

is a very poor substitute for common sense, and it is probably logic more than anything else that makes trouble with our pedagogy in mathematics and, even more, in mechanics and physics—perhaps one would hardly try to be logical in theoretical chemistry. Or let us put it another way. There are various kinds of logic; one kind the mathematician's, which to a certain extent is adopted by others; the other kind of logic being the logic of everybody else; a biologist probably has a logic very different from that of the mathematician and very much more useful to him.

From the pedagogical standpoint strict logic, with all its beauties (which the student always misses) is the most illogical thing there is. The important thing for the student and his teacher is to keep as close to every-day life as possible, and any student knows what a weight of 4 pounds is, so that he can proceed to statics. Moreover, he finds no difficulty in measuring the mass or "quantity of matter" by weighing it, so that again he can proceed to problems in impact. The philosophy of mass or force will appeal to him much more after he knows something about mechanics. Our first problem is to get the student into a position where he can solve such simple problems in mechanics as he sees in the actual world on every side about him, and a certain amount of ignorance, which would be very lamentable on the part of myself and your other contributors, is highly praiseworthy in the student.

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THE END IS NOT YET!

MR. GERALD H. THAYER in a communication to SCIENCE for September 3, 1915, claims to have disposed of Cory's Shearwater, *Puffinus borealis*, by establishing it as a synonym of *P. kuhli*. He finds this identity first claimed by Saunders and later, finding that Godman in his "Monograph of the Petrels" takes the same view of the relationship of the two birds, he considers the matter settled for all time, adding: "It would seem unnecessary, not to say presumptuous, for us to question this determination, or wait to make further comparison of specimens." Ornithology would be

in a sad state if we accepted all statements without attempting verification, and fortunately others have not regarded further investigation in this instance as "unnecessary" or "presumptuous."

Had Mr. Thayer looked into the matter a little more fully he would have found that in the *Ibis* for July, 1914, Mr. D. A. Bannerman questions the correctness of Saunders's and Godman's treatment of *Puffinus borealis* and later<sup>1</sup> he affirms its distinctness. Furthermore, Mr. Bannerman was, quite naturally, struck by the fact that the type of Gould's *flavirostris* came from the "Cape Seas" while the bird to which the name was applied by Hartert was a native of the Azores and other east Atlantic islands. Mr. Thayer passed this matter over without investigation, but Mr. Bannerman upon comparing topotypes of *flavirostris* with the Azores bird found that they represented two different forms and named the latter *fortunatus*. Now the interesting point in all this is that should the bird from our north Atlantic coast be regarded as identical with the Azores form the name *Puffinus borealis* Cory is the oldest name for it and must be used; while if they are regarded as distinct, then the American bird will still be known by Cory's name. In either case we shall retain Cory's Shearwater on our list!

Mr. Bannerman regards all these shearwaters as subspecies of *P. kuhli*, but this does not affect the distinctness of the forms, as the difference between a species and subspecies is not one of degree of difference, but of the presence or absence of intergradation along the line separating their ranges. It must in many cases be largely a matter of opinion, which rank a given form should take. Hasty action like that of Mr. Thayer's, without the examination of adequate material, is responsible for much of the shifting of names back and forth which has become such an abomination in modern systematic zoology.

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<sup>1</sup> *Bull. Brit. Ornith. Club*, May 26, 1915.