow speed. The head of the fish was badly damaged. The shark was estimated to be 25 feet long.

Here then in addition to the 12 whale sharks recorded as rammed by ocean vessels, we have two others, the Indian Ocean tropical tiger shark and the North Atlantic cold-water basking shark. I am unable to ascertain anything about the habits of *Stegostoma,* but all the figures seen show it to be long and lanky, and hence we may presume that it is sluggish in movements. *Cetorhinus* is known to be a slow and deliberate swimmer. This was admirably portrayed on the screen some years ago in the interesting picture "Men of Arran." Hence we must conclude that both these presumed sluggish sharks contributed to their destruction by blundering into the paths of the ocean steamers.

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APPARENT SPLITTING OF LIGHT FROM FLUORESCENT LAMPS INTO COMPONENT PARTS BY MOVING OBJECTS

MOVING objects illuminated by fluorescent lamps show not only the usually noted stroboscopic effects associated with intermittent flashing light, *viz.,* the appearance of multiple images from moving objects or apparently stationary positions of rotating or vibrating objects, but show in addition an apparent splitting of the incident light into separate colors, depending upon the color characteristics of the lamp. A series of multi-colored images appears when a rod or opaque object is passed across the path of the light. An iron wire or a thin strip of steel made to vibrate in a magnetic field produced by a 60 cycle A.C. current appears as if consisting of two parts. In light from a "daylight" lamp the outer image appears red, the inner image—blue. The same phenomenon is readily observable when such light is viewed through slits in