ing out of the seal. The shoulder on bearing A holds it in the top of the inner tube. Bearings A and B are drilled and turned down on the lathe as a single unit and cut with a hack saw.

For ordinary stirring, bearing C can be eliminated. Its purpose is to steady the end of the rotating tube, T, and to check mercury splashing. Use of this bearing is suggested when especially stable setups are desired, very long stirring periods are required, or larger setups are used.

The use of ball bearings, suggested by Hershberg (*1*), facilitates rapid stirring, but the nature of the materials involved in most chemical reactions makes it impractical to install a set of ordinary steel ball bearings inside the seal or flask. The ball bearings must therefore be mounted quite far from the free end of the stirrer shaft. Greater stability can be obtained by supporting the shaft nearer the stirrer end by a graphite bearing such as B.

The problem of splashed mercury finding its way into the reaction vessel is virtually excluded by the presence of bearing A. Bearing B decreases the refluxing of solvents within the seal and makes subsequent cleaning of the seal a much easier task. Other advantages of the graphite bearings are: ease of assembly of the seal, durability, self-lubrication, and chemical inertness of the materials involved.

Reference

1. HERSHBERG, E. B. *Ind. eng. Chem.*, 1936, **8**, 313.

Tissue Potassium Determinations[1]

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A simple and relatively rapid method for determination of potassium concentrations of tissue has been developed in our laboratory.

From a series of ether-killed male albino rats of ca. 200-gm weight, brains and gastrocnemius muscles were removed and weighed. Tissues were then placed separately into 100 or 200 cc of distilled water and boiled under reflux condensers for 10 min. Solutions were stoppered and stored at 3° C for 36 hrs.

In the case of brain, sufficient agitation to fragment the tissues usually followed boiling, while in the case of muscle, a clear supernatant fluid was characteristically obtained.

At the end of 36 hrs aliquots taken from the supernatant liquid for potassium determination were analyzed by the flame photometer (Perkin-Elmer Model # 18); the boiled tissues, as a control of the method, were removed, dried at 105° C for 1–2 hrs, and then ashed in a muffle furnace at 550° C for 2 hrs. Tissue ashes were taken up in 0.1 N HCl, transferred through ash-free filter paper (S & S Blue Ribbon) to 50- or 100-cc volumetric flasks, and made up to volume with distilled water.

Analysis of the supernatant liquids of 23 brain and 17 muscle preparations yielded mean values of 3.42 ± 1.08 mg of K/gm of wet brain and 3.96 ± 0.12 mg of K/gm of wet muscle.

Application of Fisher's t test showed that there was no statistically significant difference between the standard errors of the mean potassium content values obtained by this method and the total potassium values determined by photometric analyses of a series of brain and muscle homogenates, P being 0.5 for brain and 0.4 for muscle.

Subsequent analysis of the tissue ash solutions described above, which were prepared at 2–4 times the concentrations of the solutions in which the tissues had been boiled, in a series of 20 experiments showed without exception that no more potassium remained in the boiled tissue than could be found in a corresponding volume of supernatant fluid. At the dilutions employed, this amount is negligible.

The method described above is recommended for total potassium analyses because, in addition to its simplicity and speed, it obviates the necessity of more arduous ashing or homogenizing techniques.

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Duration of Viability of Neurotropic Viruses in an Experimental Plumbing System Contaminated by Back-Siphonage[1]

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The possibility that poliomyelitis and other virus diseases may be spread by contaminated drinking water has been considered by many investigators. Various factors relating to the epidemiology of virus diseases have been studied. Laboratory experiments indicate that the poliomyelitis virus enters the body through the alimentary tract (*5*), and it has been shown that it is excreted in the stools of patients and persons not showing clinical evidence of the disease (*11, 14*). Furthermore, studies reveal that the poliomyelitis (*6*), St. Louis encephalitis, Japanese B (*3, 15*), and infectious hepatitis (*4*) viruses produce infection when given by mouth.

The poliomyelitis virus has been isolated from municipal sewage during epidemics in Europe and the United States (*10, 12, 13, 17*). The safety factor provided against bacteria through chlorination of water does not seem to apply to viruses. These studies and those carried

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