Biol4270 – History of Biology

Eakin's "Great Scientists Speak Again"

William Beaumont (1785 - 1853)

William Beaumont (1785 – 1853) did not have a formal education in medicine or surgery, but learned through an apprenticeship. Was this common at the time? Might if have influenced his later practices and experiments? - 2:15

Eakin emphasize that his impersonations were teaching devices for modern science. Does the description of stomach anatomy reflect the medical knowledge of the 1800s, or is he drawing from modern 20th century knowledge? - 5:10

What does it mean to "bleed and cup"? Are they still done in some way today? - 5:20

Many theories of stomach digestion are offered. Does the stomach perform any of the processes listed? - 10:03

What is meant when scientists say they are "Seduced by the ingenuity of their argument"? - 11:52

Describe the injury of **Alexis St Martin** (1802 – 1880). Why didn't the hole in St Martin's stomach heal? Was administration of cathartic of sulfur through the hole in the stomach a reasonable treatment? - 16:10

Was it ethical for Beaumont to move food & fluids in & out of Alexis' stomach while the latter was his patient? -18:10

What makes Beaumont's set-up for his gastric juice studies a "good experiment"? - 19:20

Was it surprising to find free muriatic acid (HCl) in the stomach? What role does it play in digestion? - 20:30

The importance of taking detailed, unbiased notes is emphasized. Was this common practice at the time? Why is it so important for scientific experimentation? - 24:20

Investigate the concept of Presentism. Beaumont made a great effort to control St Martin, even so far as inducting him into the US Army, and inducing him to sign a contract to be experimented on. Were these methods ethical? Is the knowledge obtained from Beaumont's experiments worth what St Martin went through? - 27:55

Beaumont wrote up his conclusions in 1838. To what extent do they remain accurate? - 31:00

Consider **facts** vs **opinions** in science. Is Beaumont right in saying that his conclusions are facts? Can subsequent opinions of another scientist influence assessments of an earlier scientist's experimental results? - 33:30

See:

W. Beaumont (1838) Experiments and Observation on the Gastric Juice and the Physiology of Digestion.