

# CHRONOBIOLOGY AND CHINESE MEDICINE

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## I. Introductory Comments

“We can only teach our fellow human beings about how to protect their bodies if we are first capable of protecting our own. The base science for the protection of our own body and the safeguarding of our own health is philosophy, i.e. the age-old knowledge of the movement patterns of the universe which are at the root of our body's transformative processes. The base science for the safeguarding of other people's health is medicine, again a process wherein the physician first thoroughly understands the workings of his/her own body transformations, and then naturally becomes a teacher who is capable of instructing others how to regulate their bodies' qi metabolism.”

Zhang Xichun

“Nowadays, those who tend patients limit themselves to prescribing one or two remedies, and that is all. In antiquity, when a doctor tended patients, he first of all had to detect the changes/bian 变 in the development of yin and yang according to the calendar. He took note of the place where the malady occurred: whether it was a marsh, a plain, a forest, or a mountain. He took into consideration the age of the patient, how corpulent he was, his social situation, where he lived, the hygiene of his life, the qualities and defects of his physique, his worries, his joys, whether his environment was peaceful or stressful, and he adapted to the various circumstances. His treatment of the patient

took account of the climatic conditions and human factors. He bore in mind everything to do with the celestial principles: the five phases, the six qi, the seasons, climate, thunder and hail, demons and poisons, cold or hot qi. He watched to see whether these elements were late or early in relation to the calendar, and whether their activity was dominant or impeded.” (Excellent Prescriptions of Shen Gua and Su Dong-po/*Shen shi liang fang* 沈氏良方 ) 11th century

“The sage respects the four moments of time. In the morning he holds an audience. During the day he collects information In the evening, he writes down the orders. During the night, he rests. Doing that he is able to regulate the diffusion of his qi.”

*Chunqiu Zuozhuan*, translate by Elizabeth Rochat de la Vallee

Defense qi/*wei qi* (衛氣) like the sun warms and circulates the exterior in the daytime, and then moves deep inside the yin portion of the body at nighttime after sunset. In treating patients, we need to understand the rhythms of morning, afternoon, evening and nighttime, as the essential qi and substances of the body transform, rise and fall.

## II. Classical Roots of Chronobiology:

1) Five movements/six qi theory/*wu yun liu qi xue* 五運六氣學 first appeared in Wang Bing's revision of the *Su Wen*/Simple Questions 素問 in the 7th century C.E.

2) The *Su Wen* (素問) examines physiology in terms of the movements of qi in the closed system of the human mind and body, via the channel system. These movements are connected with daily, monthly and seasonal rhythms through conscious living by the order of heaven and earth.

3) In the *Su Wen* 素問 “The doctrine of five periods (*wu yun* 五運) and six qi (*liu qi* 六氣) are outlined in seven ‘comprehensive discourses’ (*da lun* 大論). These are treatises 66 through 74, about one third of the entire text.” (Paul Unschuld)

4) Five movements/six qi theory attempts to find patterns and orderly progressions of weather changes in order to prevent diseases caused by the six environmental excesses, which in turn were related to changes in the heavenly configurations (constellations).

5) “In this world, there are two times. There is mechanical time and there is body time. The first is as rigid and metallic as a massive pendulum of iron that swings back and forth. The second squirms and wriggles like a bluefish in a bay. The first is unyielding, predetermined. The second makes up its mind as it goes along.” (Alan Lightman, Einstein's Dreams)

### III. Nan Jing 難經 : The Classic of Time and Medicine

1) Difficulty 15:

“In spring the pulse is wiry/*xian mai* (弦脈); in summer it is hook-like/*gou mai* (鉤脈); in autumn it is hairlike/*mao mai* (毛脈); in winter it is stone-like/*shi mai* (石脈). Do these pulses indicate the normal governing qi, or are they pulses indicating disease?”

2) Additional notes and quotations to be added:

#### IV. Chronobiology in the Shang Han Lun 傷寒論

1) There is a relationship between the speed of development of an illness, and the ability of the body and mind to resist it.

2) In the Shang Han Lun, diseases of the channels are said to last for a specific period of time, wax and wane.

3) Shang Han Lun external contractions can

a) pass through a normal progression/*chuan bing*傳病 through the channels at a predictable rate or

b) be more unpredictable if it is a transmuted pattern/*bian zheng*變證 (變證)

4) The treatments we give today will effect our patients tomorrow, like a stone creating ripples in a still pond. We must envision the future we create with the patient through medicine.

#### IV. Circadian rhythms and Chronobiology

1) Jet lag and circadian rhythms

a) There has been major shifts in human circadian rhythms through high speed/long distance travel. This has profound influences on long-term and short-term health.

2) Circadian timing of physiological systems:

a) Thermoregulation

b) Hormones and corticosteroid production

c) Renal function

d) Cellular metabolism

## **Vi. Clinical Applications of Chronobiology**

1) “Needling tunes the qi (*tiao qi* 調氣).”

(Ling Shu, ch. 75)

Acupuncture restores the body-mind’s memory of equilibrium, which is disturbed by stress, negative emotions, noise, and loss of harmony.

2) Use of open points, stems and branches, horary points in acupuncture treatment

3) Issues of timing in acupuncture treatment

4) Therapeutic strategies in herbal medicine:

a) Varying prescriptions by season, time of day, location in menstrual cycle, twenty-four hour clock

## **VI. Additional notes and discussions**