D1. Flash Talks

D1:1 Justin Barr, *Look into My Heart: Cardioscopes, Technology, and Heart Surgery in the 20th Century*

Mitral stenosis was a fatal disease. The valve ossifies, preventing blood from flowing through the heart to receive oxygen from the lungs. In the 1950s, a few pioneering surgeons attempted a solution: they would cut a hole in heart and use their finger to fracture the valve calcifications blindly. It was crude and only worked some of the time, but in an era preceding cardiopulmonary bypass, this antediluvian solution remained the only option. Surgeons recognized the limitations and searched for improvements. Just being able to see the operative field would be of tremendous benefit.

Enter the cardioscope. Invented by a pair of scientists at Washington University in the 1920s, this device resembled a mini-telescope inserted through the atrial appendage of a beating heart. It both conceptually and technically followed the ophthalmoscope, laryngoscope, otoscope, and cystoscope – all developed in the preceding decades, all designed to look inside a previously inaccessible space, and all catalyzed the formation of a surgical specialty. Unlike its predecessors, the cardioscope languished for decades until the mitral valve surgery of the 1950s created a clinical demand for the instrument. It helped. Visualizing the operative field allowed for more precise interventions. But the challenge of precisely seeing tissue through blood in a beating heart limited the device's utility. Thus, while the other scopes remain in daily use, the cardioscope was soon eclipsed by bypass machines that allowed surgeons to open the heart and try to fix any pathology through direct visualization.

Researching the invention, clinical utilization, and downfall of the cardioscope through archival collections at WashU, the Canadian National Archives, and the National Library of Medicine, this paper discusses the role of technology in medicine and especially surgery. Interestingly, the rise of robotic surgery has stimulated a return to cardioscopes. While today's devices differ from those of the 1920s, the intellectual foundation persists: how can surgeons best visualize and intervene on heart disease? The cardioscopes of yesteryear proved of limited benefit while early data on recent iterations remain mixed, but both the original manifestation and its recent recrudescence highlight surgery's abiding search for technological solutions to treat disease.

<u>Learning Outcomes</u>

- Develop the capacity for critical thinking about the nature, ends and limits of medicine
- Critically appraise clinical management from a historical perspective
- Understand the dynamic history of medical ideas and practices, their implications for patients and health care providers, and the need for lifelong learning

D1:2 Ken Sullivan, *Tracing the Disability Discourse: Women Healers and Premodern European Disability History from the 4th to 17th Century*

This paper explores how premodern European understandings of healing and difference laid the foundation for later constructions of disability. Through analysis of religious texts, medical texts, and lived experiences from the 4th to 17th centuries, I argue that disability history is a healing history with a convergence of faith, gender, craft, and community. Drawing from prominent female figures such as Margery Kempe, Hildegard of Bingen, and St. Margaret of Antioch, impairment is reinterpreted through multiple models: Edward Wheatley's religious model, Tory Vandeventer Pearman's gendered model, Julie Singer's transhuman model, and my proposed healing model.

This healing model conceptualizes disability as a dynamic process situated between spiritual devotion and practical craft that incorporates a variety of people invested in the premodern medical world: surgeons, women healers, apothecaries, physicians, et cetera. It highlights women's vital roles in caregiving, domestic medicine, and the economy of healing. Through textual and visual analysis, this research reveals how religious belief, gender, and embodied experience shaped early notions of impairment and health. This research contributes to broader conversations in disability studies, gender studies, and the medical humanities by reframing the premodern body as both a site of divine encounter and of material healing.

<u>Learning Outcomes</u>

- Analyze the historical evolution of disability concepts from the 4th to 17th centuries distinguishing the difference between impairment, illness, and monstrosity within premodern European frameworks.
- Evaluate the roles of women healers (midwives, caregivers, religious figures, et cetera) in shaping early models of healing.
- Apply the proposed healing model of premodern disability to interpret how spiritual, social, and functional understandings of health inform contemporary perspectives in the medical humanities.

D1:3 Adia Cullors, *"Black Powder, Bio-Revolt, and the Black Atlantic": Gunpowder and Medical Resistance 1700 -1899*

Across the 18th and 19th century Black Atlantic, 'black powder' gunpowder was used within subversive practices which crossed boundaries of healthcare, spirituality, and revolt to recontextualize the technology of warfare within a Black diasporic medical ontology. Following Black medical thinking through gunpowder illuminates more about the shifting horizons of medicine and political economy from the dawn from the 18th to the close of the 19th century.

This flash talk draws on the early research of my dissertation, which places militant and medical applications of black powder in conversation. I argue that by engaging with the medical dimensions of revolt, we can arrive at an expanded understanding of Black resistance under slavery. I place bio-medical treatments within a vast pantheon of acts of resistance and bodily revolt. Whether ingesting gunpowder to invoke spiritual strength for an uprising or to end an unwanted pregnancy, enslaved people were drawing on a broad understanding of healthcare that treated both actions as rebellion. I use a grounding in the American Appalachians and Southeast to launch a broader exploration of the ways that the consciousness building of revolt, the diasporic exchange of materia medica, and the forced labor of gunpowder production altered and informed medical uses of a substance that was all at once a commodity, a weapon, and a curative.

Black powder showcases the politicized healthcare enslaved people used in response to enslaver's intrusions into the body. If the injurious violation of the flesh acted as a weapon of control, then I argue that the care and healing of the body acted as a defensive weapon of refusal which broadened the horizons of freedom seeking and revolt. Thinking through gunpowder bends the boundaries between healing and harming, warfare and healthcare, and technology and spirituality that illuminates the complex imbrications of the body, medicine, and violence.

<u>Learning Outcomes</u>

- Understand the complex and contested nature of Atlantic medicine.
- Seriously engage with enslaved medical practitioners as intellectuals and innovators.
- Understand the impacts of historical trauma and hierarchies of power on shaping the possibilities of medical knowledge and practice.

D1:4 Yemok Jeon, *Translating Ginseng: Korean Efforts to Prove the Medicinal Effects of Ginseng through Biomedical Language, 1960s–1970s*

Beginning in the 1960s, an authoritarian government was established in South Korea after the success of the military coup and devoted itself to economic development as a means to secure political legitimacy. State-led industrialization required massive financial resources, and one way to obtain them was to increase exports. Among the selected export items was ginseng, which had long been traded since the premodern era as a major export to East Asian regions.

The Korean government sought to expand ginseng exports to Western markets to boost export revenues. The problem was that, unlike in East Asia where ginseng's efficacy as a panacea had long been accepted within the framework of traditional Chinese medicine, such beliefs were not shared in Western Europe or North America. To sell ginseng in Western markets, biomedical evidence of its efficacy was required. In response, the South Korean government started to invest in biomedical research on ginseng's medicinal effects.

This paper argues that while Koreans in the 1960s and 1970s sought to clarify the specific medical efficacy of ginseng through biomedical methods, challenging the mythical belief that it was a cure-all medicinal herb, these attempts ultimately reinforced the cultural myth of ginseng's medicinal efficacy. The laboratories of universities in Korea, supported by the government, conducted studies to test ginseng's effects on a wide range of diseases. Regardless of the results of ginseng research, Korean pharmacologists viewed it as an opportunity to advance scholarship within the limited biomedical research environment of Korea. While some studies reported partial positive results, these were often based on small samples or animal experiments, leading scientists to interpret the findings cautiously and require further research. Yet, to the general public, these studies appeared to confirm the long-standing belief in ginseng as a panacea. The seemingly new scientific identity of ginseng was merely a translation of its traditional identity into the language of biomedicine.

The paper demonstrates that biomedicine did not always simply replace traditional medicine but entered into a mutually interdependent relationship with it, particularly in the context of Cold War developmentalism in postcolonial authoritarian states and the expansion of liberal market economies.

<u>Learning Outcomes</u>

- Learn how traditional medicine and biomedicine become interdependent rather than biomedicine simply replacing traditional medicine.
- Reflect on how commodification and government policy shape the development of the pharmaceutical market.
- Understand how the results of medical research are interpreted differently by the general public compared to the intentions of researchers