# The Baconian Ethics of Psychosurgery

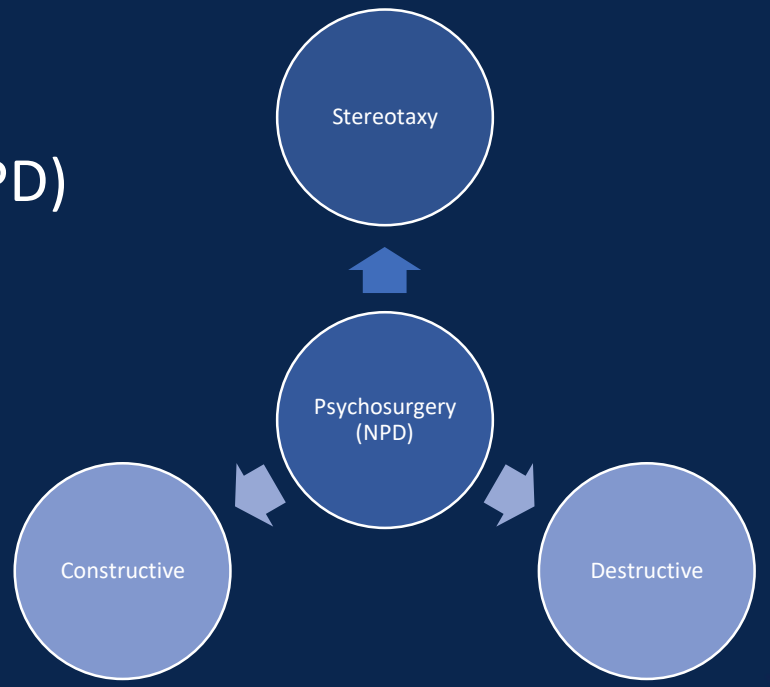
Elizabeth Mathews

# Research Questions

- For those who hold a Christian worldview, which is the most appropriate approach for ethical decision-making?
- How can this approach be applied to issues such as psychosurgery?

# Background of Psychosurgery

- Psychosurgery: a method of treatment for the brain, due to a psychiatric ailment[1]
- Distinction of Terms
  - Neurosurgery for Psychiatric Disorders (NPD)
  - Ablative Surgery
    - Lesional surgery/Lesionectomy
    - Leucotomy/Lobotomy
  - Stereotaxy
  - Deep Brain Stimulation (DBS)
    - Electrical Stimulation
    - Chronic Stimulation of Subcortical Structures




[1] George A. Mashour, Erin E. Walker, and Robert L. Martuza, "Psychosurgery: Past, Present, and Future." *Brain Research Reviews* 48, no. 3 (2005): 409.

# History of Psychosurgery

**5100 BC**

- A trephined skull was discovered in France, dating back to approximately 5100 BC[2]

**1500 BC**

- First known literature on skull trephination to treat psychotic disorders[3]

**19th century**

- The modern era of psychosurgery begins with Swiss psychiatrist Gottlieb Burckhardt[4]
- 1848: Phineas Gage suffers a traumatic brain injury[5]

**First half of the 20th century**

- Somatic therapies become popular for treating mental illness (e.g., psychosurgery, convulsive therapy, hydrotherapy, insulin shock therapy)[6]
- Egas Moniz coins the term "psychosurgery"[7]
- Stereotactic neurosurgical devices are developed[8]

**Second half of the 20th century**

- Chlorpromazine is first used as a treatment for psychosis, leading to a decrease in use for the lobotomy[9]
- Chronic stimulation of subcortical structures is introduced[10]
- 1987: Deep brain stimulation is invented[11]

[2] K. W. Alt, C. Jeunesse, C. H. Buitrago-Téllez, R. Wächter, E. Boës, and S. L. Pichler. "Evidence for stone age cranial surgery." *Nature* 387, no. 6631: 360.
[3] L. Baer, S. L. Rauch, H. T., Ballantine Jr, R. Martuza, R. Cosgrove, E. Cassem, I. Giriunas, P. A. Manzo, C. Dimino, M. A. Jenike. "Cingulotomy for intractable obsessive-compulsive disorder. Prospective long-term follow-up of 18 patients." *Arch Gen Psychiatry* 52, no. 5 (1995): 384-392.
[4] George A. Mashour, Erin E. Walker, and Robert L. Martuza, "Psychosurgery: Past, Present, and Future." Brain Research Reviews 48, no. 3 (2005): 410.
[5] George A. Mashour, Erin E. Walker, and Robert L. Martuza, "Psychosurgery: Past, Present, and Future." *Brain Research Reviews* 48, no. 3 (2005): 410.
[6] George A. Mashour, Erin E. Walker, and Robert L. Martuza, "Psychosurgery: Past, Present, and Future." *Brain Research Reviews* 48, no. 3 (2005): 410-411.
[7] George A. Mashour, Erin E. Walker, and Robert L. Martuza, "Psychosurgery: Past, Present, and Future." *Brain Research Reviews* 48, no. 3 (2005): 411.
[8] E.A. Spiegel, H.T. Wycis, M. Marks, and A.J. Lee, "Stereotaxic apparatus for operations on the human brain." *Science* 106 (1947): 349–350
[9] R.P. Feldman and J.T. Goodrich, "Psychosurgery: a historical overview." *Neurosurgery* 48 (2001): 647–659
[10] Hariz, Blomstedt, and Zrinzo, "Deep Brain Stimulation between 1947 and 1987: The Untold Story."
[11] Hariz, Blomstedt, and Zrinzo, "Deep Brain Stimulation between 1947 and 1987: The Untold Story."

# Psychosurgery Today

- Psychosurgery tends to be destructive[12]
  - Destructive psychosurgery: lesioning
  - Constructive psychosurgery: stimulation
- 4 common types of psychosurgery[13]
  - Anterior cingulotomy
  - Subcaudate tractotomy
  - Limbic leucotomy
  - Anterior capsulotomy
- DBS[14]
  - Persistent vegetative state (PVS) patients
  - Minimally conscious state (MCS) patients
  - DBS has been established to be applicable for movement disorders, but is also used for other issues involving the brain and psychiatry, although these other issues have less of an evidence-based foundation

[12] George A. Mashour, Erin E. Walker, and Robert L. Martuza, "Psychosurgery: Past, Present, and Future." Brain Research Reviews 48, no. 3 (2005): 413.
[13] George A. Mashour, Erin E. Walker, and Robert L. Martuza, "Psychosurgery: Past, Present, and Future." Brain Research Reviews 48, no. 3 (2005): 413.
[14] Hariz, Blomstedt, and Zrinzo, "Deep Brain Stimulation between 1947 and 1987: The Untold Story."

# Psychosurgery Arguments

**PRO**

- Given: informed consent, patient autonomy[15]
- Certain types are safe[16]
  - MRI-guided stereotaxy
- Cognitive improvement[17]
- Case studies
  - José Delgado, Yale University, 1950[18]
  - Robert Heath, Tulane University, 1971[19]

**CON**

- Slippery slope to personality alteration[20]
- Psychiatrists are often not consulted[21]
- Undesirable effects[22]
- Lack of research[23]

[15] Mendelsohn, Lipsman, and Bernstein, "Neurosurgeons' Perspectives on Psychosurgery and Neuroenhancement: A Qualitative Study at One Center." *Journal of Neurosurgery* 113, no. 6 (2010): 1212–1218.
[16] Sachdev and Sachdev, "Sixty years of psychosurgery: its present status and its future." *Australian & New Zealand Journal of Psychiatry* 31, no. 4 (1997): 461.
[17] Sachdev and Sachdev, "Sixty years of psychosurgery: its present status and its future." *Australian & New Zealand Journal of Psychiatry* 31, no. 4 (1997): 461.
[18] José Delgado, Physical Control of the Mind: Toward a Psychocivilized Society (New York: Harper & Row, 1977).
[19] R.G. Heath, Depth Recording and Stimulation Studies in Patients (Springfield, IL: Charles C Thomas, 1971).
[20] Mendelsohn, Lipsman, and Bernstein, "Neurosurgeons' Perspectives on Psychosurgery and Neuroenhancement: A Qualitative Study at One Center." 1212-1218.
[21] Hariz, Blomstedt, and Zrinzo, "Deep Brain Stimulation between 1947 and 1987: The Untold Story."
[22] Hariz, Blomstedt, and Zrinzo, "Deep Brain Stimulation between 1947 and 1987: The Untold Story."
[23] Sen et al., "Deep brain stimulation in the management of disorders of consciousness: a review of physiology, previous reports, and ethical considerations."

# Ethical Approaches

## Consequentialist Approach

- Ethical Egoism
- Utilitarianism

## Action-Oriented Approach

- List Metaethic

# Consequentialist Approach – Ethical Egoism

- Benefits
  - Value of the self
    - Short term vs. Long term[24]
- Issues
  - Loses focus of humans as they are made in the image of God[25]
  - Actions should be considered moral if they bring glory to God[26]

[24] Michael S. Jones, *Moral Reasoning: An Intentional Approach to Distinguishing Right and Wrong* (Dubuque, IA: Kendall Hunt Publishing Company, 2017), 57.
[25] Genesis 1:27, NIV
[26] 1 Corinthians 10:31

# Consequentialist Approach – Utilitarianism

- Benefits
  - Aligned with Biblical value to love others before loving self[27]
- Issues
  - Ends might not justify the means[28]
    - Rahab was commended for her faith, not dishonesty[29]
  - According to the Christian worldview, God is omniscient and humans are not[30]
  - Valuing the majority can result in overlooking minority groups
    - Women[31]
    - People with jobs that put them at a social risk[32]
    - People with physical disabilities[33]

[27] Philippians 2:4
[28] Jones, Moral Reasoning: An Intentional Approach to Distinguishing Right and Wrong, 79.
[29] Hebrews 11:31
[30] Proverbs 3:5-6
[31] Luke 8:48; John 4:1-26
[32] Matthew 9:9-13; Luke 19:1-10
[33] Mark 1:40-45; Mark 2:1-12; John 9:1-7

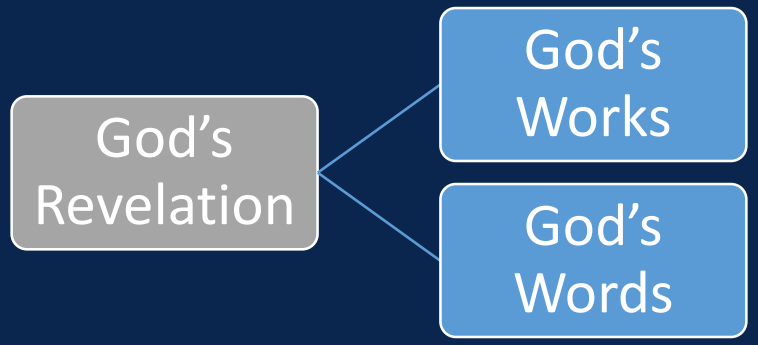
# Action-Oriented Approach – List Metaethic

- Benefits
  - Similar to the nature of the Ten Commandments[34]
- Issues
  - Loses focus on doing what is right in God's eyes

[34] Exodus 20:1-17

# Development of the Baconian Ethic

- This method is derived from Sir Francis Bacon's position that there are two sources of truth:
  - God's Word (the Bible)
  - God's Works (the created world)[35]
- The Baconian book approach avoids the errors of other ethical theories while emphasizing all forms of revelation from God to inform a Christian faced with an ethical decision.




[35] Francis Bacon, *The Advancement of Learning*, 1605.

# Application of the Baconian Ethic to Psychosurgery

| God's Word | God's Works | Conclusion |
| --- | --- | --- |
| • Jesus healed presumed epileptics[36] | • Natural order vs. medical intervention | • Psychosurgery is not condemned by the Baconian Ethical Approach.<br>• Love God first, love others second[37] |

[36] Shane R. Tubbs et al., "Roots of Neuroanatomy, Neurology, and Neurosurgery as Found in the Bible and Talmud." *Neurosurgery* 63, no. 1 (2008): 156-163

[37] Matthew 22:37-40

# Future Research

- Research is currently limited
  - Need more data on holistic effects of psychosurgery
- Case studies
- Emphasis on multidisciplinary approach

# Conclusion

- Whether or not psychosurgery is truly beneficial remains to be seen
- Above all, it is important to have an intentional approach to ethical decision-making which underlies decisions
  - Especially decisions that hold a heavy ethical weight, such as whether or not psychosurgery should be used

# Bibliography


Alt, K. W., C. Jeunesse, C. H. Buitrago-Téllez, R. Wächter, E. Boës, & S. L. Pichler. "Evidence for stone age cranial surgery." *Nature* 387, no. 6631 (1997): 360.

Bacon, Francis. *The Advancement of Learning*, 1605.

Baer, L., S. L. Rauch, H. T., Ballantine Jr, R. Martuza, R. Cosgrove, E. Cassem, I. Giriunas, P. A. Manzo, C. Dimino, M. A. Jenike. "Cingulotomy for intractable obsessive-compulsive disorder. Prospective long-term follow-up of 18 patients." *Arch Gen Psychiatry* 52, no. 5 (1995): 384-392.

Feldman, R. P. & J.T. Goodrich. "Psychosurgery: a historical overview." *Neurosurgery* 48 (2001): 647–659

Hariz, Marwan I., Patric Blomstedt, and Ludvic Zrinzo. "Deep Brain Stimulation between 1947 and 1987: The Untold Story." *Neurosurgical Focus* 29, no. 2 (2010).

Heath, R.G. *Depth Recording and Stimulation Studies in Patients.* Springfield, IL: Charles C Thomas, 1971.

Jones, Michael S., *Moral Reasoning: An Intentional Approach to Distinguishing Right and Wrong.* Dubuque, IA: Kendall Hunt Publishing Company, 2017.

Mashour, George A., Erin E. Walker, and Robert L. Martuza. "Psychosurgery: Past, Present, and Future." *Brain Research Reviews* 48, no. 3 (2005): 409–419.

Mendelsohn, Daniel, Nir Lipsman, and Mark Bernstein. "Neurosurgeons' Perspectives on Psychosurgery and Neuroenhancement: A Qualitative Study at One Center." *Journal of Neurosurgery* 113, no. 6 (2010): 1212–1218.

Rodríguez Delgado José Manuel. *Physical Control of The Mind: Toward a Psychocivilized Society.* New York: Harper & Row, 1977.

Sachdev, Perminder, and Jagdeep Sachdev. "Sixty Years of Psychosurgery: Its Present Status and Its Future." *Australian & New Zealand Journal of Psychiatry* 31, no. 4 (1997): 457–464.

Sen, Anish N., Peter G. Campbell, Sanjay Yadla, Jack Jallo, and Ashwini D. Sharan. "Deep Brain Stimulation in the Management of Disorders of Consciousness: A Review of Physiology, Previous Reports, and Ethical Considerations." *Neurosurgical Focus* 29, no. 2 (2010).

Spiegel, E.A., H.T. Wycis, M. Marks, & A.J. Lee. "Stereotaxic apparatus for operations on the human brain." Science 106 (1947): 349–350.

Tubbs, Shane R., et al.,"Roots of Neuroanatomy, Neurology, and Neurosurgery as Found in the Bible and Talmud." *Neurosurgery* 63, no. 1 (2008): 156-163