Deflections may be due to irregularity of density within the earth or to attraction of parts of the earth above the surface of the mean spheroid. By an ingenious method, partly graphical, the author had found it practicable to take account of the influence of all known topographical features on the plumb-line at more than 200 stations; it is usually necessary to consider all the land-masses within 2,500 miles of the station. When these computed deflections from known causes are combined with the deflections found from geodetic measurements, the quantities to be accounted for by irregularities within the earth's surface are usually much greater than had been supposed heretofore.

CHARLES K. WEAD,
Secretary.

MICHIGAN ORNITHOLOGICAL CLUB.

THE Michigan Ornithological Club held its last quarterly meeting for 1904 at the Detroit Museum of Art on December 2. The following program was presented:

P. A. TAVERNER: 'Re Kirtland's Warbler.'

A. W. BLAIN, JR.: 'Some Phases of the Life History of the House Wren.'

J. WILBUR KAY: 'Remarks on the Cowbird.'

DR. P. E. MOODY: 'Nesting of the Blue-gray Gnat-catcher in Wayne and Oakland Counties, Michigan.'

J. CLAIRE WOOD: 'Notes on a Great Horned Owl in Captivity.'

A. B. KLUGH: 'Summer Birds of Puschlinch, Lake Ontario.'

The following were presented by title:

PROFESSOR WALTER B. BARROWS: 'Birds of the Beaver Islands, Michigan.'

DR. MORRIS GIBBS: 'Bird's Nesting.'

WM. H. DUNHAM: 'A Preliminary List of the Birds of Kalkaska County, Michigan.'

PROFESSOR FRANK SMITH: 'An Unusual Flight of Sparrow Hawks in Michigan in 1904.'

CHAS. C. ADAMS: 'A Natural History Expedition to Northern Michigan.'

The next meeting of the society will be held on March 3, 1905. A. W. BLAIN, JR.

DISCUSSION AND CORRESPONDENCE.

INTERESTING AND IMPORTANT FACTS.

IN Powell's 'Truth and Error' a philosophic distinction is made by giving special definitions to the terms *property* and *quality*. A property is an essential characteristic considered in itself; a quality is a characteristic considered in relation to man. Thus the ductility of iron is a property; its utility a quality. The form and coloration of a tree are properties; its beauty or ugliness is a quality. Iron's property of ductility, when thought of in connection with human needs, is a factor of its quality of utility; and the properties of the tree, when viewed from the standpoint of man's esthetic sense, are qualities. This simple distinction is of far-reaching application, because properties are the domain of science and qualities the domain of art. Pure science (with a reservation in respect to anthropology) is not at all concerned with qualities, and when the investigator deals with them he passes into the field of applied science, or the arts. Failure to recognize this distinction leads to much confusion of thought and expression.

One of the milder or less harmful, but at the same time most conspicuous, manifestations of this confusion is connected with the word *interesting*. Not unfrequently an essay ostensibly and mainly scientific will contain the statement that an object, or relation, or other phenomenon is 'interesting,' the context indicating that interest is supposed to inhere in the phenomenon. As a matter of fact, interest is a mental attitude of the observer, and the adjective 'interesting,' though applied to the phenomenon, describes only the observer's relation to it. There are, of course, many legitimate uses of the adjective, and some of these occur in scientific writings. When an author, for example, declares that the insect habits he is about to describe are interesting to students of the psychology of the Bombocoreidæ, it is clear that he does not deceive himself by supposing that he has named a property of the phenomena.

Something similar may be said of *important, valuable,* etc., when employed in scientific description. In common with *novel, pertinent, significant,* and the like, they indicate the relations of phenomena to the condition of human knowledge. Just as each observed fact has at some time, temporarily, the quality of novelty,

so each fact and inference may in some phase of the progress of knowledge serve to explain the previously unexplained, and thus have importance or comparative value. Apart from such temporary and humanistic relations, all facts are equally important or equally unimportant. When, therefore, an author makes the bald statement that a fact is 'important,' he ascribes to it a quality and not a property; and he is self-deceived if he thinks of the importance as an essential characteristic.

It conduces to clear thinking as well as clear writing if one fortifies the use of 'interesting' or 'important' by pointing out the relation which endows the indicated fact with interest or importance. When that has been done the need for the adjective often disappears; and if it can not be done, the adjective is a meaningless platitude.

G. K. GILBERT.

WASHINGTON, D. C.

SPECIALIZATION, IGNORANCE, AND SOME PROPOSED PALLIATIVES.

I BEG leave to use the columns of SCIENCE to express a few ideas which may strike some readers as strangely naïve, but which have been incubating in my brain for a term of years, and must now at length find some mode of deliverance. I speak as one of that large class of unfortunates who aspire to contribute a few small stones to the temple of knowledge, but who are forced to give so much time to purely routine work that little is left for better things. And that precious little remnant of our time—how do we employ it? Largely in misspent energy and unproductive efforts; not in the quest of knowledge, but of the means of acquiring knowledge; not in learning facts, but in learning how to learn! After we have deducted the time spent in purely mechanical operations, in developing our technique and in digesting the ever-growing literature of our particular little fraction of a sub-science, how much remains of those brief moments spared from the struggle for bread? Is it a wonder that 'general culture' suffers, when even our sister sciences are neglected, or that specialization so often results in an intellectual isolation, fatal alike to the scientist and the man? *Platitudes?*—of course they are! Who has not deplored these conditions? But we all resign ourselves to them as inevitable, just as we do to a social order which tolerates boss rule, 'Standard Oil' and the inheritance of poverty or riches. Who has not wished to halt the march of discovery long enough to allow himself to 'catch up'? And, seriously, would it be a misfortune if we should be compelled to pause for a moment in the exploitation of new facts, and properly assimilate the ones we have? But this is not the burden of my modest message.

One can not but marvel at the absence of any adequate bureau of exchange among specialists in different fields of knowledge. We have our societies, it is true, where papers are presented which are oftentimes too technical even for the limited circle of members—all fellow specialists in a single science. We have our journals, congested with contributions, good, bad and indifferent. But which one of us can follow all the technical journals of his own specialty, even though his path be blazed by international bibliographic catalogues? We have our reviews and year-books and Jahresberichten, in which the topics treated are apt to gain in technicality in proportion to the degree of abridgment. Various semi-popular periodicals doubtless do a splendid work in making accessible some of the more general conclusions of science, but their contents are necessarily fragmentary and uncoordinated.

In our higher educational institutions we find specialists engaged in two chief pursuits: giving instruction to students, and conducting research. A third possible function of the faculty seems never to be fully recognized, namely, mutual enlightenment. Why is there often such utter isolation between various departments? Why has there not been established any recognized clearing-house for the exchange of expert knowledge? Much of such exchange doubtless occurs in a desultory and haphazard way, through ordinary social intercourse, so that a man of requisite personal and social gifts may receive and impart much of value. And doubtless various public lecture