

What Counts as Knowledge?

Name:

Institution Affiliation:

Course:

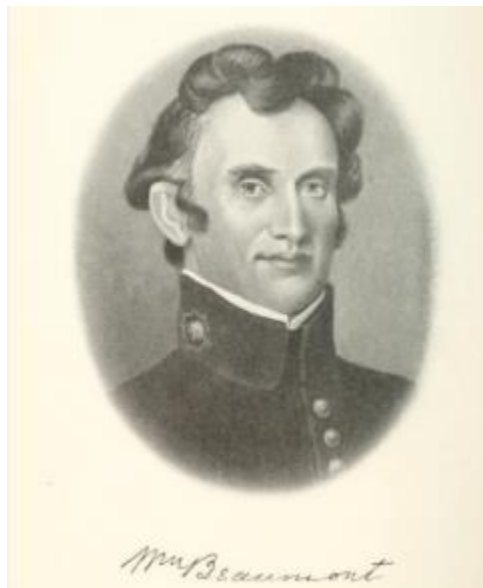
Professor:

Date:

What Counts as Knowledge?

I preferred this ToK prompt, "**What Counts as Knowledge?**" I will evaluate the connection between my core theme – knowledge and the knower – and my optional themes: knowledge and language and knowledge and technology. I will consider that epistemology is the foundation of any disciplinary authority because it determines the entire process of knowledge creation (Adams et al., 2017). By focusing on the epistemology of specific areas of knowledge, I will determine what counts as knowledge.

Object 1: The Father of Gastric Physiology



Source: (Connecticuthistory.org, 2022)

This image appears on the connecticuthistory.org website, and it depicts William Beaumont. Beaumont was the first individual to observe and develop a description of the process of digestion in a living person (Connecticuthistory.org, 2022). Beaumont was a student of medicine and Benjamin Chandler's apprentice. Beaumont treated Alexis St. Martin, a soldier that had suffered a gunshot injury to the torso in 1822. Beaumont used the permanent hole leading to Martin's stomach to observe the time this part of the digestive tract took to process specific types

of food. Beaumont's claims count as knowledge because they align with a scientific epistemology.

This object is interesting for this exhibition as it demonstrates scientists' approach to creating new knowledge. Adams et al. (2017) indicate that evidence-based practice is common in medicine as it values knowledge premised on scientific experimentation. A consideration of Beaumont's process of creating knowledge reveals the use of language premised on observation. Beaumont studied Martin from 1825 to 1833 and published findings in *Experiments and Observations on the Gastric Juice and the Physiology of Digestion* (Connecticuthistory.org, 2022). Beaumont's work revealed the chemical nature of the process of digestion and the role that hydrochloric acid plays in breaking down the food that an individual ingests.

Beaumont's claims count as knowledge because his language was based on observation. The scientist's observations resulted in the discovery of a new domain, gastric physiology (Connecticuthistory.org, 2022). This area focuses on the workings of the gastrointestinal system. Modern-day researchers rely on the step-by-step process Beaumont used to improve their understanding of the human digestive tract. Beaumont's ideas count as knowledge because they are observable and applicable in the real world.

Object 2: Sophia



Source: (Wharf Street Strategies, 2019)

This object appears on medium.com, and it depicts *Sophia*. Hanson Robotics created *Sophia*, a humanoid robot that can exact more than fifty facial expressions. The robot is a beautiful representation of Machine Learning and Artificial Intelligence. Hanson Robotics built *Sophia* for entertainment, research work, and assistance purposes. Through the humanoid, Hanson Robotics has set a precedence for a new race of robots. The claims that Hanson Robotics forwards count as knowledge because they align with computational epistemology.

This object enriches this exhibition by revealing the science that underlies the working of computers. *Sophia* demonstrates that computing follows the dynamics of science in creating new knowledge. Computing is about evaluating information processes in the physical world through a systematic body of knowledge. *Sophia* is an intelligent robot that can understand humans' nature and execute them appropriately. The robot can execute functions as the ideal caretaker and assist the elderly and sick. This processing and enactment of information make the claims that Hanson Robotics has created count as knowledge. The fact that *Sophia* can interact with people at a human level reveals the advanced levels of machine learning in the modern day.

Further, this object makes this exhibition fascinating by revealing the connection between language and technology. *Sophia* uses Alphabet Inc.'s speech recognition software to imitate humans' gestures and facial expressions. As a result, the robot can interact with humans more meaningfully and even come up with simple conversations on topics such as weather. These claims reveal that *Sophia*'s capabilities count as knowledge because they align with information processing in computer science.

Object 3: Wireless Electricity Transmission



Source: (Fadelli, 2020)

This object depicts a new system that researchers at Stanford University have developed to transfer power more efficiently. The image appears on the phys.org website, demonstrating a revolution in the working of wireless electricity. Conventional methods rely on system parameters set to match particular transfer distances. Therefore, a device getting power has to maintain a precise distance from the power supply to guarantee successful power transfer. The invention by Stanford University researchers disregards the distance between a power source and a device since it transmits power more efficiently. This invention counts as knowledge as the researchers premise their claims on epistemological foundations in physics.

This object enables a deeper understanding of the prompt, "What Counts as Knowledge," by revealing the connection between technology and knowledge. The Stanford University knowledge seekers have developed superior technology that charges devices at distant locations through the efficient use of wireless power. Sid Assawaworrarit indicates that the primary purpose of their research was to overcome the challenge of dynamic wireless charging. The technology uses parity-time symmetry to balance gain and loss. The claims that the researchers forward count as knowledge because the technology has extensive application. For example, the technology can be used to charge a car moving as high speeds. This real-world application of theoretical concepts is what makes them count as knowledge.

The object further demonstrates empirical knowledge's implication in the real world. Assaworrarit indicates that a series of source coils can be embedded under a roadway to charge a moving car. These claims establish that the ideas subject to the epistemological conventions of a specific area determine what counts as knowledge.

References

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