

# SYSTEMS OF CORRESPONDENCE: FUNCTIONALITY IN TRADITIONAL CHINESE MEDICINE AND EMERGING SYSTEMS BIOLOGY

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*Those who disobey the laws of Heaven and Earth have a lifetime of calamities, while those who follow the laws remain free from dangerous illness.*

—Huang Ti Nei Ching  
(The Yellow Emperor's Classic of Internal Medicine)

The Silk Road, the ancient merchant highway, traverses the remote Western desert landscape of China, reaching deep into the Middle East. Caucasian descendants of the ancient merchants settled along the Silk Road in a rare oasis, 5 hundred feet below sea level, in a place now called Turfan. It was there, 22 years ago, Pier, my girlfriend (now my wife) suffered a severe migraine. Far from any conventional hospital or doctor, I asked where I could find the closest *dai fu* (doctor). I was taken by a donkey cart along a ragged potholed dirt road, past wagons filled with Hami melons, women with light skin and colorful head scarves, past men with long white beards in Muslim dress and skull caps, smiling and exclaiming, "*Salaam alachem*," which is Arabic for "peace." Navigating with my college Chinese, I recruited a wizened *zhong yi dai fu*, or doctor of Chinese medicine, and brought him by donkey cart to my girlfriend, who was lying in pain in our small hotel. Without asking questions, the doctor leaned over and held her wrist, delicately, gently, and recounted in minute detail the nature, location, and quality of her headache (and previous headaches) and its relation to food, menstruation, and more. In that moment, I recognized that the deductive reasoning I was learning in medical school at the time missed the subtlety of the body and its intricate relational systems.

Ten years later, in 1994, I found myself again in an encounter with the ancient cosmology of traditional Chinese medicine. Two years after an L5 S1 disc rupture, emergency laminectomy and discectomy, a persistent S1 neuropathy and ongoing severe radicular pain, I was living in Beijing and complaining about my persistent pain, muscle weakness, and disability to another member of the expatriate community. After he

told me of his success with *Bai Daifu* (Dr White) from the Sino Japanese Hospital of Traditional Chinese Medicine, who helped him resolve a rotator-cuff injury, I was eager to try her methods, having exhausted neurologists', orthopedic surgeons', psychiatrists' and physical therapists' capacity to offer solutions.

I ventured tentatively in a yellow mini cab that was lacking suspension through the treacherous streets of Beijing to a monolithic concrete cinder-block apartment building, a classic of the Communist era. The entryway and halls were strewn with garbage and dirt. Up a dark, damp, and cold stairway, I found Dr Bai's apartment. She greeted me warmly and opened the door to an apartment that was bright, immaculate, and nearly cavernous by Chinese standards. It was filled with children and elders, cousins and siblings, and aunts and uncles, who all shared in Dr Bai's good fortune. After greeting me politely, they turned their attention back to a large television in the center of the living room that was loudly broadcasting a Chinese soap opera. After feeling my pulse and performing a cursory physical examination, Dr Bai asked me to undress down to my underwear. There was no examination room, no table, no blanket or towel to lie upon. I quickly realized that her treatment room was her living room. After a brief hesitation, my desire for relief from chronic persistent and severe pain overcame my embarrassment at undressing in front of an entire Chinese family (albeit one that was entranced in a soap opera).

I spread my clothes on the apartment's icy concrete floor in the heart of the Beijing winter and lay on them and waited. Dr Bai began an array of therapies that lasted about an hour and that I would repeat 3 times a week for 6 weeks. *Gua sha* was first, a technique of applying an herbal, oily mixture to the skin and then scraping the skin vigorously with a hard plastic object. Areas of stagnation or congestion would appear as dark and purple blotches where she had scraped, guiding her further treatment. This was followed by cupping, a technique of heating the inside of a cup or glass jar, creating a vacuum, and then drawing it repeatedly over the skin like a suction cup and leaving it from time to time in one area, increasing circulation or drawing out bad humors. Last came the needles, dozens of needles deeply and vigorously inserted all along my spine, buttocks, legs, and scalp. The needling was unlike anything I had experienced in the West, where patients generally are not

receptive to needles or pain. My groans of pain would be answered by the question, “*Tung, tung?*”—Pain, pain? And when I nodded my head, she would say with delight, “*Hao, hao!*”—Good, good! Acupuncture I had experienced in the United States was timid by comparison and did not create the unusual sensations that would shoot through my back and legs as Dr Bai placed and stimulated the needles. Each session would end with dread, as I waited for her to place small needles in the very ends of my toes—an exquisitely painful procedure that I endured only for the possibility of relief of my back pain.

After only a few sessions, the nagging radicular, deep pain in my buttock and leg subsided, and for the first time in 2 years I was pain-free. And slowly, with each week, my limp began to diminish and the strength in my leg increased. After 6 weeks, she dismissed me. Twelve years later, I am still without pain.

My training in the Chinese language and in the ancient Asian systems of thought and healing, which by nature required a different way of thinking of the world and our place in it, allowed me to enter medical school with a different framework for interpreting information. The key distinction between modern and ancient medical systems is their way of seeing. Conventional medicine understands the world by inductive reasoning and a phenomenological description of the body and illness. It is primarily an anatomical approach, or what the ancient Chinese call “dissection science.” Dissecting the body, the organs, the cell, and analyzing the cell’s parts, machinery, genome, and the body’s infirmities is the purview of Western medicine. Ancient systems of healing, in particular Traditional Chinese Medicine as recorded in the *Huang Ti Nei Ching* (*The Yellow Emperor’s Classic of Internal Medicine*) and its two parts, *Su Wen* and *Ling Shu*, follow a dramatically different path of inquiry into health and disease.

At the center of Chinese medicine is the notion of functional relationships within the body. Organs are of interest, not for their anatomical relationships, but for their functional patterns and distant effects with other “organs.” Organs in Chinese medicine are concepts organized around function, not discrete anatomical entities. Diseases are perceived not as discrete entities arising from diseased organs, but imbalances in the functional relationships within the system. I fear that in our deductive, reductionistic scientific inquiry into traditional Chinese medicine we will lose the most important lesson of this 24-centuries-old cosmology—the opportunity to reframe our interpretation of phenomena based on functional patterns, relationships, and systems. This is where the emerging paradigm underlying systems biology intersects with the ancient wisdom of Chinese medicine. Traditional Chinese medicine does not treat diseases of Western conception per se, but rather disturbed function, imbalances in communication between systems of the body that are connected through physical and energetic pathways.

In his book, *The Theoretical Foundations of Chinese Medicine: Systems of Correspondence*, Manfred Porkert calls this a “system of correspondences.” Our anatomy—organs, bones,

muscles, and tissues—cannot be juxtaposed against the “organs” of Chinese medicine. The *Nei Ching* describes these organs as spheres or orbs of function, *tsang-hsiang*. This can be roughly translated as *orbisiconography*, a way of seeing the body that is concerned with the intersecting patterns of function or dysfunction between “orbs,” the dynamic interplay between functional systems in the body.

Chronic illness is not a discrete phenomenon within an organ, but a long-standing dysfunction between many “systems” or “orbs” of the body, all interacting to create the manifestations we see as symptoms and suffering in our patients. Our current model of care and our orienting paradigm for modern illnesses do not allow the practitioner to navigate these functional orbs. This leads to misguided “anatomical” solutions, whether it is gastric bypass surgery for obesity; angioplasty for atherosclerosis; or a smart drug targeting an anatomical receptor, enzyme, or biochemical pathway. Twenty-first-century science is poised to grasp a new system of correspondences. Many of the functional dynamics and interplay of systems in the body have been understood only in recent years, allowing insight into new “orbs” such as neuro-endocrine-immune function, metabolic energetics, oxidative stress, gut function, detoxification, and structural integrity from membrane to organism. For the first time, these nascent concepts, which mirror the ancient cosmology of functionality in Traditional Chinese Medicine, have been outlined in a groundbreaking new textbook, the *Textbook of Functional Medicine*, published in January 2006 by The Institute for Functional Medicine, Gig Harbor, Wash. It is a modern *Yellow Emperor’s Classic*, setting the stage for a new way of inquiry into the underlying nature of disease and an entirely new way of practicing medicine. The emerging empirical science, clinical science, building on laboratory and theoretical breakthroughs, will give us the opportunity to find a solution to the chronic complex illnesses facing the modern world—illnesses that will bankrupt our economy and steal the health of our children unless we reframe our orientation to disease from anatomical to functional and begin to teach our students and practitioners this new method; unless we, as a society, encourage policy to foster this inquiry and practice with the sense of urgency with which we found a solution to smallpox and the infectious diseases of the early 20th century.

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