

most eminent scientific men of Great Britain. Only one of the number declared the view of my correspondent to be in his judgment correct. The other nineteen utterly reprobated his propositions, declaring them to be in their judgment wholly untenable. Sixteen of the leading scientific men on the continent of Europe replied, all of them rejecting the propositions as unheard of, and contrary to all experience and usage.

It appears from the eighty replies received by the writer that only four, or five per cent., of those whom he addressed, three of these being Americans, had ever heard of the propositions laid down by his correspondent, and the rest all reprobated the doctrine.

What then is the attitude which should be taken by a museum toward the expert who is requested to work up scientific material in the custody of an institution? That he has the right to endeavor to enrich his own collections, if he happens to be a collector, at the expense of the collections submitted to him for study, I think will be almost universally disallowed. That he should, however, be recompensed for his labors, if he desires to be recompensed in any other way than by the pleasure and honor he may derive from being permitted to write upon the material entrusted to him, will be conceded. In case an expert desires a financial return for his service in the way of a *honorarium*, to grant this in accordance with the ability of the institution seems to the writer to be eminently proper. Furthermore, if he desires to retain for his own use and for aid in future study *duplicate material* where such duplicate material exists, it is the opinion of the writer that he should be allowed to do so, and in fact it may be said that it is the almost universal custom to allow experts to retain a reasonable amount of duplicate specimens from collections where such duplicates exist. But *all types of species and genera* based upon collections which are submitted to experts *should be invariably returned* to the owner of the collection, unless a previous arrangement to the contrary has been made. And this is particularly true in the case of the collections of great museums, which are

founded for the purpose of recording and preserving for future generations the results of scientific research. The writer has had considerable experience in this matter and has never felt himself at liberty, when called upon to study and examine collections other than his own, to do more than to suggest to those who have had the kindness to submit them to him for examination that he would be pleased in case duplicates existed in the collection to be allowed to retain of this duplicate material sufficient to enable him in coming time to work to greater advantage.

The museums of the country should be cautioned against dealing with any individual who holds the view to which the writer has called attention, and as the head of one of the greater museums of America the writer desires to say that the authorities of this institution will never consent to allow any portions of the collections in their custody to pass out of their keeping into the hands of those who may wish to study them without having, preliminary to such act, reached a clear and distinct understanding to the effect that all types shall be returned to the museum, and that only duplicate material shall be allowed to remain in the possession of the expert, the amount of such duplicate material which is to be granted to be determined by the authorities of the museum themselves. This is in the judgment of the writer correct usage. He knows, however, that there are a dozen or more men of more or less reputation in scientific circles who hold the opposite view. He believes, however, that they are in a hopeless minority, and that their opinion in the matter is unsound from the standpoint both of science and of good morals.

W. J. HOLLAND.

CARNEGIE MUSEUM,
PITTSBURG, PA.

A LECTURE EXPERIMENT IN HYDRAULICS.

TO THE EDITOR OF SCIENCE: The phenomenon of the diminution of pressure in a contracted portion of a water pipe, as exemplified by the so-called jet pump and by the Venturi water meter, always seems paradoxical to the student in physics, and it is important, there-

fore, to bring out the phenomenon in such a way as to divest it of its paradoxical features. Perhaps the most insinuatingly paradoxical aspect of the phenomenon is that which is

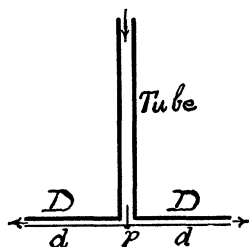


FIG. 1.

presented by the well-known toy which consists of a flat metal disk *DD*, Fig. 1, at the end of a metal tube and a light metal disk *dd*, which is hindered from moving sidewise by a pin *p* which projects into the tube. Blowing through the tube causes the disk *dd* to be held tightly against the disk *DD*.

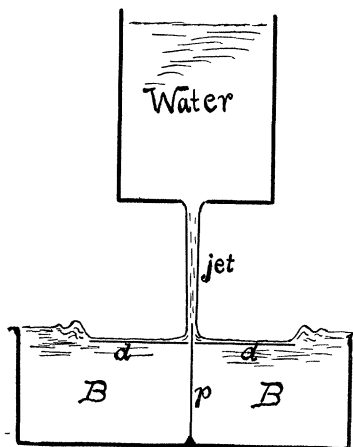


FIG. 2.

Fig. 2 shows an arrangement in which all of the essential actions which enter into the behavior of Fig. 1 are reproduced in a more easily intelligible form. A light metal disk *dd* is prevented from moving sidewise by a pin *p*, and a jet of water impinging upon the center of the disk *dd* causes it to float. The thin stream of water which moves radially outwards over the surface of the disk maintains a wall of water around the edge of the

disk, and the disk floats very much as if it were a shallow pan with a metal rim. Over the surface of the disk the thin stream of water has a high velocity and a low level (pressure) and at the edge it raises itself to a higher level (pressure) as it loses its velocity. So, in the case of the apparatus shown in Fig. 1, the thin stream of air between the two disks has a high velocity and a low pressure and at the edge of the disks it raises itself to a higher pressure (atmospheric pressure) as it loses its velocity. Evidently, then, the air between the disks *dd* and *DD* of Fig. 1 is at a lower pressure than the outside air and the difference in pressure operates to hold the disks together. W. S. FRANKLIN.

THE FIRST DISCOVERY OF FOSSIL SEALS IN AMERICA.

TO THE EDITOR OF SCIENCE: While engaged in collecting fossils for the National Museum from the northern range of the Calvert Cliffs, on the west shore of Chesapeake Bay, Maryland, during the summer and fall of 1905, I had the good fortune to find bones of true seals, which are, so far as I am aware, the first authentic remains of American fossil seals. As the Calvert Cliffs are entirely Miocene at their northern end, these bones can safely be assigned to that geological period. They will be described later in the *Proceedings* of the National Museum.

Remains from several localities in the United States, supposed to be those of seals, have been described or alluded to by Leidy and other writers, but, as shown by Dr. Allen's careful review, they are all of doubtful authenticity, 'not a single extinct species having been certainly determined.' F. W. TRUE.

U. S. NATIONAL MUSEUM,

WASHINGTON, D. C.,

November 23, 1905.

A BLAZING BEACH.

IN the early part of September the papers throughout the country gave wide publicity to the occurrence of a phenomenon at Kittery Point, Me., which attracted much local consideration because of its sensational aspects, and which might be correctly described as a