

Why We Should Celebrate Old Croone Day, 04 June 1662

The fourth of June is a little-known anniversary of an important event in the history of natural history collections—on this day, in the year 1662, Dr. William Croone appeared before the Royal Society of London and “...produced two embryos of puppy-dogs, which he had kept eight days, and were put in spirit in a glass-vial sealed hermetically...” This is the first recorded mention of modern fluid preservation of a scientific specimen.



The *Transactions* of the Royal Society report that almost immediately Robert Boyle (who tried to take credit for as many scientific advances as he could) leaped up and “... promised to make like experiment in rabbits” and indeed, Boyle is often mistakenly credited with inventing preservation in alcohol (Boyle did go on to experiment with alcohol preservation and provided the first means of testing concentration and acidity). The next mention of fluid preservation was when another member brought to the Royal Society an “abortive human foetus, kept in spirit well rectified” (meaning double distilled). In 1664 Boyle donated to the society specimens of a linnnet and a snake he had preserved in alcohol four months previous.

By 1662, attempts had been made to preserve animals and plants for thousands of years, but the only successful means for doing this was dehydration, which drastically changed the shapes and colors of the organisms (mummification of both humans and animals dates back at least 5,000 years in Egypt and 8,000 years in Chile and Peru). The production of alcohol is also very old—the origins of wine and beer making are hopelessly lost in prehistory. However, to preserve a specimen requires an alcohol that is at least 100 proof (50%) or stronger, which can only be achieved by distillation (also known as rectification) of the alcohol.

Distillation spread throughout Europe after the publication of *The Little Book of Distillation* by Hieronymus Brunschwygk in 1500. By the time Croone conducted his experiments, many London basements and backrooms housed stills making a strong alcohol out of barley mash, as the government rapidly increased the rate at which it was taxed. The expense of alcohol led to the use of beverage alcohol, primarily rum, for preservation. When Admiral Lord Nelson was killed at the Battle of Trafalgar in 1805, the ship's surgeon, William Beatty, preserved the body in a barrel of brandy for later burial in England. A guard had to be posted to keep sailors from tapping the barrel, until one night when accumulating gases caused the body inside to move. Upon arrival in England, Betty was criticized in the press for not preserving the body in rum, which the public imagined to be a better preservative (in truth, brandy has a higher alcohol content).

Croone (sometimes spelled Croune) was born in London on 15 September 1633 and was educated at Merchant Taylors School before receiving a degree from Emmanuel College (Cambridge) in 1650, becoming a Fellow of Emmanuel College in 1651. In 1659, Croone was appointed Professor of Rhetoric at Gresham College in London (serving 1659-1670), where he fell in with a small group of men interested in science experiments who founded the Royal Society of London in 1662. Croone was named "Doctor of Physic" by royal mandate at Cambridge in 1662, elected a Fellow in the College of Physicians on 29 June 1675, and appointed by the Barber-Surgeons' Company as an anatomy lecturer on muscles in 1670. Croone developed a private medical practice and in his spare time, conducted research on physiology, the circulation of blood, respiration, the density of air, and freezing of water in addition to anatomy and embryology. In 1664, Croone famously choked a chicken until it appeared dead, then revived the bird by inflating its lungs with fresh air through a glass pipe inserted down its throat.

Croone died in London on 12 October 1684, and was buried in St Mildred's Church in the Poultry, (also in London). In his will, Croone established two lectureships, one for the Royal College of Physicians, the other for the Royal Society. The income for the Royal Society lectureship came from one-fifth of the rent paid by the King's Head Tavern on Old Fish Street, London, at the corner of Lambeth Hill.

It was Croone's interest in embryology that led him to discover fluid preservation. In this spirit, I invite you, dear reader, to celebrate this momentous anniversary on 04 June by sharing a fine single malt whiskey with good friends and reflecting on how often significant developments in science have come about when we are really trying to solve some other problem. Here's to you, William Croone!

Further Reading

Birch, T. 1756-1757. *The History of the Royal Society of London for Improving of Natural Knowledge from its First Rise. Volume I.* A. Millar, London

Cole, F.J. 1944. *A History of Comparative Anatomy from Aristotle to the Eighteenth Century*.
MacMillan and Company, Ltd., London, viii + 524 pages.

Payne, L.M., L.G. Wilson, and H. Hartley. 1960. *Notes and Records of the Royal Society of
London* 15:211-219.

http://en.wikipedia.org/wiki/William_Croone

<http://rsnr.royalsocietypublishing.org/content/15/1/211.full.pdf>

Illustration credit:

William Croone portrait by Mary Beale, ca 1680. Oil on canvas, 91.4 x 70.5 cm, Royal College
of Physicians, London.

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