and which gradually loses its oxygen by breathing and accumulates impurities, such as carbonic acid gas, shall be returned in a closed cycle for purification and restoration of its original composition. Gas filters would be used to take out impurities and effete gases, and new oxygen would be supplied in accordance with the advisability discoverable by gas tests, so that the same helium could be used over and over again for a great length of time without any considerable loss. In the same way, in a caisson, where the space is considerable, filters can be mounted within the caisson, through which the atmosphere can be circulated, filtering out the effete gases and impurities, and perhaps reducing the moisture by drying and returning the same to the caisson; while it is perfectly easy in this case to replenish oxygen by oxygen in pressure tanks or by using dioxide of barium or dioxide of sodium, to obtain any desired enrichment with oxygen to take the place of that which has been consumed. All of this can be put under automatic control, even within the caisson itself. An air-lock could also be constructed for saving as much as possible the helium from diffusion and loss when such lock is operated. Helium being a light gas, the exit from the air-lock should be in a downward direction and not upward. In other words, the trap door, as it were, should open outward in the air space in the form of a depending syphon, so that the helium necessarily escaping into the air-lock could be pumped out and recovered.

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BALL DANCING ON WATER-JET

A NOTE in *Science Abstracts* for January, 1927, reminds me that in the issue of SCIENCE for August 13, 1926, Mr. W. C. Baker discussed "The Retention of a Ball by a Vertical Water-Jet," reaching the conclusion that the "law of Bernoulli," sometimes referred to in this connection, has little if anything to do with the matter.

I reached a similar conclusion many years ago, writing in the *Youth's Companion*, probably about 1902. On page 166 of my "Elements of Physics," published in 1912, is a figure with the legend "Action and Reaction due to Adhesion," and the accompanying text reads substantially as follows: "If a spool carried on a flexible horizontal support is made to touch one side of a slender vertical jet of water, adhesion of the spool to the water deflects the stream, making it turn partly around [and above] the spool. The reaction for this action is a pulling of the spool toward and into the stream, so that it is presently hit on its under side by the rising water and is accordingly lifted. This phenomenon suggests an explanation of the fact that a small ball of cork or wood may be supported for a considerable time, perhaps many minutes, in such a jet of water as that just described, without falling out at the side."

The spool was carried by a rod on which it was free to turn, and it did turn briskly as the stream of water wound about it. The shape of the stream, drawn out into a thin web at the place of parting from the spool, plainly showed the action of adhesion. To allow sidewise motion of the spool the rod supporting it was carried by a piece of clock-spring.

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INTERNATIONAL COMMISSION ON ZOOLOGICAL NOMENCLATURE

THE secretary of the International Commission on Zoological Nomenclature has the honor to announce the publication of Opinions 91 to 97 (rendered by the International Commission on Zoological Nomenclature) by the Smithsonian Institution in Smithsonian Miscellaneous Collections, volume 73, number 4, pages 1 to 30. The summaries read as follows:

OPINION 91. Thirty-five generic names of mammals placed in the official list of generic names: The following names are hereby placed in the official list of names: *Alces, Arvicola, Ateles, Bison, Bradypus, Canis, Capra, Cebus, Cervus, Choloepus, Condylura, Cricetus, Crocidura, Cystophora, Dasyprocta, Didelphis, Erethizon, Felis, Gulo, Halichoerus, Lepus, Lynx, Mus, Myrmecophaga, Nasua, Ovibos, Phyllostomus, Procyon, Putorius, Rangifer, Rhinolophus, Rupicapra, Sciurus, Sorex, Vespertilio.*

OPINION 92. Sixteen generic names of *Pisces, Amphibia* and *Reptilia* placed in the official list of generic names: The following names are hereby placed in the official list of generic names: PISCES: *Blennius, Echeneis, Esox, Ophidion.* AMPHIBIA: *Cryptobranchus, Desmognathus, Siren.* REPTILIA: *Alligator, Calamaria, Chelydra, Crotalus, Dermochelys, Eremias, Lacerta, Mabuya, Phrynosoma.*

OPINION 93. Twelve generic names of fishes placed in the official list, by suspension of the rules: The following twelve generic names of fishes are herewith placed in the official list of generic names, under the plenary power for suspension of the rules: *Conger* Cuv., 1817 (*Muraena conger* L.); *Coregonus* Linn., 1758 (*Salmo lavaretus* L.); *Eleotris* Bloch & Schneider, 1801 (*gyrinus* Cuv. & Val.); *Epinephelus* Bloch, 1792 (*marginalis* Bloch); *Gymnothorax* Bloch, 1795 (*reticularis* Bloch); *Malapterurus* Lacépède, 1803 (*Silurus electricus* L.); *Mustelus* Linck, 1790 (*Squalus mustelus* L. [=*Mustelus laevis*]); *Polynemus*