

# Time in Daoist Practice

## Cultivation and Calculation

edited by

Livia Kohn

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# Views of Time in Chinese Alchemy\*

FABRIZIO PREGADIO

Time plays a major role in the doctrines and practices of both main branches of Chinese alchemy: Waidan 外丹 or External Alchemy, documented from the mid-2<sup>nd</sup> century BCE, and Neidan 內丹 or Internal Alchemy, documented from the early 8<sup>th</sup> century CE.

In both branches, time is understood in two main aspects. First, the cosmos is generated by the Dao in a sequence of stages. Time here is meant in a metaphoric sense: as these stages precede the emergence of time, they occur in a state of timelessness. Time as we ordinarily perceive it begins at the conclusion of that sequence. Under this second aspect, time manifests in the cyclical alternation of yin and yang, visible for instance in the succession of day light and night during the day, the moon phases during the month, and the four seasons during the year.

In a significant portion of Waidan, and in virtually the whole of Neidan, both aspects of time are described and represented using classical Daoist concepts and emblems drawn from the system of Chinese cosmology. As they do in other Daoist traditions (Schipper and Wang 1986), these concepts and emblems represent both “regressive” or “upward” sequences, in which the metaphoric time stages are traced backwards, called “inverting the course” (*ni* 逆), and “progressive” or “downward” sequences, which reproduce the flow of ordinary time cycles and are known as “following the course” (*shun* 順).

In the first case, the sequence of precosmic stages serves to frame models for the gradual reintegration of each stage into the previous one by means of Waidan or Neidan practices. In the second case, the daily, monthly, and yearly time cycles, and their stages, provide templates for the “refining” (*lian* 煉) of natural substances in Waidan or the person’s main components in Neidan.

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## Inverting the Course

Chinese alchemy uses two main numerical sequences to illustrate the stages through which the Dao generates the cosmos. Both sequences describe an ontology (by establishing a hierarchy among those stages) and a cosmogony (by representing them as succeeding one another in a time that is purely metaphoric).

### The *Daode jing* Sequence

The first sequence is Dao → 1 → 2 → 3. Its *locus classicus* is the following passage of the *Daode jing* 道德經 (Book of the Way and Its Virtue): “The Dao generates the One, the One generates the Two, the Two generate the Three, and the Three generate the ten thousand things” (ch. 42).<sup>1</sup>

According to one of several ways of understanding this passage both within and outside of Daoism (see Robinet 1995b, 198-203), One, Two, and Three stand for the state of unity, the emergence of yin and yang, and the product of their renewed conjunction, respectively. The “ten thousand things” are the total sum of all entities and phenomena generated by the continuous reiteration of this three-stage process.

In addition, the *Daode jing* sequence is also associated with three states or stages that the Dao takes on, or generates, in its self-manifestation: Dao → spirit (*shen* 神) → breath (*qi* 氣) → essence (*jing* 精). After the last of these stages, the Dao gives birth to the cosmos through its own essence (ch. 21). Although all of these stages are contained within the Dao, their completion marks the shift from the precelestial (*xiantian* 先天) to the post-celestial (*houtian* 後天) domains and the emergence of time.

### The *Yijing* Sequence

The second sequence used in Chinese alchemy is [Dao →] 1 → 2 → 4.<sup>2</sup> Its *locus classicus* is a passage in the *Xici* 繫辭 (Appended Sayings), one of the so-called Ten Wings, Han-dynasty explanations and appendices of the *Yijing* 易經 (Book of Changes). It says, “Therefore, in the *Changes* there is the Great Ultimate (unity). This generates the two principles. These two principles then generate the four images” (A 11).<sup>3</sup>

This sequence, which moves on to the generation of the eight trigrams and sixty-four hexagrams, intends to show that the modes of

<sup>1</sup> 道生一，一生二，二生三，三生萬物。

<sup>2</sup> I place “Dao” in brackets because it is not explicitly mentioned in the passage. In the eyes of an alchemist, however, the sequence can only begin with the Dao.

<sup>3</sup> 是故，易有太極，是生兩儀，兩儀生四象。

change represented by lines, trigrams, and hexagrams issue from the state of unity and are contained within it: the different emblems portray the progressive unfolding of the cosmos from unity into multiplicity.

In the traditional interpretation of the *Yijing*, the two principles are pure yang (—) and pure yin (--), while the four images are minor yang (≡), greater yang (☰), minor yin (☷), and greater yin (☵). In alchemy, the “two” are understood in the same way, even though they are usually called true yin (*zhenyin* 真陰) and true yang (*zhenyang* 真陽).

The “four” are different. Instead of representing the cyclical alternation of the growth and decrease of yin and yang, they show different states or qualities of yin and yang in the precelestial and postcelestial domains. Precelestial true yang is Qian ☰ while precelestial true yin is Kun ☷. The other two images are Kan ☵ and Li ☲, which stand for postcelestial yin containing true yang and for postcelestial yang containing true yin, respectively.

#### Application to Alchemy

Both these sequences function as templates for the “reversion to the origin” (*huanyuan* 還元, and analogous terms), performed in both Waidan and Neidan. In Waidan works that do not describe the alchemical process using emblems of cosmology, that is, all those that can be dated until the end of the 6<sup>th</sup> century, elixirs are usually compounded by heating the ingredients in a hermetically closed vessel to reproduce the inchoate state (*hundun* 混沌) prior to the emergence of the cosmos. The final product is often called the “essence” (*jing*) of the ingredients. A source dating from about 650 equates the final essence to the one mentioned in the *Daode jing* (ch. 21) as the seed of existence (Pregadio 2006, 78). However, since many Waidan elixirs hold the yin and yang principles reverted to the state of unity, they incorporate all three stages mentioned above.

Neidan places even more importance on the *Daode jing* stages. While its doctrinal discourse represents the inversion from the postcelestial to the precelestial domains by different sets of cosmological emblems, its practice consists of inverting the sequence of the generation of spirit, breath, and essence. Accordingly, the fundamental Neidan practice consists of three stages: refining essence into breath; refining breath into spirit; and refining spirit to return to emptiness, or the Dao. Here the emblematic numbers One, Two, and Three also represent the progressive reduction of the components: Three (essence, breath, spirit) → Two (breath and spirit) → One (spirit) → Zero (emptiness).

As regards the *Yijing* sequence, Waidan and Neidan equally share its principles. Adepts first extract precelestial true yang and true yin from their respective postcelestial counterparts, Kan ☵ and Li ☲, then change their placements. This restores Qian ☰ and Kun ☷, which are then joined to one another in order to reestablish their unity. Unity is also represented by Qian, which now stands for the stage prior to the division into yin and yang. This process can be represented as shown in Fig. 1.

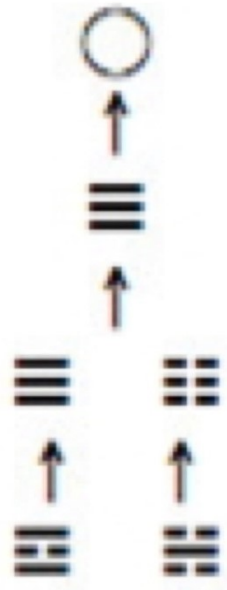


Fig. 1. The three stages of the alchemical process represented by means of trigrams of the *Yijing*.

A chart drawn by Li Daochun 李道純 (fl. 1288-1292) and contained in his *Zhonghe ji* (The Harmony of the Center: An Anthology, DZ 249; 2.6a-b) makes it clear that this representation of the alchemical process also applies to the refining of essence, breath, and spirit in Neidan (see Fig. 2 below).

In all cases, the elixir is a token of the successive states taken on by the Dao as it manifests in the cosmos, progressively embodied in a reverse order, including the state prior to their inception—a visible token in Waidan, an invisible one in Neidan.

Certain Neidan masters emphasize an additional point. The backward movement of “inverting the course” is in fact an upward movement that leads the alchemist from the cosmos to the Dao by means of “doing” (*youwei* 有為), which here first of all means “doing” the practice. The alchemical work, however, is entirely accomplished only if the course is completed by an opposite movement of descent, performed by “non-doing” (*wuwei* 無為). Therefore, after the three stages of the alchemical practice have been completed, practitioners should return to the domain from which they had departed, and realize the unity and identity of Dao and cosmos, or timelessness and time.



Fig. 2. Li Daochun's chart of refining essence, breath, and spirit, showing the corresponding trigrams of the *Yijing*.

## Following the Course

The "regressive" course as based on the *Daode jing* and the *Yijing* shows how, in Nathan Sivin's words, "Chinese alchemical theories were essentially numerological" (1976, 521; Robinet 2011, 66-72). This feature is even more visible in the three "progressive" sequences used in alchemy to illustrate the cyclical flow of time. Although, for the sake of clarity, I describe these sequences in a separate section, it should not be forgotten that in both Waidan and Neidan the progressive time cycles are embedded in the regressive time cycles.

These sequences became relevant to alchemy through the *Zhouyi cantong qi* 周易參同契 (Seal of the Unity of the Three in Accordance with the Book of Changes; ed. Pregadio 2011), a work dating, in its present form, from no earlier than the mid-5<sup>th</sup> century and possibly even one or two centuries later (Pregadio 2011, 11-26). This work changed the history of Waidan and gave rise to Neidan. Under its influence, the trigrams and hexa-

grams of the *Yijing*—and with them the entire basic repertoire of cosmological emblems and terminology—entered the field of alchemy. As far as we know, in Waidan this occurred approximately in the 8<sup>th</sup> century, just about the same period when Neidan is first documented in extant sources.

The cosmological portions of the *Cantong qi* describe three emblematic time cycles: day, month, and year. In its view, these cycles manifest the operation of the One breath (*yiqi* 一氣) of the Dao in the cosmos. All of them, and especially the third, became models of alchemical practices.

### Sixty Hexagrams: The Daily Cycle

The first cycle concerns the thirty days of the lunar month (*Cantong qi*, chs. 3, 45; see Pregadio 2011). During each day, the yang principle prevails at daytime, from dawn to dusk, and the yin principle prevails at nighttime, from dusk to dawn. The two parts of the day are ruled by a pair of hexagrams: a yang hexagram presides over the first half, and a yin hexagram governs the second half. Accordingly, sixty of the sixty-four hexagrams are distributed among the thirty days of the month, following one another in the order of the *Yijing* as outlined in the *Xugua* 序卦 (Hexagrams in Sequence), another of the Ten Wings. Here Zhun ䷲ and Meng ䷃, the first and second hexagrams after Qian and Kun, correspond to daytime and nighttime of the month's first day. Jiji ䷗ and Weiji ䷇, the next-to-last and last hexagrams, correspond to daytime and nighttime of the month's last day. The remaining four—Qian ䷀, Kun ䷁, Kan ䷜, and Li ䷄—reside in the center. Although not part of the time cycles, they enable them to occur.

Furthermore, the rise and decline of yin and yang during the day is marked and measured by the twelve lines of the ruling pair of hexagrams. Each line marks one of the twelve double-hours (*shi* 時) and one of the twelve earthly branches (*dizhi* 地支). The six lines of the first hexagram are represented by the first six branches (*zi* 子, *chou* 丑, *yin* 寅, *mao* 卯, *chen* 辰, and *si* 巳), and the six lines of the second hexagram are represented by the last six branches (*wu* 午, *wei* 未, *shen* 申, *you* 酉, *xu* 戌, and *hai* 亥).

### Matching Stems: The Monthly Cycle

The second cycle concerns the six stages of the lunar month (*Cantong qi*, chs. 13, 49). It is represented by cosmological scheme known as Matching Stems of the Moon (*yueti najia* 月體納甲), ascribed to the cosmologist Yu Fan 虞翻 (164–233). The month here divides into six periods, called periods or “nodes” (*jie* 節), of five days each: 1–5, 6–10, 11–15, 16–20, 21–25, and 26–30. As shown in Table 1, each period is portrayed by one trigram and one celestial stem (*tiangan* 天干).

Table 1. Matching Stems of the Moon

Node	Day	Lunar Phase	Name	Trigram	Stem	Dir
1 - 5	3	first waxing	<i>shuo</i> 朔	Zhen 震 ☳	<i>geng</i> 庚	west
6 - 10	8	first quarter	<i>shangxian</i> 上弦	Dui 兌 ☱	<i>ding</i> 丁	south
11-15	15	full moon	<i>wang</i> 望	Qian 乾 ☰	<i>jia</i> 甲	east
16-20	16	first waning	<i>jiwang</i> 既望	Xun 巽 ☴	<i>xin</i> 辛	west
21-25	23	last quarter	<i>xiaxian</i> 下弦	Gen 艮 ☶	<i>bing</i> 丙	south
26-30	30	end of cycle	<i>hui</i> 晦	Kun 坤 ☷	<i>yi</i> 乙	east

The sequence of trigrams and stems is Zhen ☳ (*geng* 庚) → Dui ☱ (*ding* 丁) → Qian ☰ (*jia* 甲) → Xun ☴ (*xin* 辛) → Gen ☶ (*bing* 丙) → Kun ☷ (*yi* 乙). They all match nodal days in the waxing and waning of the moon: the 3<sup>rd</sup> (middle day of the first node), the 8<sup>th</sup> (middle day of the second node), the 15<sup>th</sup> (last day of the third node), the 16<sup>th</sup> (first day of the fourth node), the 23<sup>rd</sup> (middle day of the fifth node), and the 30<sup>th</sup> (last day of the sixth node). As shown by the sequence of the trigrams, the first half of the lunar cycle is governed by the yang principle (represented by the solid line), which grows until it culminates in the middle of the month (☰). The second half is governed by the yin principle (the broken line), which similarly grows until it overcomes the yang principle at the end of the month (☷).

The most significant aspect of this representation is the symbolic event that occurs in the night between the end of one month and the beginning of the next (*Cantong qi*, chs. 10, 48). On the 30<sup>th</sup> day, the yang principle is entirely obscured, so that Kun ☷ (pure yin) dominates the cosmos. However, during that night the sun, represented by Li ☲, and the moon, represented by Kan ☵, meet at the center of the cosmos and exchange their essences. Their conjunction in the postcelestial domain replicates the constant conjunction of Qian ☰ and Kun ☷ in the precelestial domain. The monthly conjunction of the sun (*ri* 日) and the moon (*yue* 月) regenerates the light (*ming* 明): Kun performs her motherly function and gives birth to her first son, Zhen ☳, the initial trigram in the new lunar cycle, whose lower yang line represents the rebirth of light. After an instant of suspension, time again begins to flow, and the next month begins.

## Twelve-Stage Ebb and Flow: The Yearly Cycle

The third cycle concerns the twelve months of the year (*Cantong qi*, ch. 51). Usually called Twelve-stage Ebb and Flow (*shi'er xiaoxi* 十二消息), it represents change marked by the twelve “sovereign hexagrams” (*bigua* 辟卦). This system goes back to Meng Xi’s 孟喜 (fl. 69 BCE) cosmological system known as breaths of the Hexagrams (*guaqi* 卦氣). He assigns four hexagrams, namely Zhen ䷲, Li ䷲, Dui ䷹, and Kan ䷜, to the four seasons, and each of their lines to one of the twenty-four solar periods or “nodal breaths” (*jieqi* 節氣) of the year. In a development of this system attributed to Jing Fang 京房 (77–37 BCE), the remaining sixty hexagrams are related to the twelve months in five sets of twelve. The sovereign hexagrams are one of the five sets.

Analogously to Matching Stems of the Moon, the solid and broken lines here also flow first upward and then downward (see Table 2). Beginning with Fu ䷗, which stands for the first stage of the growth of yang at the winter solstice, each hexagram represents one lunar month. The twelve-stage sequence also establishes correspondences with other duodenary series: the earthly branches, the bells and pitch-pipes (*zhonglü* 鐘呂), and the double hours of the day.

**Table 2. The Twelve Sovereign Hexagrams and Their Relations**

Hexagram	Branch	Pitch-pipe	Month	Hour
Fu 復 ䷗	zi 子	Huangzhong 黃鐘	11	23-1
Lin 臨 ䷒	zhou 丑	Dalü 大呂	12	1-3
Tai 泰 ䷊	yin 寅	Taicou 太簇	1	3-5
Dazhuang 大壯 ䷡	mao 卯	Jiazhong 夾鐘	2	5-7
Guai 夬 ䷪	chen 辰	Guxi 姑洗	3	7-9
Qian 乾 ䷀	si 巳	Zhonglü 仲呂	4	9-11
Gou 姤 ䷫	wu 午	Ruibin 蕤賓	5	11-13
Dun 遯 ䷠	wei 未	Linzong 林鐘	6	13-15
Pi 否 ䷋	shen 申	Yize 夷則	7	15-17
Guan 觀 ䷓	you 酉	Nanlü 南呂	8	17-19
Bo 剝 ䷖	xu 戌	Wuyi 無射	9	19-21
Kun 坤 ䷁	hai 亥	Yingzhong 應鐘	10	21-23

## Time in Waidan

Waidan alchemists, like their companions in other cultures, embraced the idea that their work reproduced the process of the transmutation of minerals and metals into gold within the womb of the earth. In their view, the elixir compounded in the alchemical laboratory had the same properties as the naturally reverted elixir (*ziran huandan* 自然還丹), which nature refines in a cosmic cycle of 4320 years. This number corresponds to the sum total of the twelve double-hours included in the 360 days that form one year according to the lunar calendar ( $12 \times 360 = 4320$ ) (Sivin 1976, 515-16; 1980, 264-66) The alchemical work, therefore, was believed to reproduce in a relatively short time the same process that requires an entire cosmic cycle in nature. The Tang work *Danlun juezhi xinjian* 丹論訣旨心鑑 (Insights on the Purport of the Alchemical Treatises, DZ 935) states:

The naturally reverted elixir is formed when flowing mercury, embracing Sir Metal [lead], becomes pregnant. Wherever there is cinnabar there are also lead and silver. In 4320 years the elixir is achieved. Realgar is to its left, orpiment to its right, cinnabar above it, malachite below.

It embraces the *qi* of sun and moon, yin and yang, for 4320 years; thus, upon repletion of its own *qi*, it becomes a Reverted Elixir for immortals of the highest grade and celestial beings. When in the world below lead and mercury are subjected to the alchemical process for purposes of immortality, [the elixir] is achieved in one year. (12b)<sup>4</sup>

Alchemists achieve the reduction of an extended cosmic cycle to one year—from 4320 years to 4320 double hours—by phasing the heating of the elixir ingredients according to suitable time patterns. These patterns are provided by the system of the fire phases (*huohou* 火候), a term also rendered fire times and fire regime, modeled on the Twelve-Stage Ebb and Flow of the *Cantong qi*. In agreement with this model, alchemists progressively increase firing during the first six stages, then decrease it during the last six. The *Cantong qi* hints at the application of this system to alchemy:

Watch over it with heed and caution:  
Inspect it attentively and regulate the amount of its warmth.  
It will rotate through twelve “nodes,”

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<sup>4</sup> 自然還丹，是流汞抱金公而孕也。有丹砂處皆有鉛及銀。四千三百二十年丹成。左雄右雌，上有丹砂，下有曾青。抱持日月陰陽氣，四千三百二十年，故乃氣足，而成上仙天人還丹。下界神仙修鍊鉛汞，一年成。 Translation adapted from Sivin 1976, 516; 1980, 232.

and when they are complete, it will again need your care. (ch. 40)<sup>5</sup>

Several varieties of the fire phases exist in Waidan (Sivin 1980, 266–79). The 8<sup>th</sup>-century master Chen Shaowei 陳少衛 provides an important example. One starts at midnight of the first day of a sixty-day cycle in the month of the winter solstice, that is, the 11<sup>th</sup> month, marking the beginning of the year. From here the alchemist progressively increases the fire by feeding growing amounts of charcoal to the furnace through its six yang doors. The work proceeds at intervals of five days for each door, which means for six times over the course of one month. From here, he progressively decreases the fire for another month by placing gradually lesser amounts of charcoal in the furnace through its six yin doors. Both operations are repeated six times, so that the whole process takes one year. Examining this procedure in the light of the time cycles described above, it becomes clear that Chen Shaowei intended to model the heating process not only on the cycle of the year but also on that of the month, consisting of six periods of five days.

In addition to the compression of time achieved by means of the fire phases, the creation of the alchemical microcosm in Waidan also requires a smaller-scale representation of cosmic space. Chen Shaowei's furnace again provides an example: its squared shape represents the four directions, and its twelve doors are found on its three tiers, corresponding to heaven (top), earth (bottom), and humanity (middle). Several other spatial correspondences are embodied in the reaction vessel and the arrangement of the laboratory (Sivin 1980, 279–97).

## Time in Neidan

A key feature of Neidan is that it purports to restore the state prior to the shift from the precelestial to the postcelestial domains, which occurs as the Dao gives birth to the cosmos through its spirit (*shen*), breath (*qi*), and essence (*jing*). Exemplary Neidan practice accordingly consists of a preliminary stage, followed by a gradual sequence where each of the three components of the cosmos is reintegrated into the previous one.

To begin, the preliminary stage serves to replenish essence, breath, and spirit within the person while clearing the vessels (*mai* 脈), along which they circulate during practice. The functions of the three main stages in turn are to refine essence to conjoin it with breath, refine breath to merge it with spirit, and refine spirit to “return to emptiness” or the Dao.

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<sup>5</sup> 候視加謹慎，審察調寒溫。周旋十二節，節盡更須親。

Part of the first stage, moreover, features a practice that bears several analogies to the fire phases of Waidan.<sup>6</sup>

### The Lesser Celestial Circuit

At the end of the preliminary stage, adepts collect essence, breath, and spirit in the lower cinnabar field. In the “living *zi* hour” (*huo zishi* 活子時, which marks the beginning of the daily time-cycle, but is so called in order to distinguish it from the ordinary *zi* “hour” (11 pm–1am), the external medicine (*waiyao* 外藥) emerges as “original essence” (*yuanjing* 元精). The first stage, then, consists of circulating this essence along a route called the lesser celestial circuit or orbit (*xiao zhoutian* 小周天) by means of repeated breathing cycles. This route is called “lesser” in contrast with the greater celestial circuit (*da zhoutian* 大周天), activated in the second stage.<sup>7</sup>

The lesser circuit is based on two of the eight “extraordinary vessels” (*qijing* 奇經), the Function, Governor, or Superintendent Vessel (*dumai* 督脈) and the Control or Conception Vessel (*renmai* 任脈). The former runs along the back of the body, from the cavity called Meeting Yin (*huiyin* 會陰) near the coccyx to that known as Mouth Extremity (*duiduan* 兌端) above the upper lip. The latter moves along the body’s front, from Meeting Yin to Receiver of Fluids (*chengjiang* 承漿) below the lower lip.

In Neidan view, the “circuit” —i.e., the conjunction of the two vessels—is formed by two Magpie Bridges (*queqiao* 鵲橋): the lower placed at Meeting Yin, the upper located between the palate and the tongue, and in some cases identified with the tongue itself. Through the conjunction of the two vessels, essence can be circulated in a way contrary to its ordinary

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<sup>6</sup> There are several varieties of Neidan practice, but many are based on the pattern outlined above. These or similar sequences—said to give initial priority to the cultivation of *ming* 命, one’s existence or embodiment—do not exhaust the field of Neidan. In other cases, the practice initially gives emphasis to *xing* 性, one’s inner nature, and consists of removing the causes of its obfuscation. These two emblematic modes are typically merged in the “conjoined cultivation of nature and existence” (*xingming shuangxiu* 性命雙修). For extensive descriptions, see Despeux 1979, 48-82; Baldrian-Hussein 1984, 59-193; Robinet 1995a, 103-45; Wang 2011. The latter forms the basis for the account below.

<sup>7</sup> In Chinese astronomy, “lesser circuit” defines the annual cycle of twelve months while “greater circuit” defines the Jupiter cycle of twelve years. As used in Neidan, however, the two terms refer to lower and higher stages of practices, where “lesser” and “greater” circuits are used, respectively. See Despeux 1979, 57-63; Baldrian-Hussein 1984, 88-105; Robinet 1995a, 120-31; Neswald 2009, 35-37; Wang 2011, 71-86.

downward flow: first it rises to the upper cinnabar field (crossed by the Function Vessel), then it descends to the lower cinnabar field (crossed by the Control Vessel).

The lesser circuit subdivides into twelve segments, potentially designated by any set of duodecimal cosmological emblems such as the sovereign hexagrams, the earthly branches, and especially the double-hours. This correspondence is often said to be symbolic and not to be understood in a literal sense: the twelve segments only serve to determine the varying intensity of heat to be applied in order to refine essence.

Just as in Waidan, a progressively stronger “martial fire” (*wuhuo* 武火) is applied in the first six stages, corresponding to the ascent of essence along the Function Vessel, that is, in terms of earthly branches, from *zi* 子 to *si* 巳. A progressively weaker “civil fire” (*wenhuo* 文火) is used in the last six stages, corresponding to the descent of essence along the Control Vessel, from *wu* 午 to *hai* 亥. These two main stages are called “advancing the yang fire” (*jin yanghuo* 進陽火) and “withdrawing the yin tally” (*tui yinfu* 退陰符). In other words, a progressively stronger heating is followed by a progressively weaker heating in order to moderate and temper the yang of the first half of the cycle.

Fire in Neidan, moreover, corresponds to spirit, and the active faculty of spirit, called true intention (*zhenyi* 真意); it leads the entire process. To quote Wang Mu’s 王沐 (1908-1992) synthesis, “spirit leads breath and refines essence” (2011, 52). At the two intermediate points of the lesser circuit, represented by the branches *mao* in the back and *you* in the front of the body, one should “bathe” (*muyu* 沐浴), that is, temporarily suspend the heating process.

With regard to time, the fire phases in Neidan enable the simultaneous operation of two antithetical sequences. The “progressive” sequence of ordinary time, represented by the twelve segments, is encased in a “regressive” sequence, represented by the circulation of essence in a way contrary to its ordinary downward flow. This process in turn constitutes the first part of the inversion of time to timelessness performed in Neidan.

As it does in Waidan, the Neidan practice of the fire phases also requires the use of a spatial framework, here provided by the “circuit” itself. The lower part of its course accordingly features the waterwheel or “water-raising machine” (*heche* 河車). This instrument is pictured in the well-known *Neijing tu* 內經圖 (Chart of the Inner Warp), where it inverts the downward flow of essence and enables it to begin its upward course (see Fig. 3). In another sense, as shown in Xiao Tingzhi’s 蕭廷芝 (fl. 1260–64) *Jindan dacheng ji* 金丹大成集 (The Great Achievement of the Golden Elixir: An Anthology, DZ 263 [*Xiuzhen shishu* 修真十書], chs. 9-13), the waterwheel

is understood as the River Chariot, the vehicle that drives essence along the lesser circuit (see Fig. 4).



Fig. 3. The Waterwheel. *Neijing tu*, detail.

Due to its symbolic importance, moreover, *heche* is also used as a synonym of the lesser circuit and the related practices.<sup>8</sup>

The “chariot” metaphor and the spatial features of the lesser circuit appear again in relation to the three barriers or passes (*sanguan* 三關), three key points in the back of the body. They are: (1) the Caudal Funnel or Tail Gate (*weilü* 尾閘), placed at the base of the spine; (2) the Spinal Handle or Spinal Straits (*jiaji* 夾脊), located in the middle of the spine, across from the heart; and (3) the Jade Pillow (*yuzhen* 玉枕), found at the level of occipital bone, across from the mouth.

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<sup>8</sup>In fact, the term *heche* is even more complex. In its earliest sense, found in the *Cantong qi* (ch. 22), this term means the metal lead, which in Neidan corresponds to the essence. The metaphors represented by this waterwheel, therefore, include at the same time essence, the instrument that accomplishes its inversion, the vehicle that transports it along the lesser circuit, and the lesser circuit itself.



Fig. 4. The River Chariot, *Jindan dacheng ji* 9.3b.

As shown in the expression “three fields in the front, three barriers in the back” (*qian santian, hou sanguan* 前三田後三關), the three barriers correspond to the three cinnabar fields in the front of the body. The barriers are said to be arduous to overcome.

Drawing from the metaphor of the Three Vehicles of gradual liberation that prefigure the Highest Vehicle in the Buddhist *Lotus Sutra* (Watson 1994, 56-62), practitioners each time are enjoined to proceed as though they were riding a cart, loaded with essence and driven first by a goat (lightly and slowly), then by a deer (lively and quickly), and lastly by an ox (strongly and powerfully).<sup>9</sup>

Beyond all this, the lesser circuit has in some aspects two main antecedents, both of which pertain to nourishing life (*yangsheng* 養生) practices. The first pertains to the variety of breathing methods as first documented in the “Circulating Breath” (*xingqi* 行氣) inscription on jade, dating from the Warring States.<sup>10</sup> The second is the method of “reverting essence to replenish the brain” (*huanjing bunao* 還精補腦), a key feature of sexual practices (*fangzhong shu* 房中術) that also go back to the same early period, where “essence” refers to male semen (Despeux 2008).

Both, however, also show essential differences when compared to Neidan practice. The method outlined in the jade inscription and all those

<sup>9</sup> Despeux 1994, 80-87, 149-51; 2019; Neswald 2009, 42-45; Wang 2011, 34-36, 83-84.

<sup>10</sup> See Needham 1983, 142; Harper 1998, 125-26; Kohn 2012, 24.

modeled on the same pattern require practitioners to circulate breath first down and then upward—exactly the opposite of the Neidan pattern. The sexual reversion of essence, on the other hand, follows an ascending path, but does not comprise the crucial descending half of the cycle, which coagulates essence into the seed of the internal elixir. Both cases represent examples of a recurrent pattern in Neidan, which draws from earlier methods or ideas but adjusts them to suit its own views and purposes.

### The Greater Celestial Circuit

After repeated cycles, sometimes said to be 300 or 360, the operation of the two contrasting sequences mentioned above results in the formation of the internal medicine (*neiyao* 內藥). Once formed, it should immediately be conjoined with the external medicine to generate the “great medicine” (*dayao* 大藥) in the lower cinnabar field. The latter is also called “mother of the elixir” (*danmu* 丹母): after a further seven days of refining, called “entering the enclosure” (*ruhuan* 入環), it conceives the immortal embryo (*tai* 胎).<sup>11</sup>

At its conception, the embryo is equivalent to breath formed by the conjunction of essence and breath—a new level of breath technically written with the graph 炁 instead of 氣, although this rule is not always followed in the received texts. The second stage of the practice, then, consists of nourishing it between the lower and the middle cinnabar fields for ten metaphoric months, matching the time required for human gestation in the Chinese reckoning, by means of the greater celestial circuit.

Unlike the work of the lesser circuit, here the practice bears no relation to time in the ordinary sense. While the “living *zi* hour” of the lesser circuit symbolizes the beginning of a time cycle reproduced by the alchemist in his practice, the great medicine is said to appear in the “true” or “correct *zi* hour” (*zheng zishi* 正子時). Notwithstanding the allusion to the beginning of a time cycle (the *zi* hour), this term only denotes “a state or a condition; one could call it a sign that the great medicine has been completed” (Wang 2011, 107). While the absence of an exemplary time pattern,

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<sup>11</sup> Seven is an important number in Neidan, as it represents the rebirth of the yang principle (the first solid line of the hexagram Fu ䷗) from the yin principle (the six broken lines of the hexagram Kun ䷁). The term *ruhuan* appears to derive from, or be related to, the Quanzhen 全真 meditation practice of “retreating to the enclosure” (*huandu* 環堵), which originally could last one hundred days or three years and later was performed for shorter periods. It also bears analogies with the Buddhist practice of “confinement” in a solitary cell, literally being behind “closed gates” (*biguan* 閉關),

such as the one provided by the fire phases, results in different sources giving different descriptions of the greater circuit, its practice involves all of the eight “extraordinary vessels,” with no subdivisions into sequences or stages. The stages of “bathing” also have no temporal correspondences, even symbolic: “bathing” now consists in “washing the mind and cleansing the thoughts, steaming them with the true breath (*zhenqi* 真氣), observing subtle silence and brightness with the eyes, and preventing the mind from wandering around unrestrained and becoming unstable” (Wang 2011, 103).

This shows that the task of reverting ordinary time to its origins is essentially performed in the first stage of the practice. From the second stage onward, a different time scale applies, unrelated to time as we ordinarily understand and measure it. In the third and final stage, which lasts for nine symbolic years—the time that, according to tradition, Bodhidharma spent in meditation facing a wall after he transmitted Chan Buddhism from India to China, but also the number that represents great yang—the embryo is moved to the upper cinnabar field and is finally delivered through the sinciput. As the practitioner “returns to emptiness,” his newly-generated infant—an immortal replica of himself—roams through timelessness and spacelessness.

## Time as Metaphor

The fire phases are among the most important aspects of Neidan, but also one of its most carefully guarded secrets. Statements found in different sources indicate that a key issue is knowing when to terminate them and proceed to the higher stages of the practice. However, the whole discourse is framed in a way that emphasizes their importance, on the one hand, and warns that the main points are left unsaid, on the other.

Zhang Boduan 張伯端 (987?–1082), placed at the origin of the Southern Lineage (Nanzong 南宗), states first in his *Wuzhen pian* 悟真篇 (Awakening to Reality, ed. Wang 1990): “Even if you discern the Vermilion Sand and the Black Lead, it will be useless if you do not know the Fire Phases” (“Jueju” 絕句, no. 27).<sup>12</sup> Then he adds, with a reference to the *Cantong qi*, here called “*Seal*”:

The *Seal* and the treatises, the scriptures and the songs expound ultimate reality,  
but do not commit the Fire Phases to writing.  
If you want to know the oral instructions and comprehend the mysterious points,

<sup>12</sup> 縱識朱砂與黑鉛，不知火候也如閑。(Pregadio 2019, 81).

you must discuss them in detail with a divine immortal. (“Jueju,” no. 28)<sup>13</sup>

The later Southern Lineage master, Xue Daoguang 薛道光 (1078?-1191), is ascribed with a similar statement, often cited in later sources: “The sages transmit the medicine, but do not transmit the fire.”<sup>14</sup>

Within this context, one of the main underlying points is how to deal with the ordinary progression of time while concurrently undertaking the return to timelessness. The fire phases provide a valuable model, as they make it possible to begin the practice by following a progressive time sequence, while concurrently submitting the essence to a course contrary to its ordinary flow. In the succeeding stages, the practice continues by entering a different time frame, represented by the “true *zi* hour,” and concludes with the return to timelessness. This procedure could not succeed if the time cycles of the fire times are followed in a literal way: in that case, the practitioner would not be released from time as it occurs in the cosmic domain. The time of the fire phases is by its very nature a metaphoric time.

This issue has been repeatedly approached during the history of Neidan. The Zhong-Lü 鍾呂 texts—written from the second half of the Tang dynasty onwards and belonging to the earliest identifiable Neidan lineage—interpret various emblematic macro-microcosmic correspondences, including the fire phases, in quite literal ways. Examples of this understanding appear in the main Zhong-Lü doctrinal treatise, the *Zhong-Lü chuandao ji* 鍾呂傳道集 (Anthology of the Transmission of the Dao from Zhongli Quan to Lü Dongbin; DZ 263 [*Xiuzhen shishu* 修真十書], chs. 14-16), and the main text devoted to its practice, the *Lingbao bifa* 靈寶畢法 (Conclusive Methods of the Numinous Treasure, DZ 1191).<sup>15</sup>

The attitude changes in the Southern Lineage texts and later Neidan traditions to such an extent that the warnings about a literal understanding of the time sequences are more numerous—and certainly more authoritative—than descriptions of the sequences themselves. With a clear reference to the Twelve-Stage Ebb and Flow, Zhang Boduan advises against patterning one’s practice on time courses established by sequences of cosmological emblems. He says, “The whole world delusively clings to the

<sup>13</sup> 契論經歌講至真，不將火候著於文。要知口訣通玄處，須共神仙仔細論。 (Pregadio 2019, 81).

<sup>14</sup> See *Huandan fuming pian* 還丹復命篇 (Reverting to the Mandate by the Reverted Elixir, DZ 1088), “Qiyán jueju” 七言絕句, no. 11.

<sup>15</sup> Chapter 12 of the first is entitled “Lun heche” 論河車 (Discussion of the River Chariot). For explanations of the methods of the second, see Baldrian-Hussein 1984, 237-59. Both texts are translated and studied in Kohn 2020.

[hexagram] images: They practice the “breaths of the hexagrams” (*guaqi* 卦氣) and hope thereby to rise in flight” (no. 37).<sup>16</sup>

The preface to another work attributed to Zhang Boduan, the *Jindan sibi zi* 金丹四百字 (Four Hundred Words on the Golden Elixir, DZ 1081), describes several macro-microcosmic correspondences, saying for instance that the 30,000 “notches” (*ke* 刻) contained in the ten months of the gestation of the embryo correspond to a cosmic cycle of 30,000 years.<sup>17</sup> It adds, though, that the whole alchemical work actually occurs in the One Opening (*yiqiao* 一竅), the non-material center of the human being where ordinary time and space do not apply:

If one is able to understand this Opening, then the winter solstice, the medicine, the fire phases, the bathing, the coalescing of the embryo, and the delivery of the embryo are all found there. (Pref.)<sup>18</sup>

One of the poems found in this work is celebrated in the Neidan traditions for saying:

The fire phases do not use the hours,  
and the winter solstice is not at *zi*.  
As for the method of bathing,  
the times of *mao* and *you* are empty similitudes. (no. 13) <sup>19</sup>

This closely echoes an analogous statement found in several later works and variously attributed to Bai Yuchan 白玉蟾 (1194–1229?) and other masters: “The true fire fundamentally has no phases.”

Li Daochun of the 13<sup>th</sup> century gives an extended description of the fire phases but laments that, while they should only provide a template for the practice, many adepts understand them in a literal way. In his *Zhonghe ji*, he reiterates that the alchemical work takes place in the One Opening, and reminds that the practice has nothing to do with the year, the month, or the day: “The birth of the medicine has its times, but these are not the

<sup>16</sup> 舉世迷徒惟執象，卻行卦氣望飛昇。

<sup>17</sup> The *ke* or “notch,” sometimes also rendered “interval” or “segment,” is the time unit beneath the *shi*, or “double hour.” In premodern China, the day was divided into 100 *ke*, equivalent to the notches marked on a water clepsydra. While each *ke* formally corresponds to about 15 minutes in modern reckoning, the expression “one *ke*” essentially means “a short while,” but sometimes it is also used in the sense of “one instant” on an internal time scale.

<sup>18</sup> 能知此之一竅，則冬至在此矣，藥物在此矣，火候亦在此矣，沐浴在此矣，結胎在此矣，脫胎亦在此矣。

<sup>19</sup> 火候不用時，冬至不在子。及其沐浴法，卯酉時虛比。 (Pregadio 2019, 101).

+time of the winter solstice, the time of the birth of the moon, or the time of the *zi* hour” (3.18a-b).

The later Dragongate (Longmen 龍門) tradition shows another way of dealing with the same issue. The famous *Taiyi jinhua zongzhi* 太一金華宗旨 (Secret of the Golden Flower, dat. ca. 1700),<sup>20</sup> devotes itself largely to the practice of “reversing the light” (*huiguang* 回光) within the practitioner’s person. About this practice, it says: “The reversion of the light is the same as the fire phases” (4a).

Min Yide 閔一得 (1748–1836), who included this texts into the sources of his Jin’gai 金蓋 lineage within Dragongate, yet proposed a different view. In one of his works, he refers to the lesser circuit by calling the Function Vessel the Black Path (*heidao* 黑道), and the Control Vessel the Red Path (*chidao* 赤道). In addition, he describes a Yellow Path (*huangdao* 黃道) located between them. While this term ordinarily is a synonym of the lesser circuit, in Min Yide’s view, the Yellow Path overrides the other two and directly connects the three cinnabar fields to each other. This “central path,” also called the “path of the immortals” (*xiandao* 仙道), allows practitioners to achieve the whole alchemical work in one instant, without depending on gradual stages or on time sequences (Esposito 2001, 209-13).

Many other views of time in Neidan deserve attention; in particular, those of Liu Huayang 柳華陽 (1735–99) and those of Zhao Bichen 趙避塵 (1860–after 1933).<sup>21</sup> However, Liu Yiming 劉一明 (1734–1821), another Dragongate master, maybe best summarizes the way in which ordinary time is seen in the context of the Neidan tradition as a whole. Mentioning the four cardinal earthly branches, which represent the four quarters of the day as well as the four seasons of the year, he says in his *Xiuzhen houbian* 修真後辨 (Further Discriminations in Cultivating Reality):<sup>22</sup> “Alas! Those are the *zi*, *wu*, *mao*, and *you* of heaven: what do they have to do with me? Heaven has heaven’s time, I have my own time” (Liu 2013, 136).

<sup>20</sup> Ed. *Daozang xubian* 道藏續編 (1834). The text is translated in Cleary 1992; Wilhelm 1962. For studies of its early history, see Esposito 1998; Mori 2002.

<sup>21</sup> On Liu Huayang, see Wilhelm 1962, 71-74; Wong 1998, 29-35. On Zhao Bichen, see Lu 1964, 35-37; Despeux 1979, 55-63, 106-10.

<sup>22</sup> Ed. *Daoshu shi'er zhong* 道書十二種 (Huguo’an 護國庵, 1819); reprinted in *Zangwai daoshu* 藏外道書, vol. 8 (Chengdu: Ba-Shu shushe, 1992).

## Bibliography

- Baldrian-Hussein, Farzeen. 1984. *Procédés secrets du joyau magique: Traité d'alchimie taoïste du XIe siècle*. Paris: Les Deux Océans.
- Cleary, Thomas. 1992. *The Secret of the Golden Flower: The Classic Chinese Book of Life*. San Francisco: Harper.
- Despeux, Catherine. 1979. *Zhao Bichen: Traité d'Alchimie et de Physiologie taoïste (Weisheng shenglixue mingzhi)*. Paris: Les Deux Océans.
- \_\_\_\_\_. 1994. *Taoïsme et corps humain: Le Xiuzhen tu*. Paris: Guy Trédaniel.
- \_\_\_\_\_. 2008. "Huanjing bunao." In *The Encyclopedia of Taoism*, edited by Fabrizio Pregadio, 514–15. London: Routledge.
- \_\_\_\_\_. 2019. *Taoism and Self-Knowledge: The Chart for the Cultivation of Perfection (Xiuzhen tu)*, Translated by J. E. E. Pettit. Leiden: Brill.
- Esposito, Monica. 1998. "The Different Versions of the *Secret of the Golden Flower* and Their Relationship with the Longmen School." *Transactions of the International Conference of Eastern Studies* 43:90-109.
- \_\_\_\_\_. 2001. "Longmen Taoism in Qing China: Doctrinal Ideal and Local Reality." *Journal of Chinese Religions* 29: 191–231.
- Harper, Donald J. 1998. *Early Chinese Medical Literature: The Mawangdui Medical Manuscripts*. London and New York: Kegan Paul International.
- Kohn, Livia. 2012. *A Sourcebook in Chinese Longevity*. St. Petersburg, FL: Three Pines Press.
- \_\_\_\_\_. 2020. *The Zhong-Lü System of Internal Alchemy*. St. Petersburg, Fla.: Three Pines Press.
- Liu, Yiming. 2013. *Cultivating the Tao: Taoist and Internal Alchemy*. Translated by Fabrizio Pregadio. Mountain View, CA: Golden Elixir Press.
- Lu, K'uan Yü (Charles Luk). 1964. *The Secrets of Chinese Meditation: Self-Cultivation by Mind Control as Taught in the Ch'an Mahayana and Taoist schools in China*. London: Rider.
- Mori, Yuria. 2002. "Identity and Lineage: The *Taiyi jinhua zongzhi* and the Spirit-Writing Cult to Patriarch Lü in Qing China." In *Daoist Identity: History, Lineage, and Ritual*, edited by Livia Kohn and Harold D. Roth, 165-84. Honolulu: University of Hawaii Press.
- Needham, Joseph. 1983. *Science and Civilisation in China*, vol. V: *Chemistry and Chemical Technology*, part 5: *Spagyric Discovery and Invention: Physiological Alchemy*. With Lu Gwei-Djen. Cambridge: Cambridge University Press.
- Neuswald, Sara Elaine. 2009. "Internal Landscapes" In *Internal Alchemy: Self, Society, and the Quest for Immortality*, edited by Livia Kohn and Robin R. Wang, 27–52. Magdalena, NM: Three Pines Press.

- Pregadio, Fabrizio. 2006. *Great Clarity: Daoism and Alchemy in Early Medieval China*. Stanford: Stanford University Press.
- \_\_\_\_\_. 2011. *The Seal of the Unity of the Three: A Study and Translation of the Cantong qi, the Source of the Taoist Way of the Golden Elixir*. Mountain View, CA: Golden Elixir Press.
- \_\_\_\_\_. 2019. *Taoist Internal Alchemy: An Anthology of Neidan Texts*. Mountain View, CA: Golden Elixir Press.
- Robinet, Isabelle. 1995a. *Introduction à l'alchimie intérieure taoïste: De l'unité et de la multiplicité*. Paris: Éditions du Cerf.
- \_\_\_\_\_. 1995b. "Un, deux, trois: Les différentes modalités de l'Un et sa dynamique." *Cahiers d'Extrême-Asie* 8: 175–220.
- \_\_\_\_\_. 2011. "Role and Meaning of Numbers in Taoist Cosmology and Alchemy." In *The World Upside Down: Essays on Taoist Internal Alchemy*, 45–73. Mountain View, CA: Golden Elixir Press.
- Schipper, Kristofer M., and Wang Hsiu-huei. 1986. "Progressive and Regressive Time Cycles in Taoist Ritual." in *Time, Science, and Society in China and the West*, edited by J.T. Fraser, N. Lawrence, and F. C. Haber, 185–205. Amherst: University of Massachusetts Press.
- Sivin, Nathan. 1976. "Chinese Alchemy and the Manipulation of Time." *Isis* 67: 513–27. Reprinted in *Science and Technology in East Asia: Articles from Isis, 1913–1975*, edited by Nathan Sivin, 109–22. New York: Science History Publications, 1977.
- \_\_\_\_\_. 1980. "The Theoretical Background of Elixir Alchemy." In Joseph Needham, *Science and Civilisation in China*, vol. 5: *Chemistry and Chemical Technology*, part 4: *Spagyric Discovery and Invention: Apparatus, Theories and Gifts*, 210–305. Cambridge: Cambridge University Press.
- Wang Mu 王沐. 1990 *Wuzhen pian qianjie (wai san zhong) 悟真篇淺解 (外三種)*. Beijing: Zhonghua shuju.
- \_\_\_\_\_. 2011. *Foundations of Internal Alchemy: The Taoist Practice of Neidan*. Mountain View, CA: Golden Elixir Press.
- Watson, Burton. 1994. *The Lotus Sutra*. New York: Columbia University Press.
- Wilhelm, Richard. 1962. *The Secret of the Golden Flower: A Chinese Book of Life*, Translated by Cary F. Baynes. London: Routledge and Kegan Paul.
- Wong, Eva. 1998. *Cultivating the Energy of Life*. Boston: Shambhala.