do not survive to reproduce, it is clear that the assumptions made would have to be deficient to an improbable degree to make survival probable, since for such a result the reproductivity figure may be placed at about 2.1 or 2.2. That is, the group as a whole would have to produce, to survive, about 1.5 times as many children after the age of 32 as it has produced before that age, or in all about half as many again as it seems likely to produce on the basis of reasonable assumptions.

Thus the investigation, in spite of imperfect data, has provided us with a fairly unambiguous conclusion: High-scoring college men produce substantially more offspring than low-scoring college men, and they are able to do this solely because they marry earlier and more frequently. One may speculate that they marry earlier because their superior intelligence enables them to establish themselves economically earlier—although it seems remarkable that differences as small as those between high and low scoring college men, and in a trait with such limited correlations with practical abilities, should be as effective as this. But in any case it makes little difference, for less than 40 per cent. of even the higher group can expect to be fully represented in the next generation.

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THE NON-TOXICITY OF GOSSYPOL TO CERTAIN INSECTS

THE 6,000,000 to 8,000,000 tons of cottonseed produced annually in this country represent a potential source of 40,000 to 80,000 tons of gossypol. Anticipating the ultimate availability of this interesting compound as an industrial raw material, various experimental approaches to determine its possible uses have been made. The chemical and physical properties of gossypol have recently been reviewed by Adams and co-workers.[1] Its anti-oxygenic action, as demonstrated in fats and oils,[2,3] indicated several possibilities which are being investigated. Its toxicity to mammals and birds[4] suggested that gossypol might be useful as an insecticide. Some negative results are published here for the information of those who might also have been interested in this possibility.

The standard laboratory technique for assaying insecticides was employed. Wooly aphids were sprayed with emulsions containing gossypol and dianiline gossypol in concentrations of 1 to 500. The compounds were dissolved in a small amount of dioxane, then diluted with an aqueous solution of a potassium soap (1:2000). At the end of 24 hours the aphids were as active as were the negative controls. Much lower concentrations of known insecticidal compounds showed 100 per cent. mortality.

Lima bean leaves were sprayed with emulsions containing gossypol and dianiline gossypol (1 to 1000), allowed to dry, and offered separately to groups of Mexican bean beetles. After 24 hours, the leaves were as skeletonized as those which had been sprayed only with the wetting agent, and the beetles were unharmed. Leaves which had been sprayed with dilute solutions of rotenone were unattacked.

These results indicate that, at least to the insects tried, gossypol and dianiline gossypol are ineffective either as contact or stomach poisons.[5]

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THE COMMON BLUE CRAB IN FRESH WATERS

HAY[1] has given several records of the occurrence of the blue crab, *Callinectes sapidus* Rathbun, in inland coastal waters. Nevertheless, there seems to be a rather general opinion that this crab does not migrate completely beyond the influence of the sea. Brues,[2] in recording the related *Callinectes ornatus* Ordway from fresh water in Cuba, states that he has found no record of any *Callinectes* away from salt water.

On August 4, 1937, a male blue crab was caught in a sunken bucket near the floating dock of the Simmesport Fish Company in the Atchafalaya River at Simmesport, La. It was not adult, measuring 4.5 inches across the carapace. Simmesport, near the origin of the Atchafalaya, is over 160 miles from the Gulf of Mexico as the river runs. Commercial fishermen commonly take crabs there during the summer, and this is an indubitable record of the crustacean in fresh water, beyond the influence of the sea.

Rathbun[3] records this crab from the Hudson River at West Point; the Coloosahatchie River, Fla.; Rio Cobre, Jamaica, and gives other records which might

[1] K. N. Campbell, R. C. Morris and R. Adams, *Jour. Am. Chem. Soc.*, 59: 1723, 1937.
[2] H. A. Mattill, *Jour. Biol. Chem.*, 90: 141, 1931.
[3] H. D. Royce and F. A. Lindsay, Jr., *Ind. Eng. Chem.*, 25: 1047, 1933.
[4] W. A. Withers and F. E. Carruth, *Jour. Agr. Res.*, 14: 425, 1918, and many others.

[5] After these experiments had been completed, we learned from Dr. E. P. Clark, of the Division of Insecticide Investigation, U. S. Dept. of Agriculture, Washington, that he had also obtained negative results in assays of gossypol for insecticidal activity. Moreover, one of us (H. S. O.) has shown that neither gossypol nor any one of several simple derivatives possesses germicidal activity toward *B. typhosis*.

[1] *Rep. Bur. Fish.*, 1904: 397–413, 1905.
[2] *Amer. Nat.*, 61: 566–569, 1927.
[3] *U. S. Nat. Mus. Bull.*, 152: 1–609, 1930.

be considered fresh water from Nicaragua and Brazil. Brues[2] cited some of these records from Rathbun's previous papers.

The blue crab invades pure fresh water and probably does so over its whole range from Nova Scotia to Uruguay.

GORDON GUNTER
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SOCIETIES AND MEETINGS

THE MINERALOGICAL SOCIETY OF AMERICA

THE eighteenth annual meeting of the Mineralogical Society of America was held at the Hotel Washington, Washington, D. C., from December 28 to 30, 1937, in conjunction with the Geological Society of America. Over one hundred and fifty members of the society, from all parts of the United States, were present.

The following officers for the coming year, 1938, were elected: *President,* Ellis Thomson, of the University of Toronto; *Vice-president,* Kenneth K. Landes, of the University of Kansas; *Secretary,* Paul F. Kerr, of Columbia University; *Treasurer,* Waldemar T. Schaller, of the United States Geological Survey; *Editor,* Walter F. Hunt, of the University of Michigan. R. C. Emmons, of the University of Wisconsin, was elected councilor for the period 1938–1941.

The following members were elected to fellowship: Henry R. Aldrich, assistant secretary of the Geological Society of America; Donald M. Fraser, of Lehigh University; William T. Gordon, of Kings College, London; M. S. Krishnan, of the Geological Survey of India; Donald H. McLaughlin, of Harvard University; James A. Noble, of the Homestake Mining Company; Frederick H. Pough, of the American Museum of Natural History; V. Rosicky, of the University Masaryks Brno, Czechoslovakia; Quentin D. Singewald, of the University of Rochester; Benjamin M. Shaub, of Smith College; Lloyd W. Staples, of Oregon State College; Edward H. Watson, of Bryn Mawr College.

The retiring address of the president, Dr. Norman L. Bowen, of the University of Chicago, was delivered before a joint session of the Geological Society of America and the Mineralogical Society of America on Tuesday, December 28. Dr. Bowen's topic was "Mente et Malleo atque Catino." Dr. Bowen stressed the importance of the coordinated three-fold attack on experimental problems in the development of mineralogical science.

Four sessions for the presentation of papers were held. On Tuesday afternoon, December 28, a joint session with the Geological Society of America and the Society of Economic Geologists was held for the presentation of papers on petrography and economic phases of mineralogy, with William S. Bayley, vice-president of the Geological Society of America, as chairman. After the joint session, a regular session for the presentation of papers dealing with new developments in scientific equipment was held. A number of novel optical developments in the application of polarized light to the microscope were offered. On Wednesday afternoon, December 29, papers dealing with new developments in mineralogy were presented. Among other contributions, the new mineral *yeatmanite* from Franklin, New Jersey, was described. On Thursday morning, December 30, a session was held for the presentation of papers on geometrical crystallography, structure of crystals and mineral optics. President Bowen, together with past presidents E. T. Wherry, of the University of Pennsylvania, and A. L. Parsons, of the University of Toronto, presided over the various technical sessions of the society.

On Wednesday, December 29, the annual luncheon of the society took place in the Sun Parlor of the Hotel Washington. During the luncheon, President Bowen introduced Dean Edward H. Kraus, who presented the Roebling Medal to its first recipient, Dr. Charles Palache, of Harvard University. The Roebling Medal is named in honor of the late Colonel Washington A. Roebling and is awarded for "meritorious achievement in mineralogy and allied sciences."

The nineteenth annual meeting of the society will be held from December 28 to 30, 1938, in New York City.

PAUL F. KERR,
Secretary.

THE AMERICAN ORNITHOLOGISTS' UNION

THE fifty-fifth annual meeting of the American Ornithologists' Union was held at the Charleston Museum, South Carolina, from November 15 to 18, 1937. The three days of program sessions included a like number of evening entertainments: Open house at the museum, the annual dinner and a tour of a selected group of colonial homes in Charleston. On the fourth day more than two hundred ornithologists in attendance visited Bull's Island of the U. S. Biological Survey, Cape Romain Refuge.

Officers elected for the new year were as follows: *President,* Dr. Herbert Freidmann, Washington, D. C.; *Vice-presidents,* Dr. J. P. Chapin, New York City, and Dr. J. L. Peters, Cambridge; *Secretary,* Dr. Lawrence E. Hicks, Columbus; *Treasurer,* W. L. McAtee, Washington, D. C.; *Council,* Dr. R. C. Murphy, New York City, Dr. T. S. Palmer, Washington, D. C., Hayes Lloyd, Ottawa, and Dr. Josselyn Van Tyne, Ann Arbor.

The Brewster Medal Award was made to Dr. Robert