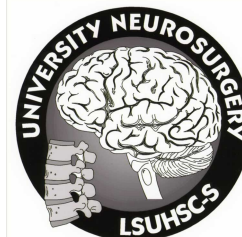


# Humphrey Ridley (1653-1708): 17th Century Evolution in Neuroanatomy and Selective Cerebrovascular injections for Cadavers

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## Introduction

Humphrey Ridley (1653-1708), M.D., is a concealed figure, belonging to the post-medieval era of neuroanatomical enrichment. A PubMed search of his name does not pull up any article. This historical vignette weaves through his life and academic work which filtered the light of neuroscience and neurosurgical evolution back in the 17th century.

## Methods

We went through his treatise to elucidate his novel contributions to neuroscience and evolution of unique cadaveric selective cerebrovascular injections. Oxford and Cambridge, U.K., were contacted to confirm his bibliographical details.

## Results

Ridley was born in Mansfield, fourteen miles from the county of Nottinghamshire, England. Matriculated from Merton College, Oxford, he pursued medicine at Leiden. In 1688, he was incorporated M.D. at Cambridge in 1688. Ridley authored the first treatise on neuroanatomy to be originally published in English language, "The anatomy of the brain containing its mechanisms and physiology: together with some new discoveries and corrections of ancient and modern authors upon that subject". Ridley for the first time described the venous anatomy of the parasellar compartment and the circular sinus (a.k.a. Ridley's sinus). To appreciate the venous anatomy, he preferred to do his anatomical dissections on freshly executed criminals. These cadavers had considerable venous engorgement which made the skull base venous anatomy clearer. To enhance the appearance further, he used tinged wax and quicksilver in his injection to veins. He set up experimental models to answer questions definitively, in proving that the arachnoid mater is a separate meningeal layer. The first description of the subarachnoid cisterns, blood-brain barrier, and the fifth cranial nerve ganglion with its branches are also attributed to Ridley.

## Conclusions

Humphrey Ridley, through his unique but effective ways, fueled the evolution of neuroscience in the 17th century and laid strong foundation for the development of surgical neuroanatomy. The authors hope that this poster will inform the neurosurgical community of Ridley's contributions to the field of neurosurgery.

**Illustration through an axial section of brain, showing the anatomy of fornix and its relationship with the Thalami Nervorum Opticorum, Medullary tracts between Thalami Nervorum Opticorum and Corpora Striata.**

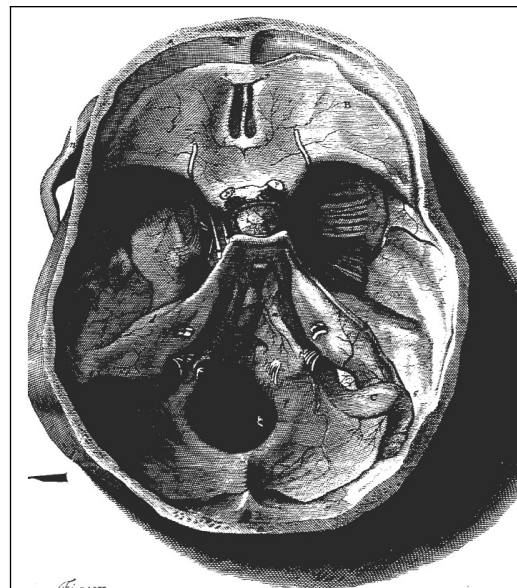
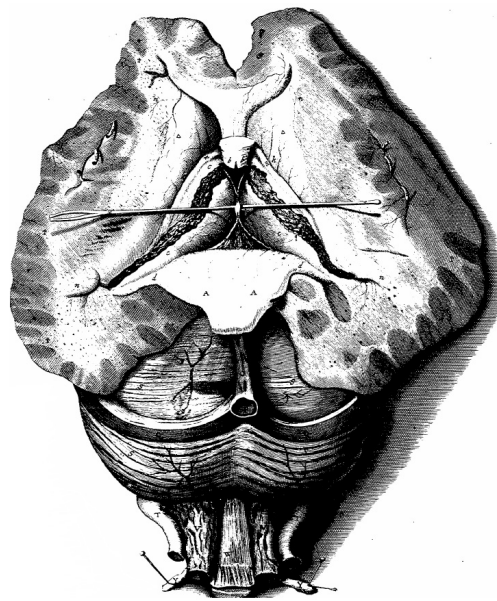


Fig. m.  
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"Figure showing the internal base of the cranium, the Sinus's being injected with the wax." Also, the inferior left image shows the first accurate description of 5th CN ganglion divides into 3 branches

## Acknowledgements

The images are courtesy of Evans Library, Texas A&M University, College Station, Texas.