but the waves as received were too weak to visibly affect the neon, although we tried every arrangement of the limited apparatus at our command. The electric wave sent out by the *Baltic's* apparatus was, according to Mr. Bates about 800 feet long.

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Fundulus luciæ again in New Jersey

On July 28, 1909, I secured a single small example of this species in a little inlet, which empties into Barnegat Bay several miles below Seaside Park, on Island Beach in Ocean County. The inlet was well choked up with grass, so that the water was perfectly still and formed a little brackish pond. Only multitudes of *Cyprinodon variegatus* and many young *Fundulus majalis* were found associated. I mention this record simply as it is the most northern at which *Fundulus luciæ* is known to occur.

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The Burden of Nomenclature

The scientific white man's burden is largely one of names and no one knows better than the zoologist how great the incubus has become. Names in boundless profusion are heaped upon him—many of them needless synonyms—and, worst of all, no two zoologists can agree upon any one particular name for any one particular genus or species. The efforts of individuals, of committees and of conventions to enforce agreement according to rule have failed and it is not surprising that widespread disgust prevails because of the nomenclatural confusion which exists. No code of rules yet devised for the purpose of fixing a single name on each entity has proved adequate to check the changes which go merrily on year after year. In fact zoological nomenclature to-day seems to be little more than an intricate game of names, fascinating sport for its faithful devotees, but an intolerable nuisance for the uninitiated many! A few specialists interested in the game have made all the rules and done all the playing, and they are directly responsible for the changes. Nothing has been let alone long enough to become stable, not even the codes.

One of the principal reasons why codes fail is because individual opinion interprets them. Conventions bark up the wrong tree—it is not rules for "eliminating" genera that are needed so much as rules for eliminating individual opinion. The zoologist consumer would seem to be in the clutches of a word-trust that furnishes him not with what he needs but with what he can get according to canon X, Y or Z; and we all know what a fertile field for the exploitation of rules and canons ornithology has been. In the latest code of nomenclature—that published by the American Ornithologists' Union in July, 1908—the same ponderous machinery constructed in 1842 is made to do duty. The wheels and cogs have been repaired and repolished several times during the intervening years but as a machine for grinding out stable names it has proved signally inadequate. A check-list of North American birds issued in 1886 has already been revised and corrected, according to code, in no less than fifteen supplements and the end is not in sight. This is but a sample of the instability to be found in all branches of zoology.

Now, as a matter of fact, unpractical zoologists have long put up with a nuisance that business men would not have tolerated a moment. Practical business men settled telegraphic nomenclature, for instance, by publishing a code of over a thousand million pronounceable words with at least two letters difference between them, and surely zoological nomenclature, with but a small fraction of that number of names, should not be a hopeless proposition. We all know how many things are standardized—even the languages of France and of Spain. If a national academy sets the standard for language, are zoologists unable to establish a standard for zoological language by an international academy of their own? Something of this sort is urgently needed, for nomenclature is an art and not a science. Codes do not evolve but are made for convenience and we should quit bowing down to precedent and burning incense before the shrine of priority if we seek stability. Priority is rather a bog from which

the nomenclatural muck-rakers exhume the fossil names of a past age. We shall always be at the mercy of forgotten names tucked away in stray volumes unless there be some "statutes of limitation"—the bugbears of code makers. Let the upturning of the names of obscure writers be stopped and the remodelling of codes with fresh interpretations of their canons be prevented. It is not justice for the dead zoologist that we need so much as justice for the living, and even now the dead get no recognition if they violate the rules of a game unknown in their day. The "statute of limitation" needed at the point where codes break down is a responsible body of men whose rulings will be respected by every scientific man who cares more for stability in names than he does for his own preferences.

In my opinion, the nomenclature of the future is likely to be eclectic and the names fiat, the final court of appeal being an international committee. Such a committee, with the flood of evidence available nowadays, could soon put an end to all the tiresome quibblings over the fixing of generic types, the preoccupation of names, the spelling of words and all the other academic questions over which the most spirited disputes have arisen. It should publish authoritative lists of genera and species; for zoologists want names as handles for use, not toys to be played with according to this rule or that canon. If zoological names are ever to be put on a stable basis, first of all a stable committee is needed—and it is to be hoped the Nomenclatural Commission of the International Zoological Congress may prove to be such a committee—and then it should publish lists that would spike the canon of priority and obliterate individual opinion. Details may not be worked out in a day, but the thing can be done and once done it would not have to be done again unless nomenclature should evolve into something very different from what it now is. Probably zoologists have followed beaten paths too long to allow of any radical changes in the methods of determining names, but it is little short of ridiculous to bicker over the comparatively few names that rules do not fix. It is for these names that a majority vote of a committee is needed. Subcommittees in the different branches of zoology could furnish the international committee with approved lists of names for final revision and publication, and the zoological world should turn its back upon others than those of the international list. In theory, at least, the cure for nomenclatural instability is very simple and the two essential elements for success are a permanent, working committee and funds for publication. We should be the masters not the slaves of codes, remembering that "zoological nomenclature is a means, not an end, of zoological science."

JONATHAN DWIGHT, JR.

SCIENTIFIC BOOKS

A HALF CENTURY OF DARWINISM[1]

OF the many gatherings, large and small, to commemorate the hundredth anniversary of the birth of Charles Darwin, or the fiftieth anniversary of the "Origin of Species," the two most notable were the one held at Baltimore in January, and the one held at Cambridge in June of the present year.

At the Baltimore meeting, ten addresses were spoken, all relating to the lines of progress in our knowledge of evolution, and the relation of Darwin to this knowledge.

In connection with the meeting at Cambridge, essays were presented covering the relation of our knowledge of evolution to various phases of modern thought.

Except in brevity, the two volumes in question are essentially similar. The same motive is present in both. At Baltimore, all the speakers save one were American. At Cam-

[1] "Darwin and Modern Science," essays in commemoration of the centenary of the birth of Charles Darwin, and of the fiftieth anniversary of the publication of the "Origin of Species." Edited by A. C. Seward, Cambridge University Press (twenty-nine essays).

"Fifty Years of Darwinism," "Modern Aspects of Evolution," centennial addresses in honor of Charles Darwin, before the American Association for the Advancement of Science, Baltimore, Friday, January 1, 1909. New York, Henry Holt & Company (ten addresses, with an introductory chapter).