

The 1911 Revolution in China, the Chinese Calendar, the Imaginary *Qi* and Healing: Translating *Li Fa* into an Australian Chinese Calendar and into an English Edition of the Northern Hemispherical Chinese Calendar^{*#}

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One of the consequences of the 1911 Revolution in China was the political demise of the traditional Chinese calendar *li fa*. As China adopted the Gregorian Calendar, the modern Western time system replaced the premodern Chinese time system. This resulted in the fracturing of the 'unified field of all existence' of various premodern traditional Chinese practices including traditional Chinese medicine (TCM). Using a new understanding of science and other knowledge systems as local and situated, I translate and adapt the traditional Chinese calendar to the conditions of the Southern Hemisphere in Australia. An English rendition of the Northern Hemisphere Chinese Calendar is also made. I see the concepts of *qi*, *yin* and *yang*, the five-elements/agents/phases *wu xing* and the Eight Trigrams/Hexagrams of the Book of *Changes yi jing* as imaginaries, which animate both our human bodies and other bodies in the universe. Thus, in commemoration of the centenary of the 1911 Revolution or *Xin Hai Ge Ming* in China, we celebrate the birth of a Chinese Calendar in the Southern Hemisphere—The Australian Chinese Calendar.

Keywords: 1911 Revolution *Xin Hai Ge Ming*; Traditional Chinese Calendar *Li Fa*; Traditional Chinese Medicine; *Qi*; Western Science; Modernity; Translation; Imaginary; Unified Field of All Existence; *Yu Zhou*; Sexagenary *Gan Zhi* Cycle; *Tian Gan Di Zhi*

The 1911 Revolution and the Traditional Chinese Calendar *Li Fa*

One of the consequences of the 1911 revolution in China was the political demise of the Traditional Chinese Calendar or *li fa*¹. On the first of January 1912, Sun Yat-sen announced the establishment of the Republic of China in Nanjing and was inaugurated as the provisional president of China's first republic. In the "Inaugural Announcement of the Provisional President", the unity of "Chinese races as one" was greatly emphasized. Subsequently, on January 2, 1912, Sun Yat-sen informed all provinces that participated in the uprising against the Qing imperial rule that 'the *Yin* calendar, had been abolished and replaced by the *Yang* calendar' [Wikipedia, 2011]. The "fourth year of the *Xuantong* 宣統 emperor (1911), calculated using the lunar calendar would be followed by the first year of the Republic (1912), calculated using the solar calendar"² [Harrison, 2001;

*Annotated translation.

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¹*Li fa* is a Chinese word which refers to the traditional Chinese calendar TCC in contemporary times.

²Hence, 1913 is referred to then as *min guo er nian* while 1914 would be referred to as *min guo san nian* while *min guo ba jiu nian* would be the year 2000 [Wilkinson 2000].

Qiu et al., 1994]. The "Era of the Republic of China" was promulgated, and 1912 was officially declared as the first year of this historical period. January 1st 1912 was declared officially as the first day of the Republic and years would be counted successively from 1912. On October 1, 1949, the People's Republic of China adopted the Western Gregorian Calendar [Wilkinson, 2000]³. Hence, since 1912, as China adopted the Western Gregorian Calendar and the Greenwich Mean Time, the modern Western time system replaced the pre-modern Chinese time system. The traditional Chinese calendar was translated or rendered in a one-sided fashion into the image of the 'universe' of the Western Gregorian Calendar and the Greenwich Mean Time. The 'primordial unity of the system of space with the system of time' or *yu zhou* 宇宙 in Chinese was replaced by the Newtonian 'doctrine of absolute space and time' [Liu, 1974].

According to Shu hsien Liu in a paper entitled 'Time and Temporality: The Chinese Perspective' published in *Philosophy East and West* in 1974, this doctrine never developed in pre-modern China. Instead, Shu Hsien Liu (quoting the late Chinese contemporary philosopher Thomé H. Fang) saw The 'Universe' or 'Cosmos', as expressed in Chinese, is 'Yü-Chou', designating Space and Time.

What we call 'Yü' is the collocation of three-dimensional

³Annotated Also please refer to the exact date when the People's Republic of China adopted the Gregorian Calendar in Fang Shi Ming's *Zhongguo lishi jianbiao* 中国历史纪年表 [Ming, 1982].

spaces; what we call ‘Chou’ (*zhou*) is constituted by the one dimensional series of changes in succession—the past continuing itself into the present and the present, into the future. Yü and Chou, taken together, represent the primordial unity of the system of Space with the system of Time. Yüchou without a hyphen, is an integral system by itself to be differentiated, only later on, into Space and Time. The four-dimensional unity of Minkowsky and the Space-Time of S. Alexander even cannot adequately convey the meaning of that inseparable connection between Space and Time that is involved in the Chinese term ‘Yüchou’. The nearest equivalent to it would be Einstein’s ‘Unified Field’. Yüchou as the Chinese philosophers have conceived it, is the unified field of all existence.

In the pre-modern Chinese time system (which is the Traditional Chinese Calendar), Shu Hsien Liu contended that ‘space and time are not to be separated from the actual content or happenings of the world, material and spiritual’. ‘The ‘Universe’ or Yüchou is seen by the Chinese philosophers to embrace within itself a physical world as well as a spiritual world, so interpenetrated with each other as to form an inseparable whole. It is not to be bifurcated, as is done in Western thought into two realms which are mutually exclusive or even diametrically opposed’ [Liu, 1974].

I believe these ‘two realms’ refer to the ‘realm of the abstracted theoretical world’ (theory) and the ‘realm of the real world’ (practice) [Tiquia, 2011]. This is a received view in Western science which looks at all knowledge including the pre-modern ‘traditional Chinese natural studies’ [Elmam, 2003] as “a mere abstraction of the world out there” [Tiquia, 2011]. The American philosopher of science Joseph Rouse in his critique of this representational view in science said that “theoretical representations is indifferent to local conditions” [Rouse, 1987].

In essence, the political demise of the traditional Chinese calendar in 1911 fractured the ‘unified field of all existence’ [Liu 1974] i.e. the ontology and epistemology of various pre-modern traditional Chinese natural studies and their corresponding practices including traditional Chinese medicine *chuantong zhongyi* 傳統中醫, chronoacupuncture *ziwuliuzhu*, astronomy *tianwenxue* calendrical studies *li fa*, geomancy *feng shui* etc. In the process, we lost a valuable pre-modern calendrical tool that mimics nature’s temporal order *tianshi* 天時 which in reality enhances the organic unity between humanity and nature *tian ren heyi* 天人合一.

What Is the Traditional Chinese Calendar (TCC)?

Li fa is a Chinese word which refers to the traditional Chinese calendar in contemporary times. The Chinese character *li* was translated into English as ‘calendar’ and ‘astronomy’ [Wieger, 1965]. The Taiwan based *International Encoded Han Character and Variant Database* defines *li fa* as “a methodology of calculating the motion of the sun, moon, stars and planets as well as the flow of the seasons” [*Zhongyang yanjiuyuan*, 2010]. Wang Bing 王冰, a Tang Dynasty medical scholar who re-arranged and made commentaries on the *Plain Questions Su Wen* [Fan, 1984] volumes of *The Yellow Emperor’s Manual of Corporeal Medicine*⁴ *Huangdi Neijing*, referred to the Chinese

calendar as ‘calendrical records’—*liji* 曆紀 and saw the calendar as “allocated records of the movements of the sun and the moon in 365° (days) around the 28 lunar lodges (asterisms) *ershiba xiu* 二十八宿 in the celestial sphere⁵.”

The traditional Chinese calendar *li fa* is also referred to in the Chinese language as *lishu* 曆書, *yinli* 陰曆, *huangli* 黃曆, *tongshu* 通書, etc. It is currently referred to as *jiuli* 舊曆 or ‘the old calendar’ [Wilkinson, 2000]. Richard Smith in his book *Chinese Almanacs* saw the traditional Chinese calendar as a ‘distinctly Chinese response to the universal need of societies to compartmentalise time and order space [Smith, 1992]. Lu Yang 卢央 in a chapter he penned for the *Anthology of Research on the Inner Canons Neijing yanjiu luncong* saw the traditional Chinese calendar as a system of arranging the temporal cycles of the year *nian* 年, lunar months *yue* 月 days *ri* 日 and double-hour time periods *shi* 時 to suit the economic production and life needs of society. According to Lu, to suit the needs of medical treatments and the discipline of ‘nurturing life’ *yang sheng* and in line with the outlook of seeing an intimate relationship between nature and human life, *The Yellow Emperor’s Manual on Corporeal Medicine* repeatedly cited the phenomena of the flow of the seasons as well as climate and weather changes. In this way it could not but deal with the issue of the traditional Chinese calendar [Yang, 1982].

The pre-modern Chinese lunisolar calendar is a very complex but very reliable spatio-temporal map, which aids us to “calculate our position in time, space and the universe” [Dalby, 2007]. It affords one the opportunity to experience the universe (that is the continua of space-time) in both the Northern and Southern hemispheres of the globe. It is a time tested reference tool in “comprehending the rhythms of the earth and the seasons” [Dalby, 2007].

But the traditional Chinese calendar (TCC) is an “instinctive calendar” that “all nature (humans and non-humans⁶) follows” [Bredon & Mitrophanow, 1927]. It is an embodiment of the pre-modern traditional “beliefs, habits and preferences”⁷ of the Chinese people. It is a fundamental component of Chinese classical culture which evolved over four millennia. A significant component of this pre-modern culture and system of belief is

⁴This is Joseph Needham’s English translation of the Chinese medical classical literature *Huangdi Neijing* [Needham, 1970.] which was compiled around the time of the Warring States in China (475-221 BC) [Chun, 1994]. During this historical period, the Chinese calendar which was in operation was the *Zhuan Xu* calendar which was considered as one of the ‘Six Ancient Calendars’ *gu liu li* [Ren, 1997; Lu, 2007].

⁵The original Chinese quote was: *Li ji, wei ri yue xing yu tian ershiba xiu sanbailiushiwu du wei fenji ye* [Chun, 1991].

⁶Non-human (also written nonhuman) is a term used to refer to non-human actors. Its use marks a shift in how the role of humans is perceived and discussed. Rather than traditional perceptions of humankind as a superior species, the term is used to highlight that humans co-exist with other living species and are embedded within complex systems that support their survival on Earth” [Wikipedia, 2011].

⁷Professor Jocelyn Chey, a Chinese Studies academic and former diplomat saw ‘culture’ as ‘intangible’ ‘being composed of beliefs, habits and preferences’ largely preserved and propagated through language. In a speech before the New South Wales branch of Charteris, Prof. Chey stated that ‘culture is intangible, being composed of beliefs, habits and preferences. It is preserved and disseminated largely through language (which is why it is so important to preserve Aboriginal languages in Australia) but it is not the same as language. It is not preserved or embodied in cultural institutions. For instance, religious belief is part of culture, but churches are institutions and, as everyone knows, there is a considerable gap between churches and religious belief. Religious and other beliefs evolve and change, while institutions struggle to keep up, the former evolving more quickly than the latter.’ [Chey, 2011].

the philosophy and culture of *qi*.

The Centrality of the Philosophy of *Qi* in the Traditional Chinese Calendar and in the “Unified Field of All Existence” of Traditional Chinese Medicine (TCM)

The idea of *qi* 氣 which is sometimes transliterated as *chi* or *chhi*⁸, or ‘*Ki*’⁹ or translated into English as ‘primary ether’ [Graham, 1958], ‘material force’ [Ng, 1993], or as the origin of the universe, as expressed in the chapter ‘Disquisition on Astrology’ *tian wen xun* in the ancient classic *Huai Nan Zi* 淮南子 (written in 120 BC). The *Huai Nan Zi*, stated:

In the beginning, nothing had physical shape, and the first spontaneous formations were the continua of space and time (*yu zhou*). Out of these were produced the original *chi*. This *Chi* was heavy and stable, but its lighter part rose and became the sky. The heavy and turbid part gathered and became earth. The gathering of the heavy substance took time, and hence the sky was formed earlier. Then the *chi* of sky and earth met and became yin and yang. The active *chi* of the yin and yang became the four seasons, and as this *chi* of the seasons scattered it formed the various phenomenal things of the earth. The hot *chi* of yang gathered and became Fire. Next, the essence of the *chi* of Fire became the sun. The cold *chi* of yin gathered and became Water. The essence of the *chi* of Water became the moon. The encounter of the *chi* of the sun and the moon gave rise to the stars [Yosida, 1973].

Together with the concepts of the *Yin* and *Yang*, Five Elements *Wuxing*, the Eight Trigrams and Sixty Four Hexagrams of the *Yijing* (*Book of Changes*)¹⁰, I see *qi* as an ontological/epistemological entity or ‘imaginary’. It can be seen as an ‘imaging figure, a metaphor or a narrative that has realness achieved in the emergence of gradually clotting and eventually routinized, sets of embodied, in-place actions’ [Verran, 2005]. Imaginaries, imaging figures and narratives can be seen as similar to “Foucault’s epistemes, Kuhn’s paradigms, Callon, Law and Latour’s actor-networks, Hacking’s self-vindicating constellations, Fujimura and Star’s standardized packages and boundary objects and Knorr-Certina’s reconfiguration” [Turnbull, 1996], David Turnbull’s ‘assemblage’ [Turnbull, 2000], and Donna Haraway’s ‘vision metaphor’ [Haraway, 1991]. An assemblage is a translation medium [Tiquia, 2011] through which an equivalent version of an entity is rendered. *Qi*, together with the *yin* and *yang* 陰陽, the five elements/agents/phases and the eight trigrams of the *Book of changes* 八卦易

⁸Joseph Needham uses this Wade Giles transliteration of *qi*. He also transliterates *qi* as ‘*pneuma*, subtle matter, matter-energy, or energy present in organized form’ [Needham, 1962].

⁹Gottfried Wilhelm Leibniz refers to *qi* as *ki* [Rosemont & Cook, 1977]. Yuasa Yasuo, in his book *The Body Self-Cultivation and Ki-Energy*, also transliterates *qi* as ‘*ki*’ or ‘*ki-energy*’ [Yuasa, 1993].

¹⁰Trigrams *gua*. The basic forms of the *Book of Changes* are provided by the eight trigrams. The lines forming these trigrams are either whole (male) or broken (female). Each trigram consists of three male or female lines; and according to the make-up, the trigram symbolises heaven, earth, water, fire, dampness, wind, thunder or mountains. The trigrams can be superimposed upon each other, and in this way $8 \times 8 = 64$ hexagrams are obtained. These 64 hexagrams provide the essential text of the oracle book, the *Yi-jing*; the rest of the material consists of commentary, elaboration and legend. Marcel Granet has described it as ‘the cosmos in capsule form’ [Eberhard, 2003].

經, animate both our human bodies and the bodies of the universe around us [Tiquia, “The *Qi*”, 2011].

Qi, in its earlier uses referred to ‘floating clouds’, the breath and the atmosphere between heaven and earth. The Chinese character is written with one set of strokes signifying flowing current, and another representing a ‘seed’ or ‘grain’, signifying minuteness [Tiquia, 1986] and a ‘tangible physical form’ *wu xing zhi zhi* 有形之質 [San & Sun, 1985]. Origin stories have it that the universe emerged from cosmological confusion period as the light, bright *Yang qi* ascended to become Heaven, and the thick heavy *yin qi* descended to become Earth. During the historical period of the Warring States in China (475-221 BC) it became accepted that ‘all things with tangible physical form’ *you xing zhi zhi* 有形之質 [San & Sun, 1985] in the universe originated from an ‘invisible *qi*’ *wu xing zhi qi* 无形之气 [San & Sun, 1985]. Later, during the Eastern Han Dynasty, *qi* came to be understood as the most basic substance which constitute the cosmos, and that things are the products of its multitudes of transformations or ‘evolutionary operations’ *hua*. During the Song dynasty, Neo-Confucianism¹¹ drew on the Confucian classics as well as early texts such as the *Huai Nan Zi* to formulate a cosmogony predicated on the “Dichotomy of principle”, contrasting *li* and *qi*; this in turn paved the way to a new vitalist ontology that emerged in the seventeenth century. Founded on materiality and the actualities of life, this new way of thinking gave rise to a vitalism centered upon *qi* [Ng, 1993].

Harmonizing with Nature’s Temporal Order *Tian Shi*: Restoring Traditional Chinese Medicine’s Pre-Modern Spatio-Temporal Order in a Postmodern Globalised World

At the threshold of this postmodern epoch of “humanized modernity” characterized by a growing “disbelief in the metanarratives of science, rationality and objectivity, where lived lives, the diverse, the complex... the unique” are favored, and more importantly the local, which “acknowledges individuality, complexity and subjectivity of personal experience” [Chan & Chan, 2000] as well as the organic unity of man (humanity) and heaven (nature) *tian ren he yi* i.e. “the natureworld and the humanworld being organically of one *qi*” *tian ren tong qi ye* 天人同气也 [San & Sun, 1985], there is a pressing need for restoring traditional Chinese medicine’s pre-modern spatio-temporal order in a postmodern globalised world [Tiquia, 2008].

In pre-modern traditional Chinese medicine, climate change *qihou bianyi* 氣候變易 is always contingent upon the ‘time and season’ *shi* 時, ‘two-hour time period’ *shi chen* 時辰, ‘day’ *ri* 日, ‘lunar month’ *yue* 月, ‘seventy two pentads’ *qishier hou* 七十二候, ‘twenty four Climactic Periods’ *ershisisige jieqi* 二十四個節氣, ‘four seasons’ *si shi* 四時, ‘year’ *nian* 年 or *sui* 歲 and ‘sixty spatio-temporal units’ *jia zi* 甲子 [Tiquia, 2008]. And ‘climate change’, which is now referred to in modern Chinese as *qihou bianhua*, as seen from the perspective of the *Yellow Emperor’s Manual on Corporeal Medicine* is one of those ‘natural time sequences’ *shi xu* 時序 that ‘mark’ changes and transformations in ‘nature’ *tian* 天. Paraphrasing the *Yellow Emperor’s Manual*, the pre-modern TCM scholar/ practitioner

¹¹Neo-Confucianism as formulated by Zhu Xi (1130-1200) saw the world as based on *dao*, expressed through both principle (*li*) and *qi* (understood as the material embodiment of the *dao*) [Chan, 1963].

Yang Ru Hou (1861-1928) stated:

The cosmic yin and yang *qi* of the 'sky/heaven/celestial sphere' *tian* and 'earth/terrestrial sphere' *di* ascend and descend and climatic weather conditions during the 'four seasons' resonate with these changes. Humanity must harmonize and adapt to these changes as well. During spring and summer seasons, one must nurture the cosmic *yang qi*; while during the autumn and winter seasons one must nurture the cosmic *yin qi*. In this way, unusual illnesses will not come about [Hou, 1941].

Guo Ai Chun's *Dictionary of The Yellow Emperor's Inner Cannons Huang di neijing cidian*, defines *tian shi* (temporal order of nature) as the 'time sequence in the occurrence of changes and transformation in nature including the twenty four Climactic Periods *jie qi*, weather and climate *qihou*, the phases of the moon *yue xiang yuanyue*, fine and cloudy weather conditions *yin qing* and the alternation of the seasons i.e. winter and summer season *han shu* [Chun, 1991]. Quoting from the 'Plain Question Volumes' of the *Yellow Emperor's Manual on Corporeal Medicine*, he provided a classical literary basis for his definition.

When doing acupuncture, one must closely observe the movements of the sun *ri*, moon *yue*, stars *xing*, planets *chen*, the four seasons *si shi*, Eight Climactic Periods *ba zheng zhi qi* which all together generate the *qi* (weather and climate). Once *qi* (weather and climate) has settled down *ding*, then administer acupuncture. During those bright cloudless days when the weather is warm, human blood flow is smooth while the Protective *qi* (*wei qi*) floats to the surface of the body. Conversely, during cold, cloudy days with very little exposure to the sun, one's blood flow becomes choppy. The Protective *qi* does not flow up to the surface of the body but rather sinks deep inside the body¹². At the time when a new moon comes about, new blood *xue* and *qi* also come about, and the Protective *qi* flows unimpeded. When the moon is perfectly round, blood and *qi* fill up the muscles which make them strong. However, as the moon becomes 'empty' *yue kuo kong*, the acupuncture meridians *jing luo* also become 'empty'; the human muscles become weak and the Protective *qi* 'departs' *wei qi qu*¹³. Hence the physical body is left on its own 形獨居. Hence regulate the flow of *qi* and blood in accordance with the 'temporal order of nature' 天時 [Chun, 1991].

And it is through the medium of 'nature's temporal order' *tian shi* that the 'invisible *qi* becomes 'visible'. In his foreword to Chen Shu Tang's book *zìwuliuzhū shuò au* (*Demystifying Chronoacupuncture*), Chen Shu Tang 陈述堂 stated:

The Primary *qi* in the celestial sphere assumes no visible

¹²Please take note of the three different meanings that the imaginary *qi* conveys ('Climactic Period' *jie qi*; Protective *qi* 卫气 and *qi* in *qihou* (weather and climate).

¹³Yang Shang Shan elaborated on the use of the Chinese word *qu* which I translate into English as 'to depart'. He explained that 'within the acupuncture meridian *jing mai*, the *yin qi* 'waned' *xu* as the moon's brightness 'waned'. Outside the acupuncture meridian *jing luo zhi wai*, the *yang qi* of the entity *wei* (Protective *qi*) also wanes as the moon's brightness 'waned'. Hence, I used the word *qu* (to depart) and this does not convey the meaning that there is an absence of the Protective *qi* *fei wu wei qi ye* [Chun, 1981].

form that one can see *tian zhi yuan qi wu xing ke jian*. Observing and following the flow of the *shi chen* (two-hour periods/twelve lunar months) on Earth to which the 'handle' of the Big Dipper points out to, one comes to realize its (*qi*) presence *guan dou jian zhi chen ji ke zhi yi* [Tang, 1991].

In a commentary on the cosmogony of the *Huainanzi*, John Major observed that an important but rarely noted feature of this cosmogony is that "everything is made of *qi*. *Qi* is both a process and substance, and comes into being as a concrete manifestation of space-time" [Major, 1993].

The Natural Spatio-Temporal Order(s) Mimicked by the Traditional Chinese Calendar That Make Visible the Presence of Human *Qi*

The Twenty Four Climactic Periods

The encyclopedic reference book 中国文化知识精华 *Zhongguo wenhua zhishi jinghua* [Essential Reference Materials on Chinese Culture and Knowledge] edited by Wang Jian Hui 王建辉 and Yi Xue Jin 易学金 [Hui & Jin, 1989] provides good introductory materials on the Twenty Four Climactic Periods. It sees the twenty-four Climactic Periods as 'mimicking' a particular natural spatio-temporal sequential order that reflects a corresponding climate and weather changes in a particular spatial regional territory. In other words, they designate the twenty-four spatial locales along the planet Earth's revolutionary orbit around the sun. Astronomically speaking, the number of longitudinal degrees is used to designate the sun's position along the ecliptic. The whole breadth of the ecliptic comes to 360°. The Climactic Period of "Vernal Equinox" *chunfen dian* 春分点 sits' on 15° of the ecliptic. Six Climactic Periods make one season, while twenty four Climactic Periods collectively constitute the "four seasons". As early as the Spring and Autumn Period (770-476 BC) in China's history, through agricultural production, people in China began designating four of the twenty-four Climactic Periods i.e. "Vernal Equinox", "Summer Solstice" *Xiazhi*, 'Autumnal Equinox' *Qiufen* and "Winter Solstice" *Dongzhi*. At the time of the Qin-Han (221-220 BC) historical period, the concept of the 'Twenty Four Climactic Periods' had been firmly established and had become an important spatio-temporal tool in agricultural production. Below is a table showing the four seasons, the twenty-four Climactic Periods and the date that they occur in both the Traditional Chinese Calendar and the Western Gregorian Calendar [Hui & Jin, 1989]. Please refer to **Table 1**.

"Gnomon"¹⁴ *Gui Biao* 圭表—An Ancient Astronomical Instrument Used to "Locate" the Twenty Four Climactic Periods *Jie Qi*

During remote antiquity *yuan gu*, people noticed the shadow cast by the ray of the sun on certain bodies of things. They also noticed that the length and orientation of the shadow changed as the sun changed position. Gradually, people began to use bamboo poles or erect structures made from stones as 'tools' to observe these changes in the shadow cast by the sunlight. This then gave rise to the most ancient astronomical instrument—the

¹⁴A 'gnomon' is a pillar or a rod 'which shows the time of the day by casting its shadow on a marked surface' [Brown, 1993].

Table 1.

The occurrence of the twenty four climactic periods in both the traditional Chinese calendar and the western Gregorian calendar [Hui & Jin, 1989].

The Four Seasons	Chinese Calendar Month Sequence	Climactic Period <i>Jie Qi</i>	Gregorian Calendar Equivalent Dates
SPRING	1 st Lunar Month <i>Zhen Yue</i>	Spring Begins <i>Li Chun</i> Rain Water <i>Yu Shui</i>	February 4 th or 5 th
	2 nd Lunar Month <i>Er Yue</i>	Waking of Insects <i>Jing Zhe</i> Vernal Equinox <i>Chun Fen</i>	February 18 th or 19 th March 20 th or 21 st
	3 rd Lunar Month <i>San Yue</i>	Tomb Sweeping Day <i>Qing Ming</i> Grain Rain <i>Gu Yu</i>	April 4 th or 5 th April 20 th or 21 st
SUMMER	4 th Lunar Month <i>Si Yue</i>	Summer Begins <i>Li Xia</i> Grain Full <i>Xiao Man</i>	May 5 th or 6 th May 21 st or 22 nd
	5 th Lunar Month <i>Wu Yue</i>	Grain in Ear <i>Mang Zhong</i> Summer Solstice <i>Xia zhi</i>	June 5 th or 6 th June 21 st or 22 nd
	6 th Lunar Month <i>Liu Yue</i>	Slight Heat <i>Xiao Shu</i> Great Heat <i>Da Shu</i>	July 7 th or 8 th July 22 nd or 23 rd
	AUTUMN	7 th Lunar Month <i>Qi Yue</i>	Autumn Begins <i>Li Qiu</i> Limit of Heat <i>Chu Shu</i>
8 th Lunar Month <i>Ba Yue</i>		White Dew <i>Bai Lu</i> Autumnal Equinox <i>Qiu Fen</i>	September 7 th or 8 th September 23 rd or 24 th
9 th Lunar Month <i>Jiu Yue</i>		Cold Dew <i>Han Lu</i> Frost's Descent <i>Shuang Jiang</i>	October 8 th or 9 th October 23 rd or 24 th
WINTER	10 th Lunar Month <i>Shi Yue</i>	Winter Begins <i>Li Dong</i> Slight Snow <i>Xiao Xue</i>	November 7 th or 8 th November 22 nd or 23 rd
	11 th Lunar Month <i>Shi Yi Yue</i>	Heavy Snow <i>Da Xue</i> Winter Solstice <i>Dong Zhi</i>	December 7 th or 8 th December 21 st or 22 nd
	12 th Lunar Month <i>Shi Er Yue</i>	Slight Cold <i>Xiao Han</i> Big Cold <i>Da Han</i>	January 5 th or 6 th January 20 th or 21 st

gui biao (gnomon) which had many uses. For example, depending upon the orientation and length of the shadow cast by the sunlight, people used it to find their bearings or locate the Climactic Periods, as well as fix the length of a Tropical Year *huigui nian* 回歸年 which comes to 365.25 days. The gnomon is composed of an erect plate/dial *biao* and a ruler-like plate *gui* placed on the surface of the ground facing true north/south directions. This instrument was used as early as the middle of the era of the Spring and Autumn period in Chinese history [Ancient Astronomy of China, 2011]. [Please refer to **Figure 1** Ming Dynasty Gnomon].

The Seventy Two Hous: Phenological Changes That Occur in a Five Day Time Period or a Pentad *Qi Shi Er Hou*

The classical Chinese word *hou* 候 is a monosyllabic polysemous Chinese word which means 'to observe'; 'sites on

the surface of the human body where the movements of the arterial pulse are felt'; 'weather and climate'; 'to wait' or a temporal order or seasonal period of five days (a 'pentad'¹⁵) duration when specific phenological change occur [Chun, 1991].

In Chapter 9 'The Six Segments and the Phenomena of the Human Endogenous Organs' *Liu jie cang xiang lun* 六節藏象論篇第九 of the *Plain Questions* volumes of the *Yellow Emperor's Manual* used the classical Chinese word *hou* in the sense of phenological changes occurring within the temporal order of five days.

The lapse of five days brings about one *hou* (phenological change). Three five days makes one Climactic Period. Six Climactic Periods make one season *shi*. And four seasons make a year *sui* [Nanjing zhongyi, 1981].

¹⁵Pentad 'a group of five' [Butler, 2008].



Figure 1.
Ming Dynasty Gnomon [Ancient Astronomy of China, 2011].

In his book *The TCM Discipline of the Circulation of Qi* *Zhongyi yunqixue* [En, 1982], Cheng Shao En translated the above quote into a modern setting with its pre-modern meanings intact. Cheng first of all in analysing the phrase “the lapse of five days brings about one *hou*” defined *hou* as “the external manifestations of the transformation and motion that the *yin* and *yang qi* undergo. Specifically, it can refer to the various actions, motions and changes that flowers, grasses, trees, fishes, birds and beasts manifest as they are ‘touched and propelled’ 迫使 by the motions, transformations and changes that the *yin* and *yang qi* go through. Cheng added that the phrase “five days” refers to the cyclical flow of the five elements of wood, fire, earth, metal and water¹⁶.

Diurnally, each of the elements circulates in accordance with the temporal flow of the twelve ‘double-hour time periods’¹⁷ *shi chen* of Zi 子 (11:00 pm-1:00 am), Chou 丑 (1:00 am-3:00 am), Yin 寅 (3:00 am-5:00 am), Mao 卯 (5:00 am-7:00 am), Chen 辰 (7:00 am-9:00 am), Si 巳 (9:00 am-11:00 am), Wu 午 (11:00 am-1:00 pm), Wei 未 (1:00 pm-3:00 pm), Shen 申 (3:00 pm-5:00 pm), You 酉 (5:00 pm-7:00 pm), Xu 戌 (7:00 pm-9:00 pm) and Hai 亥 (9:00 pm-11:00 pm).

Coincidentally, in a five day time period, there are sixty ‘double-hour time periods’ *shi chen* (which make one Sexagenary *Jia Zi* 甲子 cycle *jia zi* or a Sexagenary *Gan-Zhi* 干支 (Stem and Branch) cycle.

As an example, during the Climactic Period of ‘Spring Be-

¹⁶I see the notion of the ‘Five Elements’ *wu xing* of *mu* 木 (wood), *huo* 火 (fire), *tu* 土 (earth), *jin* 金 (metal) and *shui* 水 (water) as comparable to the Western notion of the Four Elements in the sense that in both philosophical systems the elements constitute the ultimate roots of all natural things [Tiquia, “The Qi”, 2011].

¹⁷This system of telling time which originated from the historical period of the Western Han dynasty (202 BC-AD 23) was referred to in Chinese as ‘the system of telling time in accordance with the twelve double-hour periods’ *shi er chen ji shi fa*. It supposedly evolved from an earlier system called *tian xiang ji shi fa* (‘recording time in accordance with the celestial phenomena’ [Hua, 1991]).

gins’ *Lichun* the three phenological changes which come about are:

1) ‘The east wind melts the ice’ *dong feng jie dong* 東風解凍-

2) ‘Dormant creatures start to twitch’ *zhe chong shi zhen* 蟄蟲始振.

3) ‘Fish swim upstream, breaking the ice’ *yu zhi fu shui* 魚陟負水.

During the span of the first phenological change *chu zhi hou* 初之候, with the arrival of the *yang qi*, that which is firm and congealed begins to melt. In the first instance, frost starts to melt along the eastern regions of China. As a result, ‘the east wind melts the frost’ and gradually ‘water begins to flow’. At this time/season, while the weather could still be very cold in the eastern regions of China, however, ice and snow which ‘faces the sun’ begins to melt. These ‘changes’ mark the beginning of the phenological period *hou* of ‘The east melts the ice’ [En, 1982]. In the book, Cheng Shao En arranged all the seventy two pentads and the twenty four Climatic Periods in a table and their occurrence during the twelve lunar months. On the other hand, in her book *East wind melts the ice a memoir through the seasons* (2007), Liza Dalby, an American anthropologist specializing in Japanese culture translated the seventy two pentads into English and applied the temporal order of the seventy two pentads in tending her garden in Berkeley California [Dalby, 2007.]. I have adopted most of Liza Dalby’s English translation of the ‘seventy two pentads’.

The Flow of the *Gan Zhi* Sexagenary Cycle

“Time for the Chinese is forever flowing without beginning nor end”. And ‘it is customary for the Chinese people to use the *Kan-Chih* system’ [Liu, 1974] to mark the passage of space-time. There are ten heavenly stems *shi tian gan* and twelve Earthly Branches *shi er di zhi*. An alternating and sequential combination of the two sets of Chinese scripts make a cycle of sixty lunar years *nian*, lunar months *yue*, days *ri* and ‘two-hour time periods’ *shi chen* in a day.

In his Masters degree thesis (2004), Li Shao Yao from Taiwan Xuan Zang Institute of Humanities and Culture argued that the ten Celestial Stems *gan* and the twelve Earthly Branches *zhi* constitute a system of spatio-temporal codes or symbols. He said:

Gan zhi refers to both the ten Celestial Stems and twelve Terrestrial Branches. The Celestial Stems are: *Jia, Yi, Bing, Ding, Wu, Ji, Geng, Xin, Ren, Gui*. While the Terrestrial Branches are *Zi, Chou, Yin, Mao, Chen, Si, Wu, Wei, Shen, You, Xu, Hai*. The *Gan* [Stems] *Zhi* [branches] are symbols or codes¹⁸ that the ancient people in China used to record the passing of time as well as one’s spatial position in the universe *ji shi he ji fangwei de fuhao* [Yao, 2004].

In the chapter on “Chronology” of his book *Chinese History A Manual*, Endymion Wilkinson pointed out that the *gan zhi* sexagenary cycle was originally a significant part of the pre-modern counting system in China. In the chapter, he described that the *gan zhi* sexagenary cycle was constructed by combining two sets of ‘counters’—a ‘denary’ and a ‘duodenary’

¹⁸Codes are a “systematic modification of a language, information etc. into letter figure or symbols for the purposes of brevity, secrecy or the machine processing of information” [Brown, 1993].

counter, whereby a ‘stem’ *gan* and a ‘branch’ *zhi* are combined sequentially without duplication generating sixty unique combinations. The ‘denary cycle’ is referred to in Chinese as *shi tian gan* (ten Celestial Stems) while the ‘duodenary cycle’ is referred to as *shi er di zhi* (twelve Terrestrial Branches). Below is a table of the denary and duodenary counters of the Ten Celestial Stems and Twelve Terrestrial Branches *gan zhi*. (Please refer to **Table 2** ‘The Denary and Duodenary Counters of the Ten Celestial Stems and Twelve Terrestrial Branches *gan zhi* [Wilkinson, 2000].

The individual units of the ten Celestial Stems and the twelve Terrestrial Branches are combined without duplication in a sequential and ordinal manner giving rise to a new set of spatio-temporal ‘codes’. The first unit of the Celestial Stem in the denary counter, *Jia*, is paired with *Zi* 子 (the first unit in the duodenary Terrestrial Branch counter) and a ‘new spatio-temporal code’ *Jia Zi* 甲子 is formed. Then the second unit in the denary Stem cycle, *Yi* 乙, is combined with *Chou* 丑, (the second unit in the duodenary Terrestrial Branch cycle) and a new spatio-temporal code *Yi Chou* 乙丑 is formed. Following this, the third unit in the denary counter of the Celestial stem *Bing* 丙 is combined with *Yin* 寅, the third unit in the duodenary counter of the Terrestrial Branch, and a ‘new spatio-temporal code’ *Bing Yin* 丙寅 is formed. And finally, the tenth unit in the denary counter of the Celestial Stem *Gui* 癸 is paired with *you* 酉, the tenth unit in the duodenary of the Terrestrial Branch and a new spatio-temporal code is formed—*Gui You* 癸酉.

At this juncture, there are still two un-paired units in the denary counter of the Terrestrial Branch: *Xu* 戌 and *hai* 亥. They should be paired respectively with the first and second units in the denary counter of the Celestial Stem. *Jia* is paired with *Xu* 戌 forming the new code *Jia Xu* 甲戌 while *Yi* 乙 is paired with *Hai* 亥 forming a new code *Yi Hai* 乙亥. Subsequently, the third Celestial Stem *Bing* 丙 is combined with the first unit *Zi* 子 in the denary of the Terrestrial Branches forming the new code *Bing Zi* 丙子. From this point on, the rest of the remaining units are paired in both the denary counter of the Celestial Stems and duodenary counter of the Terrestrial Branches. Upon reaching the new code *Gui Hai* 癸亥, sixty new codes are generated. To begin another sexagenarian *gan zhi* cycle one has to start again from the beginning when the first unit in the denary counter of the Celestial Stem, *Jia* 甲, is combined with *Zi* 子, the first unit in the duodenary counter of the Terrestrial Branch. (To follow the sequential flow of the sexagenary *gan zhi* year cycle, please refer to (Table 3) The 78th Sexagenary *Gan Zhi* Year Cycle¹⁹ with associated ‘Elements’, ‘Zodiac’, ‘Ordinal Sequence’ and ‘*Qi* categories’.

The System of Recording the Passing of Lunar Months in accordance with the Spatio-Temporal Codes of the Ten Decimal Celestial Stems and the Twelve Terrestrial Branches *Gan Zhi Ji Yue Fa*

Using the system of recording the passing of the lunar months in accordance with the spatio-temporal codes of the

¹⁹—The invention of the Sexagenary Cycle *liushi huajiazhi* is ascribed to Ta Nao (*Da Nao*) 大撓 a minister of the Emperor Huang Ti (*Huangdi*). Huang Ti (The Yellow Emperor) commenced his reign in the year 2697 BC and the first year of the First Cycle dates from the sixty-first year of his reign, i.e. 2637 BC Thus the year 1905 is the 42nd year of the 76th Cycle or the 4542nd of the system of Cycles, the longest unbroken chronological period on record” [Kliene, 1905].

Celestial Stems and Terrestrial Branches *gan zhi*, in essence, is similar to the system of recording the passing of years as previously illustrated. Both systems generate a cycle of sixty ‘new spatio-temporal codes’. However, one must be reminded that according to the rules of constructing the TCC, on the lunar month where one finds the Climactic Period *jie qi* of Winter Solstice *dongzhi* is supposed to be the eleventh lunar month *Jian zi zhi yue* 建子之月. What follows the eleventh lunar month is the ‘twelfth lunar month’ *Jian zhou zhi yue* 建丑之月. This is followed by the first Lunar Month of the following year which is referred to in Chinese as *zheng yue* 正月 or as *Jian yin zhi yue* 建寅之月 (the Terrestrial Branch *yin* lunar month).

As an example, if the first lunar month is *Bing Yin*, then the second lunar month is *Ding Mao*, while the third lunar month is *Wu Chen*, while the fourth lunar month is *Ji Si* (please refer to **Table 4**). The following rules are followed:

- 1) When the lunar year’s Celestial Stem is *Jia* 甲 or *ji* 己, then the Celestial Stem of the 1st Lunar month will be *Bing* 丙.
- 2) When the year’s Celestial Stem is *Yi* 乙 or *Geng* 庚, then the Celestial Stem of the 1st Lunar Month of that year will be *Wu* 午.
- 3) When the year’s Celestial Stem is *Bing* 丙 or *Xin* 辛, then the Celestial Stem of the 1st Lunar Month will be *Geng* 庚.
- 4) When the year’s Celestial Stem is *Ding* 丁 or *Ren* 壬, then the Celestial Stem of the 1st Lunar Month will be *Ren* 壬.
- 5) When the year’s Celestial Stem is *Wu* 戊 or *Gui* 癸, then the Celestial Stem of the 1st Lunar Month will be *Jia* 甲 [Hua, 1991].

As an example, the year 2011 is the *xin mao nian* 辛卯年 (please refer to the Sexagenary *gan zhi* Year Table). This year’s Celestial Stem is *xin* 辛. Hence, in accordance with the abovementioned rules, the Celestial Stem of this year’s 1st Lunar Month should be *Geng* 庚. I referred to the *Ten Thousand Years Standard Western Gregorian Calendar and Traditional Chinese Calendar Conversion Book-Table* 標準中西對照萬年曆 [Zhe, Sen, Long, & Hua, 2007] and checked the *gan zhi* for this month and found out that it is *geng yin*. In order to facilitate the calculations of the lunar months of the year, the above corresponding relationships between the year, lunar months, and ten Celestial Stems and twelve Terrestrial Branches are illustrated in (Table 4)

The *Gan Zhi* Sexagenary Cycle of the ‘Two-Hour Time Periods’ *Gan Zhi Ji Shi*

Generally speaking, each of the ‘two-hour time period’ *shi chen* is represented and recorded with the use of just one of the twelve Terrestrial Branches. And one day and night makes one cycle *yi tian yi ge zhou qi*. And when one of the twelve Terrestrial Branches is paired with one of the ten Celestial Stems, they then become the ‘paired stem and branch’ *gan zhi* system of recording the chronology of the twelve ‘two hour time-periods’ in a day. These ‘two-hour time period’ *gan zhi* cycle begins with the paired Stem *Jia* and Branch *Zi* *Jia Zi* and ends with the Stem *Gui* and Branch *Hai* forming a ‘two-hour time period’ *gan zhi* sexagenary cycle’. This means that a cycle of five days (consisting of 60 two-hour time periods) form a cycle *zhou er fu shi*. Six five days cycles constitute 30 days (which is close to the duration of one month).

The twelve Terrestrial Branches *di zhi*, which are fixed in a day/night, are paired with the Celestial Stem of the day *dang ri*

Table 2.

The denary and duodenary counters of the ten celestial stems and twelve terrestrial branches.

Denary <i>Gan</i> Stems Cycle	<i>Jia</i> 甲	<i>Yi</i> 乙	<i>Bing</i> 丙	<i>Ding</i> 丁	<i>Wu</i> 戊	<i>Ji</i> 己	<i>Geng</i> 庚	<i>Xin</i> 辛	<i>Ren</i> 壬	<i>Gui</i> 癸		
Duodenary <i>Zhi</i> Branch Cycle	<i>Zi</i> 子	<i>Chou</i> 丑	<i>Yin</i> 寅	<i>Mao</i> 卯	<i>Chen</i> 辰	<i>Si</i> 巳	<i>Wu</i> 午	<i>Wei</i> 未	<i>Shen</i> 申	<i>You</i> 酉	<i>Xu</i> 戌	<i>Hai</i> 亥

Table 3.

The 78th *Gan Zhi* Sexagenary year cycle with associated elements, zodiac, ordinal sequence and *qi* categories.

Stem	<i>Jia</i> 甲	<i>Yi</i> 乙	<i>Bing</i> 丙	<i>Ding</i> 丁	<i>Wu</i> 戊	<i>Ji</i> 己	<i>Geng</i> 庚	<i>Xin</i> 辛	<i>Ren</i> 壬	<i>Gui</i> 癸
Element	Wood	Wood	Fire	Fire	Earth	Earth	Metal	Metal	Water	Water
Zodiac	Rat	Ox	Tiger	Rabbit	Dragon	Snake	Horse	Sheep	Monkey	Rooster
Branch	<i>Zi</i> 子	<i>Chou</i> 丑	<i>Yin</i> 寅	<i>Mao</i> 卯	<i>Chen</i> 辰	<i>Si</i> 巳	<i>Wu</i> 午	<i>Wei</i> 未	<i>Shen</i> 申	<i>You</i> 酉
Year	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Order	1	2	3	4	5	6	7	8	9	10
<i>Qi</i>	Yang	Yin	Yang	Yin	Yang	Yin	Yang	Yin	Yang	Yin
Stem	<i>Jia</i> 甲	<i>Yi</i> 乙	<i>Bing</i> 丙	<i>Ding</i> 丁	<i>Wu</i> 戊	<i>Ji</i> 己	<i>Geng</i> 庚	<i>Xin</i> 辛	<i>Ren</i> 壬	<i>Gui</i> 癸
Element	Wood	Wood	Fire	Fire	Earth	Earth	Metal	Metal	Water	Water
Zodiac	Dog	Boar	Rat	Ox	Tiger	Rabbit	Dragon	Snake	Horse	Sheep
Branch	<i>Xu</i> 戌	<i>Hai</i> 亥	<i>Zi</i> 子	<i>Chou</i> 丑	<i>Yin</i> 寅	<i>Mao</i> 卯	<i>Chen</i> 辰	<i>Si</i> 巳	<i>Wu</i> 午	<i>Wei</i> 未
Year	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Order	11	12	13	14	15	16	17	18	19	20
<i>Qi</i>	Yang	Yin	Yang	Yin	Yang	Yin	Yang	Yin	Yang	Yin
Stem	<i>Jia</i> 甲	<i>Yi</i> 乙	<i>Bing</i> 丙	<i>Ding</i> 丁	<i>Wu</i> 戊	<i>Ji</i> 己	<i>Geng</i> 庚	<i>Xin</i> 辛	<i>Ren</i> 壬	<i>Gui</i> 癸
Element	Wood	Wood	Fire	Fire	Earth	Earth	Metal	Metal	Water	Water
Zodiac	Monkey	Rooster	Dog	Boar	Rat	Ox	Tiger	Rabbit	Dragon	Snake
Branch	<i>Shen</i> 申	<i>You</i> 酉	<i>Xu</i> 戌	<i>Hai</i> 亥	<i>Zi</i> 子	<i>Chou</i> 丑	<i>Yin</i> 寅	<i>Mao</i> 卯	<i>Chen</i> 辰	<i>Si</i> 巳
Year	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Order	21	22	23	24	25	26	27	28	29	30
<i>Qi</i>	Yang	Yin	Yang	Yin	Yang	Yin	Yang	Yin	Yang	Yin
Stem	<i>Jia</i> 甲	<i>Yi</i> 乙	<i>Bing</i> 丙	<i>Ding</i> 丁	<i>Wu</i> 戊	<i>Ji</i> 己	<i>Geng</i> 庚	<i>Xin</i> 辛	<i>Ren</i> 壬	<i>Gui</i> 癸
Element	Wood	Wood	Fire	Fire	Earth	Earth	Metal	Metal	Water	Water
Zodiac	Horse	Sheep	Monkey	Rooster	Dog	Boar	Rat	Ox	Tiger	Rabbit
Branch	<i>Wu</i> 午	<i>Wei</i> 未	<i>Shen</i> 申	<i>You</i> 酉	<i>Xu</i> 戌	<i>Hai</i> 亥	<i>Zi</i> 子	<i>Chou</i> 丑	<i>Yin</i> 寅	<i>Mao</i> 卯
Year	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Order	31	32	33	34	35	36	37	38	39	40
<i>Qi</i>	Yang	Yin	Yang	Yin	Yang	Yin	Yang	Yin	Yang	Yin
Stem	<i>Jia</i> 甲	<i>Yi</i> 乙	<i>Bing</i> 丙	<i>Ding</i> 丁	<i>Wu</i> 戊	<i>Ji</i> 己	<i>Geng</i> 庚	<i>Xin</i> 辛	<i>Ren</i> 壬	<i>Gui</i> 癸
Element	Wood	Wood	Fire	Fire	Earth	Earth	Metal	Metal	Water	Water
Zodiac	Dragon	Snake	Horse	Sheep	Monkey	Rooster	Dog	Boar	Rat	Ox
Branch	<i>Chen</i> 辰	<i>Si</i> 巳	<i>Wu</i> 午	<i>Wei</i> 未	<i>Shen</i> 申	<i>You</i> 酉	<i>Xu</i> 戌	<i>Hai</i> 癸	<i>Zi</i> 子	<i>Chou</i> 丑
Year	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Order	41	42	43	44	45	46	47	48	49	50
<i>Qi</i>	Yang	Yin	Yang	Yin	Yang	Yin	Yang	Yin	Yang	Yin
Srem	<i>Jia</i> 甲	<i>Yi</i> 乙	<i>Bing</i> 丙	<i>Ding</i> 丁	<i>Wu</i> 戊	<i>Ji</i> 己	<i>Geng</i> 庚	<i>Xin</i> 辛	<i>Ren</i> 壬	<i>Gui</i> 癸
Element	Wood	Wood	Fire	Fire	Earth	Earth	Metal	Metal	Water	Water
Zodiac	Tiger	Rabbit	Dragon	Snake	Sheep	Monkey	Rooster	Monkey	Rooster	Dog
Branch	<i>Yin</i> 寅	<i>Mao</i> 卯	<i>Chen</i> 辰	<i>Si</i> 巳	<i>Wu</i> 午	<i>Wei</i> 未	<i>Shen</i> 申	<i>You</i> 酉	<i>Xu</i> 戌	<i>Hai</i> 亥
Year	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
Order	51	52	53	54	55	56	57	58	59	60
<i>Qi</i>	Yang	Yin	Yang	Yin	Yang	Yin	Yang	Yin	Yang	Yin

de tian gan forming the *gan zhi* (stem and branch combination) which are used to designate the chronology of the sexagenary *gan zhi* cycle of the ‘two-hour time periods’ in a number of days. The following rules are followed in arraying the *gan zhi* sexagenary ‘two-hour time periods’ cycle:

- 1) When the Celestial Stem of the day *ri* is *Jia* 甲 or *Ji* 己, then at the *Zi* 子 ‘two hour-time period’ *shi chen* (11 pm-1 am), the Celestial Stem (of the ‘two-hour time period’ *shichen*) should be *Jia* 甲.
- 2) When the Celestial Stem of the day is *Yi* 乙 or *Geng* 庚,

then at the *Zi* 子 ‘two hour time period (11 pm-1 am), the Celestial Stem should be *Bing* 丙.

- 3) When the Celestial Stem of the day is *Bing* 丙 or *Xin* 辛, then on the *Zi* 子 ‘two hour-period (11 pm-1 am), the Celestial Stem should be *Wu* 戊.

- 4) When the Celestial Stem of the day is *Ding* 丁 or *Ren* 壬, then on the *Zi* 子 ‘two hour-period (11 pm-1 am) the Celestial Stem should be *Geng* 庚.

- 5) When the Celestial Stem of the day is *Wu* 戊 or *Gui* 癸, then on the *Zi* 子 ‘two hour-period’ (11 pm-1 am) the Celestial

Table 4.
The Sexagnary *gan zhi* lunar months cyclical table [Hua, 1991].

1 st Lunar month	1 <i>BingYin</i> 丙寅	13 <i>Wu Yin</i> 戊寅	25 <i>GengYin</i> 庚寅	37 <i>Ren-Yin</i> 壬寅	49 <i>Jia-Yin</i> 甲寅
2 nd Lunar Month	2 <i>DingMao</i> 丁卯	14 <i>JiMao</i> 己卯	26 <i>Xin Mao</i> 辛卯	38 <i>GuiMao</i> 癸卯	50 <i>Yi Mao</i> 乙卯
3 rd Lunar Month	3 <i>Wu Chen</i> 戊辰	15 <i>GengChen</i> 庚辰	27 <i>RenChen</i> 壬辰	39 <i>JiaChen</i> 甲辰	51 <i>BingChen</i> 丙辰
4 th Lunar Month	4 <i>Ji Si</i> 己巳	16 <i>XinSi</i> 辛巳	28 <i>Gui Si</i> 癸巳	40 <i>Yi Si</i> 乙巳	52 <i>Ding Si</i> 丁巳
5 th Lunar Month	5 <i>Geng Wu</i> 庚午	17 <i>Ren Wu</i> 壬午	29 <i>Jia Wu</i> 甲午	41 <i>Bing Wu</i> 丙午	53 <i>Wu Wu</i> 戊午
6 th Lunar Month	6 <i>Xin Wei</i> 辛未	18 <i>Gui Wei</i> 癸未	30 <i>Yi Wei</i> 乙未	42 <i>DingWei</i> 丁未	54 <i>Ji Wei</i> 己未
7 th Lunar Month	7 <i>Ren Shen</i> 壬申	19 <i>Jia Shen</i> 甲申	31 <i>BingShen</i> 丙申	43 <i>Wu Shen</i> 戊申	55 <i>GengShen</i> 庚申
8 th Lunar Month	8 <i>Gui You</i> 癸酉	20 <i>Yi You</i> 乙酉	32 <i>Ding You</i> 丁酉	44 <i>Ji You</i> 己酉	56 <i>Xin You</i> 辛酉
9 th Lunar Month	9 <i>Jia Xu</i> 甲戌	21 <i>Bing Xu</i> 丙戌	33 <i>Wu Xu</i> 戊戌	45 <i>Geng Xu</i> 庚戌	57 <i>Ren Xu</i> 壬戌
10 th Lunar Month	10 <i>Yi Hai</i> 乙亥	22 <i>Ding Hai</i> 丁亥	34 <i>Ji Hai</i> 己亥	46 <i>Xin Hai</i> 辛亥	58 <i>Gui Hai</i> 癸亥
11 th Lunar Month	11 <i>Bing Zi</i> 丙子	23 <i>Wu Zi</i> 戊子	35 <i>GengZi</i> 庚子	47 <i>Ren Zi</i> 壬子	59 <i>Jia Zi</i> 甲子
12 th Lunar Month	12 <i>DingChou</i> 丁丑	24 <i>JiChou</i> 己丑	36 <i>XinChou</i> 辛丑	48 <i>GuiChou</i> 癸丑	60 <i>YiChou</i> 乙丑

sStem should be Ren 壬 [56].

Please refer to (Table 5). The Five Days Sexagenary *gan zhi* Cyclical Flow of the ‘Two-hour Time Period’ *shi chen* and Figure 2 showing a picture of a ‘Two-hour time periods’ alarm clock *shi chen xing zhong*

The ‘Double-Hour Time Period’ and the Human Acupuncture Meridians

Chronoacupuncture *Ziwuliuzhu* 子午流注 is a natural pattern of spatio-temporality discovered and developed by ancient medical sages in China. It is a spatio-temporal system characterized by a correspondence between the twelve ‘two-hour time periods’ and the twelve human acupuncture meridian system. The relationship between the twelve ‘two-hour time periods’ and the twelve human acupuncture meridians can be understood as one whereby humanity is seen as an integral part of nature. Human life activities and habits must correspond with the natural spatio-temporal patterns of nature. The physiological activities of the human endogenous organs *zang fu* 臟腑 must be closely linked up in a very orderly manner with the ebb and flow of the cycle of the twelve two-hour periods.

On account of the changes in the continuous flow of time (‘two-hour time periods’), the circulation of the *qi* and blood

10
Alarm Clock
Qianlong Period
(1736-1795)
Clock Workshop,
Forbidden City
12.5 cm (diameter),
7.5 cm (thick)

时辰醒钟
清乾隆年间
(1736-1795年)
清宫造办处
直径12.5厘米
厚7.5厘米

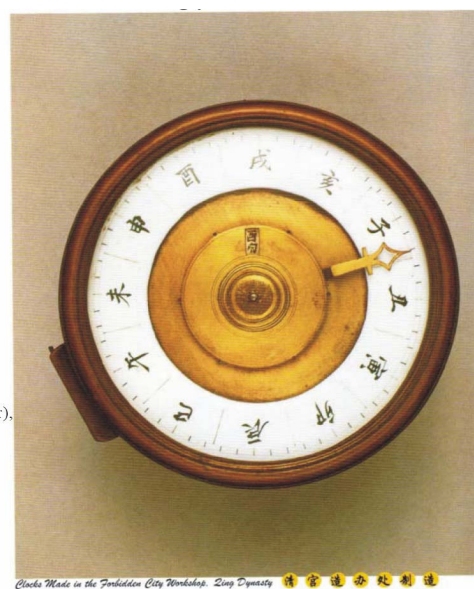


Figure 2.
A double-hour time period alarm clock *shi cehn xing zhong* Qianlong Period [Pin, 2002].

Table 5.
The five days sexagenary *gan zhi* cyclical flow of the ‘two-hour time periods’ *shi chen* [Hua, 1991].

Twelve ‘Two Hour Time Periods’ 12 辰	子 <i>Zi</i> Two hour period 11 pm-1 am	丑 <i>Chou</i> Two hour period 1 am-3 am	寅 <i>Yin</i> Two hour period 3 am-5 am	卯 <i>Mao</i> Two hour period 5 am-7 am	辰 <i>Chen</i> Two hour period 7 am-9 am	巳 <i>Si</i> Two hour period 9 am-11 am	午 <i>Wu</i> Two hour period 11 am-1 pm	未 <i>Wei</i> Two hour period 1 pm-3 pm	申 <i>Shen</i> Two hour period 3 pm-5 pm	酉 <i>You</i> Two hour period 5 pm-7 pm	戌 <i>Xu</i> Two hour period 7 pm-9 pm	亥 <i>Hai</i> Two hour period 9 pm-11 pm
Day Stem <i>Jia</i> 甲 & <i>Ji</i> 己	1 <i>Jia</i> 甲 <i>Zi</i> 子	2 <i>Yi</i> 乙 <i>Chou</i> 丑	3 <i>Bing</i> 丙 <i>Yin</i> 寅	4 <i>Ding</i> 丁 <i>Mao</i> 卯	5 <i>Wu</i> 戊 <i>Chen</i> 辰	6 <i>Ji</i> 己 <i>Si</i> 巳	7 <i>Geng</i> 庚 <i>Wu</i> 午	8 <i>Xin</i> 辛 <i>Wei</i> 未	9 <i>Ren</i> 壬 <i>Shen</i> 申	10 <i>Gui</i> 癸 <i>You</i> 酉	11 <i>Jia</i> 甲 <i>Xu</i> 戌	12 <i>Yi</i> 乙 <i>Hai</i> 亥
Day Stem <i>Yi</i> 乙 & <i>Geng</i> 庚	13 <i>Bing</i> 丙 <i>Zi</i> 子	14 <i>Ding</i> 丁 <i>Chou</i> 丑	15 <i>Wu</i> 戊 <i>Yin</i> 寅	16 <i>Ji</i> 己 <i>Mao</i> 卯	17 <i>Gen</i> 庚 <i>Chen</i> 辰	18 <i>Xin</i> 辛 <i>Si</i> 巳	19 <i>Ren</i> 壬 <i>Wu</i> 午	20 <i>Gui</i> 癸 <i>Wei</i> 未	21 <i>Jia</i> 甲 <i>Shen</i> 申	22 <i>Yi</i> 乙 <i>You</i> 酉	23 <i>Bing</i> 丙 <i>Xu</i> 戌	24 <i>Ding</i> 丁 <i>Hai</i> 亥
Day Stem <i>Bing</i> 丙 & <i>Xin</i> 辛	25 <i>Wu</i> 戊 <i>Zi</i> 子	26 <i>Ji</i> 己 <i>Chou</i> 丑	27 <i>Geng</i> 庚 <i>Yin</i> 寅	28 <i>Xin</i> 辛 <i>Mao</i> 卯	29 <i>Ren</i> 壬 <i>Chen</i> 辰	30 <i>Gui</i> 癸 <i>Si</i> 巳	31 <i>Jia</i> 甲 <i>Wu</i> 午	32 <i>Yi</i> 乙 <i>Wei</i> 未	33 <i>Bing</i> 丙 <i>Shen</i> 申	34 <i>Ding</i> 丁 <i>You</i> 酉	35 <i>Wu</i> 戊 <i>Xu</i> 戌	36 <i>Ji</i> 己 <i>Hai</i> 亥
Day Stem <i>Ding</i> 丁 & <i>Ren</i> 壬	37 <i>Geng</i> 庚 <i>Zi</i> 子	38 <i>Xin</i> 辛 <i>Chou</i> 丑	39 <i>Ren</i> 壬 <i>Yin</i> 寅	40 <i>Gui</i> 癸 <i>Mao</i> 卯	41 <i>Jia</i> 甲 <i>Chen</i> 辰	42 <i>Yi</i> 乙 <i>Si</i> 巳	43 <i>Bing</i> 丙 <i>Wu</i> 午	44 <i>Ding</i> 丁 <i>Wei</i> 未	45 <i>Wu</i> 戊 <i>Shen</i> 申	46 <i>Ji</i> 己 <i>You</i> 酉	47 <i>Geng</i> 庚 <i>Xu</i> 戌	48 <i>Xin</i> 辛 <i>Hai</i> 亥
Day Stem <i>Wu</i> 戊 & <i>Gui</i> 癸	49 <i>Ren</i> 壬 <i>Zi</i> 子	50 <i>Gui</i> 癸 <i>Chou</i> 丑	51 <i>Jia</i> 甲 <i>Yin</i> 寅	52 <i>Yi</i> 乙 <i>Mao</i> 卯	53 <i>Bing</i> 丙 <i>Chen</i> 辰	54 <i>Ding</i> 丁 <i>Si</i> 巳	55 <i>Wu</i> 戊 <i>Wu</i> 午	56 <i>Ji</i> 己 <i>Wei</i> 未	57 <i>Gen</i> 庚 <i>Shen</i> 申	58 <i>Xin</i> 辛 <i>You</i> 酉	59 <i>Ren</i> 壬 <i>Xu</i> 戌	60 <i>Gui</i> 癸 <i>Hai</i> 亥

xue along the different acupuncture meridians ebb and flow at different times of the day/night. Grasping the natural spatio-temporal pattern of the flow and pooling of the *qi* and blood *xue* along the twelve acupuncture meridians is of great benefit to the practice of ‘nurturing life’ *yang sheng* 養生 and the use of *yao wu*²⁰.

The medical philosophy of TCM holds that one should ‘follow nature’s temporal order’ *yin tian zhi xu* 因天之序. This means that we should follow the human body’s own natural order of motion²¹ i.e. the motion oriented towards the east, south, west and northern cardinal directions which in turn corresponds respectively to the seasons of spring, summer, autumn and winter. The four seasons in turn correspond to the phases of life development i.e. ‘the coming-into-being *sheng fa* 生發, growth *sheng zhang* 生長, gathering-in *shou lian* 收斂, hibernation and storage *shou cang* 收藏. If one goes against this natural order of motion, one then can fall ill. And if one abides by this natural order of motion, one will have good health and longevity.

Hence, in TCM’s disciplinary study of chronomedicine *Zhongguo shijian yixue* 中國時間醫學, the twelve Terrestrial Branches are referred to as the ‘circadian (‘about a day’) rhythm of the flow of *qi* and blood along the twelve human

meridians’. The circadian rhythm of the flow of *qi* and blood in general refers to the ebb and flow of the *yin* (blood) and *yang* (*qi*) in the human body. The circulatory flow begins from the Lung Meridian at the *Yin* two-hour period (3 am-5 am) and terminates at the Liver Meridian at the *Chou* two-hour period (1 am-3 am). One two-hour time period equals two hours of the modern time system [Wu & Song, 2009]. (Please refer to **Table 6** on the correlations between the twelve two-hour time periods and twelve human meridians)²².

Translating the Traditional Chinese Calendar *Li Fa* into the Conditions of the Southern Hemisphere

At this threshold of a new epoch of humanist modernity, a new understanding of science as a knowledge system is emerging. In place of universalizing theories, there is recognition of locatedness and situatedness as the fundamental characteristics of scientific knowledge. Situatedness of scientific knowledge is ‘feminist objectivity’ and ‘limited location’ which makes us ‘become answerable for what we learn how to see’ [Haraway, 1991]. This recognition comes from several sources: the sociology of knowledge (SSK) as developed in Great Britain, French translation theory, the work of symbolic interactionist

²⁰*Yao wu* 藥物 are routine therapeutic practices designed to move and transform a patient’s *qi* [Tiquia, 2011].

²¹As ontological entity, *qi* animates the human body in four directional states of orientation: upwards, downwards, inwards and outwards [Tiquia, “The *Qi*”, 2011].

²²This segment of the paper is a translation of the introduction to the Appendix of the book *Huangdi neijing shi er shichen yangshengfa* “Nurturing life methods based upon the Yellow Emperor’s Manual On Corporeal Medicine system of the twelve double-hour periods.” [Wu & Song, 2009].

Table 6.

The Natural Spatio-temporal Pattern of the Flow and Pooling of the *Qi* and blood along the Twelve Human Acupuncture Meridians [Wu & Song, 2009].

Time 時辰	Terrestrial Branches 地支	Endogenous Organ Systems 臟腑	Twelve Human Acupuncture Meridians 十二經
3 am-5 am	<i>Yin</i> 寅	Lungs	Hand Great Yin
5 am-7 am	<i>Mao</i> 卯	Large Intestines	Hand Yang Bright
7 am-9 am	<i>Chen</i> 辰	Stomach	Foot Yang Bright
9 am-11 am	<i>Si</i> 巳	Spleen	Foot Great Yin
11 am-1 pm	<i>Wu</i> 午	Heart	Hand Small Yin
1 pm-3 pm	<i>Wei</i> 未	Small Intestines	Hand Great Yang
3 pm-5 pm	<i>Shen</i> 申	Urinary Bladder	Foot Great Yang
5 pm-7 pm	<i>You</i> 酉	Kidneys	Foot Small Yin
7 pm-9 pm	<i>Xu</i> 戌	Heart Protector	Hand Terminal Yin
9 pm-11 pm	<i>Hai</i> 亥	Triple Energizer	Hand Small Yang
11 pm-1 am	<i>Zi</i> 子	Gall Bladder	Foot Small Yang
1 am-3 am	<i>Chou</i> 丑	Liver	Foot Terminal Yin

group in North America [Verran and & Turnbull, 1995].

Bruno Latour, an authority in science and technology studies (STS) refers to ‘translation’ as ‘the interpretation given by fact-builders of their interests and those of the people they enrol.’ In his seminal work *Science in Action: How to follow scientists and engineers through society*, he writes:

It should be clear why I used the word translation. In addition to its linguistic meaning (relating versions in one language to versions in another one) it has also a geometric meaning (moving from one place to another). Translating interests means at once offering new interpretations of these interests and channeling people in different directions [Latour, 1987].

This offers the possibility of a local and situated interpretation of other knowledge systems. Using this methodology, I translate the traditional Chinese calendar *li fa* to the local conditions of Australia.

Living in our contemporary world dominated by abstract, universalizing and modernistic temporal systems such as the Gregorian calendar (with its Northern Hemispherical bias) and Greenwich Mean Time (with its de-localizing bias) presents huge challenges for those of us living in the Southern Hemisphere who wish who wish to follow health practices according to the principles of living in harmony with local space, local time and local culture.

Furthermore, for those of us living in the Southern Hemisphere, there is the added challenge of practising TCM according to the foundation principle of ‘differentiating clinical patterns and associating *yao*’ 辯證論藥. This is a practice based on highly situated health and therapeutic practices dispensed in accordance with clearly defined complex temporal phases and periods set on the basis of the ancient Northern Hemispherical traditional Chinese calendar *li fa*. In the absence of an adaptation of the Traditional Chinese Calendar for the Southern Hemisphere, it is almost an impossibility to practise ‘differenti-

ating clinical patterns and associating *yao*’.

To address this problem, I researched the ancient Traditional Chinese Calendar and adapted its core principles to produce the Australian Chinese Calendar. With this calendar, it will now make it possible to follow best practice in TCM and harmonize the flow of our *qi* with the flow of nature’s temporal order here in the Southern Hemisphere. In addition, through the use of this calendrical tool, we can ‘reverse’ the clinical activities of ‘differentiating clinical patterns and associating *yao* in accordance with the flow of the seasons here. For example, by using this calendar, it is now possible to forecast, prevent and clinically manage ‘seasonal diseases’ *shi bing* 時病 brought about by external factors *wai gan bing* (influenza type conditions) as the calendar will indicate the likely spatio-temporality of this condition’s genesis, its prevention, and specific, effective diurnal time periods in which to treat it effectively [Tiquia, 2010].

Finding the Twenty Four Climactic Periods *Jie Qi* in the Southern Hemisphere

To ‘reverse’ the flow of the twenty-four Climactic Periods in the Southern Hemisphere, I worked with scientists and astronomers from the Melbourne Planetarium. To find the precise dates and time that the twenty four Climactic Periods appear in the Southern Hemisphere in our time zone (AEST), I establish the date when the solar longitude reaches a ‘station’ along the ecliptic as seen from this time zone. Using an on-line Wise Observatory computer facility <<http://wise-obs.tau.ac.il/~eran/Wise/Util/SolLon.html>>, I input data on the year and the solar longitudinal degree of the location of the twenty-four Climactic Periods. Then I ‘hit’ the ‘calculate Julian day’ button to get the universal time. Subsequently, I converted the universal time to my local time zone i.e Australian Eastern Standard Time [Bush, 2007]. Having done these calculations, I located the dates/time that the twenty four Climactic Periods occur in the AEST time zone in Australia (Please refer to **Table 7**).

Table 7.

The spatio-temporal positions of the twenty four climactic periods in the southern hemisphere (Australia) in the year 2007.

Spring	Spring Begins <i>Lichun</i> August 8 th 135°	Rainwater <i>Yushui</i> August 24 th 150°	Waking Little Critters <i>Jingzhe</i> September 8 th 165°
Spring	Vernal Equinox <i>Chunfen</i> September 23 rd 180°	Clear & Bright <i>Qingming</i> October 9 th 195°	Grain Rain <i>Guyu</i> October 24 th 210°
Summer	Summer Begins <i>Lixia</i> November 8 th 225°	Grain Full <i>Xiaoman</i> November 23 rd 240°	Grain in Ear <i>Mangzhong</i> December 7 th 225°
Summer	Summer Solstice <i>Xiazhi</i> December 22 nd 270°	Slight Heat <i>Xiaoshu</i> January 6 th 85°	Great Heat <i>Dashu</i> January 20 th 300°
Autumn	Autumn Begins <i>Liqiu</i> February 4 th 315°	Limit of Heat <i>Chushu</i> February 19 th 330°	White Dew <i>Bailu</i> March 5 th 345°
Autumn	Autumnal Equinox <i>Qiufen</i> March 20 th 360°	Cold Dew <i>Hanlu</i> April 5 th 15°	Frost's Descent <i>Shuangjiang</i> April 20 th 30°
Winter	Winter Begins <i>Lidong</i> May 6 th 45°	Slight Snow <i>Xiaoxue</i> May 21 st 60°	Heavy Snow <i>Daxue</i> June 6 th 75°
Winter	Winter Solstice <i>Dongzhi</i> June 22 nd 90°	Slightly Cold <i>Xiaohan</i> July 7 th 105°	Big Cold <i>Dahan</i> July 23 rd 120°

Locating the First Day of the First Lunar Month in the Southern Hemisphere and the Completion of the Construction of the Calendar

To locate the first days of the lunar months in Australia, I consulted the book *Easy Organic Gardening* 2006 by Lyn Bagnall [Bagnall, 2006] which contains a table in the appendix section of the book of the various phases of the moon in the Southern Hemisphere from the years 2006-2010. According to the rules followed by Purple Mountain Observatory (1984) in Nanjing, China, in constructing the Chinese traditional calendar, ‘the first day of a calendar month is the day on which the astronomical New Moon (i.e., conjunction) is calculated to occur’ [Doggett, 2011].

Having calculated the location of the twenty four Climactic Periods as well as the first days of the twelve lunar months in the Southern Hemisphere, I proceeded then to set the first day *chu yi* of the first month *zheng yue* of the year of the of Rat Year. To do this, I first marked out the exact dates of the twenty-four Climactic Periods onto a Gregorian calendar (for the years 2007-2008). Then using a Chinese language ‘TCC-Western Gregorian Calendar Conversion Book/Table’ [Shang Ren, 2007] which converts the sexagenary *gan-zhi* cyclical years, months, days and ‘two-hour time periods into the Gregorian Calendaral years, months and days, I tallied the days and months for the years 2007-2008. I wrote the Chinese *gan-zhi* (combination of the Celestial Stems and Terrestrial branches) on to the days, months and year on the wall activity calendar for the years 2007-2008²³.

After executing the above procedure over a staggered period of time, I was able to establish the first day of the first month of the Australian Chinese Calendar for the year 2007. It fell on the New Moon of August 13th 2007. This date was our ‘spring festival’ or *chun jie* 春節 in the Southern Hemispherical region of Australia for this year. At the same time, based upon my calculation, our ‘Spring Festival’ turned out to be six months ahead of the date of the festival in the Northern Hemispherical region/countries including China. Hence, we were six months ahead of China in celebrating the Year of the Rat *wu zi nian* 戊子年. The next Spring Festival in Australia was on the 7th of August 2008. This is also the 7th day of the 1st lunar month of

²³Subsequently, I was able to find a free Gregorian calendrical scheduler template in the web, which accommodated the information that I want to put into the Southern Hemispherical Australian Chinese calendar. <<http://www.printfree.com>>

the Ox year (*ji chou nian* 己丑年).

After locating the twenty four Climactic Periods and aligning them with the seventy two pentads *qi shi er hou* and tallying the sixty *gan zhi* temporal units for the years, months and days with the days and months of the Gregorian calendar for the year 2008 (Rat Year *Ji Chou Nian*), these data were entered into a free 2008 calendar template that I secured from the world wide web. The First Australian Chinese Calendar was thus constructed [Tiquia, 2008].

The Main Features of the Australian Chinese Calendar

Firstly, like any contemporary Chinese language traditional Chinese calendar in China, it contains both elements of the Western Gregorian calendar and elements of the traditional Chinese calendar. The Western Gregorian calendar days as well as the Chinese lunar calendar days of the months are both indicated. For example, for the 1st day of January 2011, the calendar lists the following data:

Saturday
1 NEW YEAR
27th day of the 5th lunar month
Gui Chou Day

January 1st and Saturday are days of the Gregorian Calendar while the “27th day of the 5th Lunar month” indicates a day of the Traditional Chinese Calendar that corresponds to January 1, 2011 of the Gregorian Calendar. *Gui Chou* is the Celestial Stem and Terrestrial Branch *gan zhi* of this particular day in the Southern Hemisphere. As one would have noticed, the 1st day of January 2011 is also the 27th day of the 5th Lunar Month. If we compare this date to the same date on the Northern Hemisphere traditional Chinese calendar *li fa*, we will discover that the 1st of January 2011 (Tiger Year *Geng Yin Nian*) of the Gregorian Calendar corresponds to “27th day of the 11th Lunar Month”. This shows that the calibrated Australian Chinese Calendar is half a year ahead of the Northern Hemisphere traditional Chinese Calendar. The first day of the 1st Lunar Month *Zheng Yue* (our Australian Spring Festival *Chun Jie*) occurred in August 10th 2010. This means that we began the “Year of the Rabbit” *Xin Mao Nian* six months ahead of the countries in the Northern Hemisphere.

Secondly, the Australian Chinese Calendar divides the year into twenty-four Climactic Periods which flow in the reverse

mode compared to the traditional Chinese calendar *li fa*. For example January 20th is the Climactic Period of ‘Severely Hot’ (one of the Climactic Periods of the summer season). Compare this with the Chinese Calendar in the Northern Hemisphere, one will see that on the 5th day of January 2011 we find the Climactic Period of ‘Slightly Cold’ 小寒; while on the 20th day of January, we find the Climactic Period 節氣 of ‘Great Cold’ 大寒. These are the Climactic Periods of the winter season.

Thirdly, in the Australian Chinese Calendar, a long discarded element of the traditional Chinese calendar- the ‘seventy two pentads’ *qi shi er hou* is added.

Finally, the spatio-temporal sexagenary *gan-zhi* cyclical units are used in the Australian Chinese Calendar to array the cyclical flow of the years *nian*, lunar months *Yue*, days *ri* and two-hour time periods’ *shi chen* [Tiquia, 2011].

Using the enabling capacity of the internet, I am developing the Australian Chinese Calendar into an i-phone appliance that can translate the traditional Chinese sexagenary time system of the Lunar Year *Nian/Sui*, Lunar Month *Yue*, Days *ri* and ‘Two-hour time periods’ *shi chen* into the different times zones of the world²⁴. This project can facilitate the reconstruction of the ‘unified field of all existence’ of the various pre-modern traditional Chinese art and practices in a transmodern²⁵ world like the traditional Chinese chronobiology *Zhongguo chuang-tong shijian shungwuxue*, chronomedicine *Zhongguo chuantong shijian zhongyixue* 中國傳統時間中醫學, chronoacupuncture *ziwuliuzhu zhenfa* 子午流注針法, *feng shui* 風水, traditional Chinese organic farming *Zhongguo shi de chuantong youji gengzuo* 中國式的傳統有機耕作, and the traditional Chinese prognosticational *yu ce* 預測 systems of foretelling major climactic events (floods, draught), epidemics, natural disasters like earthquakes etc. in various localities of both hemispheres of the globe.

Commemorating the Centenary of the 1911 Revolution in China by Translating the Traditional Chinese Calendar into the Southern Hemisphere

In commemoration of the centenary of the 1911 Revolution in China, the ‘unified field of all existence’ of the pre-modern traditional Chinese culture and civilization is hereby reconstituted in the Southern Hemispherical region of Australia. We celebrate the birth of the Australian Chinese Calendar in this region on this 31st day *Jia Shen ri* in the month of July in the year 2011 *Ren Chen nian*. This date is the first day of the ‘Year of the Dragon’ *Ren Chen Nian* and hence our Spring Festival day in Australia in this year. At the same time an English edition of the 2012 Northern Hemispherical Chinese Calendar (Beijing Datetime) is hereby launched as well.

²⁴The system of ‘Coordinated Universal Time’ (UTC) has now replaced Greenwich Mean Time (GMT). With UTC, time (in various spatial zones on earth) is coordinated or synchronized well within 100 nanoseconds or 100 billionths of a second. Time is synchronized or coordinated through a network of 24 satellites that emit signals as they “orbit the earth at the height of 20,200 km in six fixed planes inclined 55° from the equator. The orbital period is 11 h 58 min, which means that a satellite will orbit the earth twice per day”. A GPS (global Positioning System) transceiver (mobile phone, computer) receive these signals from the satellites which then specify its position with an uncertainty of <10 meters [Lombardi, Nelson, Novick, & Zhang, 2001].

²⁵David Turnbull quoting Enrique Dussel sees the ‘transmodern’ as a historical era where “modernity and its negated alterity co-realise themselves in the process of mutual creative fertilisation” [Turnbull, 2000].

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