Understanding Traditional Chinese Medicine / Scientific Epistemology Through Qigong
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This session is drawn from my undergraduate course at MIT, Exercise is Medicine, from Ancient Civilizations to Modern Healthcare Systems. The course provides an introduction to the history and sociology of medicine—a standard offering in an undergraduate Science, Technology, and Society curriculum or a Social Medicine course at a medical school.

The learning objective in this session is to offer students a basic understanding of Traditional Chinese Medicine (TCM), including

1. the foundational idea in TCM that the Qi in Qigong is life force energy, which circulates through our bodies
2. the concept in TCM that there is a network of meridians in the body where energy flows and that when it is circulating too much or too little it can lead to specific diseases (everything from back pain to varicose veins to infertility to migraines)
3. the idea in TCM that illness is typically a signal that our systems are out of balance, which is why some Chinese medicine practitioners may prescribe Qigong along with acupuncture to restore it
4. the broader approach to healing in TCM which has greater confidence in our bodies' abilities to heal themselves (which differs from a lot of recent Western medicine with its focus on pills and surgery but resonates with the 19th century ideas that led to the invention of physical education in America).

This lesson also opens a conversation about scientific epistemology (the philosophy of scientific knowledge systems): how we know what we know about STEM, past and present, and the relationships between Western and non-Western knowledge systems.

In the first part of the lesson, students read the Introduction in Roberta Bivins's *Alternative Medicine: A History*, which explores the history of TCM alongside Ayurveda and older Western medical practices that predate scientific medicine (or "biomedicine"), and explicitly explores how early practitioners knew what they knew. They also view a short article from a physician at New York Presbyterian detailing more recent research from biomedical researchers on the physical and mental health benefits of Qigong and Tai Chi (which is a subcategory of Qigong).

These readings are gateways to conversations about the basic principles of TCM and the varied modalities of treatment including but not limited to movement—for example, acupuncture, herbs, cupping, moxibustion. They also open conversation about continuity and change in medical research, and the broader challenge of integrating expertise from non-Western and indigenous knowledge systems into Western science and medicine.

For example, we discuss how TCM treats patients in a highly individualized manner such that two patients presenting with the same complaint might have very different acupuncture points needled—making Western-style randomized controlled trials (in which each patient receives a

standard treatment) a misfit for studying the full range of TCM medical practices. And we discuss how TCM practitioners have known for centuries about the brain-gut connection, but until this was "proven" through Western scientific methods it was not widely accepted in the US.

TCM, a philosophy of health organized around Chi, Yin/Yang, and the meridian network, is very different from Western biomedicine. Its conception of disease as stagnation/imbalance/deficiency/excess of Chi or Yin/Yang can be difficult to grasp on first reading—even with a professor to guide the conversation. It's here that movement can enhance the lesson: Qigong movement sequences can bring principles of TCM to life while also introducing students to the centuries-old idea that exercise is medicine that taps the body's ability to heal itself (much like acupuncture, which works on the same meridians).

For this course, we were joined by Ramel Rones, who offers Qigong instruction at the Dana Farber Cancer Center in Boston and is actively involved in medical research on the health benefits of Qigong. His knowledge base, spanning TCM and Western biomedicine, was ideal for achieving the learning objectives of our class.

After a brief introduction to the varieties of Qigong, Rones took us through several specific exercises to experience the building blocks of this movement tradition: body, breath, mind, energy, spirit. Layering these activities one on top of the other gave students a visceral experience of the values of Qigong and how they are connected, and by extension, a deeper understanding of the holistic medical system that is TCM beyond what could be captured in our readings and initial discussion.

Our next activity was to experience Qi. Rones took us through an exercise of holding and then rotating a Qi ball. (A Qi ball, also known as an energy ball, is a ball of energy that can be created through various energy work practices such as Reiki, Qigong, and Tai Chi. It is believed to be a concentrated form of life force energy, which can be used for healing, meditation, and other spiritual practices.)

He subsequently showed students how to give one another energy healing showers, which can be experienced with or without touch:



Image of students giving one another energy showers, March 5, 2024

The final component of our experiential learning session was a discussion and exploration of the health benefits of this ancient movement tradition. He showed us a range of specific movements and connected them to research on their ability to treat specific conditions. More research is here and here.

After the movement session we returned to discussion and students debriefed on how the experiential approach enhanced their ability to comprehend and connect with an otherwise foreign set of scientific ideas.