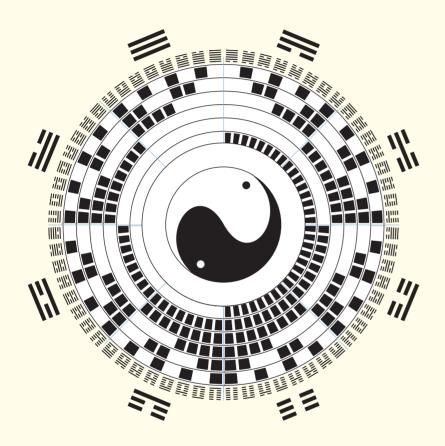


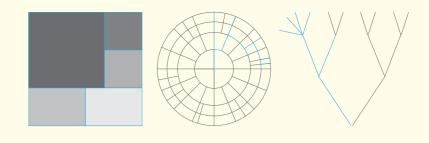
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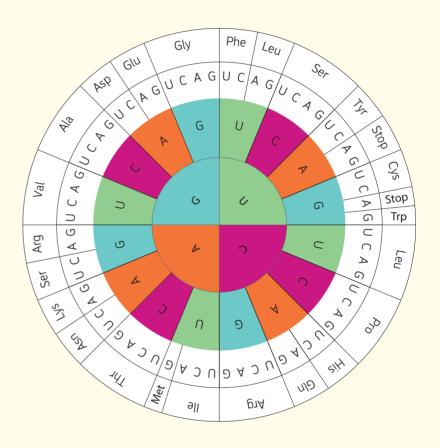




black fields represent $\trianglerighteq yin$, depicted in the hexagrams as dashed lines (--), and the white fields represent $\trianglerighteq yáng$, rendered in the hexagrams as continuous lines (--). The division into black ($\trianglerighteq yin$) and white ($\trianglerighteq yin$) results from the ongoing diversification that starts in the center and moves outward: the innermost circle is bisected into black and white, the second circle is divided into four parts, the third circle into eight, and so

on. Together, the three inner circular paths in the eightpart division yield the 八卦 $b\bar{a}$ $gu\dot{a}$ [Eight Trigrams]. The Eight Trigrams, subsequently in the 六十四卦 $li\dot{u}$ shis $gu\dot{a}$ [Sixty-Four Hexagrams], are therefore read in circular segments. In classical Chinese philosophy the Sixty-Four Hexagrams are regarded as an abstract pattern of all the interconnections in this world. The 易經 Yijing explains the Sixty-Four Hexagrams, using concrete situations. Source: 章漢 Zhang Huang (1623). 圖書編 Tushu Bian, vol. 4, p. 14.





Circular Diagram of the Genetic Code The representation shows how twenty amino acids are distributed among sixty-four codons. The names of the amino acids are indicated on the outermost edge. As such, the green sector (U), for instance, if read clockwise, contains the base triplets UUU, UUC, UUA, and UUG. All living beings have essentially the same genetic code. The sixty-four codons in the genetic code of DNA are structurally analogous to the Sixty-Four Hexagrams from the 易經 Yijing (known in English as the Yijing [Book of Changes]).

Attempts have been made since the 1960s to link these two basic patterns of life. Here, the DNA components of the four organic bases A (adenine), T (thymine), C (cytosine), and G (guanine) correspond to the four cardinal numbers of the Yijing: 6: old Yin == (太陰 tài yīn), 7: young Yang == (少陽 shào yáng), 8: young Yin == (少陰 shào yīn), 9: old Yang = (太陽 tài yāng). Various approaches to the concrete correlation exist. See Schönberger, M. (1977). Hidden Key to Life. Frankfurt a. M.: Fischer Taschenbuch.

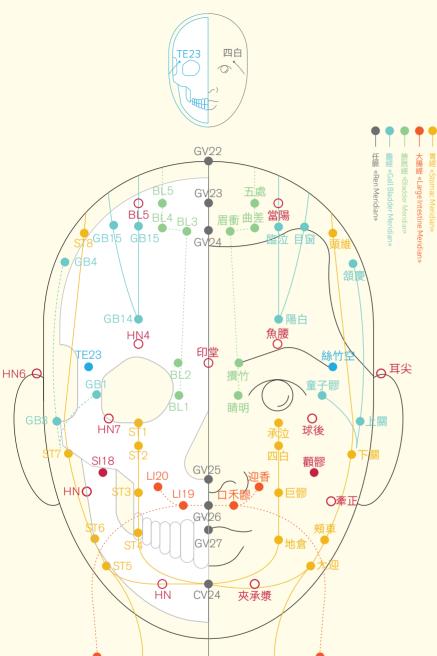
149

圖片

人的身體

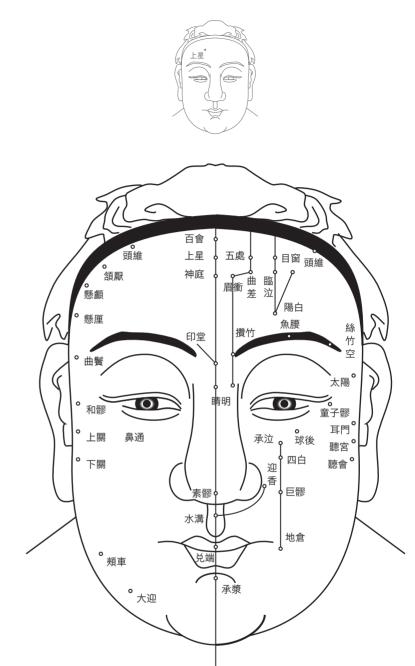
Figures

Body



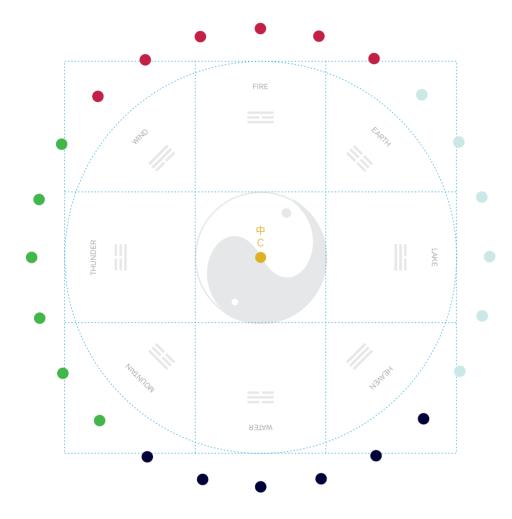
Facial Acupuncture Points Redesigns of pictures of acupuncture points, done according to Western principles of illustration (left) and the traditional Chinese principles (right). The biggest difference here lies in the depiction of the half-skull in the Western drawing. This perspective allows one to see both the surface of the facial skin and the palpable bone structure beneath it. Traditional Chinese images do not feature cross-sections or segments. They always depict the whole, usually from an external perspective. Thus, the tradi-

tional drawing on the right shows the face as a whole, but different points are set into the two different sides of the face, in order to avoid confusion by piling on too many points. On the right side of the face some of the points are arranged along connecting meridian lines. This method of depiction is not strictly coherent: the points are distributed across the two halves of the face in accordance to aesthetic standards, rather than logical ones. This is evidence that these drawings were primarily regarded as teaching materials for traditional

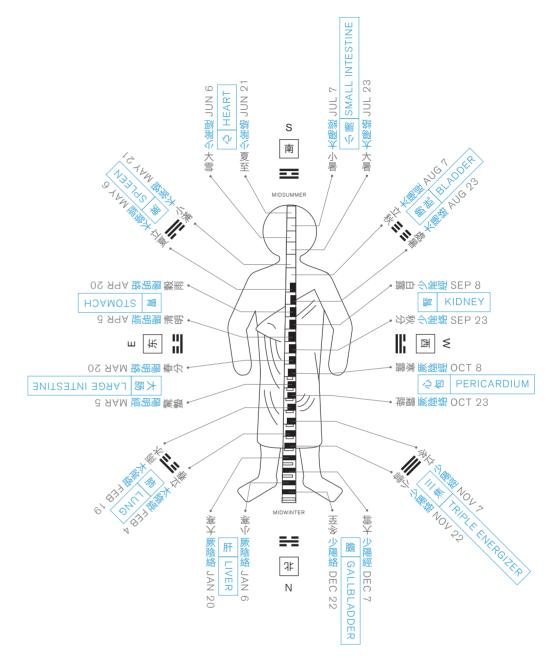


medicine. Practitioners were taught by practicing in a traditional master-pupil setting, and illustrations may have served as memory aids. Today's Chinese acupuncture maps, however, serve as concrete teaching materials. Therefore, they prefer being linked to anatomical drawings that are as true-to-nature as possible from an external point of view, and in which bones and muscle sinews can be seen. Similarly, the illustration on p. 152 is of a face with the bones visible in one half of it. Here, lines of various colors connect the points on both sides

of the face to the different meridians. Illustrations of acupuncture points are among the few examples of traditional Chinese images in which exact points are shown and clearly defined. Because the points are based on the location of bones and muscle sinews, they cannot be transferred from a two-dimensional Chinese face to the Western face; the illustrator has to orient the points according to anatomical structures.



Twenty Four Seasons ● 立春 Lichūn [Vernal Begins] (Feb 4) ● 雨水 Yǔshuǐ [Rain Water] (Feb 19) ● 驚蟄 Jīngzhé [Insects Awaken] (Mar 5) ● 春分 Chūnfēn [Vernal Equinox] (Mar 20) ● 清明 Qīngmíng [Clear and Bright] (Apr 5) ● 穀雨 Gǔyǔ [Grain Rain] (Apr 20) ● 立夏 Lìxiὰ [Summer Begins] (May 6) ● 小滿 Xiǎomǎn [Grain Full] (May 21) ● 芒種 Mángzhòng [Grain in Ear] (Jun 6) ● 夏至 Xiàzhì [Summer Solstice] ● 小暑 Xiǎoshǔ [Slight Heat] (Jul 7) ● 大暑 Dàshǔ [Great Heat] (Jul 23) ■ 立秋 Lìqiū [Autumn Begins] (Aug 7) 處暑



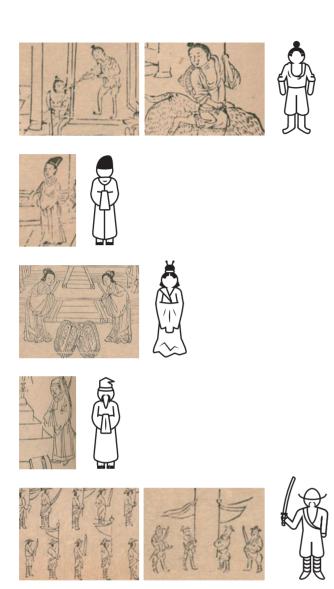
人面耐寒之圖 rénmiàn nàihán zhī tú [Diagram of the human face's resistance to cold] The diagram (p. 157) positions the body, its organs and meridians, inside of a comprehensive context of space and time. This places it within the traditional system of correspondences. Among the relevant layers also illustrated in the diagram above are the Five Directions, the Eight Trigrams, and the Twenty-Four Divisions of the Year (circular areas in corresponding colors). The illustration's title refers to the forty-seventh question

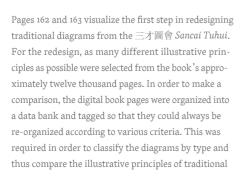
in the classic medical textbook 難經 *Nánjing:* "Why is the face resistant to cold?" The answer is that all of the yang meridians converge in the area of the head. The diagram places the fire trigram 离 li, and 夏至 xiazhi [midsummer], and 南 nán [south] above the head. The white and black fields in the middle of the figure represent the amount of 陰 yin [black] or 陽 yáng [white]. Source: 三才圖會 Sancai Tuhui, 身體 Shenti [The Body], vol. 5, p. 3. Link: https://tinyurl.com/wlx5bbu

Body

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圖片





Chinese diagrams with diagrams influenced by other cultures. The pages of the book served as the sources for people, architecture, and objects. In redrawing them on the computer, the images were generally reworked—that is, they were slightly stylized, leveled, and, above all, standardized. The strongest interventions were in the selection and the standardization of the originals. When redesigning, decisions always have to be made about how abstract the reproductions of the originals will be. Altering the degree of abstraction can only be



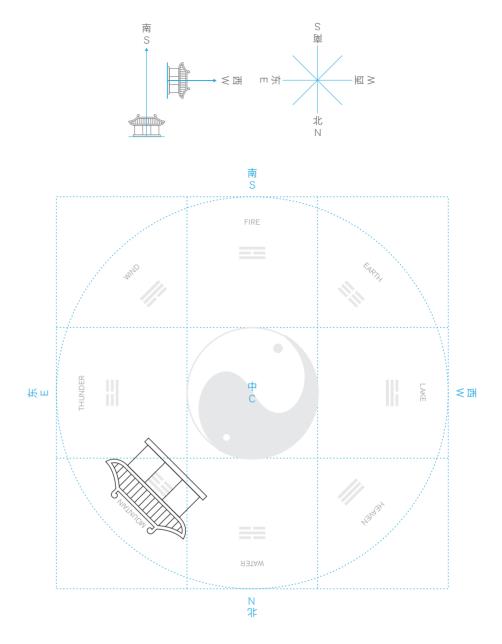
justified if it makes it easier to understand the Chinese diagrams. When, for instance, a house was only represented by a rectangle, many of the redesigns replaced it with a two-dimensional building (p. 169, p. 170, p. 203). The three-dimensional form, on the other hand, was beneficial in only a few situations. Here, it is only used for the 燕朝圖 yàn cháo tú [depiction of the Swallow Audience] (p. 225), because three-dimensional depiction allowed us to show the various positions and perspectives of the participants and objects, the expression of

which in the original depends upon how the character is aligned. Every time an analogue technique is translated into a digital computer pattern, or something is translated from one system of cultural values to another, an irreconcilable contradiction opens up. Infographics are valuable because they make it possible to see the contradictory forces, and their visibility allows them to make an impact.



騰蛇舉其頭 téng shé jǔ qí tóu The Leaping Snake Lifts its Head This illustration was taken from a section of the 三才圖會 Sancai Tuhui on the theme of 宮室 Gongshi [architecture]. The original version of the diagram (see (A)) features a house that has been turned upside down, something that must seem mysterious to any observer outside of the cultural frame of reference. There is even a danger that, from a Western viewpoint, an upside-down house could be seen as a mistake, if the alignment is not explained. That is the reason why this

example was selected. The redesign visualizes certain aspects of the frame of reference—the ideas and concepts that underlie the diagram. This made it possible to see the notions of space referred to. The frame of reference includes both the division of the square into nine fields (九宫 jiǔ gōng [Nine Palaces]), which explains the alignment of the house (northeast) and the corresponding qualities linked to that in the 八卦 bā quà [Eight Trigrams] and in the cyclical waxing and waning of the polar forces of 陰 yīn and 陽 yáng.



This allows us to see, first, how the energies of the building complex are represented, and second, how they are interpreted as having good or bad effects upon the inhabitants. This image is particularly good at showing how turning one of the elements—the house—reveals its alignment (see chapter 4.4 "Alignment," p. 107). These kinds of images help in reading the buildings, their positions, and their alignments, so that it can be known if the effects on the building's residents will be good or bad. When a house turns out to be unhealthily

aligned, it is recommended that various measures be taken to counteract this. These range from deliberately adding certain objects, such as house plants, screens, curtains, or lucky charms, to moving to another house. Source: 三才圖會 Sancai Tuhui, 宮室 Gongshi [Architecture], vol. 3, p. 35. Link: https://tinyurl.com/vxdvfg4

香港 HONG KONG

旗幟 FLAG

APPROVED ON 4TH APRIL 1990, USED SINCE 151 JULY 1997. A STYLISED. WHITE. FIVE-PETAL BAUHINIA BLAKEANA FLOWER IN THE CENTRE



人口 POPULATION

82.5

平均壽命(年) LIFE EXPECTANCY (YEARS)

圖片

城市與建築



2×7百萬在城市 2×7 MIO IN THE CITY

目前城市人口及都市圏人口 CURRENT POPULATION IN THE CITY AND CURRENT POPULTION IN METROPOLITAN REGION



PROJECTED GROWTH (2010-2025): 8 PEOPLE PER HOUR

經濟 ECONOMY

3.6 總增加值 GVA

能源 ENERGY



220 升 LITERS



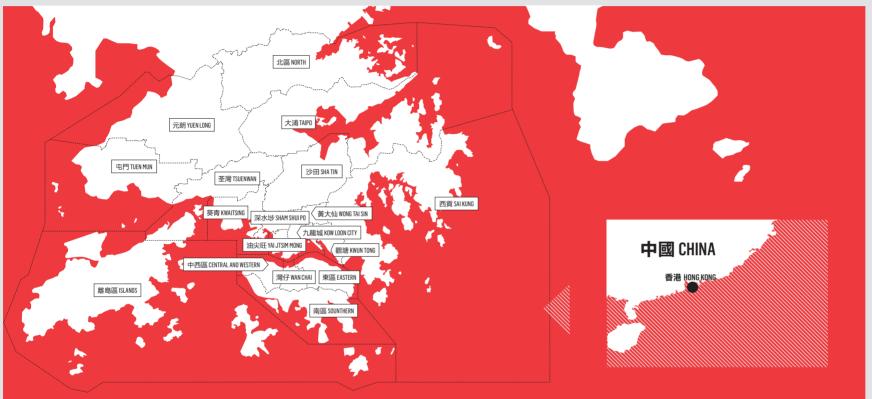
5.5 噸 TONNES



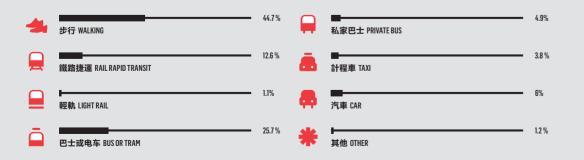
5.9 **兆瓦时 MWH**



香港行政區地 MAP OF DISTRICTS



旅遊模式 PATTERNS OF TRAVEL



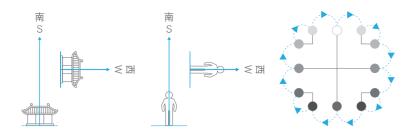
交通 TRANSPORTS

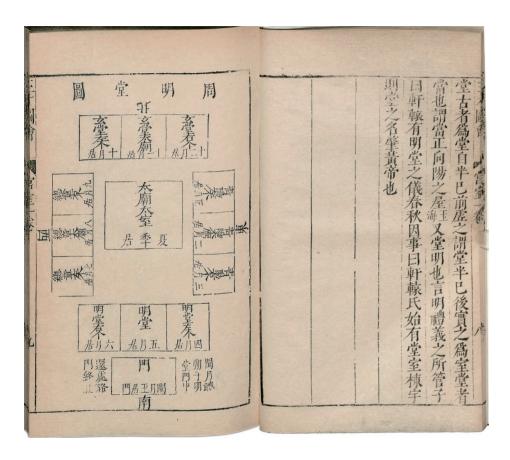


SYSTEM LENGTH (KM)





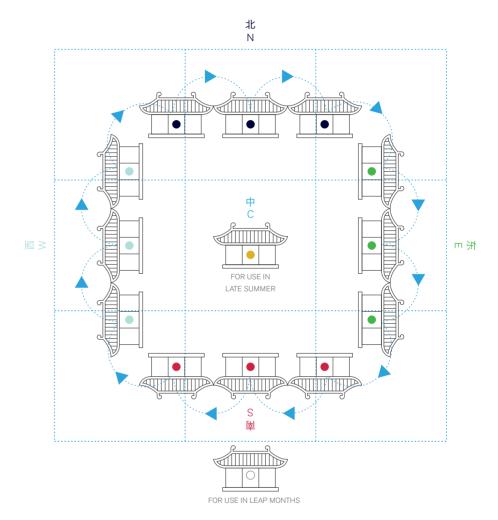




周明堂圖 Zhōu míng táng tú The Zhou Dynasty's Hall of Clarity The illustration is of the 明堂 míng táng [Hall of Clarity], where the emperor received the princes of feudal states or envoys from distant countries, made official gifts, or granted lands and titles of nobility. The 明堂 míng táng Hall of Clarity was considered the central architectural structure within the context of the Zhou Dynasty's (1100-256 BCE) ritualistic imperial court. Because the rooms are assigned to the cyclical periods of time, the architecture not only functions as a kind of

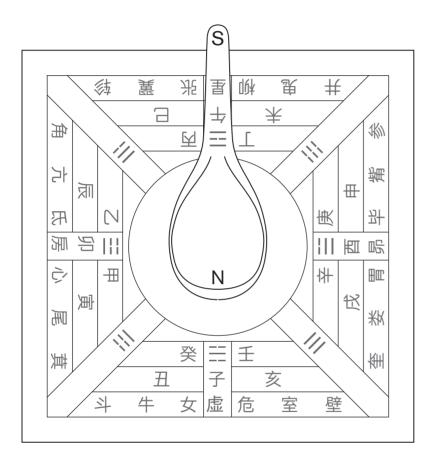
calendar house, it also depicts an abstract concept of the universe. Each room corresponds to a time of year, establishing which room the emperor should be in, in accordance with which month it is. As is customary with images of palaces, north is located at the top, because the view to the south is reserved for the ruler. The common viewer stands across from the emperor, an imaginary "subject" looking north. Source: 三才圖會 Sancai Tuhui, 宫室 Gongshi [Architecture], vol. 1, p. 9. Link: https://tinyurl.com/wzphx5d

	N AF		
≷閩	中 C	朱山	
	南 S		



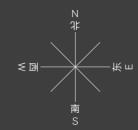
reference. The 中 *zhōng* [middle], is designated as the 太庙太室 *tài miào tài shì* [highest chamber in the imperial ancestral temple], where the emperor stayed during the summer. This makes it clear how the nine-part square, whose exterior has a total of twelve sides, is connected to the twelve chambers. ○ assigns 門 *mén* [entry gate], in line with 閏月王居門 *rùn yuè wáng jū mén* [in leap months the emperor stays in the gate]. Throughout the entire intercalary month, official state business was done beneath the portal.

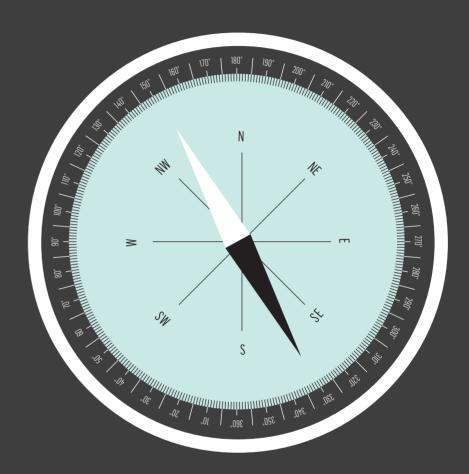




司南 Sīnán south pointer The compass depicted here shows the most important coordinates of the traditional Chinese method of orientation. In the outer band the constellations ("twenty-eight celestial houses") are identified; in the middle band, the 地支 dìzhī, or twelve earthly branches; in the inner band, the 天干 tiāngān, or ten celestrial stems. The 八卦 bā guà [eight trigrams], are written on the eight radial bands moving outward from the center. The cardinal points themselves are not identified in the original; they result from knowing this

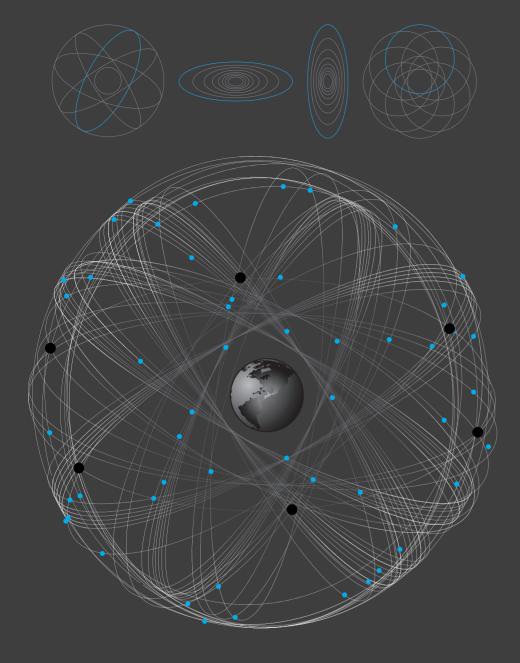
system of correspondences. In the central field rests a magnetic, spoon-shaped indicator, whose heavier, rounded end points toward the north, while the longer shaft points south. In ancient China, the south was the preferred direction, associated with yang, warmth, light, and life. While exact angles make the European compass suitable for calculations, the constellations, calendar signs, and trigrams of the Chinese compass link it to the entire system of correspondences.





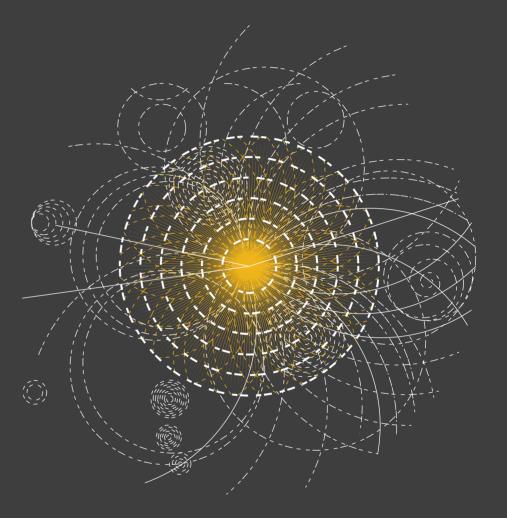
Compass If you compare the Chinese 司南 sīnán [south pointer], with the Western compass, you will immediately notice that both divide space into eight directions. However, while the Chinese compass points south, with the handle of a spoon-shaped instrument, the Western compass points north, with an arrow-like needle. The Chinese compass makes it possible to evaluate the qualities of the position and location of a house (geomancy, or 風水 fēng shuǐ). A Western compass, in contrast, is designed to determine a firmly

established direction—a cardinal point, for example, a navigational course, or a target. The oldest version of the compass is known in German as a Kimme (translated as "notch" in English, more commonly thought of as the "sight" on a weapon), which allowed the user to target the polar star on a clear night. The division of the compass into 360 degrees is evidence of geometry's complete domination over space, which made it possible to navigate precisely around the Earth, with the aid of the appropriate maps.



Global Positioning System, or GPS This illustration shows the satellites networked into the global navigation system (GPS), and their orbits. Of particular note is the regularity of the geo-stationary orbits. This means that the satellites are always in the same position relative to Earth, so their movments are synchronized with the Earth's movement. In the Western reference system, these movements would be depicted in 3D from an outside, imaginary observational point. This point lies at about the same height as the moon, and is based on

the familiar "moon's view of the Earth," as Günther Anders calls it. Contrastingly, the traditional Chinese system of references depicts orbits in an abstract, two-dimensional order, as can be see in the illustration 日月冬夏九道之圖 rì yuè dōng xià jiǔ dào zhī tú "Diagram of the Nine Orbits of Sun and Moon in Winter and Summer" (p. 236).



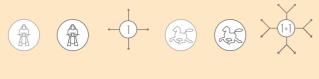
Higgs Particles This image of elementary particle physics shows the result of an experiment that proved the existence of the long-sought-after Higgs-Boson particle. In this experiment, recording the traces of the energy impulses given off as the particles move makes it possible to see the collision of elementary particles. The newly created particles emit energy, and measuring the shape and length of their traces helps to identify the particles and provide information about their characteristics. The empirical process is not based on

calculations or construction, but on experimentation. In a certain way, the process of colliding the particles and interpreting their traces is comparable to casting runes. In both cases, the meaning of the signs cannot be interpreted without the appropriate system of references. The Western system of references involves physical dimensions such as space, time, and energy, but the traditional Chinese system involves the Five Celestial Directions and the 九音 jiǔ gōng [Nine Palaces].

Game

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圖片





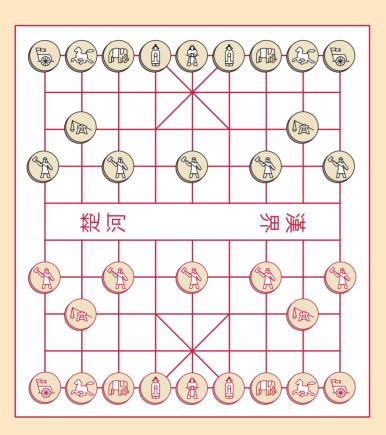




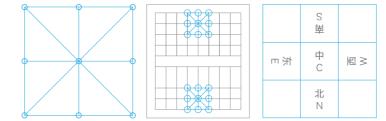


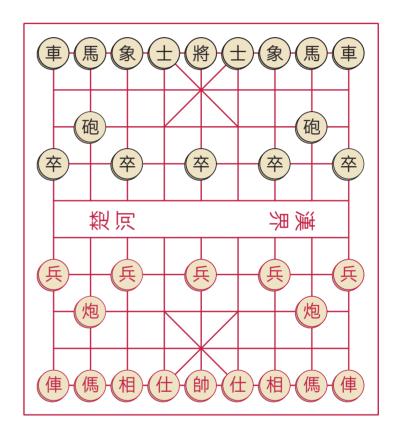






象棋 xiàngqí Chinese Chess On the right are game tokens inscribed with written characters that are common in China; to the left is one of our redesigned diagrams for players without any knowledge of the Chinese language, with tokens bearing pictograms. We added a visual equivalent to the character on each token. These forms already exist, but in general they are stamped with Western influences. When adapting Chinese chess for Western players, a basic question arises: Should "foreign content" be given up in favor of familiar content, or is it possible to invent an illustrative method that opens up access to the "foreign"? Most of the common pictogram variations try to adapt the Chinese figures to Western chess figures. The "commander" becomes a "king," whose pictogram is a medieval emperor's crown featuring a Christian cross. The war chariot becomes a rook (called a "tower" in German), with the pictogram referring to the structure of medieval castles. In order to avoid these kinds of adaptations to Western ideas in our visual translation, we





are basing ours on historical sources, in order to retranslate the chess figures within their traditional system of reference. To conclude, one more comment on the essential differences in the diagram: Note the rather loose distribution of the chess figures in their starting positions, as compared to Western chess. Also note that no other figure (queen) is placed next to the tallest figure. There is only one dominant figure, and everything revolves around it; to the right, the figures are arranged in strict symmetry. This reflects the concept of the field commander, the potential ruler of the world. 象棋 xiàngqí can be traced back to a historical event from the late Qin dynasty (221-207 BCE), when two commanders wrestled for dominance: Xiang Yu, of Chu province, and Liu Bang, later founder of the Han dynasty. The war lasted from 206 to 202 BCE. The centerline, labeled "Chu River, Han border," is based in historical fact, and refers to the Honggou Canal near Xingyang (part of Zheng-zhou today), in the province of Henan, which was south of the Yellow River.

com/tj4snv8

,令絃振指而名謂之泛

于 指名中食大手左 除在鶴鳴 指食手右 指名中食手左 勢水點蜒蜻 右手大指 yòu shǒu dà zhǐ [with the right thumb] and: 鳴鶴將翔 勢 míng hè jiāng xiáng shì [stance of a whooping crane about to take off] Link: https://tinyurl. 播度佛歷 謂兩指交互後也 譜作不向內入然曰抹譜作不向內入然曰抹 两手指捻起 今紅振指而名謂之 譜作广輕佛回度 譜作乏以指 譜作色謂泛 **于指名中大手左** 势舞鳴雞鵑 勾 gōu [to hook] 譜作勾 pǔ zuò gōu [notation: 勾] 向內人絃曰勾 xiàng nèi rù xián yuē gōu "If you pluck a string inward (with the middle finger), it is called 勾 gōu 'to hook.'" 換長短 及鎖 作踢鎖共作鎖聲又鎖 日日鎖挑講 反又次譜九二聲譜共連一譜倒反踢譜建作 踢勾 謂按指抑上抑下 譜作马 譜作多向外出該回日語作为向內入該回日 連踢三四統曰衮 灣作句出~一作回自 へ入れた一年所大連一部副及影響連作 保2221年華馨文作七作解作似に出作作作 聲食中事 作長春三又矢 文文及三次2 東統 45元 四克 作以 以心静食 作林文以 馨琳 二先 食先日桃 作先 上日對 長次以名 又抹 抹以"抹 連二 後抹 奉就中摘 桃中ス 也

蜻蜓點水勢 qīng tíng diǎn shuǐ shì [posture of a dragonfly skimming the water] 左手食中名指 zuǒ shǒu shí zhōng míng zhǐ [With the index finger, middle finger, and ring finger of the left hand.]

alternately to produce harmonics.] fần yzĕ [This means using two fingers of each hand 牙泛 yá fàn [interlocking sliding notes] 譜作 yá [notation: 牙] 謂兩指交互泛也 wèi liǎng zhǐ jiāo hù 宝牙 pǔ zuò

touching the strings, is called 沒 fàn.

with the right hand, which produces notes by barely [A movement of the fingertips of the left hand working

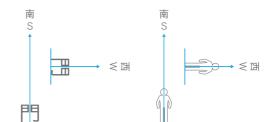
鼓琴圖 gǔ qín tú Depictions of Ways to Pluck the

Qin The eight images reproduced here are from a series of thirty-three different methods for plucking the seven-stringed 琴 q \acute{i} n, a kind of fretless zither. The pictures help students "[to] better master the guqin, when such a majestic creature stands before the inner eye while learning the fingerboard." (Dorothee Schaab-Hanke: Einstimmung in das Spiel auf der Qin. Illustrierte Fingergriffe aus einem Qin-Handbuch des 15. Jahrhunderts. Ostasien Verlag, Gossenberg 2009.) The images

often combine an animal in a particular pose with elements of natural landscapes, linking them to a particular finger position—the 勢 shì [dynamic power] of the fingers when plucking. One section of the picture depicts the hand from the viewer's perspective, which determines whether it is the left or right hand. The position of the finger is only indicated, because what is far more significant here is the poetic symbolism of the emotion that is supposed to be evoked by plucking the strings. This is about an important concept: 意 yì

[thoughts, ideas, imagination], which plays a prominent role in all of the Chinese arts, conjuring up the inner image that is deliberately evoked, reinforcing certain aspects of emotions. The name of the plucking method is above that section of the picture, and below it, each way of writing notation is introduced and explained. The book shown here is a newer edition of the 三才圖 會 Sancai Tuhui, which contains four complete plates printed in a reduced size. This keeps the image printed on the plate whole, not divided into recto and verso, as

classic bookbinding does (see ch. 3.2, "The Media Framework for the 三才圖會 Sancai Tuhui," p. 94). Still, these prints are smaller in size and no longer take up entire sides of a page. That makes it difficult to imagine the original book. Source of the facsimile edition: 三才圖 會 Sancai Tuhui, vol. 2 (Shanghai: Gugi Press, 1988), pp. 1570-71. Source of the images in the traditional hardbound edition: 三才圖會 Sancai Tuhui, 人事 Renshi [Cultural Achievements], vol. 1, pp. 3-4 and 17-18. Link: https://tinyurl.com/tzj9wfk







國朝儀仗圖 guó cháo yí zhàng tú Ritual Objects for

State Ceremonies Right: 馴象 xùn xiàng [tamed elephant]; left: 仗馬 zhàng mǎ [ceremonial horse]. The two pictures are of animals that were put on display for state ceremonies in order to reinforce the demonstration of power, for instance, when tribute was being paid. Besides horses and elephants, there were also leopards and tigers. Each of the majestically furnished and richly jeweled animals is shown with a keeper, in the same way that they would

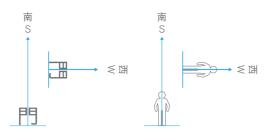
appear at such a ceremony. In front of the horse stands a senior court official, while the elephant keeper is from a lower class, as his clothes declare. The text on the verso side of the horse traces the presentation of such animals back to old manuscripts, while also stating how many, and in what order they must be present during court ceremonies. Source: 三才圖會 Sancai Tuhui, 人事 Renshi [Cultural Achievements], vol. 3, p. 17-18. Link: https://tinyurl.com/uu6fdd3

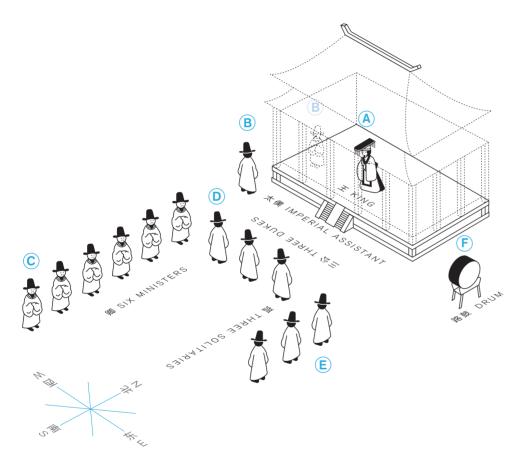
士司王宰太 K大卿台 南西東 5000 土北西東 太僕前正位而 一公孤鄉

燕朝圖 yàn cháo tú Swallow Audience On the right is depicted an audience with the king, which takes place in front of the residential area of the palace. It is a private audience inside the circle of the imperial family and its closest courtiers. The only visual element is a simplified gate that marks the transition from the governmental palace to the residential palace. The characters written beneath the threshold and under the roof of the gate identify the participants. Some of the characters are turned on their sides or inverted, indicating

the position and alignment of the participants. Representing the figure of the king, the character \pm wáng [king] is written beneath the roof. Underneath the threshold and turned 180 degrees are the characters \equiv 公 sān gōng [Three Dukes]. These figures face each other: the king beneath the arch, gazing toward the south, and the officials in front of the gate, looking northward. Source: 三才圖會 Sancai Tuhui, 宮室 Gongshi [Architecture], vol. 2, pp. 3-4. Link: https:// tinyurl.com/qpducx4

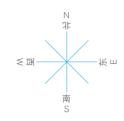
圖片

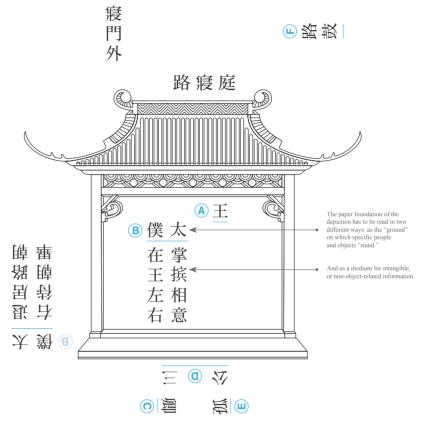




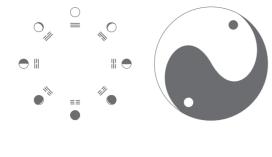
These interpretations of the original on the previous page represent various kinds of visual translations of traditional Chinese conventions. To the right is a redrawing in a current design with notes, which is faithful to the original reproduction. To the left is a visual translation executed in pictograph-style figures and objects. Here, the goal was to illustrate the positions and alignment of the participants. The Ming-era clothing and faces were drawn with special care. It had to be clear that the gate was a large building with a portal, not just

a freestanding arch. Only the Ming-era reader would probably have known what kind of gate was meant in the 三才圖會 Sancai Tuhui. Often, the brevity of the classic written language allows for a variety of interpretations, while a visual depiction is more obviously impactful. Still, the redesign clarifies the relationships that would have been conventionally known within the traditional framework, but would remain hidden from an outside observer of the culture.





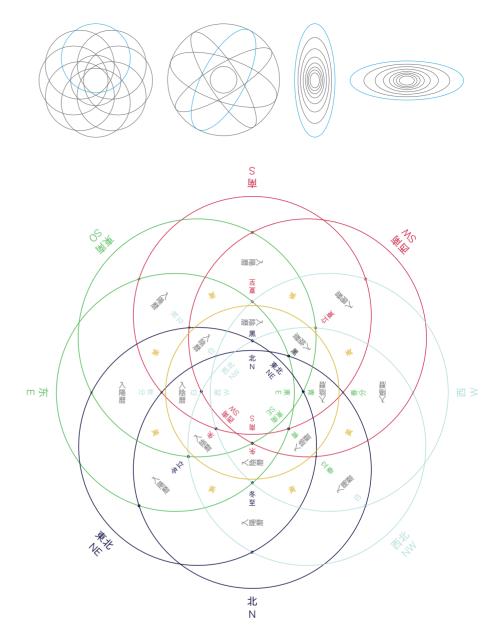
Beneath the arches of the gate is the character (®) 王 wáng, representing the figure of the king; he is depicted "standing upright," which corresponds to his stance facing south. ® 太僕 tài pǔ [imperial assistant], is looking north while assisting the emperor, looking south while the emperor returns to his living palace. The character (©) 即 qīng refers to the "six ministers," and (®) 三公 sān gōng represent the "three dukes." (⑤) 孫 gū represents the "three solitares". One character stands for an object, the (F) 路鼓 lù gǔ [drum for ceremonies, (facing west).]





日月冬夏九道之圖 rì yuè dōng xià jiǔ dào zhī tú Diagram of the Nine Orbits of Sun and Moon in Winter and Summer This illustrates the moon's orbit over the seasons as it relates to the ecliptic (the sun's orbit). The orbit is divided into eight moon orbits, which are identified by the colors ascribed to the cardinal directions. ⑤ 东 dōng [east] / 东南 dōngnán [southeast]: green; ⑥南 nán [south] / 西南 xīnán [southwest]: red; ⑩西 xī [west] / 西北 xīběi [northwest]: white; ⑥北 běi [north] / 东北 dōngběi [northeast]:

black, and one sun orbit—the ecliptic—identified by the symbolic color in the center as the "yellow orbit." In the original the colors of the corresponding orbits are identified with written characters, but in the redrawing they are depicted in specific colors. The orbits move counterclockwise. Each entry into the ecliptic's circle is labeled as an "entrance into the yin calendar," and each exit is labeled as an "entrance into the yang calendar." The places where the lunar orbits intersect denote the most significant turning points of the year.



The furthest point in each orbit corresponds to the apogee (the greatest distance between the moon and the Earth), while the innermost point represents the perigees (smallest distance between the moon and the Earth). In ancient China calculating the moon's orbit was very important, because the Chinese calendar is based on the moon's phases. According to the traditional Chinese system of references, the orbits were depicted in two dimensions; the symmetrical positioning of the writing reinforces the idealized form of the

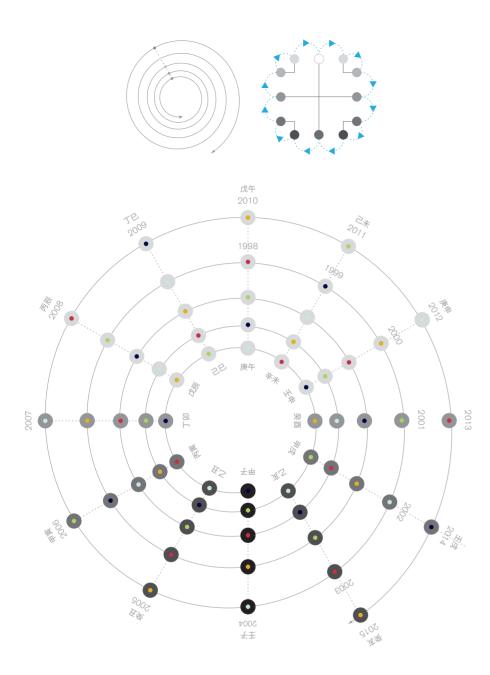
image. Source: 三才圖會 Sancai Tuhui, 天文 Tianwen [Astronomy], vol. 4, p. 11. ● 立春 lìchūn [Vernal Begins] (Feb 4) ● 春分 chūnfēn [Vernal Equinox] (Mar 20) ● 立夏 lìxià [Summer Begins] (May 6) ● 夏至 xiàzhì [Summer Solstice] (Jun 21) ● 立秋 lìqiū [Autumn Begins] (Aug 7) ● 秋分 qiūfēn [Autumnal Equinox] (Sep 23) ● 立冬 lìdōng [Winter Begins] (Nov 7) ● 冬至 dōngzhì [winter solstice] (21.-23. Dec.) (clockwise). Link: https://tinyurl.com/utftktm

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圖片

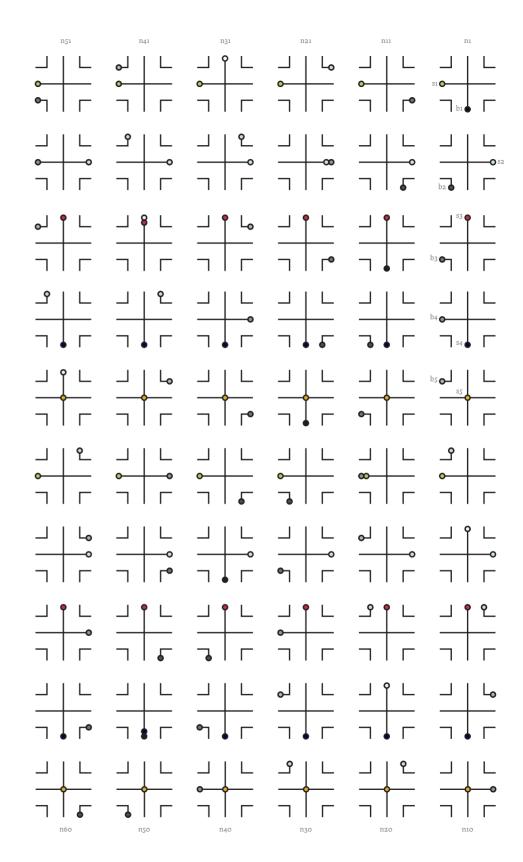
時間觀念

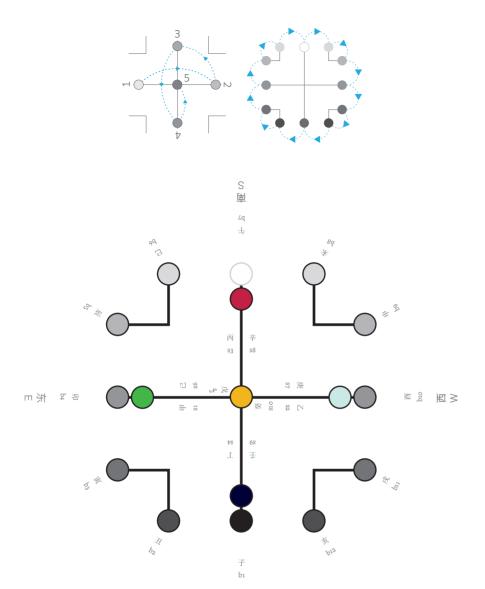
Figures



刑德國 xíng-dé tú Cordhook Diagram The diagram on the right (p. 239) is a redesign of an illustration of the Sexegenary Cycle (see p. 233) that probably dates from the second century BCE. The diagram depicts a series of sixty calendar figures that are read like a text, from top to bottom and from right to left (n1 to n10, n11 to n20, et cetera). The special feature of this diagram is the combined reading of two cycles: the decadic cycle of the celestial stems and the duodenary cycle of the earth's branches that combine to form sixty binomens.

The function of each figure is described on the next page. Each group of one inner and one outer dot produces a specific number in the Sexegenary Cycle (see ch. 5.1.4, "Time," p. 120). We have also drawn the 刑德 减ng-dé tú, or "Cordhook Diagram" as a spiral (p. 238). A spiral-shaped calendar is less clearly defined by a beginning and an end than a linear one is. It combines the concept of time as a line that comes to an end with the concept of cyclical repetition.

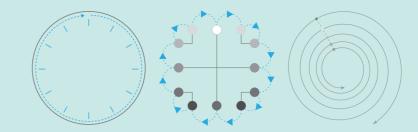


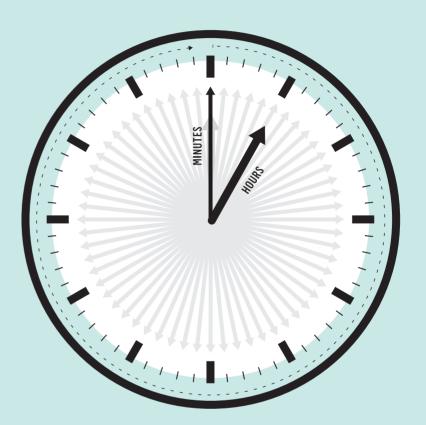


北

那德圖 $xing-d\acute{e}$ $t\acute{u}$ Figure of the Cordhook Diagrams Here we have an explanation of a figure from the whole diagram featured on the previous p. 239. The motion of the inner point 德 $d\acute{e}$ is depicted in the colors of the Five Phases. It moves past the four end points and the intersection of the "cords" in the following order: 1. ⓐ 东: 甲 $ji\acute{a}$ s1 and 己 ji s6—2. ② 西: 乙 yi s2 and 庚 $g\acute{e}ng$ s7—3. ⑤ 南: 丙 bing s3 and 辛 xin s8—4. ⑥ 北: year T ding s4, and 壬 $r\acute{e}n$ s9—5. ⑥ 中: year \r $w\grave{u}$ s5 and 癸 $gu\check{u}$ s10. The outer point 太陰 $t\grave{u}iy\bar{u}n$ is in

the first year of the Sexegenary Cycle (甲子 $ji\check{a}-z\check{t}$) at the outer ring, in position 子 $z\check{t}$ bı (北 north), which is the lowest in the center. It continues to move clockwise past the twelve end points. In connection with the Ten Celestial Stems, located at the intersection and end points of the cross, the calendar returns to its starting point after making five rounds of the Twelve Cycle and six rounds of the Ten Cycle (see ch. 5.1.4, "Time," p. 120).





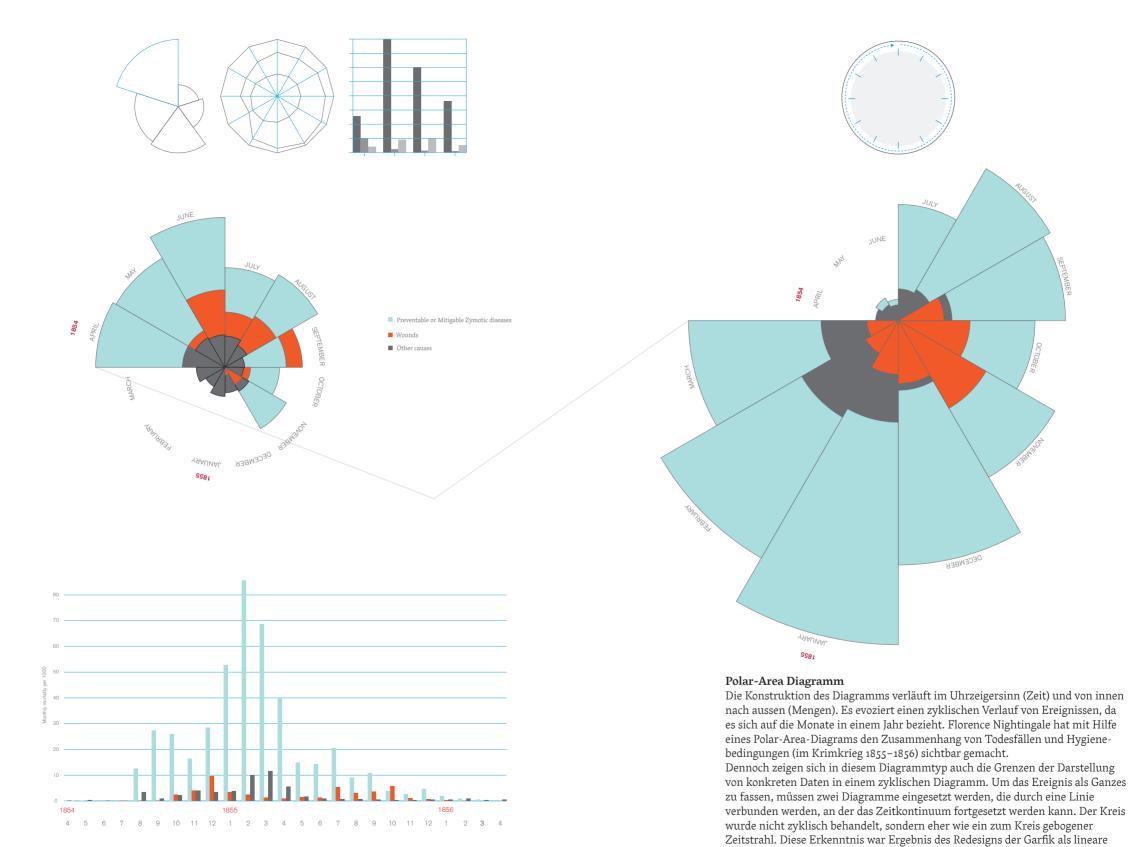
一小時 1 HOUR

clock is one of the few examples of a cyclical representation of time in Western tradition. Generally, periods of time are depicted as linear timelines, which are read from left to right. Still, the face of a clock is evenly (homogeneously) divided into twelve hours. In this respect, it is comparable to the twelve steps of the 刑德 $\[mu]$ xíng-dé tứ Cordhook diagram (p. 239). The clock, however, follows the progress of hours, and, since the

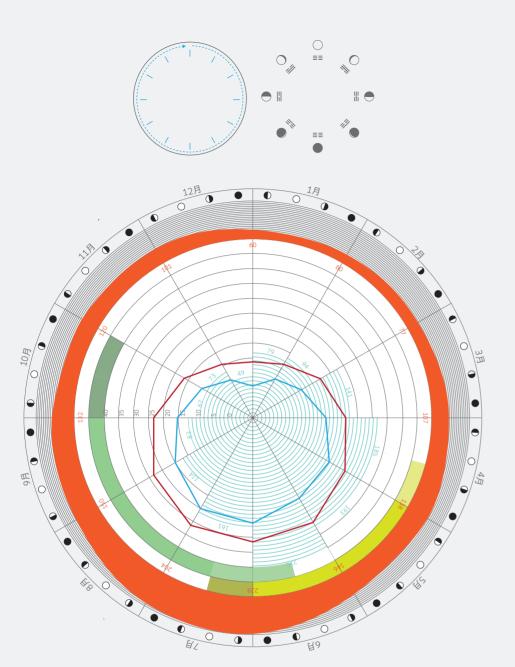
eighteenth century, minutes and seconds, as well,

The Clock With its round face and rotating hands, the

which are clearly indicated by the position of the hands. In contrast, the rotation of the Cordhook Diagram is not directly connected to time, and can be applied to hours, days, months, or years. To tell the time, the positions of the big and little hands are combined and visually committed to memory as a fixed figure. The regular movement of the clock is equated to the regular flow of time. A clock that stand stills becomes a mere object; a clock without hands is like a "blind eye." The Cordhook Diagram is a clock without hands, so to speak.



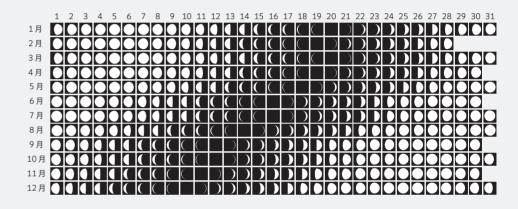
Darstellung. Diese veranschaulicht, dass der Gesamtverlauf und die Abnahme der Kriegstoten auf lineare Weise sogar noch deutlicher zum Ausdruck kommen.



Rice Farming in Hunan Province The graph details the factors linked to rice farming under agriculture's cyclical conditions. The yellow and green bands show that rice can be farmed twice a year, since Hunan's climate is particularly suited to growing rice. Recurring phases, such as the new moon and the full moon, are the orientation points in cyclical representations; the reckoning is not consecutive, as it is for the numbers of the years, for example. Each point relates to the circle as a whole and its superordinate periods. Thus, cyclical

representations always evoke "completeness." The redesign is based on A. Miller's "The Potato Lifecycle" http://visual.ly/potato-lifecycle (accessed July 26, 2015). Growing and harvest twice a year ● 播種 sowing ● 發展 growth ● 收成 harvest first breed ● 播種 sowing ● 發展 growth ● 收成 harvest second breed ●(6)月 (sixth) moon / months (june) ● 平均低溫 average low temperature (°C) ●平均最高氣溫 average high temperature (°C) ⑥ 降水量(毫米) precipitation (mm) ● 日照時 hours of sunlight





Linear Lunar Calendar In traditional China chronology is represented as cyclical (see 人面耐寒之圖 rénmiàn nàihán zhī tú [Depicting the Human Face's Resistance to Cold], p. 157; and 周明堂圖 zhōu míng táng tú [Hall of Clarity in the Zhou Dynasty], p. 202). Western principles, however, are dominated by a linear timeline, as can be seen here in this interpretation of the progress of the phases of the moon in a calendar year. This synopsis has three benchmarks that are not exactly alike: the cycle of the phases of the moon (30 days), the Earth

year, meaning, the rotation of the Earth around the sun (1 year containing 365 days), and the calendar (12 months with 28, 30, and 31 days). Today's calendar shows the history of change in the orientation of time from the moon cycles to the year cycles, and from the Babylonian to the Roman to the Renaissance eras. This is unlike today's Chinese calendar (p. 244), which depicts the Chinese and the Western subdivisions of the year.

圖片

相互關係

river	***	江	sky	***	天
mountain	*	Щ	cloud	\Diamond	雲
water	₩	水	thunder	Ş	雷
stone	Q	石	rain	\bigcirc	雨
road	<u> </u>	路	sun	業	B
well	圍	井	moon		月
wall	蟲	墻	Big dipper		斗
city wall		城 牆	stars		星

新編對相四言 xīn biān duì xiàng sì yán Revised Four-Symbol Verse with Pictures Here are two pages from a new edition of a fourteenth-century Chinese elementary school textbook, which illustrates a total of 388 Chinese characters for beginning readers. The expression "four-symbol verse" refers to a form of Chinese poetry in which four characters form a single line of verse. This produces a rhythm that makes the process of memorizing easier. All of the pages of the elementary school textbook are divided into five

columns; on the right are the characters, and on the left are the emblems representing them. Each column contains eight different terms organized thematically (天 tiān sky, 天氣 tiāngì weather, 天下 tiānxià earth, 栽 zāi plants, 獸 shòulèi animals, 館 guǎn buildings, 物品 wùpǐn objects, 穿着 chuānzhuó clothing, 身體部分 shēntǐ bùfèn body parts, 形式 xíngshì shapes, et cetera). Of these, the first 224 terms are written with only one character. The remaining eighty-two terms are written with two characters.



For this investigation the terms were extracted from the selected pages and translated into English; later, the English terms were given to a Western graphic designer who—although she had no knowledge of the Chinese originals—created new symbols for them. Relatively direct correspondences could be found for certain terms, since they referred to specific content and objects. Some of the differences in depictions are historically determined, which explains why a razor or a lamp stand (p. 259), for instance, are represented

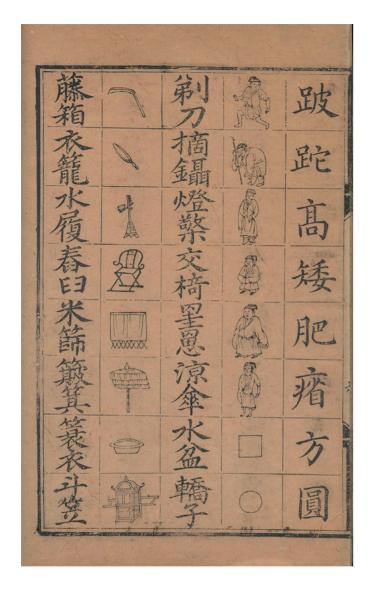
differently. Differences specific to each culture are also clearly visible, as in the images of the well and the city wall (p. 256). The Chinese symbol for thunder is highly specific to the culture, because it depicts the god of thunder-who is difficult to represent in visuals, anyway -and his five drums, which he beats to create thunder. Interestingly enough, the Chinese images tend to express dynamic states, while the redesigns prefer still, stylized forms. This can be seen particularly well in the depiction of the words "river," "water," and "sky,"

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相互關係

Figures



where the Chinese models attempt to visualize the animated states of wind and clouds. The symbols for the word "cloud" are also very different from each other. The redesign presents a stylized, solid cloud shape, while the Chinese original favors a schematic depiction of the movement of clouds that articulates the dynamics of rising and shaping. Something similar can also be seen in the symbol for the word "road," which, in the Chinese original, is drawn in (angular) curves, while the Western redesign runs in a strictly

straight line. Unlike other diagrams for which we chose a historic form (such as chess, for instance, p. 218), this form of translation shifts the object into the present. There are, therefore—in the spirit of Schleiermacher (see ch. 2.2.2)—always two ways to deal with differences: Either the translation brings today 's viewers closer to the original, provoking a certain "sense of foreignness," or it brings the original closer to today's viewers. Differences specific to each culture are also clearly visible, as in the images of the well and the city wall (p.

rasor	Ta	剃刀	limping		跛
tweezer		摘鑷	hunchbacked		跎
lamp stand		燈 檠	to be tall		高
folding chair	曼	交 椅	to be short		矮
mosquito net		涼傘	to be fat		胖
parasol	坐	涼傘	to be thin		薄
water basin		水盆	square		方
sedan chair	4	轎 子	round	\bigcirc	圓

256). This can be seen particularly well in the depiction of the words 江 jiāng [river], 水 shuǐ [water], and 天 tiān [sky], where the Chinese models attempt to visualize the animated states of wind and clouds. The symbols for 雲 yún [cloud] are also very different from each other. The redesign presents a stylized, solid cloud shape, while the Chinese original favors a schematic depiction of the movement of clouds that articulates the dynamics of rising and shaping. Something similar can also be seen in the symbol for the word "road,"

which, in the Chinese original, is drawn in (angular) curves, while the Western redesign runs in a strictly straight line. Image Source: 祝荫庭 Zhu Yinting 新編對 相四言 xīn biān duì xiàng sì yán, "Revised Four-Symbol Verse with Images" [1922] (publisher's location unknown, name of publisher: 藐園 Miao yuan).

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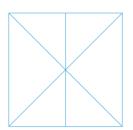
圖片

相互關係

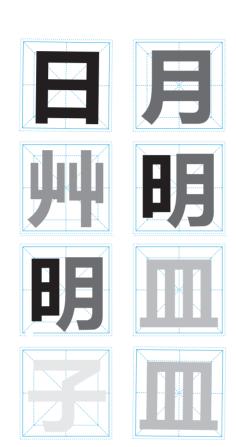
Figures

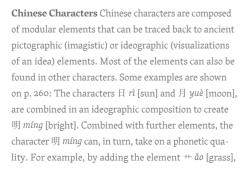
Relation

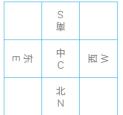
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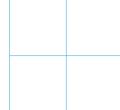




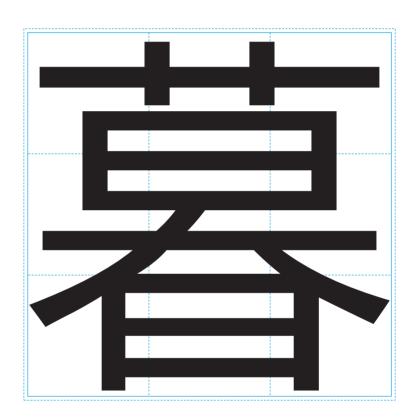






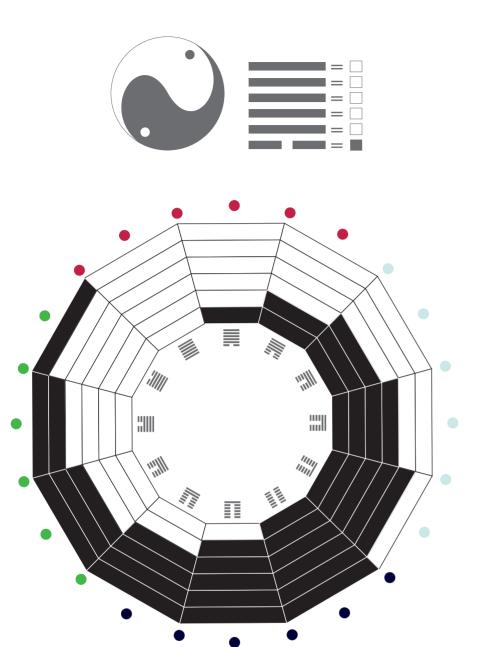






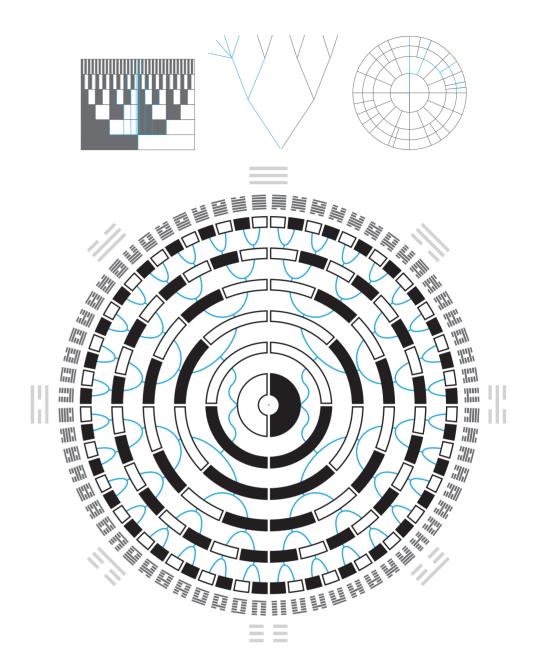
[field pattern]. Centering the elements makes the character look compact and independent. This allows them to fit well into pictures and diagrams, and they can be turned in accordance with their alignment. In its ancient written form, the character $\frac{1}{4}m\dot{u}$ [twilight] still clearly shows the sun sinking behind trees, and this can be seen even in the strongly stylized seal script from the third century BCE (see box, above right). This is a character that has evolved in several stages. After borrowing a phonetic pronunciation, the original form

was also used for the abstract concept 莫 $m \delta$ [not], but then a stratagem had to be used to distinguish between the two. From then on the original character of 莫 $m \delta$ [not] was used only to signify "not," while the original meaning of the character 暮 $m \delta$ [twilight] was restored by combining it with the character 日 $r \delta$ [sun] forming a new character, 暮 $m \delta$. You can find interesting character writing instructions here: 三才圖會 Sancai Tuhui, 人 事 Renshi [Cultural Achievements], vol. 3, p. 2 ff. Link: https://tinyurl.com/v54oszw



十二月卦氣圖 shiêr yuè guà qì tú The Hexagram Energy of the Twelve Months Using twelve selected hexagrams, the image depicts the waxing and waning of the polar forces over the course of a year. Black lines represent the dark, cold, sinking force of yin, while white lines represent the bright, warm, rising powers of yang. The graph is seen from the center outward, while the black and white segments are understood to increase from the inside outward. The hexagrams inside the innermost circle contain the same content, except that

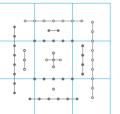
here, the black and white are represented by broken and continuous lines. This model is regarded as the basic pattern of all natural cycles, such as the growth and decay of all organic life. Gottfried Wilhelm Leibniz (1646–1716), who asked missionaries to China for information about the hexagrams, interpreted 陰 yīn (--) as imperfectum and 陽 yáng (--) as perfectum, assigning them the mathematical values of o and 1, respectively. Source: Li Kun 李坤, Guo Yu 郭彧, eds., Zhou Yi tushu zonghui 周易圖書總匯 (Shanghai: Huadong Shifan, 1989).

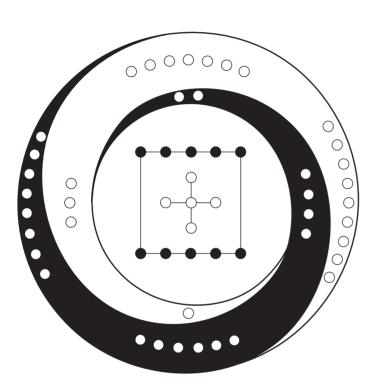


先天六十四卦圓圖 xiāntiān liùshísì guà yuán tú Circular Diagram of the 64 Hexagrams in precelestial Arrangement The image presented here is an interpretation of an illustration from the Compendium of Diagrams. The representation is related to the diagram 伏羲六十四卦次序 Fú Xī liù shí sì guà cì xù (p. 266–267). The elements depicted linearly in the plane in that image are transposed here in circular form. The circle is associated with the 夭 tiān (heaven; i.e., time, spirit). The instances of white (陽 yáng) and black (陰

 $y\bar{i}n$) are read from the center outward and, on their outer edges, are additionally represented in the form of hexagrams with continuous lines (—陽 $y\bar{a}ng$) and broken lines (—陰 $y\bar{i}n$). The image from page 263 is supplemented here with fine (blue) connecting lines, which exhibit an increasingly detailed branching. This illustrates the structure of the hexagrams using the principle of ongoing partitioning. Image source: 章潢 Zhang Huang (1623) 圖書編 Tushu Bian (Compendium of Diagrams), Vol. 2, p. 24.







太極河圖 Tàijí Hétú Hetu Diagram with Yin/Yang **Symbol** This picture shows the the diagram 河圖 hetu, combined with black and white (already introduced on p. 230). 易有太極 yì yǒu tàijí Taiji Diagram One of the most famous yīn-yáng images is the Taiji diagram (p. 265). This representation offers quite a comprehensive visualization of classic Chinese cosmology. The empty circle Orepresents the 無極 wújí [Ultimateless] out of which the duality of "being" arises. The duality (太極 tàijí [Supreme Ultimate]) exists in the form of interactive polarized forces, represented here as interlinking semi-circles: **()**. Working together, these forces create [fire] (both with ascendent tendencies); right, 金 金 jīn [metal] and 動水 shuǐ [water] (both with descendent tendencies). In the center is the connecting element, $\oplus \pm t \check{u}$ [earth]. The Five Phases represent the dynamic state of all material. Source: 三才圖會 Sancai Tuhui, 文史 Wenshi [Literature and History], vol. 1, p. 16. Link: https://tinyurl.com/rcj8nf6



陽

動

乾道成男

火



水

坤道成女

wàn wù huà shēng (The 10,000 Things Come into Being)

土

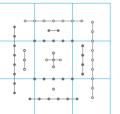
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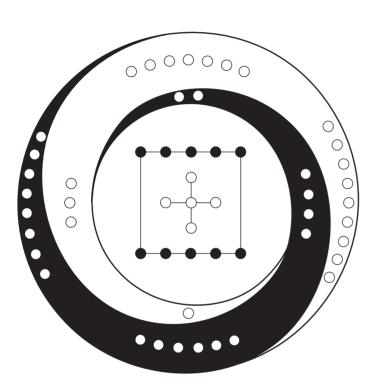
圖片

秩序系統 **Figures**

Classification System







太極河圖 Tàijí Hétú Hetu Diagram with Yin/Yang **Symbol** This picture shows the the diagram 河圖 hetu, combined with black and white (already introduced on p. 230). 易有太極 yì yǒu tàijí Taiji Diagram One of the most famous yīn-yáng images is the Taiji diagram (p. 265). This representation offers quite a comprehensive visualization of classic Chinese cosmology. The empty circle Orepresents the 無極 wújí [Ultimateless] out of which the duality of "being" arises. The duality (太極 tàijí [Supreme Ultimate]) exists in the form of interactive polarized forces, represented here as interlinking semi-circles: **()**. Working together, these forces create [fire] (both with ascendent tendencies); right, 金 金 jīn [metal] and 動水 shuǐ [water] (both with descendent tendencies). In the center is the connecting element, $\oplus \pm t \check{u}$ [earth]. The Five Phases represent the dynamic state of all material. Source: 三才圖會 Sancai Tuhui, 文史 Wenshi [Literature and History], vol. 1, p. 16. Link: https://tinyurl.com/rcj8nf6



陽

動

乾道成男

火



水

坤道成女

wàn wù huà shēng (The 10,000 Things Come into Being)

土

265

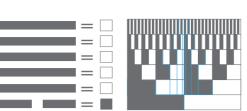
圖片

秩序系統 **Figures**

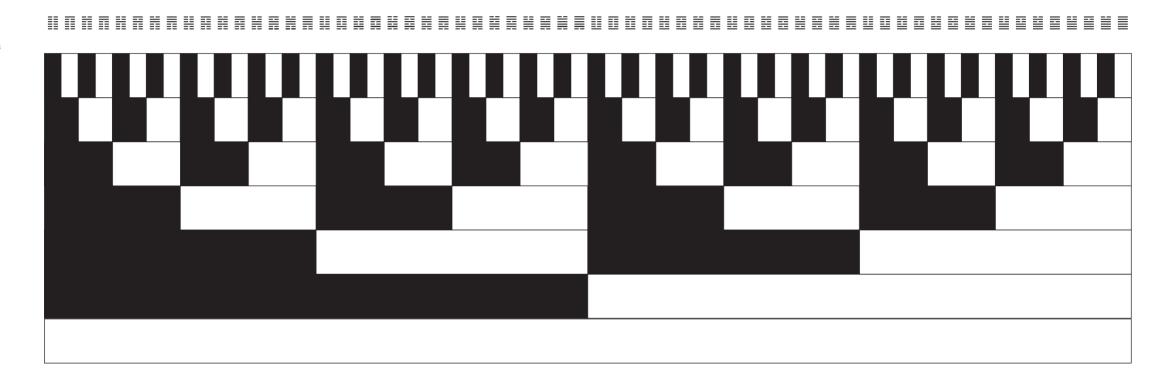
Classification System

Classification System

圖片







伏羲六十四卦次序 Fú Xī liù shí sì guà cì xù "Sequence of the 64 Hexagrams According to Fu Xi"

This redrawing of an illustration from the 三才圖會 Sancai Tuhui "Collected illustrations of the three realms" shows the formation of the sixty-four hexagrams. Unlike the original drawing, all of the script has been omitted. The diagram is clearly depicted as a whole, without the original's break in between the two pages made necessary by technical printing requirements. With the contiguous lines and the bars lined up

without any intervals between them, an overall picture emerges, distinctly depicting the way it branches upward in increments. This emphasizes the structural pattern, which obviously resembles a tree diagram. The corresponding hexagrams are added above the black and white planes—here, in the form of a pattern of broken and uninterrupted lines. Additionally, the original contains the names of the hexagrams whose corresponding line patterns would be known to the educated reader. Since the names of the hexagrams

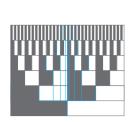
were also associated with the contents of the 易經 Yijing [I Ching, Book of Changes], the abstract diagram remained linked to the specific situations in life described in the 易經 Yijing, which feature the hexagrams in their linear form. Thus, for the educated Chinese reader, the incremental diversification went beyond the diagram itself. It was not just a schematic diagram showing how ones develops into many; it also comprised instructions about how to shift from the abstract to the concrete. The white area at the very bottom of the diagram refers

to a fundamental concept in traditional Chinese thought: the creation of life out of nothing, of distinct realities of life out of an undifferentiated, primeval chaos. Image source: 三才圖會 Sancai Tuhui, 文史 Wenshi [Literature and History], vol. 1, pp. 9–10.

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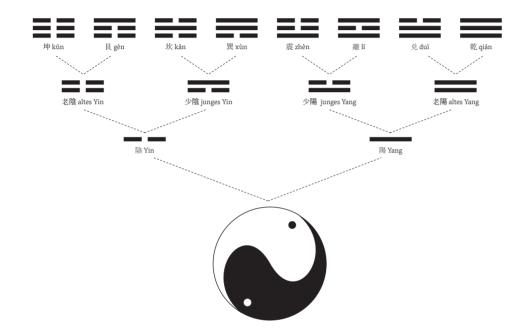
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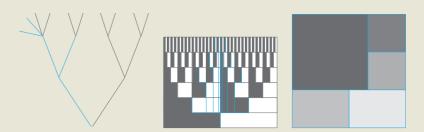


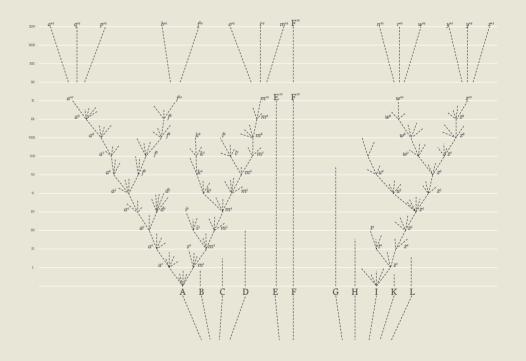




八卦衍生圖 Bā quà yǎnshēng tú Diagram of the Creation of the Eight Trigrams This diagram shows the division of what was originally one entity (陰 yīn and 陽 yáng) into polar opposites and their ongoing diversification through further partitioning. It corresponds to the first three bottom rows of the diagram "Sequence of the 64 Hexagrams According to Fu Xi"; p. 266. Tree-like diagrams, which use partitioning to transform a simple state into a complex one, are found in both Chinese and Western culture. These are based

on an image of growth and are correspondingly organized and read from bottom to top. Whereas Darwin positions the concrete process of evolution in an undefined prehistory, the Chinese diagram starts with the concept of a 太極 tàijí [Supreme Ultimate], beginning even more hypothetically before the original of the world. At the same time its makes the universalist claim that it is valid for all the world's circumstances. Image source: 章潢 Zhang Huang (1623) 圖書編 Tushu Bian "Compendium of Diagrams", Vol. 2, p. 95.

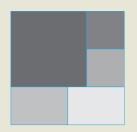


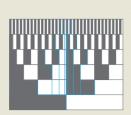


Darwin's Hypothetical Diagram of Evolution In

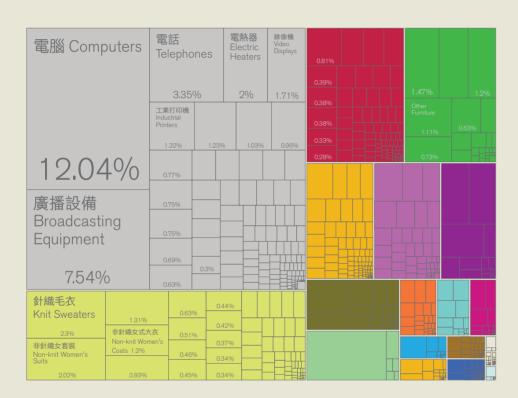
his work on evolutionary biology, Darwin developed the radical theory that all forms of life descend from common ancestors. "The sketch is to be read from bottom to top. ... Everything in this graphic is abstract and hypothetical: The beginning of creation is open-ended; humans appear at a much later point in time. . . . The sketch is abstract and universal and does not refer to specific classes of organisms; the final phase is thus just as undefined as the beginning. What a biologist once

criticized for not being a 'pure line of thought' is, from today's standpoint, its advantage: it appears as a brilliant sketch of a hypothesis that turned out to be more durable than the suggestive image of the genealogical tree." (Pörksen, U. [1997] Weltmarkt der Bilder: eine Philosophie der Visiotype. Stuttgart: Klett-Cotta, p. 328). With this diagram, Darwin succeeded—more effectively than with concepts and formulas—in recording and conveying the complex relationships of his evolutionary theory.



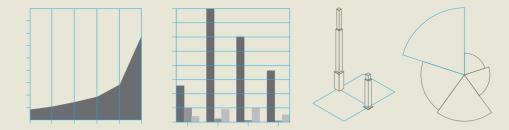


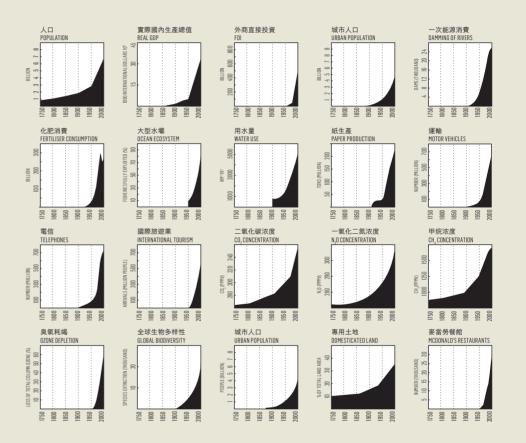




Rectangular Treemap A tree map makes it possible to visualize hierarchical structures. Above all, it enables the visualization of size ratios, since the areas of its rectangles are proportional to the size of the data units. Shown here is the "Tree map of products exported by China in 2009," developed by the Harvard-MIT Observatory of Economic Complexity. The tree map was originally developed for representing the partitioning of a hard drive. In terms of its subdivisions, the twodimensional arrangement is related to the Chinese

diagram of the "Sequence of the 64 Hexagrams According to Fu Xi" (pp. 266-267). Whereas the partitioning in the latter is consistent, it is inconsistent in the tree map. The process of using partitioning to transpose a simple state into a complex state is as elementary as counting. Hence, tree diagrams are found in both Eastern and in Western culture. Image source: http://atlas. cid.harvard.edu (accessed 03 November, 2015).





The Anthropocene "The Anthropocene defines Earth's most recent geologic time period as being humaninfluenced, or anthropogenic, based on overwhelming global evidence that atmospheric, geologic, hydrologic, biospheric, and other earth system processes are now altered by humans. The line corresponding to 1950 highlights the great acceleration of post-war, worldwide industrialization and techno-scientific development, the nuclear arms race, population explosion, and rapid economic growth," according to the The International

Geosphere-Biosphere Program (IGBP) Even though the image is scientifically correct as far as the values go, it is somewhat alarming precisely because it is so correct. It does not attempt to portray how unusual and incommensurable the increasingly accelerating development is. If you were to place the curves in a different relationship—to the entire history of humankind, for example—then it would be like an explosion that precipitously interrupts the steady course of our familiar history.

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