uniform with only an occasional accessory check and the winter check is quite definite. The growth during the first year is invariably poor and the ridges are very close together, but there is no difficulty in distinguishing the first winter check. Fish over three years old have usually spawned on one or more occasions, and it is after the first spawning that the scales are unreliable for age determinations. Most of the females spawn in the fall of the fourth year and the males a year younger.

In about 67 per cent. of the cases the ages can not be determined correctly from the scales, the fish being anywhere from one to four years older than is recorded on the scales. This is due to the fact that the mature fish, spawning consecutively for a number of years, grow very little from one year to the next. Consequently the scales show little, if any, growth, and this, coupled with extensive scale absorption, renders the scales difficult, or impossible, to be interpreted correctly. For example, one fish was tagged in 1931 and taken again in 1933 and 1934 on the spawning grounds. It increased in length 7 cm, the weight remained the same, namely, 2.75 lb., and the scale age in 1931 was 3+ years and in 1933 and 1934 was 4+ years with one spawning mark. Thus the true age was 6+ years and the scale age 4+ years.

The scale absorption during the spawning season is very extensive in the posterior region of the scale and along the sides, but seldom extends to the anterior edge of the scale. In contrast to sea salmon the two layers of the scale are almost equally absorbed. The outer layer, though, is absorbed slightly more than the inner layer, thus forming ridgeless scars to denote the spawning mark, but these occur only at the sides of the scales and are quite often completely absorbed by subsequent spawning when the fish are annual spawners. The spawning mark is always followed by closely spaced ridges, and when the sides of the scales are absorbed enough to eradicate the ridgeless scars, all that remains of the spawning mark is a band of closely spaced ridges in the middle of the scale. It is then rather hard to distinguish a spawning mark from a winter check, for likewise all that remains of the winter check is a band of closely spaced ridges in the middle of the scale. In the spawning check, however, a few of the ridges are very close together, and these are followed by wider and wider ridges until summer growth is reached, but the closest ridges of a winter check are followed quite abruptly by the wide summer ridges. This distinction is applicable to the salmon from Chamcook Lake, but evidently each lake presents its own problem since the winter check is already formed by the middle of November, *i.e.*, before spawning, in salmon from nearby Gibson Lake, and consequently the winter check and spawning check occur together. In Gibson Lake, which is a smaller lake than Chamcook, the seasons occur earlier and the salmon are similarly affected.

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STABILITY OF CONDITIONING AND SEXUAL DOMINANCE IN THE RABBIT

IN a series of studies[1] on the dim visibility curve, bright visibility curve, and color vision for the rabbit, I noted an interesting correlation between stability and magnitude of the conditioned breathing response to light and sexual dominance. Conditioned breathing responses were established in six males at six months of age and were studied intensively in three over a two-year period. Characteristic homosexual behavior was present throughout this period. It was possible to rank each of the six animals in terms of the number of other rabbits it dominated in male sexual activity. Ranking in terms of sexual dominance agreed well with the consistency and magnitude of the conditioned responses. The more dominant an animal the greater were the consistency of conditioned response from day to day and the magnitude of response.

It was also observed in the three rabbits which were studied for two years that changes in sexual dominance were accompanied by changes in the stability of conditioning. At intervals of two, three or four weeks, a reversal of the male rôle occurred for one or more of the three relations between the three rabbits. Such reversals correlated with changes in conditioning. A formerly dominant animal became less consistent in conditioning upon assuming the female rôle in sexual activity, and a formerly submissive rabbit became more consistent when it assumed the male rôle over one or both of its partners.

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"MEDICAL CLASSICS"

THE second number of Volume 1 (1936) of a new journal, *Medical Classics,* is devoted to Sir Charles Bell. It contains an 1833 version of Bell's paper, "On the Nerves," originally published in 1821 in *Philosophical Transactions of the Royal Society.* In brackets between the title and text this alleged reprint bears the inscription, "Read before the Royal Society, July 12, 1821." The editor's use of this version is on the ground that "it includes two additional illustrations." Although this reprint bears the specific statement in cold print that the paper was read before the Royal Society, this is not the truth. It is the doctored ver-

[1] R. H. Brown, *Jour. Gen. Psychol.,* 14: 62–82, 83–97, 1936; 17: 323–338, 1937.

sion with the changes which Bell introduced after the announcement of Magendie's discovery of the functions of both dorsal and ventral roots of the spinal nerves in the second volume of his *Journal de Physiologie et Pathologie* in 1822. The alterations from the original can only have been made with the intention of making it appear that Bell had anticipated Magendie. On one page alone (133 in *Medical Classics*) of this doctored edition there are three conspicuous alterations from the text in the *Philosophical Transactions*: after the words, "it is a branch of this nerve which supplies sensibility to the members," the phrase "and animates its muscles" is omitted; the sentence about the elephant's trunk is an addition; the passage, "receives roots both from the medullary process of the cerebrum and the cerebellum," is changed to read, "receives roots from both the column of sensibility and motion." Other discrepancies of an equally damaging character have been pointed out by Austin Flint, Jr., in Robin's *Journal de l'Anatomie et de Physiologie* (1868, 5, pp. 575–583), and in Professor A. D. Waller's letters to the *Lancet* of 1911–12. Attention has been called to this dishonest act by many writers from Claude Bernard in 1867 to J. F. Fulton in 1930. It is a pity that such a dishonestly doctored document should have been chosen as a "medical classic."

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SOCIETIES AND MEETINGS

THE NEW ENGLAND INTERCOLLEGIATE FIELD GEOLOGISTS CONFERENCE

THE thirty-third annual conference of the New England Field Geologists was held in New York City on October 8, 9 and 10. Dr. Daniel T. O'Connell, of the College of the City of New York, was local secretary in charge of arrangements and was assisted by a committee composed of members of geology departments of the New York City colleges. More than 200 geologists were in attendance on the field trips and at the dinner-discussion meeting which was held at the Concourse Plaza Hotel on October 8.

Three different trips were offered visiting geologists on Friday afternoon. "A Study of the History of the Bronx River" was the subject of the trip led by George F. Adams, of City College. This trip ended with a visit to the seismic station of Fordham University under the guidance of the Reverend J. Joseph Lynch. A trip to the American Museum of Natural History and to the Hayden Planetarium was led by Fred H. Pough and Harold E. Vokes, of the American Museum of Natural History. The third trip of the afternoon was in charge of Dr. Daniel T. O'Connell, and included a geologic traverse of the northern portion of New York City from the Hudson River to Long Island Sound. Type localities of the Manhattan schist, the included amphibolite, the Inwood limestone and the Fordham gneiss were visited with a view of having the visitors become acquainted with the general lithological characteristics of the formations whose geological age is questioned by some students. The leader pointed out that the Inwood limestone does not carry graphite and in that respect is different from the limestone east of, and beneath, the Fordham gneiss. The correlation of the ridges of Manhattan with the underlying rock formations and the adjustment of streams to fault planes were stressed.

The visiting geologists were welcomed by Dr. Frederick B. Robinson, president of City College, and Mr. Lyons, president of the Borough of the Bronx, at the dinner-discussion meeting. After routine business was disposed of, Dr. Robert S. Balk, of Mt. Holyoke College, gave an interesting illustrated lecture on the "Progressive Metamorphism of the Hudson River Series in Dutchess and Putnam Counties." This lecture was in preparation for the field trip to be held in connection with the meeting.

Three separate field excursions were conducted on Saturday. A mineralogical trip to Paterson and Franklin Furnace, N. J., was led by Dr. Paul F. Kerr, of Columbia University. Geologists visited the mines and dumps of Franklin Furnace, West Paterson and Prospect quarries, of Paterson, and then viewed mineral displays at the Paterson museum. Dr. Cecil Kindle, of City College, was in charge of a paleontological trip to the New Jersey Coastal Plain which visited prolific fossil localities in the Miocene, Eocene and Upper Cretaceous of the Coastal Plain. Of special interest to the visitors were the pelecypods of the Tinton beds of the Red Bank sand (Cretaceous). At Beers Hill, pelecypod shells have been replaced either wholly, or in part, by vivianite. The third trip was made in two buses which conveyed the visitors northward from New York City toward Bear Mountain Bridge. Highly metamorphosed stages of the Manhattan schist, Inwood limestone and Fordham gneiss were studied in the southern part of the Hudson Highlands. A series of somewhat similar lithological characteristics was studied near Millwood, N. Y. These rocks, it was pointed out, were not correlated with the typical rocks of the New York City area because graphite was found in the limestone. Many of the visitors did not agree to the use of graphite as a diagnostic mineral for correlating or differentiating