to err against the most generally accepted rule covering the particular matter discussed; and even if I grant, for the sake of argument, that this opinion was wrong, it still remains true that they unnecessarily created difficulties and left opportunities for an annoying divergence of opinion.*

Systematists might 'be much happier' for the time being if left to go their own ways, but the trouble would merely be thrown with increased force on the shoulders of those coming after. Dr. D. S. Jordan, when recently replying in SCIENCE to a criticism of mine, indicated the desirability of letting each case stand on the basis of the original publication, and not leaving the types of genera or species to be determined by the process of subsequent elimination. Now as a matter of plain common sense this is surely much to be commended, but if I adopt Dr. Jordan's view (as I should much prefer to do), what am I to do about the innumerable names of genera (especially among the Lepidoptera) which have been determined by the 'elimination process'? It is surely excusable to wish to be consistent.

Zoologists seem to be agreeing to the eminently sensible view that homonyms must be exactly alike, not merely similar. Botanists, however, have made and are making many changes on account of mere similarity in names. For example, *Batschia carolinensis* Gmelin, 1791, is a *Lithospermum,* and the name of the species is suppressed (being changed to *gmelini*) because of *Lithospermum carolinianum* Lamarck, which is an *Onosmodium.* According to my view the first mentioned plant should be *Lithospermum carolinensis* (Gmel.). Many names of genera, even in zoology, are changed for such reasons, and as the matter can not be yet said to be settled, I think it is worth while to make as strong a stand as possible for the rule 'no homonymy without absolute identity of names.'

Zoologists generally agree that when subgenera or sections are raised to the rank of genera, the subgeneric or section names must be retained for the genera. Botanists, however, have frequently denied this altogether.

All these divergent practices are productive of future difficulties, and I can not see that anything is gained by going ahead with our eyes shut. Uniformity has to come, sooner or later.

T. D. A. COCKERELL.

* According to the plan indicated by Mr. Bather for saving the name *Cucumites lesquereuxii*, most published species would be nameless, as the name rarely occurs *after* the description! I should like to know what Mr. Bather thinks about the substitution of *Washingtonia* Raf., for *Osmorrhiza* Raf. as now adopted by American botanists.

A RARE SCIENTIFIC BOOK.

TO THE EDITOR OF SCIENCE: I would like information concerning the following very rare scientific book:

Purkenje: 'Commentatio de examine physiologico organi visus et systematis cutanei. Vratislav' (Breslau), 1823. Francis Galton states in 'Finger Prints' ('92), that there is *one copy in America.* As I am desirous of locating this or any other American copy, I shall be grateful to any one who can give me information on the subject.

HARRIS HAWTHORNE WILDER.

SMITH COLLEGE,
March 6, 1903.

SHORTER ARTICLES.

ORIGIN OF THE WORD 'BAROMETER.'

THE instrument familiar to us all as the barometer was first universally known by the name of its inventor as 'Torricelli's tube'; de Guericke, the inventor of the air-pump, called his huge water-barometer 'Semper Vivum,' also 'Weather Mannikin,' with the Latin form 'Anemoscopium.'

Soon after the year 1665 the words 'baroscope' and 'barometer' came into general use in England, but the individual to whom the credit belongs for originating these terms has not been certainly known; the assertion made by a contributor to the *Edinburgh Review* for 1812 that 'baroscope' was first used by Professor George Sinclair, of Scotland, in 1668, is an error, for both words occur in the *Philosophical Transactions* four years earlier. The passage is unsigned and reads thus:

"Modern Philosophers, to avoid Circumlocutions call that Instrument, wherein a Cylinder of Quicksilver, of between 28 and 31 inches in Altitude, is kept suspended after the manner of the Torricellian Experiment, a Barometer or Baroscope, first made publick by that Noble Searcher of Nature, Mr. Boyle, and imployed by him and others to detect all the minut variations in the Pressure and Weight of the Air."

The mention of the words in connection with the name of Robert Boyle has led me to make a close examination of his voluminous and prolix writings. In Boyle's first publication, 'New Experiments Physico-Mechanical touching the Spring and Weight of the Air,' dated 1660, the words baroscope and barometer do not occur; he uses the common term 'tube,' and often writes of the 'mercurial cylinder.' Nor are these words used by him in his 'Defense of the Doctrine touching the Spring and the Weight of the Air * * * against the objections of Franciscus Linus,' a paper published in 1662.

Their use by the anonymous writer to the *Philosophical Transactions* in 1665 has been shown, and the question arises, who was this person who modestly concealed his name? I believe it was Boyle himself. This eminent man, who was so devoid of personal ambition that he declined a peerage, had a habit of writing about himself and his scientific labors in the third person, and often spoke of himself by fanciful, fictitious names, such as 'Philaretus' (in his fragmentary autobiography) and 'Carneades' (in the 'Sceptical Chymist'). That he should send an unsigned communication to a journal was not surprising, particularly as he had occasion to mention himself.

Be this as it may, my claim that Boyle originated the word barometer does not rest on such slender conjectures as these. One year later than the communication in the *Philosophical Transactions,* Boyle wrote to this journal (dated April 2, 1666) and said, 'barometrical observations (as for brevity's sake I call them),' using the personal pronoun this time. Elsewhere in the same paper are found the terms barometer, baroscope and baroscopical observations.

In his 'Continuation of New Experiments Physico-Mechanical * * * ' of which the preface is dated 1667, occurs the following phrase: 'But though about the barometer (as others have by their imitation allowed me to call the instrument mentioned).' (Boyle's Works, Birch's edition, Vol. III., p. 219, London, 1744.)

This sentence is virtually an admission by Boyle that he had coined the word, since others imitating him had allowed and encouraged him to use the term to designate the tube of Torricelli.

I conclude, therefore, that the word 'barometer' was introduced into our language by the English philosopher, the Hon. Robert Boyle, about the year 1665. Boyle, by the way, was a scholar, and able to use Greek in forming an English word. Finally, I may add that examination of Murray's Skeats' and other standard English dictionaries throws no light on the origin of the word; they merely refer to the *Philosophical Transactions* and give its obvious etymology.

Henry Carrington Bolton.

The Response of the Hearts of Certain Molluscs, Decapods and Tunicates to Electrical Stimulation. (Preliminary Communication.)*

The physiology of cardiac muscle of the vertebrates is commonly regarded as differing from that of the skeletal muscle, besides the difference in rhythm, chiefly in these three points, namely, that cardiac muscle can not be tetanized, that a minimal stimulus is at the same time maximal (the 'all or nothing law'), and that, beginning with the systole, the muscle is in a condition of inexcitability, the excitability returning gradually during diastole. While making some observations on the comparative physiology of muscle in certain genera of marine molluscs at the Hopkins Seaside Laboratory in the summer of 1902, the ventricle of the systemic heart of

* From the Hopkins Seaside Laboratory and the Physiological Laboratory of Leland Stanford Jr. University.