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Working Paper

The hidden secrets of the Yin-Yang symbol

Copenhagen Discussion Papers, No. 2014-46

Provided in Cooperation with:

Asia Research Community (ARC), Copenhagen Business School (CBS)

Suggested Citation: Li, Xin (2014) : The hidden secrets of the Yin-Yang symbol, Copenhagen Discussion Papers, No. 2014-46, Copenhagen Business School (CBS), Asia Research Centre (ARC), Frederiksberg,
<https://hdl.handle.net/10398/8891>

This Version is available at:

<https://hdl.handle.net/10419/208645>

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46 2014 February

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symbol

Xin Li

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The hidden secrets of the Yin-Yang symbol

阴阳图的隐藏秘密

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1. My understanding of Yin-Yang 我对阴阳的理解

(1) The essence of Yin-Yang is that yin and yang are contrary yet complementary.

阴阳的本质是阴阳是相生相克的关系。

(2) This contrary yet complementary relationship can be described by three characteristics of Yin-Yang: nonexclusivability, transformability, and co-competitionability. Nonexclusivability means that anything contains yin and yang elements and neither yin nor yang elements can be excluded because within both elements there is a seed of the opposite element. Due to the existence of a seed of the opposite element, the yin and yang elements can be mutually transformed when the opposite seed grows to a certain size. Due to this possible growth of the inside opposite element, the relationship between yin and yang and their inside opposite element is one of competition and cooperation, i.e. co-competition. When the configuration ratio of an element's opposite seed is within the range of 1% to 25%¹, their relationship is more co-operative than competitive, and

¹ For simplicity, I use 1% as the smallest dividable ratio. When we say an element is a yin element, it is actually because it consists of more yin element than yang element. The yang element is the opposite element or seed. Therefore, in an overall yin element, its inside opposite seed can have a ratio of any value between 1% and 49%.

therefore there is more synergy than tradeoff between them. The closer the ratio is to 25%, the stronger the synergy. When the ratio is within the range of 25% to 49%, their relationship is more competitive than cooperative, and therefore there is more tradeoff than synergy between them. The closer the ratio is to 49%, the stronger the tradeoff.

阴阳的相生相克关系可以描述为三个特性：不可排除性、相互转化性、竞争合作性。不可排除性是指任何事物都包含阴阳两个对立元素，二者之任何一个均不可能被排除在我，这是因为在阴或阳元素内部天然的包含着对立元素的种子。正是因为这个种子的天然存在，阴和阳元素可以互相转化，这种转化发生在对立元素种子成长到一定程度的时候。正是由于这种对立元素的成长可能性，阴或阳元素和它内部的对立元素之间的关系是既竞争又合作的。当内部的对立元素占总体元素的力量比例在 1%到 25%之间时，两者的关系是合作多于竞争，越靠近 25%这个点，这种合作的协同效果也强烈。当这个搭配比例处于 25%到 49%之间时，它们的关系将是竞争多于合作，也就是他们更多互相排斥而非互相促进。当这个比例越靠近 49%，这种排斥效应越强烈。

(3) There are three levels of contrary yet complementary relationships: the individual level, the dyadic level, and the collective level.

这种阴阳相生相克关系可以发生在三个不同的层次：个体层次、两者之间，集体层次。

(a) At the individual level, the excess and deficiency of an individual item are the yang and the yin respectively, and they are contradictory yet complementary and therefore need to be balanced. This is because everything (i.e. each individual item) has its pros and cons, and therefore, everything must be subject to the law that excess is just as bad as deficiency. For example, for the individual item of temperature,

为了简单起见，这里我使用 1%代表最小的可分比例。因此当我们说一个元素是阴元素的时候，其实是指它在总体上表现为阴的成分多余阳的成分。这个阳的成分就是总体为阴的这个元素的内部的对立元素或种子。所以，一个总体为阴的元素，它的内部对立元素可能占的比例是总体的 1%到 49%这个区间中任意数值。

its excess (yang) state is too high a temperature while its deficiency state is too low a temperature. Both too low and too high temperatures are uncomfortable. To feel comfortable, the temperature should be set to a moderate or appropriate level.

在个体层次，任何一个事物自身的过度和不及状态可以分别看成是阳和阴的状态，它们是相生相克的关系，所以需要平衡。这是因为任何一个事物都有它的优劣之处，所以任何事物都是过犹不及的。比如，就温度而言，它的过就是温度过高，它的不及就是温度过低。温度过高过低都不好。只有适度的温度才会让人感到舒适。

- (b) At the dyadic level, a contrary pair, such as the two concepts of cold and warm, can be seen as the yin and the yang respectively, and they are contradictory yet complementary and therefore need to be balanced. When it is not too cold and not too warm, it is the most comfortable state. The same can be said about the contrary pairs change and stability, centralized and decentralized, etc.

在两者之间这个层次，一对矛盾事物，比如冷和热两个概念，可以分别看成是阴和阳，他们是相生相克的关系，所以需要平衡。当不是太冷也不是太热的时候，才是最舒适的状态。类似地，比如变化和稳定，集中和放权，等等，亦都同理。

- (c) At the collective level, which means among multiple objects or concepts, one and the other might be contradictory yet complementary and therefore need to be balanced. This collective complementary yet contradictory relationship is not obvious from the Yin-Yang Theory, but it is explicated by the Chinese Five-Element Theory. Each of the five elements is complementary to the adjacent others but contradictory to the remote others. This Five-Element Theory is used in Chinese medical studies in which five organs/systems are linked to the five elements and said to have the same collective complementary yet contradictory relationship.

Therefore, the Yin-Yang Theory and the Five Element Theory are often integrated as the Yin-Yang Five Element Theory (see figure 1).

在集体层次，也就是在多个事物之间，某个元素和别的元素可能是相生相克的关系，所以需要平衡。这个集体层次的相生相克关系在阴阳理论中并不显明，但在中国的五行理论中却体现的很充分，即，五行中的任一元素和它相邻的两个元素是相生的，而和它不相邻的两个元素是相克的。五行理论被用于中医学，这五中元素和人体内五种主要器官对应起来，所以这五种器官之间也有五行所规定的相生相克关系。所以阴阳理论和五行理论常常被整合在一起成为阴阳五行学说（如图 1 所示）。

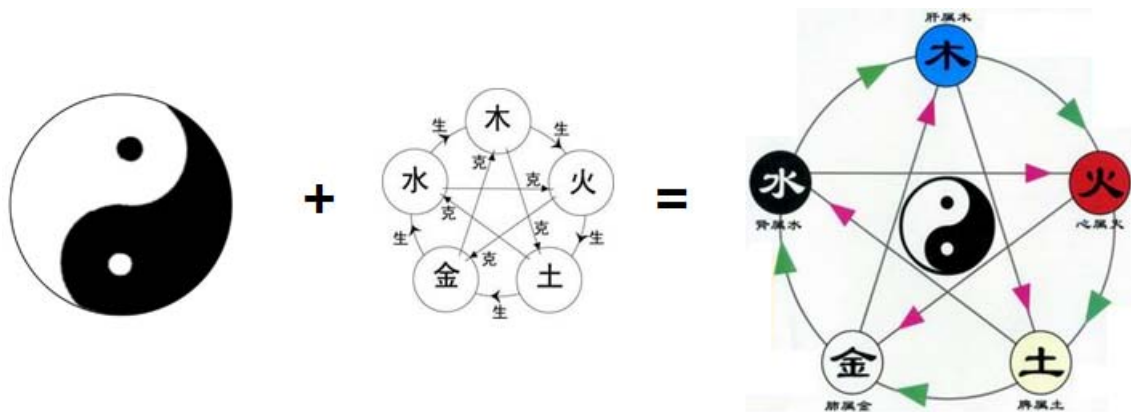


Figure 1. Chinese Medicine Yin-Yang Five Element Symbol

图 1. 中医阴阳五行图

2. My understanding of Zhong-Yong 我对中庸的理解

(1) Mathematically, we can divide a number axis, starting from 0% and ending at 100%, into 3 zones, the first from 0% to 25%, the middle from 25% to 75%, and the last from 75% to 100%. We can treat these 3 zones as the deficiency zone, the Zhong-Yong zone, and the excess zone. Of course, there should not be fixed boundaries between these 3 zones, however, we can, for simplicity, roughly treat them in this way for now.

从数学度量的角度来讲，我们可以把一个从 0%到 100%的数轴分成 3 个区域，第一个区域从 0%到 25%，中间区域从 25%到 75%，最后一个区域从 75%到 100%。我们可以把这 3 个区域分别看成是不足区域，中庸区域，和过度区域。当然，这 3 个区域之间的边界不是固定的，不过，为了简单起见，我们暂时可以这样划分。

- (2) That excess is just as bad as deficiency implies that one should not fall into the two end zones. The principle of Zhong-Yong prescribes attitudes and behaviors to be accord with the requirements of the middle zone. However, Zhong-Yong does not request a fix position (say 50%) in the middle zone. Any position in the middle zone (recall Simon's zone of acceptance) is of Zhong-Yong nature and may be appropriate or excellent under specific circumstances.

过犹不及意味着一个人应该避免落入两个边缘区域。中庸原则要求人的态度和行为要符合中间这个区域的要求。但是，中庸并不要求一个固定的正中间的位置（比如数轴的 50%这个点）。在这个中庸区域中的任何一个位置都是中庸的，在不同的情况下都可能是最合适的或最好的。我们可以联想西蒙教授的可接受区这个概念。

- (3) This conceptualization of the Zhong-Yong principle allows the possibility of 50% being zhong-yong or excellent, and therefore, accepts asymmetric balance as well as symmetric balance. This, I argue, is one of the hidden secrets of the Yin-Yang symbol (which I will elaborate on later), namely, the equal sized white half and black half indicate symmetric balance while the small black pie in the white half and the small white pie in the black half indicate asymmetric balance. In a sense, the asymmetric balance and symmetric balance can be seen as a pair of yin and yang as they are nonexclusive, mutual transformable, and cooperative.

这样理解中庸就使 50%的正中间状态也可以是中庸的成为可能，于是中庸原则就可以包含非对称平衡和对称平衡，我认为这其实是阴阳图的一个隐藏的秘密，我在后文会解释，即，阴阳图中黑白鱼尺寸均等暗示对称平

衡，而黑白鱼与它们各自腹中的白黑小饼尺寸的不均等暗示非对称平衡。从某种意义上讲，非对称平衡和对称平衡可以被视为一对阴阳，它们互相不可排除，互相可以转化，互相竞争合作。

- (4) The link between Yin-Yang and Zhong-Yong is that due to this contrary yet complementary relationship between yin and yang, one need to dynamically balance between the two. Dynamic balancing is the essence of the behavioral principle aspect of Zhong-Yong (note: Zhong-Yong also has other philosophical meanings).

阴阳和中庸的联系是，正是由于阴阳的这种相生相克关系，我们需要在这两者之间动态地平衡。动态平衡是中庸哲学的行为原则方面的核心（注意，中庸还有别的哲学内涵）。

- (5) I operationalize the behavioral principle of dynamic balancing by a 4 stage process model, namely, inclusion-selection-promotion-transition. By inclusion 包容, I mean that one should always include at least two contrary elements (input as well as output or objective) and should not exclude any of the contrary elements due to the complementarities among them. By selection, I mean, while one should not exclude any complementary element, s/he should also select one or some of them as a priority(ies) due to the contradictions between them. The selection of objective(s) to be prioritized should depend on the specific circumstances one is under. The selected objective will in turn determine which input(s) should be given relatively more emphasis. By promotion, I mean, while one should prioritize one or some elements (inputs as well as objectives), s/he should also promote the other un-prioritized elements to prevent the potential crowding out of the un-prioritized by the prioritized (inputs as well as objectives). By transition, I mean, as time passes, the external environment may change and the prioritization of an objective(s) should also be changed and therefore one should deliberately transit from previous prioritization to a new prioritization.

我将中庸这种动态平衡的行为原则理论化为一个 4 阶段过程模型，即，包容-侧重-扶持-转换。包容，指的是无论是投入还是产出或目标两端我们都应该要包容两个相对立的面。侧重，指的是我们应该根据具体的条件和处境来分析两个对立面的轻重缓急。扶持，指的是在优先考虑某一面的同时，也要扶持另一面以防止其被过度边缘化甚至排挤掉的风险。转换，指的是当外部环境发生变化以及内部条件成熟时，我们要顺势调整两个对立面的轻重缓急，要给曾经未被优先考虑的那一面以优先考虑了。

(6) I argue that most of the above ideas are implicitly embodied in the Yin-Yang symbol. However, the hidden secrets have never been discovered until now.

我认为，以上诸多观点其实在阴阳图中都隐约地体现着。然而，阴阳图隐藏秘密却直到现在才被发现。

3. The hidden secrets of Yin-Yang symbol 阴阳图的隐藏秘密

3.1 The Yin-Yang symbol 阴阳图

(1) Most of the Yin-Yang symbols used in academic papers of management studies, including M.-J. Chen (2008 JMI), T. Fang (2003 IJCCM, 2012 MOR), P.P. Li (2012 APJM), Lewis (2000 AMR), and Smith & Lewis (2011 AMR), are the ones in which the yin part and the yang part are horizontally ordered, meaning the white yang part is located on the left side and the black yin part on the right side (see Figure 2).

大多数用在管理学学术文章中的阴阳图，包括陈明哲(2008 JMI)，房晓辉(2003 IJCCM, 2012 MOR)，李平(2012 APJM)，Lewis (2000 AMR)，和 Smith & Lewis (2011 AMR)等文，都是阴阳鱼上下排列的，即，白的阳鱼排在黑色的阴鱼之上方（如图 2 所示）。

(2) The vertically ordered Yin-Yang symbol is not helpful for spotting the hidden secrets of the Yin-Yang symbol. But the horizontally ordered Yin-Yang symbol is helpful (see Figure 3).

上下排列的阴阳图无助于发现其中隐藏秘密。而左右排列的阴阳图则有助于发现其中的隐藏秘密。



Figure 2. Vertically ordered symbol

图 2. 上下排列的阴阳图

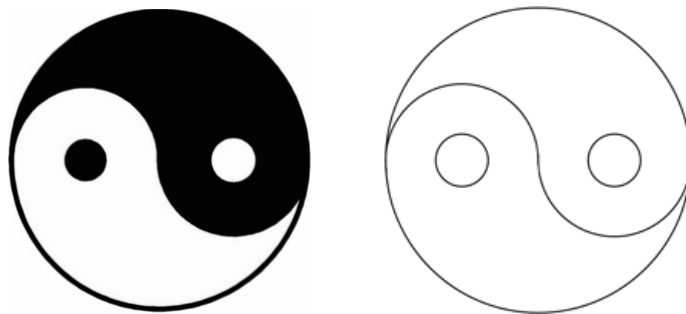


Figure 3. Horizontally ordered symbol

图 3. 左右排列的阴阳图

(3) The vertically ordered symbol can be seen as being made of three curves and two pies. The three curves are the upper half circle, the middle inverted S curve, and the lower half circle. The two pies are the white spot in the black half and the black spot in the white half.

左右排列的阴阳图可以被视为由 3 条曲线和 2 个小饼组成。这 3 条曲线分别是，上边的半圆线、中间的倒 S 曲线、和下边的半圆线。

3.2 *The first hidden secret in the three curves* 第一个隐藏秘密

(1) I argue that the above mentioned two levels of the contrary yet complementary relationship are depicted by the three curves in the Yin-Yang symbol. This is what I call the first hidden secret of the Yin-Yang symbol.

我认为，阴阳图的这 3 条曲线体现了前文提到的两个层次的阴阳相生相克的关系。我将此称为阴阳图的第一个隐藏秘密。

(2) The upper and lower half circles can also be seen as two mirrored inverted U curves, which can be linked to above mentioned complementary yet contradictory relationship *at the individual level*. Namely, these two half circles depict the inverted U relationship between the yang (or yin in a mirrored situation) as the independent (input) variable and the outcome (e.g., health, comfortableness, innovation, performance, etc.) as the dependent variable. These two mirrored inverted U curves indicate the symmetric balance.

这两条半圆线可以被看成是两条互为镜像的倒 U 曲线。这两条倒 U 曲线可以联系到前文所讲的在个体层次上的相生相克关系。如果把阳（或在一个镜像情况下的阴）元素看成是自变量或输入变量，而输出或结果变量（比如，健康，舒适度，创新，业绩等）看成是因变量，那么这两条倒 U 曲线就表征了作为阳（或阴）的自变量与作为结果的因变量之间的过犹不及的数量关系。上下两掉倒 U 曲线互为镜像，表征着一种对称平衡。

(3) The middle inverted S curve can be seen as two smaller connected mirrored inverted U curves which can be linked to the above mentioned contrary yet complementary relationship *at the dyadic level*. Namely, for the left part, yang and yin are the independent variables and there is an inverted U relationship between the configuration of the two independent (input) variables (in which yang outweighs yin) and the outcome (e.g., radical innovation, long-term performance, etc.) as the dependent variable. Here, the yang element is more supportive of the outcome than the yin element is.

中间的倒 S 曲线可以被看成是两条镜像的小号的倒 U 曲线链接而成。这可以联系到前文所讲的在两者之间的阴阳相生相克关系。对于左边部分，阳和阴两元素可以看成是两个作为输入的自变量，结果变量（比如，重大创新，长远业绩，等）作为因变量，那么在作为自变量的阳和阴两个元素的搭配比例上，有个阳阴相生相克的倒 U 关系。在这里，阳元素比阴元素更多地支持这里的结果变量。

For the right part, as a mirrored image, yin and yang are the independent variables and there is an inverted U relationship between the configuration of the two independent (input) variables (in which yin outweighs yang) and the outcome (e.g., incremental innovation, short-term performance, etc.) as dependent variable. Here, the yin element is more supportive of the outcome than the yang element is.

对于右边部分，刚好是左边部分的镜像情形，阴和阳两元素可以看成是两个座位输入的自变量，结果变量（比如，点滴创新，短期业绩，等）作为因变量，那么在作为自变量的阴和阳两个元素的搭配比例上，有个阴阳相生相克的倒 U 关系。在这里，阴元素比阳元素更多地支持这里的结果变量。

3.3 The second secret in the two pies 第二个隐藏秘密

- (1) I argue that the asymmetric balance is achieved in the middle zones around the two 25% positions, measured from either end of the horizontal axis of the Yin-Yang symbol (see Figure 4). Here, 'asymmetric' means that in the configuration of the yin and yang elements (inputs as well as outputs or objectives) one must outweigh the other. Here, 'balance' means that the weight proportion of the subordinate element in the asymmetric combination should be not excessive and not deficient but moderate or balanced. The moderate proportion could be any proportion within a zone of acceptance measured from the optimal point (meaning it results in a maximal outcome) of either 25:75 or 75:25 configuration of the two elements (yin and yang). The two small pies in the Yin-Yang symbol locate these two zones of asymmetric balance. I

call this the second secret of the Yin-Yang symbol. The 25:75 point is a theoretical optimal/maximum point, however, in practice, one can hardly be sure if he has reached that point or not; also, according to Herbert Simon, people pursue satisfaction rather than maximizing solutions or goals. So these two pies can be seen as satisficing zones.

我认为，阴阳的非对称平衡在距离以横坐标两端分别 25%这两个点为中心的一个圆形范围内可以实现。这里，“非对称”指的是在阴阳两个元素（阴阳作为输入变量或阴阳作为结果变量）的比例搭配一定是一个超过另外一个。这里，“平衡”指的是非对称的阴阳两个变量的比例搭配既不能太高也不能太低而要适度。而这个适度的或平衡的比例搭配可以是前述的这个圆圈范围内的任何一个比例额。我认为，阴阳图中的这两个小圆饼代表了这一个非对称平衡区域，这我称之为阴阳图的第二个隐藏的秘密。当然这两个距数轴两端 25%处的点只是个理论上的最优点。在实践中，没有人能知道他是否达到了这个点。另外，根据西蒙的理论，人们一般是追求满足的而非最大化的。所以，这两个小圆饼也可以看成是满足区。

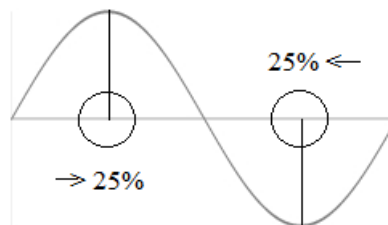


Figure 4. The two zones of asymmetric balance

图 4. 两个非对称平衡区

- (2) The 25:75 asymmetry can also be shown if one divides the Yin-Yang symbol into two equal sized parts by a straight line through the central point (center of the outer circle). No matter whether you draw the dividing line vertically or horizontally on an either vertically ordered or horizontally ordered Yin-Yang symbol, you will get two parts each of which has a 25:75 combination of (yin and yang) colors (see Figure 5).

如果我们按图 5 所示的方式把横排或纵排的阴阳图一分为二，我们会发现在分裂的两半中黑白颜色区域的尺寸大小比例也都是 25:75 的。

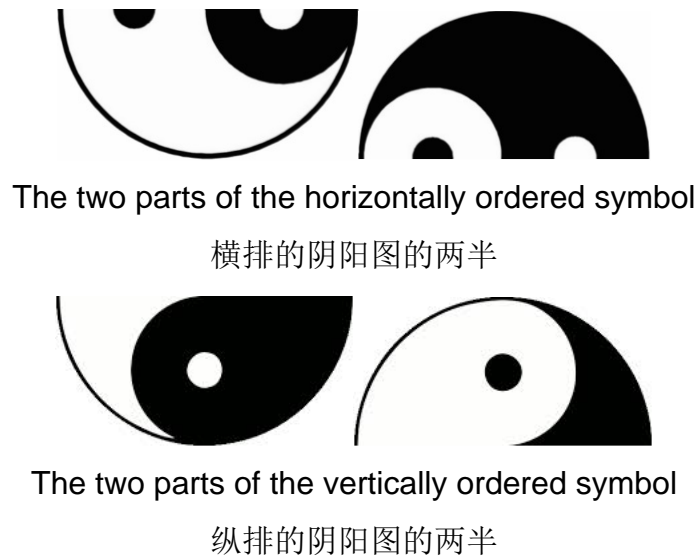


Figure 5. The 25:75 combinations of colors in the two parts of Yin Yang symbol

图 5. 阴阳图中黑白颜色的 25:75 比例搭配

- (3) The two small pies (the white and black spots) in the Yin-Yang symbol indicate that although 25:75 and 75:25 configurations are two optimal combinations for two contrary outcome objectives, they should not be treated as fixed rules. Actually, in many cases, it is hard to be sure whether one has reached that optimal position. Therefore, we should allow flexibility by giving a zone of acceptance in which any position within that zone (i.e. the two pies) will be treated as Zhong-Yong or excellent.

阴阳图中这两个小圆饼（或小圆圈）意味着，虽然 25:75 或 75:25 比例搭配是用来实现两个对立的结果的最优组合，但我们不要把这两个比例当成僵化的规则。实际上，在很多情况下，我们很难知道这个最优组合是否实现了。所以，我们应该允许一个中庸的（或满足的）区域来给我们灵活

度，在这个满足区域内的任何位置（即比例额搭配）都可以被看成是中庸适度的。

3.4 The third secret 第三个隐藏秘密

- (1) If the two pies in the Yin-Yang symbol are continuously enlarged, the yin part and the yang part will eventually completely reverse their order, e.g. transiting from the left side to the right side (see Figure 6). This is what I call the third hidden secret of the Yin-Yang symbol which was first discovered by Jean Marolleau (1975)ⁱ.

如果我们把这两个小圆饼持续放大，到一定的时候阴阳图中原来的阴的那一半就会完全变成阳的，而原来的阳的那一半就会完全变成阴的，如图 6 所示。我称这为阴阳图的第三个隐藏秘密。这个秘密最先是被法国人 Jean Marolleau 在他 1975 年的书中提出来的。

- (2) One may wonder, in Figure 6, why two small dots suddenly appear because the natural consequence of enlarging the initial two dots should be a fully white half without a black dot inside and a fully black half without a white dot inside. This is indeed a problem embedded in Marolleau's original figure.

人们可能会问，在图 6 中，在顺时针方向的最后一个阴阳图中，为什么两个小圆饼会突然出现，因为在它前边一个图中持续扩大原有的两个小圆饼的结果应该是原来含有阴的种子的阳的一半会变成完全的阴而没有阳的种子，而原来含有阳的种子的阴的一半会变成完全的阳而没有阴的种子。这确实是 Jean Marolleau 的原图中一个令人疑惑的问题。

This confusion is caused by the simplification in the drawing of the initial Yin-Yang symbol. According to Yin-Yang philosophy, anything is a combination of yin and yang, including the yin element and the yang element per se, which means, the black and the white dots in the Yin-Yang symbol should also be a combination of black and white parts rather than purely black and purely white parts. However, the designers of the initial Yin-Yang symbol simplified this ceaseless yin-yang

composition idea by depicting the black and white dots as purely black and white, without the intention to show that they are pure. Therefore, although the white part of the black dot and the black part of the white dot are not depicted in the Yin-Yang symbol (as they are indeed very small if depicted) we should imagine they are there. So, when we enlarge the black dot and the white dot, the un-depicted small white part and black part inside them are proportionately enlarged, which therefore result in the last symbol in Figure 6.

这个困惑的产生是由于阴阳图在最初的设计上采用了简化的处理所致。根据阴阳哲学，任何事物都是阴阳的统一体，包括阴阳图中阴和阳本身。那么阴阳图中两个阴阳小圆饼本身也应该是阴阳的统一体，也就是这两个小圆饼内部也应该有他们各自对立面的种子，而种子内又有对立面的种子，这样可以无限循环下去。但是为了简化，阴阳图的原始设计者并没有在两个小圆饼内部画上可以无限一分为二的种子，而是把它们画成了两个纯色的实心饼，但他们并不是要表示这两个实心并真的就是纯粹的阴饼或阳饼。所以当我们在持续扩大两个阴阳小圆饼的时候，他们各自内部的对立面的种子也应该持续扩大，所以我们才会看到图 6 中最后一个阴阳图中依然有两个小圆饼。

- (3) This secret implies that one can make change happen by promoting the opposite force(s) (or the opposite seed). This hidden secret corresponds to the third and fourth stages of my aforementioned inclusion-selection-promotion-transition process of dynamic balancing, which is the essence of the behavioral principle of Zhong-Yong.

这个隐藏秘密意味着，我们可以通过扶持对立面来实现我们希望的变化。这个隐藏秘密对应这我对中庸的 4 阶段模型中的第三和第四阶段。

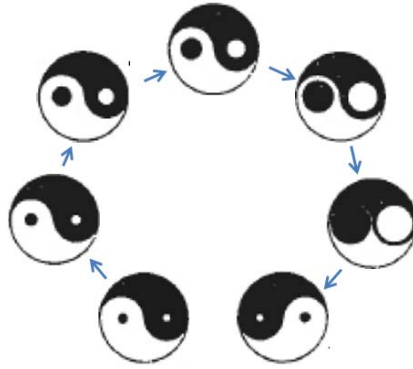


Figure 6. The dynamic change of yin and yang

图 6. 阴阳的动态变化

3.5 The fourth secret 第四个隐藏秘密

- (1) If the bottom pair of the mirrored Yin-Yang symbols in Figure 6 is combined, then the two combined S curves look like Figure 7a. If a number of these pairs are connected in a circle, then the S curves will look like Figure 7b.

如果将图 6 中最下端的两个镜像的阴阳图重叠起来，那么两个图中的倒 S 曲线组合在一起就如图 7a 所示。如果很多个图 7a 并排放置，就如图 7b 所示。

- (2) Figure 7b can be seen as a combined series of Figure 7c ('X's) (see Figure 7d). 'X' can be viewed as two connected signs ('>' and '<'). The sign '>' can be seen as a symbol of convergence or integration, while the sign '<' can be seen as a symbol of divergence or separation, and therefore the symbol 'X' can imply a unity of convergence/integration and divergence/separation, which are the characteristics of Yin-Yang thinking, i.e. separating one into two and integrating two into one. I call this the fourth hidden secret of the Yin Yang symbol.

图 7b 可以看成是多个图 7c (X 字形) 并列排列而成，如图 7d 所示。“X” 可以被视作 '>' 和 '<' 两个符号连接而成。符号 '>' 可以被视作汇聚或整合的象征，而符号 '<' 可以被视作分流或分散的象征。从而，“X” 象征整合与分散

的统一，这也代表了阴阳思维的特征，即，一分为二，合二为一。我称这为阴阳图的第四个隐藏的秘密。

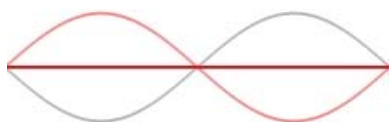


Figure 7a

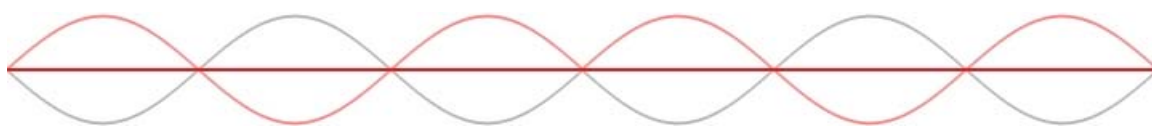


Figure 7b



Figure 7c

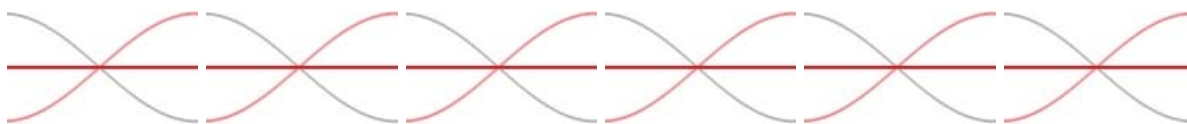


Figure 7d

4. The inverted U curve and the Yin-Yang 倒 U 曲线和阴阳

- (1) It is a fact that many Westerners are very used to the inverted U curve/relationship, but not many understand or accept Chinese Yin-Yang. Why?

事实上，很多西方人都非常熟悉倒 U 曲线关系，但很多人却不懂中国的阴阳。这是为什么呢？

- (2) I argue that this is because the inverted U curve is concerned with one-to-one relationships such as learning-innovation relationships, while Yin-Yang is about two-to-one (such as two types of learning and innovation relationship) or two-to-two relationships (such as two types of learning and two types of innovation relationships). So, Yin-Yang and Zhong-Yong are much more complex than the inverted U.

我认为，这是因为，倒 U 曲线是关于一个自变量对一个因变量的关系，比如学习与创新的关系，而阴阳则是关于两个自变量对一个因变量的关系（比如探索式学习和利用式学习这两个自变量和创新这一个因变量之间的关系）或两个自变量对两个因变量的关系（比如探索式学习和利用式学习这两个自变量和点滴创新和重大创新这两个因变量之间的关系）。所以阴阳和中庸要比一般的倒 U 曲线复杂。

- (3) The S curve in the Yin-Yang symbol should be viewed as a dynamic changing relationship between the two inputs and the two outputs with the horizontal axis showing the proportional combination of the two inputs, and the two vertical axes indicating the two contrary outcomes. For outcome 1, the ratio of input 1 to input 2 has an inverted U relationship with outcome 1. For outcome 2, the ratio of input 2 to input 1 has an inverted U relationship with outcome 2.

在图 8 中，阴阳图中的倒 S 曲线应该被视为是一种在横轴上的两个自变量的比例搭配和左右上下两个纵轴所代表的两个因变量之间的动态变化关系。对于结果变量 1，输入变量 1 和输入变量 2 的比例搭配与结果变量 1 之间有个倒 U 关系。同样的，对结果变量 2，则是输入变量 2 和输入变量 1 的比例搭配与结果变量 2 之间有个倒 U 关系

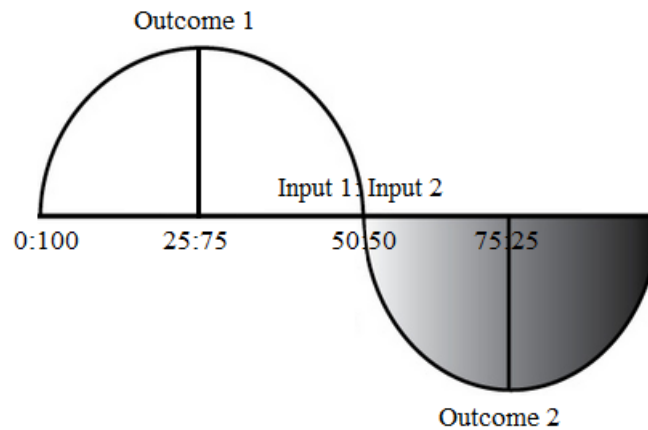


Figure 8. The two-to-two relationships of Yin-Yang

- (4) If we use the above modern explanation of Yin-Yang, it may be easier for Westerners to understand what Yin-Yang means.

如果我们用图 8 以及上述相应的数量倒 U 关系来解释阴阳和中庸的话，西方人也许能更容易理解阴阳和中庸。

5. Why is the 25:75 or 75:25 combination optimal? 为什么 25:75 或 75:25 比例是最优的?

- (1) For inputs as well as outcome objectives, yin and yang elements are two competing proportions making a whole, meaning, $yin + yang = 100\%$

对于输入或结果变量作为一个整体来看，阴和阳两个元素在数量关系上是此消彼长的，也就是两者相加是 100%。

- (2) If yin and yang are equal, meaning 50:50, they are mutually contrary yet complementary.

如果阴阳两个元素是势均力敌的，即 50:50 的比例，他们将是互相对立又互相互补的。

- (3) If yin and yang are not equal, there will be a dominant one and a subordinate one. Since the subordinate one must be within a 0%-50% range, then how big or how small should the subordinate one be in order to gain maximal complementary synergy between the dominant and the subordinate one? I argue that the answer is that the optimal proportion

the subordinate should take is 25%, which is the mean position of the 0%-50% range.

如果阴阳两个元素不是势均力敌的，那将是一个为主另一个为辅。因为为辅的元素相对整体的比重必然是在 0%-50% 这个区间以内，那么这个辅助元素究竟应该占到多大的比例才能在它与主导元素之间收获最大的互补性呢？我认为答案是辅助元素应该占到整体的 25%的比重，也就是它所被允许的 0%-50% 这个区间的中点。

- (4) Why is this so? This is because if the subordinate one is too small and has little power, say in a combination like 10:90, then the dominant one may neglect or try to crowd out the subordinate one. In such a situation, there is little competition as well as complementarity. In contrast, if the subordinate one is substantially large, say in a combination like 40:60, then the subordinate one is sufficiently powerful and confident and may desire to catch up or even overtake the dominant one. In such a situation there is more contradiction than complementarity. Both situations are not optimal because excess is as bad as deficiency. Only when the subordinate one is not too small and not too big, i.e. 25%, there will be a healthy tension between the dominant and the subordinate one and therefore the gain of maximal synergy between the two.

为什么是 25%呢？这是因为，如果辅助元素占比太小的话，它相对与主导元素来看它的力量太小，比如如果辅主元素比例为 10:90 的话，主导元素可能会忽略或者排挤掉辅助元素。在那种情形下，主辅元素之间只有很小程度的竞争和合作互补。相反地，如果辅助元素占比较大，比如辅主元素按 40:60 的比例搭配，那么辅助元素就足够强大或自信从而期望赶超主导元素。在这种情况下，主辅元素之间将是竞争多余合作互补。这两种情形都不是最佳的，因为过犹不及。只有当辅助元素不大不小比例适度中庸时，即占比 25%时，在主辅元素之间才会有一个最为健康的竞争合作关系，从而两种在一起才会产生最大的协同效应。

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ⁱ The series of Yin-Yang symbols with changing sizes of the two pies of Jean Marolleau (1975) can be found at <http://www.comecucinarelanostravita.it/il-trito-e-ritrito-simbolo-del-tao-e-lo-schema-chiamato-tai-ji/>. A revised version of the series of Yin-Yang symbols can be found in Javary (1997).

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