

## Concept of mind and brain in traditional Chinese medicine

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Functions of the human body in traditional Chinese medicine (TCM) are described in terms of Yin-Yang and the five elements. These ideas tend to be ignored in current research on TCM, since they are based on ancient Chinese philosophies which are considered incompatible with modern science. However, they may provide us with some new insights into human health and disease. In this paper, I will compare the characteristic view of human beings in TCM with that of western medicine.

The view of brain function is a distinctive characteristic of TCM. In TCM, the functions of the brain are dispersed to five *zang* organs, including heart and liver, and are maintained by comprehensive functional interactions among the five *zang* organs.

Therefore, in contrast to modern western medicine, brain diseases are regarded as systematic diseases in TCM, and their treatments are aimed to normalize not only the activity of the organs, but also the balance of functional interaction. Another characteristic of TCM is that much importance is attached to the interaction between human beings and the environment. This is in contrast to modern western medicine, which tends to regard human beings as independent of their environment. These features of TCM derive from its theoretical basis in Yin-Yang and the five elements. The whole idea of Yin-Yang theory is expressed by the Tai-Chi symbol (figure). The black and white areas in Tai-Chi symbol means that the whole world, including human beings, consists by two opposing components, namely, Yin (black area)

and Yang (white area). Importantly, each component exists within the other component; the white and black areas contain small black and white circles, respectively. The world is considered to be infinitely divided into Yin and Yang, and each part has a similar structure to the Tai-Chi symbol. The world, including the human body, in Yin-Yang theory, therefore, has fractal geometry.



In addition, interestingly, the functional interaction between the five *zang* organs in TCM resembles a biological model based on chaos theory.

In conclusion, TCM had co-opted the basic idea of a complex system for the diagnosis and treatment of human diseases thousands years ago. Research into TCM should not only evaluate the effects of herbal medicine or acupuncture, but should take into consideration the view of human beings in TCM. Such studies may help us to understand disease in terms of the relationship between humans and the environment.