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Pharmacologist drinks heavy water in experiment

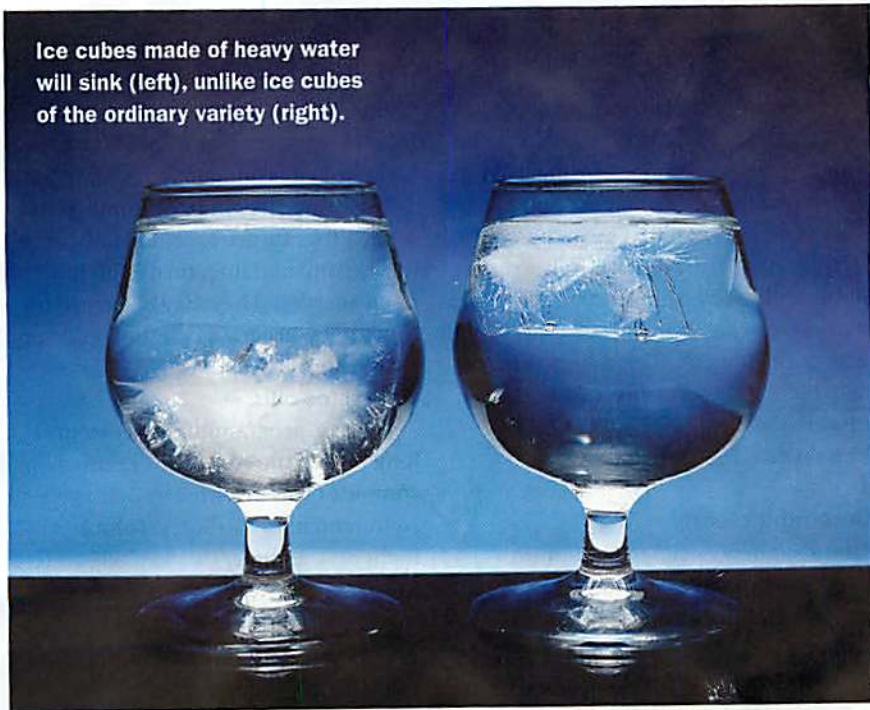
Taking the risk of swallowing ten grams (about third of an ounce or teaspoonful) of "heavy water," Prof. Klaus Hansen, Oslo University pharmacologist, reported that he had apparently suffered no ill effects after five hours, sufficient to allow assimilation of deuterium-containing water.

Nevertheless he was attended by four doctors ready with stomach pumps, heart and respiratory stimulants for emergency use if they seemed to be needed.

In his first human test of the possible poisonousness of heavy water, discovered in America in 1931, Prof. Hansen intends to keep taking doses of the heavy water each day for two weeks until the daily dose is increased to a hundred grams of water of which 99 percent of the hydrogen is the heavy or double weight variety called deuterium to distinguish it from ordinary mass one hydrogen. If this plan is carried out he will then be taking three and one-third ounces of heavy water, a sizable drink.

Since the lowest production cost of heavy water declared probable is about \$5 a gram, the drink already taken has a minimum value of about \$50. The largest dose scheduled is worth at this rate about \$500 and the whole experiment will use about \$4000 worth of heavy water alone. The present U.S. market price of heavy water is \$19 a gram.

Ice cubes made of heavy water will sink (left), unlike ice cubes of the ordinary variety (right).



UPDATE

Self-experimenter didn't suffer

When Klaus Hansen swallowed heavy water in 1935, he joined a fellowship of researchers who have conducted (and continue to conduct) self-experiments in the name of science. Whether dismissed as zealots or praised for the depth of their devotion, several of these enthusiasts have made big marks on their fields over time.

Take Werner Forssmann, for example. In 1929 he inserted a catheter into his own arm and passed it into his heart, later sharing the 1956 Nobel Prize in medicine for his contributions to catheterization. Then there is physician Barry Marshall, who in 1984 swallowed *Helicobacter pylori* to try to prove that the bacteria cause ulcers. He got gastritis and a 2005 Nobel.

But while guts may bring glory, they don't always translate to a long life. The 18th century chemist Carl Wilhelm Scheele had a habit of tasting chemical

compounds as part of his analyses, a behavior that may have led to heavy metal poisoning, contributing to his death at age 44.

As for Hansen, a report a year or so after the experiment found him in good health (and he lived past age 75). Just as heavy water's discoverer Harold Urey had suggested, the amount consumed was negligible compared with the quantity of regular water found throughout the body. Even Urey himself was known to have given heavy water a try, reporting that it tastes like the plain-old distilled variety. — Elizabeth Quill

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