AAF for the Xiang-Fire Subsystem based on Eight Palaces or Eight Veins– Mathematical Reasoning of Economic Intervening Principle Based on Yin Yang Wu Xing Theory in Traditional Chinese Economics (IV)

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Abstract— Theory of Eight Palaces (八宫) or Eight Veins (八脉) is useful in understanding economic disease. By using mathematical reasoning based on Yin Yang Wu Xing Theory in Traditional Chinese Economics (TCE), this paper demonstrates the treatment principle: "Even if all changed, it is hard to change one's nature" (江山易改，本性难移). It means that for the economic society, there is the mathematical structure of Eight Palaces or Eight Veins as the second physiological system of a steady multilateral system. It can be used to determine the root-cause of the sick system by using the six indexes of comprehensive judgment as the Eight palaces or Eight veins. The six indexes are PPI (the Producer Price Index), AAF (the total output value of Agriculture forestry Animal husbandry and Fishery), CPI (the Consumer Price Index), GBR (the General Budget Revenue), GDP (the Gross Domestic Product), and GDP (the right of making money), simple namely PACGGF. The six indexes of PACGGF inflation rates which can be used as diagnostic subsystem of disease. The first or second transfer law of economic society energies of Eight Palaces or Eight Veins changes according to the different PACGGF inflation rates of an economic society whether in the normal range or not. Assume that the range of one of PACGGF inflation rates is divided into four parts from small to large. Both second and third are for a healthy economy. The treating works are the treatment directly for a root-cause and the prevention indirectly for a more serious relation economic disease as symptoms. Both the root-cause and symptoms come from the first transfer law of economic society energies. And both first and fourth are for an unhealthy economy. The treating works are the treatment directly for a root-cause or the prevention indirectly for a more serious relation economic disease as symptoms. Both the root-cause and symptoms come from the second transfer law of economic society energies. An economic disease treatment should protect and maintain the balance of two incompatibility relations: the loving relationship and the killing relationship. Economic disease treatment should protect and maintain the balance of two incompatibility relations: the loving relationship and the killing relationship. As an application, the Chinese AAF inflation rate can be used for the xiang-fire subsystem how to do works based on to diagnose the root-cause of steady multilateral systems by using Eight palaces.

Index Terms— Traditional Chinese Economics (TCE), Yin Yang Wu Xing Theory, steady multilateral systems, incompatibility relations, side effects, medical and drug resistance problem

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I. INTRODUCTION

Theory of Eight Palaces (八宫) or Eight Veins (八脉) is useful in determining the root-cause of the sick system. Eight Palaces or Eight Veins is a general mathematical structure as the second physiological system of a steady multilateral system. It is to determine the root-cause of the sick system based on the six indexes of comprehensive judgment. The six indexes are the PPI(the Producer Price Index) in Su etc [1], AAF (The total output value of Agriculture forestry Animal husbandry and Fishery) in Wang etc [2], CPI (the Consumer Price Index) in Crone etc [3], GBR (the General Budget Revenue) in Boskin [4] , GDP (the Gross Domestic Product) in Ahmed etc [5], and Finance (the right of making money) in Temitope [6], simple namely PACGGF. There is also an index of the RPI (Retail Price Index) in Levell [7]. An example will be used: substitute RPI for PPI strange through eight veins of logical analysis, the analysis conclusion there will be no big changes.

The PACGGF of Eight Palaces or Eight Veins are six general parameters linking together the complexity of relations between subsystem pairs of an economic social system, an economic social system itself, the capabilities for intervention reaction and self-protection of the economic social system as an economy and mind as a whole, related to the environment, food, health and personal history, air, water, earth, climate, season, etc. The six parameters as PACGGF are as useful in understanding an economic disease as the average is in statistics, or as the expected value is in probability calculation.

An economic social system identifies an important indicator for an economic social system health: the value of finance inflation rate, which, under normal conditions, ranges from 3% to 6%.There are a lot of evidences (e.g., experimental identification for probability and real applications) to support this viewpoint, such as, Temitope [6], Gupta etc [8], Nicholas[9], Ouyang etc [10],Tom [11], and so on.

It is found that the normal range of the CPI inflation rate is from 2% to 5%. There are a lot of evidences (e.g., experimental identification for probability and real applications) to support this viewpoint, such as, Crone etc [3], Pauhofova etc [12],Funke etc [13], Formica etc [14], and so on.

All the normal ranges of other indexes can be found from the normal ranges of the CPI inflation rate by using the relations between the corresponding index and CPI. For example, Su, etc [1], Wang etc [2], Boskin [4], Ahmed etc [5], and so on.

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Use of YIN YANG WU XING theory, the following results can be obtained.

The main purpose of PPI is in measuring all kinds of changes in price of goods in different of production. It belongs the "industry" of the subsystem wood(X). The normal range of the PPI inflation rate is $[a^1,b^1]=[0.7362\%,6.4920\%]$ nearly to $[a_0^1,b_0^1]=[1\%,6\%]$.

The values $\min=-0.1$ and $\max=0.65$ are the minimum and maximum acceptable the PPI inflation rate. And the center value is $t_0^1=3.1359\%$ nearly to $t_{0*}^1=3\%$. It is the target as the expectation of the PPI inflation rate.

Ecological-economic output of AAF refers to currency performance of farming, forestry, animal, husbandry and fisheries to the total volume of products, it reflects the total dimensions and total result of agricultural production during a given period. It belongs the "agriculture" of the subsystem xiang-fire(X_S^x). The normal range of the AAF inflation rate is $[a^2,b^2]=[7.7473\%,18.460\%]$ nearly to $[a_0^2,b_0^2]=[8\%,18\%]$. The values $\min=-0.1$ and $\max=0.81$ are the minimum and maximum acceptable the AAF inflation rate. And the center value is $t_0^2=12.269\%$ nearly to $t_{0*}^2=12\%$. It is the target as the expectation of the AFAHF inflation rate.

The main purpose of CPI is a measure of a fixed basket of consumer goods prices, mainly to reflect the price change of the consumers pay for goods and services, is also a kind of measuring the level of inflation tools, in the form of percentage change of expression. It belongs the "commerce" of the subsystem earth(X_K).The normal range of the CPI inflation rate is $[a^3,b^3]=[1.8828\%,5.2216\%]$ nearly to $[a_0^3,b_0^3]=[2\%,5\%]$. The values $\min=-0.05$ and $\max=0.6$ are the minimum and maximum acceptable the CPI inflation rate. And the center value is $t_0^3=3.2741\%$ nearly to $t_{0*}^3=3\%$. It is the target as the expectation of the CPI inflation rate.

The main purpose of GBR is a source of revenue, and planned and organized by the national budget and included in the budget management of funds. The general budget revenue is with the original "financial budget accounting system" in the corresponding concept of "budget". It belongs the "public facilities" of the subsystem metal(K_X). The normal range of the GBR inflation rate is $[a^4,b^4]=[8.956\%,20.079\%]$ nearly to $[a_0^4,b_0^4]=[9\%,20\%]$. The values $\min=-0.1$ and $\max=0.81$ are the minimum and maximum acceptable the GBR inflation rate. And the center value is $t_0^4=13.705\%$ nearly to $t_{0*}^4=13\%$. It is the target as the expectation of the GBR inflation rate.

The main purpose of GDP refers to in a certain period (a quarter or a year), the economy of a country or region to produce the value of all final goods and services, is often recognized as the best indicators of national economy. It not only can reflect a country's economic performance, also can reflect a country's national power and wealth. It belongs the "economics" of the subsystem water(S_X). The normal range of the GDP inflation rate is $[a^5,b^5]=[8.956\%,20.079\%]$ nearly to $[a_0^5,b_0^5]=[9\%,20\%]$. The values $\min=-0.1$ and $\max=0.81$ are the minimum and maximum acceptable the GDP inflation rate. And the center value is $t_0^5=10.208\%$ nearly to $t_{0*}^5=10\%$. It is the target as the expectation of the GDP inflation rate.

The main purpose of Finance is a measure of a money change or the ratio of money more part and the actual need of money, mainly to reflect the degree of inflation and currency depreciation. It belongs the "Governor, right of making money" of the subsystem jun-fire(X_S^j). The normal range of the Finance inflation rate is $[a^6,b^6]=[2.9515\%,6.1002\%]$ nearly to $[a_0^6,b_0^6]=[3\%,6\%]$. The values $\min=-0.03$ and $\max=0.65$ are the minimum and maximum acceptable the Finance inflation rate. And the center value is $t_0^6=4.2359\%$ nearly to $t_{0*}^6=4\%$. It is the target as the expectation of the Finance inflation rate.

Teach of the RPI in retail prices of commodities is the last link in the process of the flow of goods in the price index, it covers all industrial, commercial, catering and other retail enterprise groups to the urban and rural residents, organ selling prices of consumer goods and office supplies, reflect a certain period retail price change trend and degree of index data. It also belongs the "industry" of the subsystem wood(X).The normal range of the RPI inflation rate is $[a^{1'},b^{1'}]=[0.8789\%,5.2241\%]$ nearly to $[a_0^{1'},b_0^{1'}]=[1\%,5\%]$. The values $\min=-0.08$ and $\max=0.6$ are the minimum and maximum acceptable the RPI inflation rate. And the center value is $t_0^{1'}=2.7047\%$ nearly to $t_{0*}^{1'}=3\%$. It is the target as the expectation of the RPI inflation rate.

Thus the economic social system identifies some important indicators for an economic social system health: the value of one of PACGGF inflation rates, which, under normal conditions, ranges from a^i to b^i ($i=1$ or $1',2,\cdots,6$). Outside this range (low:Yin condition; high: Yang condition), an economic disease appears. Almost always, when there is an economic disease, the condition of inflation rate is a Yin condition, little is a Yang condition.

If the one of PACGGF rose is too large, it shows that the inflation has become the economic instability, the central bank will be a tight monetary policy and fiscal policy paying risk, resulting in the uncertain economic outlook. As a result, the index of high rise is often not welcome by the market. In the past 12 months, for example, the one of PACGGF roses 2.2%, that means, the cost of industry making rose by an average of 2.2% more than 12 months ago. When the cost of price increase, your money value drops. That is to say, a 100-yuan notes, only can buy the price $97.70 worth of foods. Generally for any given i, when one of the PACGGF inflation rates $>a_0^i$, it is called plus, is INFLATION. And when one of the PACGGF inflation rates $>b_0^i$, it is treated as a SERIOUS plus, is a SERIOUS INFLATION.

In this paper, the rate of inflation as the level rises can be considered rather than the currency quantity rises from the basic concept of one of six indexes PACGGF. It is because the six indexes PACGGF are the direct reflection of living standards, although the level increase is difficult to be controlled directly.

In this article, the main concern AAF index of theoretical analysis and practical application for the xiang-fire(X_S^x) subsystem of steady multilateral systems.

Through the growth rate of price index to calculate the rate of inflation, prices can be respectively by the consumer price index (CPI), the producer price index (PPI), the retail price index (RPI), the gross domestic product (GDP), the gross national product (GNP) as conversion price index, the general budget revenue (GBR), and the total output value of Agriculture forestry Animal, husbandry and Fishery (AAF), etc. In order to examine a country's power of agriculture (including forestry, animal, husbandry and fisheries), general use of AAF, its formula is as follows:

$$AAF = Q_{1t}P_{1t} + Q_{2t}P_{2t} + ... + Q_{nt}P_{nt}, \qquad (1)$$

where the type of digital and t, n is the number in the subscript, Q_* in (1), on behalf of the production of all kinds of the product of farming, forestry, animal, husbandry and fisheries, P_* in (1), on behalf of all kinds of the price of the product of farming, forestry, animal, husbandry and fisheries.

Both the rate of AAF inflation and the AAF are two different concepts. Calculation method of the rate of AAF inflation through the calculation of the AAF changes:

The rate of AAF inflation (price rises)

$$= \frac{\text{current price level - base price level}}{\text{base price level}} \times 100\%, \qquad (2)$$

where the price rise level from low to high, to base the level of foods for base. One of the base period is selected one price level as a reference, so that you can put the other periods of price level with a comparison between base level to measure the current level of inflation.

Note on the type, the rate of AAF inflation is not a price index, which is not a price rise, but the price index to rise. The AAF inflation rate is the government measure of inflation one of the data. Popular speaking, the AAF is the price of all foods as the product of farming, forestry, animal, husbandry and fisheries on the market growth percentage. As an important indicator, observe the level of inflation in China, much attention has been paid to also for such an important indicator, as a new era of youth, more objective view should be observed. First of all, let the AAF be met. The AAF is to reflect the power of agriculture (including forestry, animal, husbandry and fisheries), related to all foods calculated price, usually observed inflation as an important indicator.

The economic social system as an economy begins to activate the necessary mechanisms to restore this parameter to its appropriate range. If the economic social system as an economy is unable to restore optimal six indexes PACGGF levels, the economic disease may become chronic and lead to dire consequences.

Zhang etc [15-23] have started a great interest and admired works for Traditional Chinese Economics (TCE), where, through mathematical reasoning, they demonstrate the presence of incompatibility relations, which are predominant in daily life, yet absent in traditional Aristotelian Western logic.

Many people as Western persons are beyond all doubt the Yin Yang Wu Xing theory is superior to the traditional true-false logic, which does not contemplate incompatibility relations, which Zhang [19] has expertly explained from a mathematical standpoint.

The work Zhang [15,16] has started, allows many people like Western person to think of a true re-foundation of mathematical language, to make it a better suited tool for the needs of a mankind economic social system and the environment. Although so doing, Zhang [18] also brings to light the difficulty of establishing the values of both the intervention reaction coefficients ρ_1, ρ_2 and the self-protection coefficient ρ_3 as parameters with due accuracy.

In this paper, the introduction of a parameter such as one of six indexes PACGGF inflation rates will be suggested, in order to facilitate the understanding and the calculation of the values of both the intervention reaction coefficients ρ_1, ρ_2 and the self-protection coefficient ρ_3. This paper ventures to suggest this with all due to respect, because it is believed that the path Zhang [15,16] has started, in such an understandable way from the mathematical point of view, will be very useful for all mankind searching for tools to understand the mechanisms of an economic social system.

The article proceeds as follows. Section 2 contains a parameter model and basic theorems, in order to explain both the intervention reaction coefficients ρ_1, ρ_2 and the self-protection coefficient ρ_3 through the introduction of a parameter model to study the normal range of PACGGF inflation rates, while the first or second transfer law of economic society energies is demonstrated in Section 3, through the concept of both relation costs and a relationship analysis of the Hexagram-images of Eight Palaces or Eight Veins. Furthermore, the root-cause of the sick subsystem will be diagnosed with the Hexagram-image of the six indexes PACGGF based on Eight Palaces or Eight Veins. If the range of the AAF inflation rate, as one of PACGGF inflation rates, is divided into four parts, for the economy in every part, the prevention or treatment method of economic diseases as the treatment principle of TCE is given in Section 4. As an application, the Chinese AAF inflation rate can be used for the xiang-fire(X_S^x) subsystem how to do works based on to diagnose the root-cause of steady multilateral systems by using Eight palaces in Section 5 and conclusions are drawn in Section 6.

II. PARAMETER MODEL AND BASIC THEOREMS

The concepts and notations in Zhang etc [21] are start and still used.

Let $\varphi = (\sqrt{5}-1)/2 = 0.61803399$ be the **gold number**. Denoted $\rho_0 = 0.5897545123$, namely **healthy number**. It is because the healthy number ρ_0 can make the healthy balance conditions $\rho_1 = \rho_3, \rho_2 = \rho_1\rho_3$ and $1 - \rho_2\rho_3 = \rho_1 + \rho_2\rho_3$ hold if $\rho_1 = \rho_0, \rho_2 = \rho_0^2$ and $\rho_3 = \rho_0$. Assuming $\rho_0' = 0.68232780$, namely **unhealthy number**. It is because under a poor self-protection ability, the unhealthy number ρ_0' can make the following poor healthy balance conditions:

$$\rho_1 - \rho_3 = \rho_3 = \rho_0'/2 = 0.34116390,$$
$$\rho_2 - \rho_1\rho_3 = \rho_1\rho_3 = (\rho_0')^2/2 = 0.23278561$$
$$1 - \rho_2\rho_3 = \rho_1 + \rho_2\rho_3$$

if $\rho_1 = \rho_0', \rho_2 = (\rho_0')^2 = 0.46557123$ and $\rho_3 = \frac{1}{2}\rho_0'$. Thus $\rho_0 < \varphi < \rho_0'$.

A parameter model of the one of six indexes PACGGF inflation rates in a mathematical sense based on Yin Yang Wu Xing Theory of TCE is reintroduced by using the functions $\lambda(x)$ and $\rho(x)$ of the one of PACGGF inflation rates x described as follows.

Let $x \in (\min, \max)$ be the one of six indexes PACGGF inflation rates, where the values $\min$ and $\max$ are the minimum and maximum acceptable the one of PACGGF inflation rates. Denoted the center value t_0 is the target as the expectation of the one of PACGGF inflation rates. Define a function $\lambda(x)$ of the one of PACGGF inflation rates x in below:

$$\lambda(x) = \frac{|x - t_0|}{(\max - x)(x - \min)}, \forall x \in (\min, \max)$$

$$= \begin{cases} \dfrac{x - t_0}{(\max - x)(x - \min)}, & \max > x \ge t_0; \\ \dfrac{t_0 - x}{(\max - x)(x - \min)}, & \min < x < t_0 \end{cases} \quad (3)$$

A parameter model is considered as

$$\rho(x) = \frac{1/2}{\lambda(x) + 1/2}, \forall x \in (\min, \max). \quad (4)$$

Theorem 2.1 *Under model (4), the following statements hold.*

(1) The one that $0 < \rho(x) = \dfrac{1/2}{\lambda(x) + 1/2} \le 1$ *is equivalent to the other that*

$$0 \le \lambda(x) = \frac{1 - \rho(x)}{2\rho(x)} < +\infty,$$

where $\lambda(x)$ is a monotone decreasing function of x if $x \in (\min, t_0]$ or a monotone increasing function of x if $x \in [t_0, \max)$; and $\rho(x)$ is a monotone decreasing function of $\lambda(x)$ if $\lambda(x) \in [0, +\infty)$; and $\lambda(x)$ is a monotone decreasing function of $\rho(x)$ if $\rho(x) \in (0,1]$.

(2) If $1 \ge \rho(x) \ge \rho_0$ *, then*

$$\lambda(x) = \frac{1 - \rho(x)}{2\rho(x)} \le \frac{1 - \rho_0}{2\rho_0} = \rho_0^2 \le \rho(x)^2 \le 1;$$

$$\frac{\lambda(x)}{\rho(x)} = \frac{1 - \rho(x)}{2\rho(x)^2} \le \frac{1 - \rho_0}{2\rho_0^2} = \rho_0 \le \rho(x) \le 1; \quad and$$

$$\frac{\lambda(x)}{\rho(x)^2} = \frac{1 - \rho(x)}{2\rho(x)^3} \le \frac{1 - \rho_0}{2\rho_0^3} = 1.$$

(3) If $0 < \rho(x) < \rho_0$ *, then*

$$\lambda(x) = \frac{1 - \rho(x)}{2\rho(x)} > \frac{1 - \rho_0}{2\rho_0} = \rho_0^2 > \rho(x)^2 > 0;$$

$$\frac{\lambda(x)}{\rho(x)} = \frac{1 - \rho(x)}{2\rho(x)^2} > \frac{1 - \rho_0}{2\rho_0^2} = \rho_0 > \rho(x) > 0; \quad and$$

$$\frac{\lambda(x)}{\rho(x)^2} = \frac{1 - \rho(x)}{2\rho(x)^3} > \frac{1 - \rho_0}{2\rho_0^3} = 1.$$

(4) Taking $0 < \rho_1 = \rho(x) < \rho_0, \rho_2 = \rho(x)^2$ *and* $\rho_3 = c\rho(x)$ *where* $0 \le c \le 1$ *, there are* $\rho_1 - \rho_3 = \rho(x)(1 - c) \ge 0, \rho_2 - \rho_1\rho_3 = \rho(x)^2(1 - c) \ge 0,$

and $(\rho_1 + \rho_2\rho_3) = \rho(x) + c\rho(x)^3 < 1 - \rho_2\rho_3 = 1 - c\rho(x)^3,$ *where*

$|(\rho_1 + \rho_2\rho_3) - (1 - \rho_2\rho_3)| > 2(1 - c)\rho_0^3 = (1 - c)0.41024.$

(5) Taking $1 \ge \rho_1 = \rho(x) \ge \rho_0, \rho_2 = \rho(x)^2$ *and* $\rho_3 = c\rho(x)$ *where* $0 \le c \le 1$*, there are firstly,*

$\rho_1 - \rho_3 = \rho(x)(1 - c) \ge 0, \rho_2 - \rho_1\rho_3 = \rho(x)^2(1 - c) \ge 0$ *and* $(\rho_1 + \rho_2\rho_3) = \rho(x) + c\rho(x)^3 \ge 1 - \rho_2\rho_3 = 1 - c\rho(x)^3$ *if*

$1 \ge c \ge \dfrac{1 - \rho(x)}{2\rho(x)^3} = \dfrac{\lambda(x)}{\rho(x)^2} \ge 0$;

secondly,

$\rho_1 - \rho_3 = \rho(x)(1 - c) > \rho(x)/2, \rho_2 - \rho_1\rho_3 = \rho(x)^2(1 - c) > \rho(x)^2/2$ *and*

$(\rho_1 + \rho_2\rho_3) = \rho(x) + c\rho(x)^3 < 1 - \rho_2\rho_3 = 1 - c\rho(x)^3$

where this inequality range to meet $|(\rho_1 + \rho_2\rho_3) - (1 - \rho_2\rho_3)| \le (\rho_0')^3 = 0.31767$ *if*

$0 \le c < \dfrac{1 - \rho(x)}{2\rho(x)^3} = \dfrac{\lambda(x)}{\rho(x)^2} \le \dfrac{1}{2}$ *in which* $1 > \rho(x) \ge \rho_0'$;

thirdly,

$\rho_1 - \rho_3 = \rho(x)(1 - c) \ge \rho(x)/2, \rho_2 - \rho_1\rho_3 = \rho(x)^2(1 - c) \ge \rho(x)^2/2$ *and*

$(\rho_1 + \rho_2\rho_3) = \rho(x) + c\rho(x)^3 < 1 - \rho_2\rho_3 = 1 - c\rho(x)^3$

where this inequality range to meet $|(\rho_1 + \rho_2\rho_3) - (1 - \rho_2\rho_3)| \le 2\rho_0^3 = 0.41024$ *if*

$0 \le c \le \dfrac{1}{2} < \dfrac{1 - \rho(x)}{2\rho(x)^3} = \dfrac{\lambda(x)}{\rho(x)^2} \le 1$ *in which* $\rho_0 \le \rho(x) < \rho_0'$;

finally, $\rho_1 - \rho_3 = \rho(x)(1 - c) < \rho(x)/2, \rho_2 - \rho_1\rho_3 = \rho(x)^2(1 - c) < \rho(x)^2/2$

and $(\rho_1 + \rho_2\rho_3) = \rho(x) + c\rho(x)^3 < 1 - \rho_2\rho_3 = 1 - c\rho(x)^3$ *where this inequality range to meet* $|(\rho_1 + \rho_2\rho_3) - (1 - \rho_2\rho_3)| < (\rho_0')^3 = 0.31767$ *if*

$\dfrac{1}{2} < c < \dfrac{1 - \rho(x)}{2\rho(x)^3} = \dfrac{\lambda(x)}{\rho(x)^2} \le 1$ *in which* $\rho_0 \le \rho(x) < \rho_0'$.

In particular, when c is nearly to 1/2, there are $\rho_1 - \rho_3 = \rho(x)(1 - c) \to \rho(x)/2, \rho_2 - \rho_1\rho_3 = \rho(x)^2(1 - c) \to \rho(x)^2/2$ *and the following statements hold.*

(a). The absolute value $|(\rho_1 + \rho_2\rho_3) - (1 - \rho_2\rho_3)|$ is nearly to 0 if $0 < c < \dfrac{1 - \rho(x)}{2\rho(x)^3} = \dfrac{\lambda(x)}{\rho(x)^2} \le \dfrac{1}{2}$ *in which* $1 > \rho(x) \ge \rho_0'$.

(b). The value $[(\rho_1 + \rho_2\rho_3) - (1 - \rho_2\rho_3)]$ is included in the interval $[-\rho_0^3 = -0.20512, 0)$ *respectively if* $0 < c \le \dfrac{1}{2} < \dfrac{1 - \rho(x)}{2\rho(x)^3} = \dfrac{\lambda(x)}{\rho(x)^2} \le 1$ *in which* $\rho_0 \le \rho(x) < \rho_0'$.

(c). The value $[(\rho_1 + \rho_2\rho_3) - (1 - \rho_2\rho_3)]$ is included in the interval $[-\rho_0^3 = -0.20512, 0)$ *respectively if* $\dfrac{1}{2} < c < \dfrac{1 - \rho(x)}{2\rho(x)^3} = \dfrac{\lambda(x)}{\rho(x)^2} \le 1$ *in which* $\rho_0 \le \rho(x) < \rho_0'$. #

Corollary 2.1 *Under model (4), the following statements hold.*

(1) For any $0 < d < 1$ *, there is an unique solution* $u \in (\min, t_0)$ *and there is also an unique solution* $v \in (t_0, \max)$ *, such that*

$$\lambda(t_0) = 0 \leq \lambda(x) = \frac{1-\rho(x)}{2\rho(x)} \leq \lambda(u) = \lambda(v) = (1-d)/(2d),$$

$$\rho(u) = \rho(v) = d \leq \rho(x) = \frac{1/2}{\lambda(x)+1/2} \leq 1 = \rho(t_0).$$

(2) The condition $x \in [a_0, b_0]$ is equivalent to each of the following conditions:

$$\lambda(t_0) = 0 \leq \lambda(x) = \frac{1-\rho(x)}{2\rho(x)} \leq \lambda(a_0) = \lambda(b_0),$$

$$\rho(a_0) = \rho(b_0) \leq \rho(x) = \frac{1/2}{\lambda(x)+1/2} \leq 1 = \rho(t_0).$$

(3) The condition $x \in [a_\varphi, b_\varphi]$ is equivalent to each of the following conditions:

$$\lambda(t_0) = 0 \leq \lambda(x) = \frac{1-\rho(x)}{2\rho(x)} \leq \lambda(a_\varphi) = \lambda(b_\varphi) = \frac{1-\varphi}{2\varphi} = 0.30902,$$

$$\rho(a_\varphi) = \rho(b_\varphi) = \varphi \leq \rho(x) = \frac{1/2}{\lambda(x)+1/2} \leq 1 = \rho(t_0).$$

(4) The condition $x \in [a, b]$ is equivalent to each of the following conditions

$$\lambda(t_0) = 0 \leq \lambda(x) = \frac{1-\rho(x)}{2\rho(x)} \leq \lambda(a) = \lambda(b) = \rho_0^2 = 0.34781,$$

$$\rho(a) = \rho(b) = \rho_0 \leq \rho(x) = \frac{1/2}{\lambda(x)+1/2} \leq 1 = \rho(t_0).$$

(5) The condition $x \in [a', b']$ is equivalent to each of the following conditions:

$$\lambda(t_0) = 0 \leq \lambda(x) \leq \lambda(a') = \lambda(b') = (\rho_0')^2/2 = 0.23279,$$

$$\rho(a') = \rho(b') = \rho_0' \leq \rho(x) = \frac{1/2}{\lambda(x)+1/2} \leq 1 = \rho(t_0).\#$$

Theorem **2.1** and Corollary **2.1** can be found in Zhang [23].

Remark 1. In west, through experiment or through practice observation, many researchers [1-14] can obtain the normal range of the one of PACGGF inflation rates as $x \in [a_0, b_0]$. But in TCE, from Yin Yang Wu Xing Theory, Zhang etc [21] have already determined: $\rho_0 \leq \rho_1 \leq 1$ for the normal range of a healthy economy. Taking $\rho_1 = \rho(x)$, $\rho_2 = \rho(x)^2$ and $\rho_3 = c\rho(x)$ where $0 \leq c \leq 1$ for an economic society which has the capabilities of both intervention reaction and self-protection. From Corollary **2.1**, the condition $\rho_0 \leq \rho_1 \leq 1$ is equivalent to that $x \in [a, b]$. In other words, in Theory of TCE, the normal range of the one of PACGGF inflation rates is considered as $x \in [a, b]$, nearly to $x \in [a_0, b_0]$. Of course, little difference of the two intervals which makes the diagnosis of disease as a result, there may be no much difference as a suspect. In fact, TCE uses the rule $\rho_0 \leq \rho_1 \leq 1$ from Yin Yang Wu Xing Theory instead of the normal range of the one of PACGGF inflation rates. The equivalence of Corollary **2.1** shows that TCE is The scientific which is from TCM (Traditional Chinese Medicine).

Zhang etc [21] have already determined: an economy is said a healthy economic complex system when the intervention reaction coefficient ρ_1 satisfies $1 \geq \rho_1 \geq \rho_0$. In logic and practice, it's reasonable that $\rho_1 + \rho_2$ is near to 1 if the input and output in a complex system is balanced, since an economic output subsystem is absolutely necessary other

subsystems of all consumption. In case: $\rho_1 + \rho_2 = 1$, all the energy for intervening an economic complex subsystem can transmit to other economic complex subsystems which have neighboring relations or alternate relations with the intervening economic complex subsystem. The condition $\rho_1 \geq \rho_0$ can be satisfied when $\rho_2 = \rho_1 \rho_3$ and $\rho_3 = \rho_1$ for an economic complex system since $\rho_1 + \rho_2 = 1$ implies $\rho_1 = \varphi \approx 0.61803 \geq \rho_0$. In this case, $\rho_2 = \varphi^2 \approx 0.38197$. If this assumptions is set up, then the intervening principle: "Real disease with a healthy economy is to rush down its son and virtual disease with a healthy economy is to fill its mother" based on "Yin Yang Wu Xing" theory in image mathematics [20], is quite reasonable. But, in general, the ability of self-protection often is insufficient for an usual economic complex system, i.e., ρ_3 is small. A common standard is $\rho_3 = \frac{1-\rho_1}{2\rho_2} \approx \frac{1}{2}$ which comes from the balance condition $(1-\rho_2\rho_3) = (\rho_1+\rho_2\rho_3)$ of the loving relationship if $\rho_1 + \rho_2 \approx 1$. In other words, there is a principle which all losses are bear in an economic complex system. Thus the general condition is often $\rho_1 \approx 0.61803 \geq \rho_3 \approx 0.5 \geq \rho_2 \approx 0.38197$. Interestingly, they are all near to the **golden numbers**.

It is the idea to consider the unhealthy number $\rho_0' = 0.68232780$ since the poor condition of self-protection ability $\rho_3 = \rho_1/2 = \rho_0'/2 = 0.34116390$ can make the following unhealthy balance conditions hold

$$\rho_1 - \rho_3 = \rho_3 = \rho_0'/2 = 0.34116390,$$

$$\rho_2 - \rho_1\rho_3 = \rho_1\rho_3 = (\rho_0')^2/2 = 0.23278561$$

$$1 - \rho_2\rho_3 = \rho_1 + \rho_2\rho_3$$

if $\rho_1 = \rho_0'$ and $\rho_2 = (\rho_0')^2 = 0.46557123$.

By Theorem **2.1** and Corollary **2.1**, the interval $x \in [a_0, b_0]$ implies the following condition

$$1 \geq \rho_1 = \rho(x) \geq \rho(a_0) = \rho(b_0);$$

and the interval $x \in [a_\varphi, b_\varphi]$ implies the following condition

$$1 \geq \rho_1 = \rho(x) \geq \varphi = \rho(a_\varphi) = \rho(b_\varphi);$$

and the interval $x \in [a, b]$ implies the following condition

$$1 \geq \rho_1 = \rho(x) \geq \rho_0 = \rho(a) = \rho(b),$$

where $\lambda(a) = \lambda(b) = \frac{1-\rho_0}{2\rho_0} = \rho_0^2$ since

$$(1-\rho_0^3) = (\rho_0+\rho_0^3);$$

and the interval $x \in [a', b']$ implies the following condition

$$1 \geq \rho_1 = \rho(x) \geq \rho_0' = \rho(a') = \rho(b'),$$

where $\lambda(a') = \lambda(b') = \frac{1-\rho_0'}{2\rho_0'} = \frac{(\rho_0')^2}{2}$ since

$$(\rho_0')^3 = (1-\rho_0').$$

The last one is the healthy interval in an economic society's self-protection ability poor conditions. The interval range than the normal economic society health requirements is too strict. Only the first three interval ranges can be considered as a normal economic society health. If keep two decimal places,

then first three intervals are the same as $x \in [a_0, b_0]$. This shows that range $x \in [a_0, b_0]$ is stable. The interval as the normal range of the one of PACGGF inflation rates may be also appropriate. To conservative estimates, one of the first three interval ranges with largest length is used, i.e., $x \in [a, b]$, as the theoretical analysis of the normal range in this paper. In fact, the range $x \in [a, b]$ is better than the range $x \in [a_0, b_0]$ because $\rho_0 = \rho(a) = \rho(b)$ and $\lambda(a) = \lambda(b) = \dfrac{1 - \rho_0}{2\rho_0} = \rho_0^2$, which satisfy the healthy balance conditions $\rho_1 = \rho_3, \rho_2 = \rho_1 \rho_3$,

and $(1 - \rho_2 \rho_3) \le (\rho_1 + \rho_2 \rho_3)$ at the same time if $\rho_1 = \rho_0$, $\rho_2 = \rho_0^2$ and $\rho_3 = c\rho_0$ where $c \to 1$. In other words, the parameter $\rho_1 = \rho(x) \ge \rho_0$ or the range $x \in [a, b]$ is the healthy condition of both the killing relationship and the loving relation at the same time. But neither are the others. The one of PACGGF inflation rates must be precise calculation to keep at least 6 decimal places can ensure correct because of its sensitivity to the diagnosis of disease.#

Remark 2. Western Economics is different from TCE because the TCE has a concept of *Chi or Qi* as a form of energy. From the energy concept, that one organ or subsystem of the economic society is **not running properly** (or **disease**, **abnormal**), is that the energy deviation from the average of the organ is too large, the high (**real disease**) or the low (**virtual disease**). But there do not exist these concepts of both real diseases and virtual diseases in Western Economics. For the normal range of the one of PACGGF inflation rates of some economic society as $x \in [a, b]$, in TCE, if $x > b$, the economy is considered as a real disease since the one of PACGGF inflation rates is too high; if $x < a$, the economy is considered as a virtual disease since the one of PACGGF inflation rates is too low. Thus TCE identifies an important indicator for an economic society's health: the value of the one of PACGGF inflation rates, which, under normal conditions, ranges from a to b. Outside this range (too low: Yin condition; too high: Yang condition), disease appears. Almost always absolutely, when there is a virtual disease, the condition of the one of PACGGF inflation rates is a Yin condition; when there is a real disease, the condition of the one of PACGGF inflation rates is a Yang condition.#

III. Relations of Steady Multilateral Systems

3.1 Energy Changes of a Steady Multilateral System

In order to apply the reasoning to other fields rather than society's health, Zhang etc [21] have started a steady multilateral system imitating an economic society. A most basic steady multilateral system is as follows .

Theorem 3.1 [20] *For each element x in a steady multilateral system V with two incompatibility relations, there exist five equivalence classes below:*

$X = \{ y \in V \mid y \sim x \}, X_S = \{ y \in V \mid x \to y \}, X_K = \{ y \in V \mid x \Rightarrow y \},$
$K_x = \{ y \in V \mid y \Rightarrow x \}, S_x = \{ y \in V \mid y \to x \},$

which the five equivalence classes have relations in Figure 1. #

The Yin Yang Wu Xing model can be written as follows: Define

$V_0^5 = X, V_1^5 = X_S, V_2^5 = X_K, V_3^5 = K_x, V_4^5 = S_x,$

corresponding to wood, fire, earth, metal, water, respectively, and assume

$V^5 = V_0^5 + V_1^5 + V_2^5 + V_3^5 + V_4^5$ where $V_i^5 \cap V_j^5 = \varnothing, \forall i \ne j$ (hereinafter the same).

And take $\mathfrak{R}^5 = \{ R_0^5, R_1^5, \cdots, R_4^5 \}$ satisfying

$R_r^5 = \sum_{i=0}^{4} V_i^5 \times V_{mod(i+r,5)}^5, r \in \{0,1,\cdots,4\}, R_i^5 * R_j^5 = R_{mod(i+r,5)}^5,$

where $V_i^5 \times V_j^5 = \{ (x, y) : x \in V_i^5, y \in V_j^5 \}$ is the Descartes product in set theory and $R_i^5 * R_j^5 = \{ (x, y) : \exists u \in V$ such that $(x, u) \in R_i^5, (u, y) \in R_j^5 \}$ is the **multiplication relation operation**. The relation multiplication of $*$ is isomorphic to the addition of module 5. Then $(V^5, \mathfrak{R}^5)$ is a steady multilateral system with one equivalent relation R_0^5 and two incompatibility relations $R_1^5 = (R_4^5)^{-1}$ and $R_2^5 = (R_3^5)^{-1}$ where $(R_i^5)^{-1} = \{ (x, y) : (y, x) \in R_i^5 \}$ is the **inverse relation operation**. The Yin and Yang means the two incompatibility relations and the Wu Xing means the collection of five disjoint classification of $V^5 = V_0^5 + V_1^5 + V_2^5 + V_3^5 + V_4^5$. The model is called Yin Yang Wu Xing model, denoted simply by $V^5 = \{ 0, 1, 2, 3, 4 \}$.

It can be proved by Theorem 3.2 in Zhang [23] that the steady multilateral system in Theorem **3.1** is the reasoning model of Yin Yang Wu Xing in TCE if there is an energy function $\varphi(*)$ satisfying

$\dfrac{\Delta \varphi(X)}{\Delta} \to \dfrac{d\varphi(X)}{dX} = (1 - \rho_2 \rho_3) = (1 - c\rho(x)^2) > 0;$

$\dfrac{\Delta \varphi(X_S)}{\Delta} \to \dfrac{d\varphi(X_S)}{dX} = (\rho_1 + \rho_2 \rho_3) = \rho(x)(1 + c\rho(x)^2) > 0;$

$\dfrac{\Delta \varphi(X_K)}{\Delta} \to \dfrac{d\varphi(X_K)}{dX} = -(\rho_1 - \rho_3) = -\rho(x)(1 - c) < 0;$

$\dfrac{\Delta \varphi(K_x)}{\Delta} \to \dfrac{d\varphi(K_x)}{dX} = -(\rho_2 - \rho_1 \rho_3) = -\rho(x)^2 (1 - c) < 0;$

$\dfrac{\Delta \varphi(S_x)}{\Delta} \to \dfrac{d\varphi(S_x)}{dX} = (\rho_2 - \rho_1 \rho_3) = \rho(x)^2 (1 - c) > 0,$

if increase the energy of X $(\forall \Delta \varphi(X) = \Delta > 0)$.

The parameter $\rho_v = \rho_1 + \rho_2 \rho_3$ is called the coefficient of the **vital** or righteousness energy. The parameter $\rho_e = 1 - \rho_2 \rho_3$ is called the coefficient of the **evil** energy. An economy is called **healthy** if the vital or righteousness coefficient $\rho_v = \rho_1 + \rho_2 \rho_3$ is greater than or equal to the evil coefficient $\rho_e = 1 - \rho_2 \rho_3$. Otherwise, the economy is called **unhealthy**. For a healthy economy, the transfer law of the Yang vital or righteousness energy in the Yin Yang Wu Xing Model is

$Wood(X) \to Fire(X_s) \to Earth(X_K) \to Metal(K_x) \to Water(S_x) \to Wood(X).$

Figure 1 in Theorem **3.1** is the figure of Yin Yang Wu Xing theory in Ancient China. The steady multilateral system V with two incompatibility relations is equivalent to the logic architecture of reasoning model of Yin Yang Wu Xing theory in Ancient China. What describes the general method

of complex systems can be used in the economic society complex systems.

By non-authigenic logic of TCE, i.e., a logic which is similar to a group has nothing to do with the research object [20], in order to ensure the reproducibility such that the analysis conclusion can be applicable to any complex system, a logical analysis model can be chosen which has nothing to do with the object of study. The *Tao* model of Yin and Yang is a generalized one which means that two is basic. But the *Tao* model of Yin Yang is simple in which there is not incompatibility relation. The analysis conclusion of *Tao* model of Yin Yang cannot be applied to an incompatibility relation model. Thus the Yin Yang Wu Xing model with two incompatibility relations of Theorem **3.1** will be selected as the logic analysis model in this paper.

On the other hand, the steady multilateral system
$$(V^2, \Re^2) = (V_0^2 + V_1^2, \{R_0^2, R_1^2\})$$ is called the *Tao* model, denoted simply by $V^2 = \{0, 1\}$, if it satisfies the following conditions:

$$R_r^2 = \sum_{i=0}^{1} V_i^2 \times V_{mod(i+r,5)}^2, \forall r \in \{0,1\}, R_i^2 * R_j^2 = R_{mod(i+r,2)}^2,$$

$$R_0^2 = \{(0,0),(1,1)\}, R_1^2 = \{(0,1),(1,0)\}.$$

The relation multiplication of $*$ is isomorphic to the addition of module 2. The element $1, or\ 0$ is called a **Yang** force or a **Yin** force respectively. For a healthy economy, the transfer law of the *Tao* force in the *Tao* model is from Yang to Yin.

In TCE, any material can be found, not Yang is Yin. No matter of Yin and Yang are unable to see, known as **dark matter**, or **nonphysical**. Therefore, the *Tao* force is often exist in the physical world. Any steady multilateral system only force under the action of the *Tao*, may be to be perceived.

In TCE, it is believed that any Yin Yang Wu Xing complex system is made up of three types of talent or material to combined changes. The three types come from the Yin energy in it's a layer Yin Yang Wu Xing system. It is because a lot of complex systems can be seen as a Yin Yang Wu Xing system. However, any Yin Yang Wu Xing system is an economy observation of the objective object in one logic level, it will be a layer of the Yin Yang Wu Xing system of restriction and generation. In the Yin Yang Wu Xing system, both wood and fire are Yang; both earth, metal and water are Yin. So any Yin Yang Wu Xing system is made by a layer of the Yin Yang Wu Xing system on its both earth, metal and water generated. For example, control on a layer of the Yin Yang Wu Xing system of economy is the nature, *Tao*, heaven, earth and people system, so the formation of the economy three materials are heaven (1), earth (2) and people (3).

The three *Tao* model can combine forming a steady multilateral system

$$(V^8, \Re^8) = (V_1^8 + \cdots + V_8^8, \{R_1^8, \cdots, R_8^8\})$$

is called the **Eight-Hexagram** (八卦) model, denoted simply by
$V^8 = \{(1,1,1),(0,1,1),(1,0,1),(0,0,1),(1,1,0),(0,1,0),(1,0,0),(0,0,0)\}$
which satisfies the following conditions:
$R_r^8 = \sum_{i=1}^{8} V_i^8 \times V_{i*r}^8, \forall r \in \{1,2,\cdots,8\}, R_i^8 * R_j^8 = R_{i*r}^8,$

$i*r$	1 = (111)	2 = (011)	3 = (101)	4 = (001)	5 = (110)	6 = (010)	7 = (100)	8 = (000)
1 = (111)	8 = (000)	7 = (100)	6 = (010)	5 = (001)	4 = (001)	3 = (010)	2 = (011)	1 = (111)
2 = (011)	7 = (100)	8 = (000)	5 = (110)	6 = (010)	3 = (101)	4 = (001)	1 = (111)	2 = (011)
3 = (101)	6 = (010)	5 = (110)	8 = (000)	7 = (100)	2 = (011)	1 = (111)	4 = (001)	3 = (101)
4 = (001)	5 = (001)	6 = (010)	7 = (100)	8 = (000)	1 = (111)	2 = (011)	3 = (101)	4 = (001)
5 = (110)	4 = (001)	3 = (101)	2 = (011)	1 = (111)	8 = (000)	7 = (100)	6 = (010)	5 = (110)
6 = (010)	3 = (010)	4 = (001)	1 = (111)	2 = (011)	7 = (100)	8 = (000)	5 = (110)	6 = (010)
7 = (100)	2 = (011)	1 = (111)	4 = (001)	3 = (101)	6 = (010)	5 = (110)	8 = (000)	7 = (100)
8 = (000)	1 = (111)	2 = (011)	3 = (101)	4 = (001)	5 = (110)	6 = (010)	7 = (100)	8 = (000)

The number $1,2,3,4,5,6,7,8$ is called the Qian (乾), Dui (兑), Li (离), Zhen (震), Xun (巽), Kan (坎), Gen (艮), Kun (坤), respectively. The set of $\{1,2,3,4,5,6,7,8\}$ is called the **Eight-Hexagram** (八卦) system.

On the other hand, the three types heaven (1), earth (2) and people (3) to any change combine forming the **Telluric effluvium** model as follows:
The steady multilateral system
$$(V^6, \Re^6) = (V_1^6 + \cdots + V_6^6, \{R_1^6, \cdots, R_6^6\})$$
is called the **Telluric effluvium** model, denoted simply by
$V^6 = \{e, (12), (13), (23), (123), (132)\}$,
if it satisfies the following conditions:
$$R_r^6 = \sum_{i=1}^{6} V_i^6 \times V_{i*r}^6, \forall r \in \{1, 2, \cdots, 6\},$$
$$R_i^2 * R_j^2 = R_{i*r}^2,$$

$i*r$	1 = e	2 = (12)	3 = (13)	4 = (23)	5 = (123)	6 = (132)
1 = e	1 = e	2 = (12)	3 = (13)	4 = (23)	5 = (123)	6 = (132)
2 = (12)	2 = (12)	1 = e	5 = (123)	6 = (132)	3 = (13)	4 = (23)
3 = (13)	3 = (13)	6 = (132)	1 = e	5 = (123)	4 = (23)	2 = (12)
4 = (23)	4 = (23)	5 = (123)	6 = (132)	1 = e	2 = (12)	3 = (13)
5 = (123)	5 = (123)	4 = (23)	2 = (12)	3 = (13)	6 = (132)	1 = e
6 = (132)	6 = (132)	3 = (13)	4 = (23)	2 = (12)	1 = e	5 = (123)

The number $1, or\ 2, or\ 3$, is called the tengen (天元), the earth material (地元), the people ability (人元), respectively. The set of $\{1, 2, 3\}$ is called three types of talent or material. It is with elements, $e, (12), (13), (23), (123), (132)$. The each of elements, $e, (12), (13), (23), (123), (132)$, is called the primordial energy (元气), essence derived from food (谷气), defensive energy (卫气), essential substance circulating in the channels and blood vessels (营气), genuine energy (真气), pectoral energy (宗气), respectively. Another name is respectively
shaoyang (e)(少阳), yangming ((12)) (阳明), taiyang ((13)) (太阳), jueyin ((23)) (厥阴), shaoyin ((123)) (少阴), taiyin ((132)) (太阴).

Generally positive or Yang material, they are able to be perceived, but few can see the material itself, can only use signs. Therefore, the Yang energy symptoms of the set $M_1 = \{e, (12), (13)\}$ is call the marrow energy (髓); The Yin energy of the set $M_2 = \{(123)\}$ is call the blood energy (血); The Yin energy of the set $M_3 = \{(132)\}$ is call the saliva energy

（津）; The Yin energy of the set $M_4 = \{(23)\}$ is call the essence of water and grain (水谷精微).

Growth and conveyance in the six energies $e, (12), (13), (23), (123), (132),$ known as the **six roots** （根）; As the fruit of these six energies $e, (12), (13), (23), (123), (132),$ known as the **six fruits** （结）; Storage of these four energies $M_1, M_2, M_3, M_4,$ known as the **four seas** （四海）; Energy exchange of the four kinds of $M_1, M_2, M_3, M_4,$ known as the **four streets** （四街）. Of course, for a healthy Economy, the transfer law of each of the six energies $e, (12), (13), (23), (123), (132),$ is from its **root (root-causes)** （根）to its **fruit (symptoms)** （结）.

Western Economy is different from TCE because the TCE has a concept of *Chi or Qi* (气) as a form of energy of steady multilateral systems. It is believed that this energy exists in all things of steady multilateral systems (living and non-living) including air, water, food and sunlight. *Chi* is said to be the unseen vital force that nourishes steady multilateral systems' Economy and sustains steady multilateral systems' life. It is also believed that an individual is born with an original amount of *Chi* at the beginning of steady multilateral systems' life and as a steady multilateral system grows and lives, the steady multilateral system acquires or attains *Chi* or energy from "eating" and "drinking", from "breathing" the surrounding "air" and also from living in its environment. The steady multilateral system having an energy is called **the anatomy system** or **the first physiological system**. And the first physiological system also affords *Chi* or energy for the steady multilateral system's meridian system (*Zang Xiang* (藏象) and *Jing-Luo* (经络)) which forms a parasitic system of the steady multilateral system, called **the second physiological system** of the steady multilateral system. The second physiological system of the steady multilateral system controls the first physiological system of the steady multilateral system. A steady multilateral system would become ill or dies if the *Chi* or energy in the steady multilateral system is imbalanced or exhausted, which means that $\rho_1 = \rho(x) \to 0, \rho_2 = \rho(x)^2 \to 0$ and $\rho_3 = c\rho(x) \to 0$.

For example, in TCE, an economy as the first physiological system of the steady multilateral system following the Yin Yang Wu Xing theory was classified into five equivalence classes as follows:

wood(X)={industry, PPI (the Producer Price Index) or RPI (Retail Price Index), liver, bravery, soul, ribs, sour, east, spring, birth};

xiang-fire(X_S^x)={agriculture, AAF (the total output value of Agriculture forestry Animal husbandry and Fishery), pericardium, the triple energizer, nerve, the blood, bitter taste, the south, summer, growth};

earth(X_K)={ commerce, CPI (the Consumer Price Index), spleen, stomach, willing, meat, sweetness, center, long summer, combined};

metal(K_X)={science-education, GBR (the General Budget Revenue), lung, large intestine, boldness, fur, spicy, west, autumn, accept};

water(S_X)={army-economic, GDP (the Gross Domestic Product), kidney, bladder, ambition, bone, salty, the north, winter, hiding};

jun-fire(X_S^j)={President or Governor, Finance (right of making money), heart, small intestine, bitter taste, whole economy, throughout the year, overall growth}.

fire(X_S)= xiang-fire(X_S^x) $\bigcup$ jun-fire(X_S^j).

There is only one of both loving and killing relations between every two classes. General close is loving, alternate is killing. In every category of internal, think that they are with an equivalent relationship, between each two of their elements there is a force of similar material accumulation of each other. It is because their pursuit of the goal is the same, i.e., follows the same "Axiom system". It can increase the energy of the class at low cost near to zero if they accumulate together. Any nature material activity follows the principle of maximizing so energy or minimizing the cost. In general, the size of the force of similar material accumulation of each other is smaller than the size of the loving force or the killing force in a stable complex system. The stability of any complex system first needs to maintain the equilibrium of the killing force and the loving force. The key is the killing force. For a stable complex system, if the killing force is large, i.e., $\rho_3 = c\rho(x)$ becomes larger by Theorems **3.2-3.5** below, which needs positive **exercise**, then the loving force is also large such that the force of similar material accumulation of each other is also large. They can make the complex system more stable. If the killing force is small, i.e., $\rho_3 = c\rho(x)$ becomes smaller by Theorems **3.2-3.5** below, which means little **exercise**, then the loving force is also small such that the force of similar material accumulation of each other is also small. They can make the complex system becoming unstable. The *Chi* or energy is also called the food hereafter for simply. In order to get the food, by Attaining Rule in Zhang [23], the second physiological system must make the first physiological system intervened, namely **exercise**. It is because only by intervention on the first physiological system, the second physiological system can be to get food.

The second physiological system of the steady multilateral system controls the first physiological system of the steady multilateral system, abiding by the following rules.

Definition 3.1 (Eight Palaces or Eight Veins or Eight Extra Meridians) *Assume the **Eight-Hexagram** model V^8 is implemented by the **Eight-Hexagram** force of the **Eight-Hexagram** model V^8. Then the steady multilateral system $V^8 \times V^8 = \{(i, j) \mid i \in V^8, j \in V^8\}$ is called the model* of **Eight Palaces or Eight Veins or Eight Extra Meridians** *of the steady multilateral system.*

The model satisfies as follows:

$$R_{(r,r')}^{(8,8)} = \sum_{(i,i')=(1,1)}^{(8,8)} V_{(i,i')}^{(8,8)} \times V_{(i*r,i'*r')}^{(8,9)}, \forall (r, r') \in V^8 \times V^8,$$

$$R_{(i,i')}^{(8,8)} * R_{(j,j')}^{(8,8)} = R_{(i*j,i'*j'))}^{(8,8)}.$$

*Here, the operation * is that of the **Eight-Hexagram** Model.*
Each of the elements,

$(1,1),(1,5),(1,7),(1,8),(5,8),(7,8),(3,8),(3,1),$
$(2,2),(2,6),(2,8),(2,7),(6,7),(8,7),(4,7),(4,2),$
$(3,3),(3,7),(3,5),(3,6),(7,6),(5,6),(1,6),(1,3),$
$(4,4),(4,8),(4,6),(4,5),(8,5),(6,5),(2,5),(2,4),$
$(5,5),(5,1),(5,3),(5,4),(1,4),(3,4),(7,4),(7,5),$
$(6,6),(6,2),(6,4),(6,3),(2,3),(4,3),(8,3),(8,6),$
$(7,7),(7,3),(7,1),(7,2),(3,2),(1,2),(5,2),(5,7),$
$(8,8),(8,4),(8,2),(8,1),(4,1),(2,1),(6,1),(6,8),$
is called respectively
$Qian(1,1), Hou(1,5), Dun(1,7), Fou(1,8), Guan(5,8), Bo(7,8),$
$Jin(3,8), You(3,1);$
$Dui(2,2), Kun(2,6), Cui(2,8), Xian(2,7), Jian(6,7), Qian(8,7),$
$Xiao(4,7), Mei(4,2);$
$Li(3,3), Lv(3,7), Ding(3,5), Wei(3,6), Meng(7,6), Huan(5,6),$
$Song(1,6), Ren(1,3);$
$Zhen(4,4), Yu(4,8), Jie(4,6), Heng(4,5), Sheng(8,5), Jing(6,5),$
$Da(2,5), Sui(2,4);$
$Xun(5,5), Xu(5,1), Jia(5,3), Yi(5,4), Wang(1,4), He(3,4),$
$Yi(7,4), Gu(7,5);$
$Kan(6,6), Jie(6,2), Tun(6,4), Ji(6,3), Ge(2,3), Feng(4,3),$
$Ming(8,3), Shi(8,6);$
$Xun(5,5), Xu(5,1), Jia(5,3), Yi(5,4), Wang(1,4), He(3,4),$
$Yi(7,4), Gu(7,5);$
$Kan(6,6), Jie(6,2), Tun(6,4), Ji(6,3), Ge(2,3), Feng(4,3),$
$Ming(8,3), Shi(8,6);$
$Gen(7,7), Bi(7,3), Xu(7,1), Sun(7,2), Gui(3,2), Lv(1,2),$
$Fu(5,2), Jian(5,7);$
$Kun(8,8), Fu(8,4), Lin(8,2), Tai(8,1), Zhuang(4,1), Guai(2,1),$
$Xu(6,1), Bi(6,8);$
corresponding to the Chinese words respectively:
乾(1,1), 姤(1,5), 遁(1,7), 否(1,8), 观(5,8), 剥(7,8), 晋(3,8),
有(3,1);
兑(2,2), 困(2,6), 萃(2,8), 咸(2,7), 蹇(6,7), 谦(8,7), 小(4,7),
妹(4,2);
离(3,3), 旅(3,7), 鼎(3,5), 未(3,6), 蒙(7,6), 涣(5,6), 讼(1,6),
人(1,3);
震(4,4), 豫(4,8), 解(4,6), 恒(4,5), 升(8,5), 井(6,5), 大(2,5),
随(2,4);
巽(5,5), 畜(5,1), 家(5,3), 益(5,4), 妄(1,4), 嗑(3,4), 颐(7,4),
蛊(7,5);
坎(6,6), 节(6,2), 屯(6,4), 既(6,3), 革(2,3), 丰(4,3), 明(8,3),
师(8,6);
艮(7,7), 贲(7,3), 畜(7,1), 损(7,2), 睽(3,2), 履(1,2), 孚(5,2),
渐(5,7);
坤(8,8), 复(8,4), 临(8,2), 泰(8,1), 壮(4,1), 夬(2,1), 需(6,1),
比(6,8).
Also corresponding to the notations in Theorem **3.1**
respectively:

$K_X^+ (1,1),\ K_X^+ (1,5),\ K_X^+ (1,7),\ K_X^+ (1,8),\ K_X^+ (5,8),$
$K_X^+ (7,8),\ K_X^+ (3,8),\ K_X^+ (3,1);$

$K_X^- (2,2),\ K_X^- (2,6),\ K_X^- (2,8),\ K_X^- (2,7),\ K_X^- (6,7),$
$K_X^- (8,7),\ K_X^- (4,7),\ K_X^- (4,2);$

$X_S^- (3,3),\ X_S^- (3,7),\ X_S^- (3,5),\ X_S^- (3,6),\ X_S^- (7,6),$
$X_S^- (5,6),\ X_S^- (1,6),\ X_S^- (1,3);$

$X^+ (4,4),\ X^+ (4,8),\ X^+ (4,6),\ X^+ (4,5),\ X^+ (8,5),$
$X^+ (6,5),\ X^+ (2,5),\ X^+ (2,4);$

$X^- (5,5),\ X^- (5,1),\ X^- (5,3),\ X^- (5,4),\ X^- (1,4),$
$X^- (3,4),\ X^- (7,4),\ X^- (7,5);$

$S_X^+ (6,6),\ S_X^+ (6,2),\ S_X^+ (6,4),\ S_X^+ (6,3),\ S_X^+ (2,3),$
$S_X^+ (4,3),\ S_X^+ (8,3),\ S_X^+ (8,6);$

$X_K^+ (7,7),\ X_K^+ (7,3),\ X_K^+ (7,1),\ X_K^+ (7,2),\ X_K^+ (3,2),$
$X_K^+ (1,2),\ X_K^+ (5,2),\ X_K^+ (5,7);$

$X_K^- (8,8),\ X_K^- (8,4),\ X_K^- (8,2),\ X_K^- (8,1),\ X_K^- (4,1),$
$X_K^- (2,1),\ X_K^- (6,1),\ X_K^- (6,8).$

Here, each of the elements: X, X_S, X_K, K_X, S_X, *is called wood, fire, earth, metal, water, respectively, and this is* $*^+$ *Yang,* $*^-$ *is Yin. Each of sets:*
$K_X^+(*,*), K_X^-(*,*), X_S^-(*,*), X^+(*,*), X^-(*,*), S_X^+(*,*), X_K^+(*,*), X_K^-(*,*),$
is called Qian palace (乾宫)*, Dui palace* (兑宫)*, Li palace* (离宫)*, Zhen palace* (震宫)*, Xun palace* (巽宫)*, Kan palace* (坎宫)*, Gen palace* (艮宫)*, Kun palace* (坤宫) *respectively.*

This **Eight-Palaces** *are also called* **Eight Veins or Eight Extra Meridians.**
Each of elements:
$K_X^+(1,1), K_X^-(2,2), X_S^-(3,3), X^+(4,4), X^-(5,5), S_X^+(6,6), X_K^+(7,7), X_K^-(8,8),$ *is called the* **primordial spirit** (元神) *of Qian palace* (乾宫)*, Dui palace* (兑宫)*, Li palace* (离宫)*, Zhen palace* (震宫)*, Xun palace* (巽宫)*, Kan palace* (坎宫)*, Gen palace* (艮宫)*, Kun palace* (坤宫) *respectively.*

Each of elements:
$K_X^+(1,5), K_X^-(2,6), X_S^-(3,7), X^+(4,8), X^-(5,1), S_X^+(6,2), X_K^+(7,3), X_K^-(8,4),$ *is called the* **First generation** (一世) *of Qian palace* (乾宫)*, Dui palace* (兑宫)*, Li palace* (离宫)*, Zhen palace* (震宫)*, Xun palace* (巽宫)*, Kan palace* (坎宫)*, Gen palace* (艮宫)*, Kun palace* (坤宫) *respectively.*

Each of elements :
$K_X^+(1,7), K_X^-(2,8), X_S^-(3,5), X^+(4,6), X^-(5,3), S_X^+(6,4), X_K^+(7,1), X_K^-(8,2),$ *is called the* **Second generation** (二世) *of Qian palace* (乾宫)*, Dui palace* (兑宫)*, Li palace* (离宫)*, Zhen palace* (震宫)*, Xun palace* (巽宫)*, Kan palace* (坎宫)*, Gen palace* (艮宫)*, Kun palace* (坤宫) *respectively.*

Each of elements:
$K_X^+(1,8), K_X^-(2,7), X_S^-(3,6), X^+(4,5), X^-(5,4), S_X^+(6,3), X_K^+(7,2), X_K^-(8,1),$ *is called the* **Third generation** (三世) *of Qian palace* (乾宫)*, Dui palace* (兑宫)*, Li palace* (离宫)*, Zhen palace* (震宫)*, Xun palace* (巽宫)*, Kan palace*

(坎宫) ,*Gen palace* (艮宫)，*Kun palace* (坤宫) *respectively.*

Each of elements:
$K_X^+(5,8), K_X^-(6,7), X_S^-(7,6), X^+(8,5), X^-(1,4), S_X^+(2,3), X_K^+(3,2), X_K^-(4,1),$ *is called the* **Fourth generation** (四世) *of Qian palace* (乾宫) ,*Dui palace* (兑宫) ,*Li palace* (离宫) ,*Zhen palace* (震宫) ,*Xun palace* (巽宫) ,*Kan palace* (坎宫) ,*Gen palace* (艮宫)， *Kun palace* (坤宫) *respectively.*

Each of elements:
$K_X^+(7,8), K_X^-(8,7), X_S^-(5,6), X^+(6,5), X^-(3,4), S_X^+(4,3), X_K^+(1,2), X_K^-(2,1),$ *is respectively called the* **Fifth generation** (五世) *of Qian palace* (乾宫) ,*Dui palace* (兑宫) ,*Li palace* (离宫) ,*Zhen palace* (震宫) ,*Xun palace* (巽宫) ,*Kan palace* (坎宫) ,*Gen palace* (艮宫)， *Kun palace* (坤宫).

Each of elements:
$K_X^+(3,8), K_X^-(4,7), X_S^-(1,6), X^+(2,5), X^-(7,4), S_X^+(8,3), X_K^+(5,2), X_K^-(6,1),$ *is respectively called the* **Wandering soul** (游魂) *of Qian palace* (乾宫) ,*Dui palace* (兑宫) ,*Li palace* (离宫) ,*Zhen palace* (震宫) ,*Xun palace* (巽宫) ,*Kan palace* (坎宫) ,*Gen palace* (艮宫)， *Kun palace* (坤宫).

Each of elements :
$K_X^+(3,8), K_X^-(4,7), X_S^-(1,6), X^+(2,5), X^-(7,4), S_X^+(8,3), X_K^+(5,2), X_K^-(6,1),$ *is respectively called the* **Return of the soul** (归魂) *of Qian palace* (乾宫) ,*Dui palace* (兑宫) ,*Li palace* (离宫) ,*Zhen palace* (震宫) ,*Xun palace* (巽宫) ,*Kan palace* (坎宫) ,*Gen palace* (艮宫)， *Kun palace* (坤宫).

In the **Eight-Palaces or Eight Veins or Eight Extra Meridians** *, Yang is respectively:*
Qian palace (乾宫)， *Kan palace* (坎宫)， *Gen palace* (艮宫)， *Zhen palace* (震宫).

Yin is respectively:
Kun palace (坤宫)，*Li palace* (离宫)，*Dui palace* (兑宫)，*Xun palace* (巽宫).

Yin is in the inside (里)，*Yang is in the outside* (表) . *The relationship between the inside and the outside is the symmetrical relationship.*

In the **Eight-Palaces or Eight Veins or Eight Extra Meridians**, *other names of them are corresponding to the human body organs respectively:*
Belt Vessel (带脉) *as Qian palace* (乾宫) $K_X^+(*,*)$: *Link Foot shaoyang Gallbladder meridian* $X^+(0,e)$ (足少阳胆经)，*in order to maintain the security of* X .

Yin Link Vessel (阴维脉) *as Dui palace* (兑宫) $K_X^-(*,*)$: *Link Hand jueyin pericardium meridian* $X_S^{x-}(1,(23))$ (手厥阴心包经) *and associated Foot shaoyang Gallbladder meridian* $X^+(0,e)$

(足少阳胆经) *of Qian palace* (乾宫)，*in order to maintain the security of* X_S^{x-} *and* X .

Ren Vessel (任脉) *as Li palace* (离宫) $X_S^-(*,*)$: *Link Hand taiyin lung meridian* $K_X^-(1,(132))$ (手太阴肺经)，*in order to maintain the security of* K_X .

Yang Link Vessel (阳维脉) *as Zhen palace* (震宫) $X^+(*,*)$: *Link Hand shaoyang triple energizer meridian* $X_S^{x+}(1,e)$ (手少阳三焦经) *and associated Hand taiyin lung meridian* $K_X^-(1,(132))$ (手太阴肺经) *of Li palace* (离宫) $X_S^-(*,*)$，*in order to absorb the energy of* X_S^{x+} *and to maintain the security of* K_X .

Yang cross Vessel (阳跷脉) *as Xun palace* (巽宫) $X^-(*,*)$: *Link Foot taiyang bladder meridian* $S_X^+(0,(13))$ (足太阳膀胱经) *and associated Hand taiyin lung meridian* $K_X^-(1,(132))$ (手太阴肺经) *of Li palace* (离宫) $X_S^-(*,*)$，*in order to absorb the energy of* S_X^+ *and to maintain the security of* K_X .

Impact Vessel (冲脉) *as Kan palace* (坎宫) $S_X^+(*,*)$: *Link Foot taiyin spleen meridian* $X_K^-(0,(132))$ (足太阴脾经)，*in order to maintain the security of* X_K .

Governor Vessel (督脉) *as Gen palace* (艮宫) $X_K^+(*,*)$: *Link Hand taiyang small intestine meridian* $X_S^{j+}(1,(13))$ (手太阳小肠经) *and associated Foot shaoyin kidney meridian* $S_X^-(0,(123))$ (足少阴肾经) *of Kun palace* (坤宫)，*in order to maintain the security of* X_S^j *and* S_X .

Yin cross Vessel (阴跷脉) *as Kun palace* (坤宫) $X_K^-(*,*)$: *Link Foot shaoyin kidney meridian* $S_X^-(0,(123))$ (足少阴肾经) ,*in order to maintain the security of* S_X^- .

The laws of **Zangxiang, Six-fu, Ten stems hiden behind Twelve branches, Eight-Palaces or Eight Veins or Eight Extra Meridians** *are summarized in* *Figures 2- 5.*#

In TCE, the model of **Eight-Palaces or Eight Veins or Eight Extra Meridians** is not only the anatomy systems as the first physiological system corresponding to their steady multilateral systems, is but also it the economic logic model. If there are the **Eight-Hexagram** model V^8 , then the model of **Eight-Palaces or Eight Veins or Eight Extra Meridians** $V^8 \times V^8$ must be exist in logic. So they form a parasitic system of the Yin Yang Wu Xing system V^5 , namely the second physiological system of the steady multilateral systems $V^8 \times V^8$.

In TCE, in spite of the Zangxiang model cannot be observed, but Jingluo model or Six Fus can. Thus it can be reasoned according to the system reasoning of *Eight-Palaces or Eight Veins or Eight Extra Meridians*. So the system logic relation of both the ten heavenly stems, the twelve earthly branches and the *Eight-Palaces or Eight Veins or Eight Extra Meridians* must be known.

Definition 3.2 (Logic relation between the ten heavenly stems, the twelve earthly branches and the Eight-Palaces)
Logic relations of Ten heavenly stems, Twelve earthly branches hidden behind the **Eight-Palaces** *must follow the relationship between the symmetry of the Eight-Hexagram elements.*

All logic relations of that both ten heavenly stems and twelve earthly branches are hidden behind the Eight-Hexagram elements are summarized in Table 1.#

See Table 1., all pure Yang: Ren-Jia, Wu, Bing, Geng of Ten Heavenly Stems are hidden behind all pure Yang: Qian, Kan, Gen, Zhen of the Eight-Hexagram;all pure Yin: Gui-Yi, Ji, Ding, Xin of Ten Heavenly Stems are hidden behind clockwise all pure Yin: Qun, Li, Gui, Xun of the Eight-Hexagram.

All pure Yang: Wu-Zi, Xu-Chen, Shen-Yin, Wu-Zi of twelve earthly branches are hidden behind all pure Yang: Qian, Kan, Gen, Zhen of the Eight-Hexagram;all pure Yin: Chou-Wei, Hai-Si, You-Mao,Wei-Chou of twelve earthly branches are hidden behind counterclockwise all pure Yin: Qun, Li, Gui, Xun of the Eight-Hexagram.

Example 2.1. The name of the primordial spirit of Qian Palace is

$K_X^+(1,1) = K_X^+$ (Outside of Qian, Inside of Qian) =

(Qian Ren Xu, Qian Ren Shen, Qian Ren Wu;

Qian Jia Chen, Qian Jia Yin, Qian Jia Zi).

The name of the two generation of Dui Palace is

$K_X^-(2,8) = K_X^-$ (Outside of Dui, Inside of Qun) =

(Dui Ding Si, Dui Ding Wei, Dui Ding You ;

 Qun Yi Mao, Qun Yi Si, Qun Yi Wei).

All eight palace elements for naming can use the following formula.

 Eight-Hexagram+Ten Stems+Twelve Branches.#

Definition 3.3. (The Energy of Eight-Palaces or Eight Veins or Eight Extra Meridians)
Suppose that the each Hexagram-image of **Eight-Palaces** *is represented as six dimensional vector:*
$f = (f_1, f_2, f_3, f_4, f_5, f_6), \; f_i \in \{1,-1\}, \; i=1,2,3,4,5,6.$
Then the following number is called the energy of the Hexagram-image.

$e_f = ((|f_1|+f_1)/2)2^5 + ((|f_2|+f_2)/2)2^4 + ((|f_3|+f_3)/2)2^3$

$+ ((|f_4|+f_4)/2)2^2 + ((|f_5|+f_5)/2)2^1 + ((|f_6|+f_6)/2),$

$f_i \in \{1,-1\}, \; i=1,2,3,4,5,6.\#$

Property 3.1. *The energy of the each Hexagram-image of* **Eight-Palaces** *and their average value and the standard deviation is as follows respectively.*

(1) *Qian(乾)=*

f_1	f_2	f_3	f_4	f_5	f_6	energy	image	palace
1	1	1	1	1	1	63	0	1
1	1	1	1	1	−1	62	1	1
1	1	1	1	−1	−1	60	2	1
1	1	1	−1	−1	−1	56	3	1
1	1	−1	−1	−1	−1	48	4	1
1	−1	−1	−1	−1	−1	32	5	1
1	−1	1	−1	−1	−1	40	6	1
1	−1	1	1	1	1	47	7	1

The average energy is equal to 51.0 and the standard deviation of energy is equal to 11.20.

(2) *Dui(兑)=*

f_1	f_2	f_3	f_4	f_5	f_6	energy	image	palace
−1	1	1	−1	1	1	27	0	2
−1	1	1	−1	1	−1	26	1	2
−1	1	1	−1	−1	−1	24	2	2
−1	1	1	1	−1	−1	28	3	2
−1	1	−1	1	−1	−1	20	4	2
−1	−1	−1	1	−1	−1	4	5	2
−1	−1	1	1	−1	−1	12	6	2
−1	−1	1	−1	1	1	11	7	2

The average energy is equal to 19.0 and the standard deviation of energy is equal to 8.93.

(3) *Li(离)=*

f_1	f_2	f_3	f_4	f_5	f_6	energy	image	palace
1	−1	1	1	−1	1	45	0	3
1	−1	1	1	−1	−1	44	1	3
1	−1	1	1	1	−1	46	2	3
1	−1	1	−1	1	−1	42	3	3
1	−1	−1	−1	1	−1	34	4	3
1	1	−1	−1	1	−1	50	5	3
1	1	1	−1	1	−1	58	6	3
1	1	1	1	−1	1	61	7	3

The average energy is equal to 47.5 and the standard deviation of energy is equal to 8.72.

(4) *Zhen(震)=*

f_1	f_2	f_3	f_4	f_5	f_6	energy	image	palace
−1	−1	1	−1	−1	1	9	0	4
−1	−1	1	−1	−1	−1	8	1	4
−1	−1	1	−1	1	−1	10	2	4
−1	−1	1	1	1	−1	14	3	4
−1	−1	−1	1	1	−1	6	4	4
−1	1	−1	1	1	−1	22	5	4
−1	1	1	1	1	−1	30	6	4
−1	1	1	−1	−1	1	25	7	4

The average energy is equal to 15.5 and the standard deviation of energy is equal to 8.98.

(5) *Xun(巽)=*

f_1	f_2	f_3	f_4	f_5	f_6	energy	image	palace
1	1	−1	1	1	−1	54	0	5
1	1	−1	1	1	1	55	1	5
1	1	−1	1	−1	1	53	2	5
1	1	−1	−1	−1	1	49	3	5
1	1	1	−1	−1	1	57	4	5
1	−1	1	−1	−1	1	41	5	5
1	−1	−1	−1	−1	1	33	6	5
1	−1	−1	1	1	−1	38	7	5

The average energy is equal to 47.5 and the standard deviation of energy is equal to 8.98.

(6)Kan(坎)=

f_1	f_2	f_3	f_4	f_5	f_6	energy	image	palace
−1	1	−1	−1	1	−1	18	0	6
−1	1	−1	−1	1	1	19	1	6
−1	1	−1	−1	−1	1	17	2	6
−1	1	−1	1	−1	1	21	3	6
−1	1	1	1	−1	1	29	4	6
−1	−1	1	1	−1	1	13	5	6
−1	−1	−1	1	−1	1	5	6	6
−1	−1	−1	−1	1	−1	2	7	6

The average energy is equal to 15.5 and The standard deviation of energy is equal to 8.72.

(7)Gen(艮)=

f_1	f_2	f_3	f_4	f_5	f_6	energy	image	palace
1	−1	−1	1	−1	−1	36	0	7
1	−1	−1	1	−1	1	37	1	7
1	−1	−1	1	1	1	39	2	7
1	−1	−1	−1	1	1	35	3	7
1	−1	1	−1	1	1	43	4	7
1	1	1	−1	1	1	59	5	7
1	1	−1	−1	1	1	51	6	7
1	1	−1	1	−1	−1	52	7	7

The average energy is equal to 44.0 and the standard deviation of energy is equal to 8.93.

(8)Kun(坤)=

f_1	f_2	f_3	f_4	f_5	f_6	energy	image	palace
−1	−1	−1	−1	−1	−1	0	0	8
−1	−1	−1	−1	−1	1	1	1	8
−1	−1	−1	−1	1	1	3	2	8
−1	−1	−1	1	1	1	7	3	8
−1	−1	1	1	1	1	15	4	8
−1	1	1	1	1	1	31	5	8
−1	1	−1	1	1	1	23	6	8
−1	1	−1	−1	−1	−1	16	7	8

The average energy is equal to 12.0 and the standard deviation of energy is equal to 11.20.

(9)The energy of all eight palaces total average and total standard deviation is as follows respectively.

palace	average	deviation	palace	average	deviation
Qian	51.00	11.20	**Kun**	12.00	11.20
Kan	15.50	8.72	**Li**	47.50	8.72
Gen	44.00	8.93	**Dui**	19.00	8.93
Zhen	15.50	8.98	**Xun**	47.50	8.98

The energy balance

$(11.20 = 11.20, 8.72 = 8.72, 8.93 = 8.93, 8.98 = 8.98)$

between the standard deviation of all symmetrical palaces shows that the distribution of the energy is reasonable.

The energy difference

$(11.2 = \textbf{max}(11.2, 8.72, 8.73, 8.93)$

$< 12.0 = \textbf{min}(51.00, 12.00, 15.50, 47.50, 44.00, 19.00))$

between the standard deviation and the average of all palaces shows that the classification of the energy is reasonable.

(10)The energy of all Eight palaces total average is equal to 31.5 and the energy of all Eight palaces total standard deviation is equal to 18.62.

The energy of first four hexagrams of all palaces total average is equal to 31.5 and the energy of first four hexagrams of all palaces total standard deviation is equal to 17.93.

The energy of last four hexagrams of all palaces total average energy is equal to 31.5 and the energy of last four hexagrams of all palaces total standard deviation is equal to 19.58.

The energy balance $(31.5 = 31.5 = 31.5)$ of total average between all palaces, the first four hexagrams of all palaces and the last four hexagrams energy of all palaces shows that the distribution of energy is reasonable.

The energy difference

$(19.58 = \textbf{max}(18.62, 17.35, 19.58) < 31.5)$

of total standard deviation and total average between all palaces, the first four hexagrams of all palaces and the last four hexagrams energy of all palaces shows that the classification of the energy is reasonable.

(11)The energy of all outsider and insider palaces total average and total standard deviation is in *Table 2*, respectively.

The energy balance

$(7.41 = 7.41, 12.10 = 12.10, 6.55 = 6.55, 10.37 = 10.37;$

$3.10 = 3.10, 1.71 = 1.71, 1.71 = 1.71, 2.63 = 2.63)$

between the standard deviation of all symmetrical outsider and insider palaces shows that the distribution of the energy is reasonable.

The energy difference

$(10.37 = \textbf{max}(7.41, 12.10, 6.55, 10.37)$

$< 11.75 = \textbf{min}(41.75, 21.25, 12.25, 50.75, 36.75, 11.75, 20.75, 42.25);$

$2.63 = \textbf{max}(1.71, 2.63)$

$< 2.75 = \textbf{min}(60.25, 2.75, 18.75, 44.25, 51.25, 26.25, 10.25, 52.75))$

between the standard deviation and the average of all symmetrical outsider or insider palaces shows that the classification of the energy is reasonable. #

Energy concept is an important concept in Physics. Zhang etc [21] introduce this concept to the steady multilateral systems or image mathematics [20] and use these concepts to deal with the steady multilateral system diseases (economic index too high or too low). In mathematics, a steady multilateral system is said to have **Energy** (or **Dynamic**) if there is a non-negative function $\varphi(*)$ which makes every subsystem meaningful of the steady multilateral system. Similarly to Zhang etc [21], unless stated otherwise, any equivalence relation is the liking relation, any neighboring relation is the loving relation, and any alternate relation is the killing relationship.

Suppose that V is a steady multilateral system having an energy, then V in the steady multilateral system during a

normal operation, its energy function for any subsystem of the steady multilateral system has an **average** (or **expected value** in Statistics), this state is called as **normal** when the energy function is nearly to the average. Normal state is the better state.

That a subsystem of the steady multilateral system is **not running properly** (or **disease**, **abnormal**) is that the energy deviation from the average of the subsystems is too large, the high (**real disease**) or the low (**virtual disease**).

In addition to study these real or virtual diseases, TCE is often not only considered the energy change (Attaining or Affording in Zhang [23]) of each element in the corresponding group, but also studied a kind of **relation costs**. There are three kinds of relationship between each two elements of **the Eight-Palaces or Eight Extra Meridians or Eight Veins** system, namely the **merged**, **synthesized** and **combined**.

The **merged** relationship between two the same elements x and y is the joining operation in a set, i.e., $\{x\} \cup \{y\} = \{z\}$. The element z is the result of two the same elements x and y merging. The purpose of merging is in order to get the large result energy of element z through inputting two the same elements x and y.

The **synthesized** relationship between two elements x and y is the multiply operation in the corresponding group system with a multiplication *, i.e., $x * y = z$. The element z is the result of two elements x and y synthesized. The purpose of synthesized is in order to get the result energy of element z through inputting two elements x and y.

The **combined** relationship between two elements x and y is the division operation in the corresponding group system with a multiplication *, i.e., $x^{-1} * y = z$. The element z is the cost of two elements x and y combined. The purpose of combined is in order to maintain or strengthen the relation between x and y through inputting the cost element z. But in **the Eight-Palaces or Eight Extra Meridians or Eight Veins** system, the **synthesized** and **combined** operations are the same since $x^{-1} = x$.

In general, a relationship cost is low if the cost element in the corresponding group is easy to get. A relationship cost is high, on the other hand, if the cost element in the corresponding is hard to come by.

In this case, in general, the one of PACGGF inflation rates $x \in [a, b]$ which means $\rho_0 \le \rho_1 = \rho(x) \le 1$. This relation cost is low because this relation cost element is easy to get. The low relation cost can make the intervention increasing the sizes of both the intervention reaction coefficients ρ_1, ρ_2 and the self-protection coefficient ρ_3.

But in general, the one of PACGGF inflation rates $x \notin [a, b]$ which means $0 < \rho_1 = \rho(x) < \rho_0$. This relation cost is high because the relation cost element is hard to come by. The high relation cost can make the sizes of both the intervention reaction coefficients ρ_1, ρ_2 and the self-protection coefficient ρ_3 decreasing response to intervention.

The purpose of intervention is to make the steady multilateral system return to normal state. The method of intervention is to increase or decrease the energy of a subsystem.

What kind of intervening should follow the principle to treat it? Western economics emphasizes directly economic treatments on a disease subsystem after the disease of subsystem has occurred, but the indirect intervening of oriental economics is required before the disease of subsystem will occur. In mathematics, which is more reasonable?

Based on this idea, many issues are worth further discussion. For example, if an intervening has been implemented to a disease subsystem before the disease of subsystem will occur, what relation disease will be low cost which does not need to be intervened? what relation disease will be high cost which needs to be intervened?

3.2 Kinds of Relationship costs of Steady Multilateral Systems

For a steady multilateral system V with two incompatibility relations, suppose that the subsystems X, X_S, X_K, K_X, S_X are the same as those defined in Theorem **3.1**. Then the relation diseases can be decomposed into the following classes:

Definition 3.4 (merged （合并）, synthesized （合化或者合成） and combined （化合）) *Suppose that both x and y are two elements of system of* **the Eight-Palaces** *or* **Eight Extra Meridians** *or* **Eight Veins**.

The **merged** *relationship between two the same elements x and y is the joining operation in a set, i.e., $\{x\} \cup \{y\} = \{z\}$. The element z is the result of two the same elements x and y merging. The purpose of merging is in order to get the large result energy of element z through inputting two the same elements x and y.*

The **synthesized** *relationship between two elements x and y is the multiply operation in the corresponding group system with a multiplication *, i.e., $x * y = z$. The element z is the result of two elements x and y synthesized. The purpose of synthesized is in order to get the result energy of element z through inputting two elements x and y.*

The **combined** *relationship between two elements x and y is the division operation in the corresponding group system with a multiplication *, i.e., $x^{-1} * y = z$. The element z is the cost of two elements x and y combined. The purpose of combined is in order to maintain or strengthen the relation between x and y through inputting the cost element z.*

The **synthesized** *and* **combined** *operations in system* **the Eight-Palaces** *or* **Eight Veins** *or* **Eight Extra Meridians** *are the same since $x^{-1} = x$. #*

Property 3.2 *Suppose that both x and y are two elements of system of* **the Eight-Palaces** *or* **Eight Veins** *or* **Eight Extra Meridians**. *Then the following statements are true.*

(1) The **synthesized** *and* **combined** *relationships of the* **Eight-Palaces** *or* **Eight Veins** *or* **Eight Extra Meridians** *at low costs is as follows:*

Even if all changed, it is hard to change one's Qian palace nature.

Qian(1,1),Hou(1,5),Dun(1,7),Fou(1,8),Guan(5,8),Bo(7,8), Jin(3,8),You(3,1);

Qian(1,1)$^{\pm1}$*Hou(1,5)=Fu(8,4)=X_K^-(8,4) as the energy 1.

Hou(1,5)$^{\pm1}$*Dun(1,7)=Shi(8,6) = S_X^+(8,6) as the energy 2.

Dun(1,7)$^{\pm1}$*Fou(1,8)=Qian(8,7) = K_X^-(8,7) as the energy 4.

Fou(1,8)$^{\pm1}$*Guan(5,8)=Yu(4,8) = X^+(4,8) as the energy 8.

Guan(5,8)$^{\pm1}$*Bo(7,8)=Bi(6,8) = X_K^-(6,8) as the energy 16.

Bo(7,8)$^{\pm1}$*Jin(3,8)=Yu(4,8) = X^+(4,8) as the energy 8.

Jin(3,8)$^{\pm1}$*You(3,1)=Tai(8,1) = X_K^-(8,1) as the energy 7.

You(3,1)$^{\pm1}$*Qian(1,1)=Bi(6,8) = X_K^-(6,8) as the energy 16.

One's Qian Palace nature is Hou(姤)(1,5), Dun(遁)(1,7), Fu(否)(1,8), Guan(观)(5,8), Bo(剥)(7,8), Jin(晋)(3,8), You(有)(3,1). They mean :This father saw the beauty to hide away of Hou(姤)(1,5), to stop hiding behind any thing of Dun(遁)(1,7), and to other people's advice to veto ability of Fu(否)(1,8). Strong ability to observe things around of Guan(观)(5,8), seizes the chance to have exploited actively of Bo(剥)(7,8), and creates life by leaps and bounds promotion of Jin(晋)(3,8). Finally will achieve great wealth of You(有)(3,1).

Even if all changed, it is hard to change one's Dui palace nature.

Dui(2,2),Kun(2,6),Cui(2,8),Xian(2,7),Jian(6,7),Qian(8,7), Xiao(4,7),Mei(4,2);

Dui(2,2)$^{\pm1}$*Kun(2,6)=Fu(8,4)=X_K^-(8,4) as the energy 1.

Kun(2,6)$^{\pm1}$*Cui(2,8)=Shi(8,6) = S_X^+(8,6) as the energy 2.

Cui(2,8)$^{\pm1}$*Xian(2,7)=Qian(8,7) = K_X^-(8,7) as the energy 4.

Xian(2,7)$^{\pm1}$*Jian(6,7)=Yu(4,8) = X^+(4,8) as the energy 8.

Jian(6,7)$^{\pm1}$*Qian(8,7)=Bi(6,8) = X_K^-(6,8) as the energy 16.

Qian(8,7)$^{\pm1}$*Xiao(4,7)=Yu(4,8) = X^+(4,8) as the energy 8.

Xiao(4,7)$^{\pm1}$*Mei(4,2)=Tai(8,1) = X_K^-(8,1) as the energy 7.

Mei(4,2)$^{\pm1}$*Dui(2,2)=Bi(6,8) = X_K^-(6,8) as the energy 16.

One's Dui Palace nature is Kun(困)(2,6), Cui(萃)(2,8), Xian(咸)(2,7), Jian(蹇)(6,7), Qian(谦)(8,7), Xiao(小)(4,7), Mei(妹)(4,2). They mean : The young daughter life is difficult of Kun(困)(2,6), but her thinking to excel of Cui(萃)(2,8), and to help know gratitude of Xian(咸)(2,7). Because things are difficult of Jian(蹇)(6,7), to deal with things more modest low-key of Qian(谦)(8,7), and cause life is too small clearance into small chance of Xiao(小)(4,7). Finally its best chance is to find a good husband get married of Mei(妹)(4,2).

Even if all changed, it is hard to change one's Li palace nature.

Li(3,3),Lv(3,7),Ding(3,5),Wei(3,6),Meng(7,6),Huan(5,6), Song(1,6),Ren(1,3);

Li(3,3)$^{\pm1}$*Lv(3,7)=Fu(8,4)=X_K^-(8,4) as the energy 1.

Lv(3,7)$^{\pm1}$*Ding(3,5)=Shi(8,6) = S_X^+(8,6) as the energy 2.

Ding(3,5)$^{\pm1}$*Wei(3,6)=Qian(8,7) = K_X^-(8,7) as the energy 4.

Wei(3,6)$^{\pm1}$*Meng(7,6)=Yu(4,8) = X^+(4,8) as the energy 8.

Meng(7,6)$^{\pm1}$*Huan(5,6)=Bi(6,8) = X_K^-(6,8) as the energy 16.

Huan(5,6)$^{\pm1}$*Song(1,6),=Yu(4,8) = X^+(4,8) as the energy 8.

Song(1,6)$^{\pm1}$*Ren(1,3)=Tai(8,1) = X_K^-(8,1) as the energy 7.

Ren(1,3)$^{\pm1}$*Li(3,3)=Bi(6,8) = X_K^-(6,8) as the energy 16.

One's Li Palace nature is Lv(旅)(3,7), Ding(鼎)(3,5), Wei(未)(3,6), Huan(蒙)(7,6), Huan(涣)(5,6), Song(讼)(1,6), Ren(人)(1,3). They mean : The middle-aged daughter good nature tourism of Lv(旅)(3,7), but parents are loyal to leadership of Ding(鼎)(3,5), work like don't like quiet of Wei(未)(3,6). Because like illuminating new things of

Huan(蒙)(7,6), do things distractions to focus on one thing for a long time of Huan(涣)(5,6), and a natural but argue action ability of the brain of Song(讼)(1,6). Finally her excellent interpersonal relationship of Ren(人)(1,3).

Even if all changed, it is hard to change one's Zhen palace nature.

Zhen(4,4),Yu(4,8),Jie(4,6),Heng(4,5),Sheng(8,5),Jing(6,5), Da(2,5),Sui(2,4);

Zhen(4,4)$^{\pm1}$*Yu(4,8)=Fu(8,4) = X_K^-(8,4) as the energy 1.

Yu(4,8)$^{\pm1}$*Jie(4,6)=Shi(8,6) = S_X^+(8,6) as the energy 2.

Jie(4,6)$^{\pm1}$*Heng(4,5)=Qian(8,7) = K_X^-(8,7) as the energy 4.

Heng(4,5)$^{\pm1}$*Sheng(8,5)=Yu(4,8) = X^+(4,8) as the energy 8.

Sheng(8,5)$^{\pm1}$*Jing(6,5)=Bi(6,8) = X_K^-(6,8) as the energy 16.

Jing(6,5)$^{\pm1}$*Da(2,5)=Yu(4,8) = X^+(4,8) as the energy 8.

Da(2,5)$^{\pm1}$*Sui(2,4)=Tai(8,1) = X_K^-(8,1) as the energy 7.

Sui(2,4)$^{\pm1}$*Zhen(4,4)=Bi(6,8) = X_K^-(6,8) as the energy 16.

One's Zhen Palace nature is Yu(豫)(4,8), Jie(解)(4,6), Heng(恒)(4,5), Sheng(升)(8,5), Jing(井)(6,5), Da(大)(2,5), Sui(随)(2,4). They mean : The older son has nature feeling ability of Yu(豫)(4,8), to put their own interpretation did not solve the problem like and view of,Jie(解)(4,6), but to do things with perseverance of Heng(恒)(4,5). Life opportunities under normal rising of Sheng(升)(8,5), handles affairs in order of Jing(井)(6,5), and causes the life with the mark of luck of Da(大)(2,5). Finally it is the excellent random strain capacity of Sui(随)(2,4).

Even if all changed, it is hard to change one's Xun palace nature.

Xun(5,5),Xu(5,1),Jia(5,3),Yi(5,4),Wang(1,4),He(3,4), Yi(7,4),Gu(7,5);

Xun(5,5)$^{\pm1}$*Xu(5,1)=Fu(8,4) = X_K^-(8,4) as the energy 1.

Xu(5,1)$^{\pm1}$*Jia(5,3)=Shi(8,6) = S_X^+(8,6) as the energy 2.

Jia(5,3)$^{\pm1}$*Yi(5,4)=Qian(8,7) = K_X^-(8,7) as the energy 4.

Yi(5,4)$^{\pm1}$*Wang(1,4)=Yu(4,8) = X^+(4,8) as the energy 8.

Wang(1,4)$^{\pm1}$*He(3,4)=Bi(6,8) = X_K^-(6,8) as the energy 16.

He(3,4)$^{\pm1}$*Yi(7,4)=Yu(4,8) = X^+(4,8) as the energy 8.

Yi(7,4)$^{\pm1}$*Gu(7,5)=Tai(8,1) = X_K^-(8,1) as the energy 7.

Gu(7,5)$^{\pm1}$*Xun(5,5)=Bi(6,8) = X_K^-(6,8) as the energy 16.

One's Xun Palace nature is Xu(畜)(5,1), Jia(家)(5,3), Yi(益)(5,4), Wang(妄)(1,4), He(嗑)(3,4), Yi(颐)(7,4), Gu(蛊)(7,5). They mean : The older daughter likes a small amount of saving money of Xu(畜)(5,1), more attention to a family of Jia(家)(5,3), and friends can get income from her of Yi(益)(5,4). But her own delusion has a greater chance of making a fortune of Wang(妄)(1,4), doing thing hesitant of He(嗑)(3,4), if a delusion of convergence, then she will inspire the live of Yi(颐)(7,4). Final convergence delusion if not, then she can often be loved ones under the method of deception of Gu(蛊)(7,5).

Even if all changed, it is hard to change one's Kan palace nature.

Kan(6,6),Jie(6,2),Tun(6,4),Ji(6,3),Ge(2,3),Feng(4,3), Ming(8,3),Shi(8,6);

Kan(6,6)$^{\pm1}$*Jie(6,2)=Fu(8,4) = X_K^-(8,4) as the energy 1.

Jie(6,2)$^{\pm1}$*Tun(6,4)=Shi(8,6) = S_X^+(8,6) as the energy 2.

Tun(6,4)$^{\pm1}$*Ji(6,3)(8,7)=Qian(8,7) = K_X^-(8,7) as the energy 4.

Ji(6,3)$^{\pm1}$*Ge(2,3)=Yu(4,8) = X^+(4,8) as the energy 8.

Ge(2,3)$^{\pm1}$*Feng(4,3)=Bi(6,8) = X_K^-(6,8) as the energy 16.

Feng(4,3)$^{\pm1}$*Ming(8,3)=Yu(4,8) = X^+(4,8) as the energy 8.

Ming(8,3)$^{\pm1}$*Shi(8,6)=Tai(8,1) = X_K^-(8,1) as the energy 7.

Shi(8,6)$^{\pm1}$*Kan(6,6)=Bi(6,8) = X_K^-(6,8) as the energy 16.

One's Kan Palace nature is Jie(节)(6,2), Tun(屯)(6,4), Ji(既)(6,3), Ge(革)(2,3), Feng(丰)(4,3), Ming(明)(8,3), Shi(师)(8,6). They mean : The middle-aged son loves to save of Jie(节)(6,2),and be good at hoarding supplies of Tun(屯)(6,4), and doing things according to the established things of Ji(既)(6,3). But he changes the ability strong of Ge(革)(2,3), change can also get a harvest of Feng(丰)(4,3), and can see to understand a lot of things of Ming(明)(8,3). Finally the person good at word and willing to teachers of Shi(师)(8,6).

Even if all changed, it is hard to change one's Gen palace nature.
Gen(7,7),Bi(7,3),Xu(7,1),Sun(7,2),Gui(3,2),Lv(1,2),
Fu(5,2),Jian(5,7);

Gen(7,7)$^{\pm 1}$*Bi(7,3)=Fu(8,4) = $X_X^-(8,4)$ as the energy 1.

Bi(7,3)$^{\pm 1}$*Xu(7,1)=Shi(8,6) = $S_X^+(8,6)$ as the energy 2.

Xu(7,1)$^{\pm 1}$*Sun(7,2)=Qian(8,7) = $K_X^-(8,7)$ as the energy 4.

Sun(7,2)$^{\pm 1}$*Gui(3,2)=Yu(4,8) = $X^+(4,8)$ as the energy 8.

Gui(3,2)$^{\pm 1}$*Lv(1,2)=Bi(6,8) = $X_X^-(6,8)$ as the energy 16.

Lv(1,2)$^{\pm 1}$*Fu(5,2)=Yu(4,8) = $X^+(4,8)$ as the energy 8.

Fu(5,2)$^{\pm 1}$*Jian(5,7)=Tai(8,1) = $X_K^-(8,1)$ as the energy 7.

Jian(5,7)$^{\pm 1}$*Gen(7,7)=Bi(6,8) = $X_K^-(6,8)$ as the energy 16.

One's Gen Palace nature is Bi(贲)(7,3), Xu(畜)(7,1), Sun(损)(7,2), Gui(睽)(3,2), Fu(履)(1,2), Fu(孚)(5,2), Jian(渐)(5,7). They mean : The young son works hard and likes to do all the things by the recognition of Bi(贲)(7,3), and is good at saving a lot of money of Xu(畜)(7,1), and do things get damaged income also not care of Sun(损)(7,2). But he is difficult to get the respect they deserve of Gui(睽)(3,2), to be honest to fulfill a commitment of Fu(履)(1,2), and life the pursuit of a smooth transition of Fu(孚)(5,2). Finally the status of the growth of life often is gradually rising slowly of Jian(渐)(5,7).

Even if all changed, it is hard to change one's Gen palace nature.
Kun(8,8),Fu(8,4),Lin(8,2),Tai(8,1),Zhuang(4,1),Guai(2,1),
Xu(6,1),Bi(6,8).

Kun(8,8)$^{\pm 1}$*Fu(8,4)=Fu(8,4) = $X_K^-(8,4)$ as the energy 1.

Fu(8,4)$^{\pm 1}$*Lin(8,2)=Shi(8,6) = $S_X^+(8,6)$ as the energy 2.

Lin(8,2)$^{\pm 1}$*Tai(8,1)=Qian(8,7) = $K_X^-(8,7)$ as the energy 4.

Tai(8,1)$^{\pm 1}$*Zhuang(4,1)=Yu(4,8) = $X^+(4,8)$ as the energy 8.

Zhuang(4,1)$^{\pm 1}$*Guai(2,1)=Bi(6,8) = $X_K^-(6,8)$ as the energy 16.

Guai(2,1)$^{\pm 1}$*Xu(6,1)=Yu(4,8) = $X^+(4,8)$ as the energy 8.

Xu(6,1)$^{\pm 1}$*Bi(6,8)=Tai(8,1) = $X_K^-(8,1)$ as the energy 7.

Bi(6,8)$^{\pm 1}$*Kun(8,8)=Bi(6,8) = $X_K^-(6,8)$ as the energy 16.

One's Kun Palace nature is Fu(复)(8,4), Lin(临)(8,2), Tai(泰)(8,1), Zhuang(壮)(4,1), Guai(夬)(2,1), Xu(需)(6,1), Bi(比)(6,8). They mean : The mother likes doing repeating things over and over again of Fu(复)(8,4), to visit a lot of things of Lin(临)(8,2), and contax happiness life of Tai(泰)(8,1). In health body in middle age of Zhuang(壮)(4,1), things are not good at decision making of Guai(夬)(2,1), and a social demand is very big of Xu(需)(6,1). Finally the person is good at and people with envy-envy-hate psychology of Bi(比)(6,8).

(2)The **synthesized** and **combined** relationships of the **Eight-Palaces or Eight Veins or Eight Extra Meridians** at high costs is as follows:

Symmetrial palaces of Dui (*,*) and Gen (*,*) are combined at high costs.

Dui(2,2),Kun(2,6),Cui(2,8),Xian(2,7),Jian(6,7),Qian(8,7),
Xiao(4,7),Mei(4,2).

Gen(7,7),Bi(7,3),Xu(7,1),Sun(7,2),Gui(3,2),Lv(1,2),
Fu(5,2),Jian(5,7).

Dui(2,2)$^{\pm 1}$*Gen(7,7)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Kun(2,6)$^{\pm 1}$*Bi(7,3)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Cui(2,8)$^{\pm 1}$*Xu(7,1)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Xian(2,7)$^{\pm 1}$*Sun(7,2)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Jian(6,7)$^{\pm 1}$*Gui(3,2)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Qian(8,7)$^{\pm 1}$*Lv(1,2)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Xiao(4,7)$^{\pm 1}$*Fu(5,2)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Mei(4,2)$^{\pm 1}$*Jian(5,7)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Symmetrial palaces of Qian (*,*) and Kun (*,*) are combined at high costs.

Qian(1,1), Hou(1,5),Dun(1,7),Fou(1,8),Guan(5,8),Bo(7,8),Jin(3,8),
You(3,1);Kun(8,8),Fu(8,4),Lin(8,2),Tai(8,1),Zhuang(4,1),Guai(2,1),
Xu(6,1),Bi(6,8).

Dui(2,2)$^{\pm 1}$*Gen(7,7)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Kun(2,6)$^{\pm 1}$*Bi(7,3)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Cui(2,8)$^{\pm 1}$*Xu(7,1)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Xian(2,7)$^{\pm 1}$*Sun(7,2)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Jian(6,7)$^{\pm 1}$*Gui(3,2)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Qian(8,7)$^{\pm 1}$*Lv(1,2)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Xiao(4,7)$^{\pm 1}$*Fu(5,2)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Mei(4,2)$^{\pm 1}$*Jian(5,7)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Symmetrial palaces of Li (*,*) and Kan (*,*) are combined at high costs.

Li(3,3),Lv(3,7),Ding(3,5),Wei(3,6),Meng(7,6),Huan(5,6),
Song(1,6),Ren(1,3).

Li(3,3)$^{\pm 1}$*Kan(6,6)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Lv(3,7)$^{\pm 1}$*Jie(6,2)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Ding(3,5)$^{\pm 1}$*Tun(6,4)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Wei(3,6)$^{\pm 1}$*Ji(6,3)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Meng(7,6)$^{\pm 1}$*Ge(2,3)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Huan(5,6)$^{\pm 1}$*Feng(4,3)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Song(1,6)$^{\pm 1}$*Ming(8,3)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Ren(1,3)$^{\pm 1}$*Shi(8,6)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Symmetrial palaces of Zhen (*,*) and Xun (*,*) are combined at high costs.

Zhen(4,4),Yu(4,8),Jie(4,6),Heng(4,5),Sheng(8,5),Jing(6,5),
Da(2,5),Sui(2,4).

Xun(5,5),Xu(5,1),Jia(5,3),Yi(5,4),Wang(1,4),He(3,4),
Yi(7,4),Gu(7,5).

Zhen(4,4)$^{\pm 1}$*Xun(5,5)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Yu(4,8)$^{\pm 1}$*Xu(5,1)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Jie(4,6)$^{\pm 1}$*Jia(5,3)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Heng(4,5)$^{\pm 1}$*Yi(5,4)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Sheng(8,5)$^{\pm 1}$*Ge(2,3)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Jing(6,5)$^{\pm 1}$*He(3,4)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Da(2,5)$^{\pm 1}$*Yi(7,4)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

Sui(2,4)$^{\pm 1}$*Gu(7,5)=Qian(1,1) = $K_X^+(1,1)$ as the energy 63.

*All relation laws of the **Eight-Palaces or Eight Veins or Eight Extra Meridians** are summarized in Figure 5. It means that the Your palm in Figure 5, all insider palace elements and adjacent palace of relationship in addition to the wood palace with low costs, but all relationship of symmetrical bit palaces in addition to the earth palaces with high costs. #*

Property 3.3 The energy of the eight palace synthesized is summarized in Table 3, respectively.

3.3 First Transfer Laws of Economic Society Energies of Steady Multilateral Systems with a healthy Economy

Suppose that a steady multilateral system V having energy function $\varphi(*)$ is normal or healthy. Let x be the AAF inflation rate of V. Taking $\rho_1 = \rho(x), \rho_2 = \rho(x)^2$, and $\rho_3 = c\rho(x)$ where $0 \le c \le 1$ and $\rho(x)$ is defined in Eqs.(3) and (4). The healthy economy means that the conditions $\rho_0 \le \rho(x) \le 1$ and $0 < c \le 1$ hold. By Corollary **2.1**, it is equivalent to the normal range $x \in [a,b]$ or the healthy condition $\rho_1 + \rho_2\rho_3 \ge 1 - \rho_2\rho_3$. That $c \to 0$ implies that the economy is without the ability of self-protection, i.e., $\rho_3 = c\rho(x) \to 0$. Of course, the economy cannot be healthy. It is because for any $x \ne t_0$, , when $c \to 0$, there are

$$\rho_1 + \rho_2\rho_3 = \rho(x) + c\rho(x)^3 \to \rho(x) < 1 \leftarrow 1 - c\rho(x)^3 = 1 - \rho_2\rho_3,$$

such that the healthy condition $\rho_1 + \rho_2\rho_3 \ge 1 - \rho_2\rho_3$ cannot hold.

By using Corollary **2.1** and Theorems **2.1** and **3.1**, the following Theorems **3.2** and **3.3** can be obtained as the transfer law of occurrence and change of economic society energies with a healthy economy.

Theorem 3.2 (**The first transfer law of the ten Heavenly Stems with a healthy economy**) *Let the one of PACGGF inflation rates $x \in [a,b]$ which is equivalent to the conditions $\rho_0 \le \rho_1 = \rho(x) \le 1$ and $0 < c \le 1$.*

*The transfer law of each of the 10 kinds of energy in the the **Zangxiang** system or the **ten Heavenly Stems model** is from its **root-causes** to its **symptoms**.*

*Furthermore, for the healthy economy, the transfer law of the **Yang** vital or righteousness energies of the ten heavenly stems is transferring **along** the loving or liking order of the ten heavenly stems as follows:*

$$\overset{less}{\to} \text{real Jia}(1,0)X^+ \overset{less}{\leftrightarrow} \text{real Yi}(0,0)X^-$$
$$\overset{less}{\to} \text{real Bing}(1,1)X_S^+ \overset{less}{\leftrightarrow} \text{real Ding}(0,1)X_S^-$$
$$\overset{rare}{\to} \text{virtual Wu}(1,2)X_K^+ \overset{less}{\leftrightarrow} \text{virtual Ji}(0,2)X_K^-$$
$$\overset{more}{\to} \text{virtual Geng}(1,3)K_X^+ \overset{less}{\leftrightarrow} \text{virtual Xin}(0,3)K_X^-$$
$$\overset{rare}{\to} \text{real Ren}(1,4)S_X^+ \overset{less}{\leftrightarrow} \text{real Gui}(0,4)S_X^-$$
$$\overset{less}{\to} \text{real Jia}(1,0)X^+ \overset{less}{\leftrightarrow} \text{real Yi}(0,0)X^- \overset{less}{\to} \cdots.$$

*And the transfer law of the **Yin** vital or righteousness energies of the ten heavenly stems is transferring **against** the loving or liking order of the ten heavenly stems as follows:*

$$\cdots \overset{less}{\leftarrow} \text{virtual Yi}(0,0)X^- \overset{less}{\leftrightarrow} \text{virtual Jia}(1,0)X^+$$
$$\overset{less}{\leftarrow} \text{virtual Gui}(0,4) S_X^- \overset{less}{\leftrightarrow} \text{virtual Ren}(1,4) S_X^+$$
$$\overset{rare}{\leftarrow} \text{real Xin}(0,3)K_X^- \overset{less}{\leftrightarrow} \text{real Geng}(1,3) K_X^+$$
$$\overset{more}{\leftarrow} \text{real Ji}(0,2)X_K^- \overset{less}{\leftrightarrow} \text{real Wu}(1,2)X_K^+$$
$$\overset{rare}{\leftarrow} \text{virtual Ding}(0,1)X_S^- \overset{less}{\leftrightarrow} \text{virtual Bing}(1,1)X_S^+$$
$$\overset{less}{\leftarrow} \text{virtual Yi}(0,0)X^- \overset{less}{\leftrightarrow} \text{virtual Jia}(1,0)X^+ \overset{less}{\leftarrow} \cdots.$$

*All transfer laws of the **Zangxiang** system or the **ten Heavenly Stems model for a healthy economy** are summarized in Figure 2. It means that only both the liking relation and the loving relation have the transfer law of the **Yang or Yin** vital or righteousness energies of the ten heavenly stems . **Yang** is transferring **along** the loving or liking order of the ten heavenly stems. **Yin** is transferring **against** the loving or liking order of the ten heavenly stems.#*

Theorem 3.3 (**The first transfer law of the twelve Earthly Branches with a healthy economy**) *Let the one of PACGGF inflation rates $x \in [a,b]$ which is equivalent to the conditions $\rho_0 \le \rho_1 = \rho(x) \le 1$ and $0 < c \le 1$.*

*The transfer law of each of the 12 kinds of energy in the **Jingluo** system or the **twelve Earthly Branches model** is from its **root-causes** to its **symptoms**.*

*Furthermore, for the healthy economy, the transfer law of the **Yang** vital energies of the twelve earthly branches is transferring **along** the loving or liking order of the twelve earthly branches as follows:*

$\overset{less}{\to}$ virtual Mao	real Zi	real Hai
$K_x^+(1,(12))$	$X^+(0,e)\overset{less}{\to}$	$X_S^{x+}(1,e)$
$\updownarrow$ *less*	$\updownarrow$ *less*	$\updownarrow$ *less*
virtual Yin	real Chou	real Xu
$K_x^-(1,(132))\overset{more}{\Rightarrow}$	$X^-(0,(23))$	$X_S^{x-}(1,(23))\overset{rare}{\Leftarrow}$
real Shen	real Wei	virtual Chen
$S_x^+(0,(13))\overset{rare}{\Rightarrow}$	$X_S^{j+}(1,(13))$	$X_K^+(0,(12))\overset{less}{\to}$
$\updownarrow$ *less*	$\updownarrow$ *less*	$\updownarrow$ *less*
$\overset{rare}{\Leftarrow}$ real You	real Wu	virtual Si
$S_x^-(0,(123))$	$X_S^{j-}(1,(123))\overset{rare}{\to}$	$X_K^-(0,(132))$

*The transfer law of the **Yin** vital energies of the twelve earthly branches is transferring **against** the loving or liking order of the ten heavenly stems as follows:*

real Mao	real Chen	virtual Wei
$K_x^+(1,(12))\overset{more}{\leftarrow}$	$X_K^+(0,(12))$	$X_S^{j+}(1,(13))\overset{rare}{\Leftarrow}$
$\updownarrow$ *less*	$\updownarrow$ *less*	$\updownarrow$ *less*
$\overset{less}{\leftarrow}$ real Yin	real Si	virtual Wu
$K_x^-(1,(132))$	$X_K^-(0,(132))\overset{rare}{\leftarrow}$	$X_S^{j-}(1,(123))$
$\overset{rare}{\Leftarrow}$ virtual Shen	virtual Hai	virtual Zi
$S_x^+(0,(13))$	$X_S^{x+}(1,e)\overset{less}{\leftarrow}$	$X^+(0,e)$
$\updownarrow$ *less*	$\updownarrow$ *less*	$\updownarrow$ *less*
virtual You	virtual Xu	virtual Chou
$S_x^-(0,(123)\overset{rare}{\Rightarrow}$	$X_S^{x-}(1,(23))$	$X^-(0,(23))\overset{less}{\leftarrow}.$

*All transfer laws of the **Jingluo** system or the **twelve Earthly Branches model for a healthy economy** are summarized in Figure 3. It means that only both the liking relation and the adjacent relation have the transfer law of the **Yang or Yin** vital or righteousness energies of the twelve earthly branches. **Yang** is transferring **along** the loving or liking order of the twelve earthly branches. **Yin** is transferring **against** the loving or liking order of the twelve earthly branches. #*

Remark 3. Theorems **3.2** and **3.3** are called the transfer law of occurrence and change of economy energies with a healthy economy, simply, **the first transfer law**.

For a **Yang** energy of X and the **Zangxiang system or the ten Heavenly Stems model for a healthy economy ,** the first

transfer law is transferring **along** the loving or liking order of the ten heavenly stems as follows:

$$\xrightarrow{less} \text{real } X^+ \xleftrightarrow{less} \text{real } X^-$$
$$\xrightarrow{less} \text{real } X_S^+ \xleftrightarrow{less} \text{real } X_S^-$$
$$\xrightarrow{rare} \text{virtual } X_K^+ \xleftrightarrow{less} \text{virtual } X_K^-$$
$$\xrightarrow{more} \text{virtual } K_X^+ \xleftrightarrow{less} \text{virtual } K_X^-$$
$$\xrightarrow{rare} \text{real } S_X^+ \xleftrightarrow{less} \text{real } S_X^-$$
$$\xrightarrow{less} \text{real } X^+ \xleftrightarrow{less} \text{real } X^-.$$

For a **Yin** energy of X and the **Zangxiang system or the ten Heavenly Stems model for a healthy economy**, the first transfer law is transferring **against** the loving or liking order of the ten heavenly stems as follows:

$$\text{virtual } X^- \xleftrightarrow{less} \text{virtual } X^+$$
$$\xleftarrow{} \text{virtual } S_X^- \xleftrightarrow{less} \text{virtual } S_X^+$$
$$\xleftarrow{rare} \text{real } K_X^- \xleftrightarrow{less} \text{real } K_X^+$$
$$\xleftarrow{more} \text{real } X_K^- \xleftrightarrow{less} \text{real } X_K^+$$
$$\xleftarrow{rare} \text{virtual } X_S^- \xleftrightarrow{less} \text{virtual } X_S^+$$
$$\xleftarrow{less} \text{virtual } X^- \xleftrightarrow{less} \text{virtual } X^+.$$

For a **Yang** energy of X and the **Jingluo system or the twelve Earthly Branches model for a healthy economy,** the first transfer law is transferring **along** the loving or liking order of the twelve earthly branches as follows:

$$\text{real Chou } X^- \xleftrightarrow{less} \text{real Zi } X^+$$
$$\xrightarrow{less} \text{real Hai } X_S^{x+} \xleftrightarrow{less} \text{real Xu } X_S^{x-}$$
$$\xLeftarrow{rare} \text{real You } S_X^- \xleftrightarrow{less} \text{real Shen } S_X^+$$
$$\xRightarrow{rare} \text{real Wei } X_S^{j+} \xleftrightarrow{less} \text{real Wu } X_S^{j-}$$
$$\xrightarrow{less} \text{virtual Si } X_K^- \xleftrightarrow{less} \text{virtual Chen } X_K^+$$
$$\xrightarrow{less} \text{virtual Mao } K_X^+ \xleftrightarrow{less} \text{virtual Yin } K_X^-$$
$$(\xrightarrow{} \text{real You } S_X^- \xleftrightarrow{less} \text{real Shen } S_X^+)$$
$$\xrightarrow{less} \text{real Chou } X^- \xleftrightarrow{less} \text{real Zi } X^+.$$

For a **Yin** energy of X and the **Jingluo system or the twelve Earthly Branches model for a healthy economy,** the first transfer law is transferring **against** the loving or liking order of the twelve earthly branches as follows

$$\xleftarrow{less} \text{virtual Zi } X^+ \xleftrightarrow{less} \text{virtual Chou } X^-$$
$$(\xleftarrow{less} \text{virtual Shen } S_X^+ \xleftrightarrow{less} \text{virtual You } S_X^-)$$
$$\xleftarrow{rare} \text{real Yin } K_X^- \xleftrightarrow{less} \text{real Mao } K_X^+$$
$$\xleftarrow{more} \text{real Chen } X_K^+ \xleftrightarrow{less} \text{real Si } X_K^-$$
$$\xleftarrow{rare} \text{virtual Wu } X_S^{j-} \xleftrightarrow{less} \text{virtual Wei } X_S^{j+}$$
$$\xLeftarrow{rare} \text{virtual Shen } S_X^+ \xleftrightarrow{less} \text{virtual You } S_X^-$$
$$\xRightarrow{rare} \text{virtual Xu } X_S^{x-} \xleftrightarrow{less} \text{virtual Hai } X_S^{x+}$$
$$\xleftarrow{less} \text{virtual Zi } X^+ \xleftrightarrow{less} \text{virtual Chou } X^-.$$

Because the energy change between

$\xleftarrow{less}\text{virtual Zi } X^+ \xleftrightarrow{less}\text{virtual Chou } X^-$ and $\xleftarrow{less}\text{real Yin } K_X^- \xleftrightarrow{less}\text{real Mao } K_X^+$ needs

to be adjusted by the energy of $\xleftarrow{less}\text{virtual Shen } S_X^+ \xleftrightarrow{less}\text{virtual You } S_X^-$, so generally believe that the **Yin** energy of X begins with the **Yang** energy of

real Yin $K_X^- \xleftrightarrow{less}$ real Mao K_X^+. This is in Zi to Yin (11 PM at night to the next day at half past five) need to have a rest.

The transfer relation of the first transfer law running is the loving or liking relationship, denoted by $\rightarrow$ or $\leftrightarrow$. The running condition of the first transfer law is both $(\rho_1 + \rho_2\rho_3) \geq (1 - \rho_2\rho_3)$ and $\rho_3 = c\rho(x) > 0$.

By Theorem **2.1** and Corollary **2.1**, the running condition is nearly equivalent to both $\rho_0 \leq \rho_1 = \rho(x) \leq 1$ and $0 < c \leq 1$.

The best-state condition of the first transfer law is $\rho_3 = c\rho(x)$ where $c \rightarrow 1$ which is the best state of ρ_3 for a healthy economy. To follow or utilize the running of the first transfer law is equivalent to the following method. For dong so, it is in order to protect or maintain the loving relationship. The method can strengthen both the value $(\rho_1 + \rho_2\rho_3) = (\rho(x) + c\rho(x)^3)$ tending to be large and the value $(1 - \rho_2\rho_3) = (1 - c\rho(x)^3)$ tending to be small at the same time. In other words, the way can make all of both $\rho(x)$ and c tending to be large. It is because the running condition of the loving or liking relationship $(\rho_1 + \rho_2\rho_3) \geq (1 - \rho_2\rho_3)$ is the stronger the use, which dues to $\rho_1 = \rho(x)$ the greater the use. In other words again, if the treatment principle of the loving relationship disease is to use continuously abiding by the first transfer law, then all of both the intervention reaction coefficients $\rho_1 = \rho(x), \rho_2 = \rho(x)^2$ and the coefficient of self-protection $\rho_3 = c\rho(x) > 0$ where $0 < c \leq 1$ will tend to be the best state, i.e., $\rho(x) \rightarrow 1$ and $0 < c \rightarrow 1$. #

Side effects of medical problems were the question: in the medical process, destroyed the balance of the normal systems which are not sick or intervened subsystems. The energy change of the intervened system is not the true side effects issue. The energy change is called the pseudo or non-true side effects issue since by Attaining Rule in Zhang [23], it is just the food of the second physiological system of the steady multilateral system for a healthy economy. The best state of the self-protection coefficient $\rho_3 = c\rho(x)$, i.e., $\rho_3 = c\rho(x) \rightarrow \rho(x) = \rho_1$, where $c \rightarrow 1$, implies the non-existence of any side effects issue if the treatment principle of TCE is used. Therefore any disease that causes side effects issue occurrence in the first place dues to the non-best state of self-protection ability, i.e., $\rho_3 = c\rho(x) < \rho(x) = \rho_1$. To follow or utilize the running of the first transfer law can make both $\rho(x) \rightarrow 1$ and $0 < c \rightarrow 1$. At this point, the paper advocates to follow or utilize the first transfer law. It is in order to avoid the side effects issue occurrence for a healthy economy. #

3.4 Second Transfer Laws of Economic Society Energies of Steady Multilateral Systems with an unhealthy Economy

Suppose that a steady multilateral system V having energy function $\varphi(*)$ is abnormal or unhealthy. Let x be the one of PACGGF inflation rate of V. Taking $\rho_1 = \rho(x), \rho_2 = \rho(x)^2$ and $\rho_3 = c\rho(x)$ where

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$0 \le c \le 1$, and $\rho(x)$ is defined in Eqs.(3) and (4). The unhealthy economy means that the conditions $\rho_0 > \rho_1 = \rho(x) > 0$ and $0 \le c \le 1$ hold, which is equivalent to the abnormal range $x \notin [a,b]$.

From [20] and by using Corollary **2.1** and Theorems **2.1, 3.1** and **3.2**, the following Theorems **3.4** and **3.5** can be obtained as the transfer law of occurrence and change of economic society energies with an unhealthy economy.

Theorem 3.4 (**The second transfer law of the ten Heavenly Stems with an unhealthy economy**) *Let the one of PACGGF inflation rate $x \notin [a,b]$ which is equivalent to the conditions $\rho_0 > \rho_1 = \rho(x) > 0$ and $0 \le c \le 1$.*

*The transfer law of each of the 10 kinds of energy in the **Zangxiang** system or the **ten Heavenly Stems model for an unhealthy economy** is from its **root-causes** to its **symptoms**.*

*Furthermore, for the unhealthy economy, if a subsystem X of a steady multilateral system V falls a real disease, then the disease comes from the mother S_X of X. The transfer law of the **Yang** vital or righteousness energies of the ten heavenly stems is transferring **against** the killing or liking order of the ten heavenly stems as follows:*

real Jia $(1,0)$ $X^+ \overset{less}{\Longleftrightarrow}$ real Yi $(0,0)$ X^-

$\overset{rare}{\Longleftarrow}$ real Geng $(1,3)$ $K_X \overset{less}{\Longleftrightarrow}$ real Xin $(0,3)$ K_X

$\overset{rare}{\Longleftarrow}$ real Bing $(1,1)$ $X_S^+ \overset{less}{\Longleftrightarrow}$ real Ding $(0,1)$ X_S^-

$\overset{rare}{\Longleftarrow}$ real Ren $(1,4)$ $S_X^+ \overset{less}{\Longleftrightarrow}$ real Gui $(0,4)$ S_X^-

$\overset{more}{\Longleftarrow}$ virtual Wu $(1,2)$ $X_K^+ \overset{less}{\Longleftrightarrow}$ virtual Ji $(0,2)$ X_K^-

$\overset{less}{\Longleftarrow}$ real Jia $(1,0)$ $X^+ \overset{less}{\Longleftrightarrow}$ real Yi $(0,0)$ X^-

*And if a subsystem X of a steady multilateral system V falls a virtual disease, then the disease comes from the son X_S of X. The transfer law of the **Yin** vital or righteousness energies of the ten heavenly stems is transferring **along** the killing or liking order of the ten heavenly stems as follows:*

virtual Yi $(0,0)$ $X^- \overset{less}{\Longleftrightarrow}$ virtual Jia $(1,0)$ X^+

$\overset{rare}{\Longrightarrow}$ virtual Ji $(0,2)$ $X_K^- \overset{less}{\Longleftrightarrow}$ virtual Wu $(1,2)$ X_K^+

$\overset{rare}{\Longrightarrow}$ virtual Gui $(0,4)$ $S_X^- \overset{less}{\Longleftrightarrow}$ virtual Ren $(1,4)$ S_X^+

$\overset{rare}{\Longrightarrow}$ virtual Ding $(0,1)$ $X_S^- \overset{less}{\Longleftrightarrow}$ virtual Bing $(1,1)$ X_S^+

$\overset{more}{\Longrightarrow}$ real Xin $(0,3)$ $K_X^- \overset{less}{\Longleftrightarrow}$ real Geng $(1,3)$ K_X^+

$\overset{less}{\Longrightarrow}$ virtual Yi $(0,0)$ $X^- \overset{less}{\Longleftrightarrow}$ virtual Jia $(1,0)$ X^+.

*All transfer laws of the **Zangxiang** system or the **ten Heavenly Stems model for an unhealthy economy** are summarized in Figure 2. It means that only both the liking relation and the killing relation have the transfer law of the **Yang or Yin** vital or righteousness energies of the ten heavenly stems. **Yang** is transferring **against** the killing or liking order of the ten heavenly stems. **Yin** is transferring **along** the killing or liking order of the ten heavenly stems.#*

Theorem 3.5 (**The second transfer law of the twelve Earthly Branches with an unhealthy**) *Let the one of PACGGF inflation rate $x \notin [a,b]$ which is equivalent to the conditions $\rho_0 > \rho_1 = \rho(x) > 0$ and $0 \le c \le 1$.*

*The transfer law of each of the 12 kinds of energy in the **Jingluo** system or the **twelve Earthly Branches model for an unhealthy economy** is from its **root-causes** to its **symptoms**. Furthermore, for the unhealthy economy, if a subsystem X of a steady multilateral system V falls a real disease, then the disease comes from the mother S_X of X. The transfer law of the **Yang** vital energies of the twelve earthly branches is transferring **against** the killing or liking order of the twelve earthly branches as follows:*

real Mao	real Hai	real Wei
$K_X^+(1,(12)) \overset{rare}{\Longleftarrow}$	$X_S^{x+}(1,e)$	$X_S^{j+}(1,(13)) \overset{rare}{\Longleftarrow}$
$\Updownarrow$ less	$\Updownarrow$ less	$\Updownarrow$ less
$\overset{rare}{\Longleftarrow}$ real Yin	real Xu	real Wu
$K_X^-(1,(132))$	$X_S^{x-}(1,(23)) \overset{less}{\Longleftrightarrow}$	$X_S^{j-}(1,(123))$
$\overset{rare}{\Longleftarrow}$ real Shen	virtual Chen	real Zi
$S_X^+(0,(13))$	$X_K^+(0,(12)) \overset{less}{\Longleftarrow}$	$X^+(0,e)$
$\Updownarrow$ less	$\Updownarrow$ less	$\Updownarrow$ less
real You	virtual Si	real Chou
$S_X^-(0,(123)) \overset{more}{\Longleftarrow}$	$X_K^-(0,(132))$	$X^-(0,(23)) \overset{rare}{\Longleftarrow}$.

*For the unhealthy economy, if a subsystem X of a steady multilateral system V falls a virtual disease, then the disease comes from the son X_S of X. The transfer law of the **Yin** vital energies of the twelve earthly branches is transferring **along** the killing or liking order of the twelve earthly branches as follows:*

real Mao	virtual Zi	virtual Chen
$K_X^+(1,(12)) \overset{less}{\Longrightarrow}$	$X^+(0,e)$	$X_K^+(0,(12)) \overset{rare}{\Longrightarrow}$
$\Updownarrow$ less	$\Updownarrow$ less	$\Updownarrow$ less
$\overset{more}{\Longrightarrow}$ real Yin	virtual Chou	virtual Si
$K_X^-(1,(132))$	$X^-(0,(23)) \overset{rare}{\Longrightarrow}$	$X_K^-(0,(132))$
$\overset{rare}{\Longrightarrow}$ virtual Shen	virtual Wei	virtual Hai
$S_X^+(0,(13))$	$X_S^{+j}(1,(13)) \overset{less}{\Longleftrightarrow}$	$X_S^{-x}(1,e)$
$\Updownarrow$ less	$\Updownarrow$ less	$\Updownarrow$ less
virtual You	virtual Wu	virtual Xu
$S_X^-(0,(123)) \overset{less}{\Longrightarrow}$	$X_S^{-j}(1,(123))$	$X_S^{-x}(1,(23)) \overset{more}{\Longrightarrow}$.

*All transfer laws of the **Jingluo** system or the **twelve Earthly Branches model for an unhealthy economy** are summarized in Figure 3. It means that only both the liking relation and the alternate relation have the transfer law of the **Yang or Yin** vital or righteousness energies of the twelve earthly branches. **Yang** is transferring **against** the killing or liking order of the twelve earthly branches. **Yin** is transferring **along** the killing or liking order of the twelve earthly branches. #*

Remark 4. Theorems **3.4** and **3.5** are called the transfer law of occurrence and change of energies with an unhealthy economy, simply, **the second transfer laws**.

For a **Yin** energy of X and *the **Zangxiang** system or the ten Heavenly Stems model for an unhealthy economy*, the

second transfer law is transferring **along** the killing or liking order of the ten heavenly stems as follows:

$$\overset{less}{\Rightarrow} \text{virtual } X^{-} \overset{less}{\Leftrightarrow} \text{virtual } X^{+}$$

$$\overset{rare}{\Rightarrow} \text{virtual } X_{K}^{-} \overset{less}{\Leftrightarrow} \text{virtual } X_{K}^{+}$$

$$\overset{rare}{\Rightarrow} \text{virtual } S_{X}^{-} \overset{less}{\Leftrightarrow} \text{virtual } S_{X}^{+}$$

$$\overset{rare}{\Rightarrow} \text{virtual } X_{S}^{-} \overset{less}{\Leftrightarrow} \text{virtual } X_{S}^{+}$$

$$\overset{more}{\Rightarrow} \text{real } K_{X}^{-} \overset{less}{\Leftrightarrow} \text{real } K_{X}^{+}$$

$$\overset{less}{\Rightarrow} \text{virtual } X^{-} \overset{less}{\Leftrightarrow} \text{virtual } X^{+}.$$

For a **Yang** energy of X and **the Zangxiang system or the ten Heavenly Stems model for an unhealthy economy,** the second transfer law is transferring **against** the killing or liking order of the ten heavenly stems as follows:

$$\overset{less}{\Leftarrow} \text{real } X^{+} \overset{less}{\Leftrightarrow} \text{real } X^{-}$$

$$\overset{rare}{\Leftarrow} \text{real } K_{X}^{+} \overset{less}{\Leftrightarrow} \text{real } K_{X}^{-}$$

$$\overset{rare}{\Leftarrow} \text{real } X_{S}^{+} \overset{less}{\Leftrightarrow} \text{real } X_{S}^{-}$$

$$\overset{rare}{\Leftarrow} \text{real } S_{X}^{+} \overset{less}{\Leftrightarrow} \text{real } S_{X}^{-}$$

$$\overset{more}{\Leftarrow} \text{virtual } X_{K}^{+} \overset{less}{\Leftrightarrow} \text{virtual } X_{K}^{-}$$

$$\overset{less}{\Leftarrow} \text{real } X^{+} \overset{less}{\Leftrightarrow} \text{real } X^{-}.$$

For a **Yin** energy of X and **the Jingluo system or the twelve Earthly Branches model for an unhealthy economy ,** the second transfer law is transferring **along** the killing or liking order of the twelve earthly branches as follows:

$$\overset{less}{\Rightarrow} \text{virtual Zi } X^{+} \overset{less}{\Leftrightarrow} \text{virtual Chou } X^{-}$$

$$\overset{rare}{\Rightarrow} \text{virtual Si } X_{K}^{-} \overset{less}{\Leftrightarrow} \text{virtual Chen } X_{K}^{+}$$

$$\overset{rare}{\Rightarrow} \text{virtual Shen } S_{X}^{+} \overset{less}{\Leftrightarrow} \text{virtual You } S_{X}^{-}$$

$$\overset{rare}{\Rightarrow} \text{virtual Wu } X_{S}^{j-} \overset{less}{\Leftrightarrow} \text{virtual Wei } X_{S}^{j+}$$

$$\overset{less}{\Leftrightarrow} \text{virtual Hai } X_{S}^{x+} \overset{less}{\Leftrightarrow} \text{virtual Xu } X_{S}^{x-}$$

$$\overset{more}{\Rightarrow} \text{real Yin } K_{X}^{-} \overset{less}{\Leftrightarrow} \text{real Mao } K_{X}^{+}$$

$$\overset{less}{\Rightarrow} \text{virtual Zi } X^{+} \overset{less}{\Leftrightarrow} \text{virtual Chou } X^{-}.$$

For a **Yang** energy of X and **the Jingluo system or the twelve Earthly Branches model for an unhealthy economy,** the second transfer law is transferring **against** the killing or liking order of the twelve earthly branches as follows:

$$\overset{less}{\Leftarrow} \text{real Zi } X^{+} \overset{less}{\Leftrightarrow} \text{real Chou } X^{-}$$

$$\overset{less}{\Leftarrow} \text{real Yin } K_{X}^{-} \overset{less}{\Leftrightarrow} \text{real Mao } K_{X}^{+}$$

$$\overset{rare}{\Leftarrow} \text{real Hai } X_{S}^{x+} \overset{less}{\Leftrightarrow} \text{real Xu } X_{S}^{x-}$$

$$\overset{less}{\Leftrightarrow} \text{real Wu } X_{S}^{j-} \overset{less}{\Leftrightarrow} \text{real Wei } X_{S}^{j+}$$

$$\overset{rare}{\Leftarrow} \text{real Shen } S_{X}^{+} \overset{less}{\Leftrightarrow} \text{real You } S_{X}^{-}$$

$$\overset{more}{\Leftarrow} \text{virtual Si } X_{K}^{-} \overset{less}{\Leftrightarrow} \text{virtual Shen } X_{K}^{+}$$

$$\overset{less}{\Leftarrow} \text{real Zi } X^{+} \overset{less}{\Leftrightarrow} \text{real Chou } X^{-}.$$

The transfer relationship of the second transfer law running is the killing or liking relationship, denoted by $\Rightarrow$ or $\Leftrightarrow$.

The running condition of the second transfer law is both $(\rho_1 + \rho_2\rho_3) < (1 - \rho_2\rho_3)$ and $\rho_3 = c\rho(x) \geq 0$.

By Theorem **2.1** and Corollary **2.1**, the running condition is equivalent to both $\rho_0 > \rho_1 = \rho(x) > 0$ and $1 \geq c \geq 0$. That

$\rho_3 = c\rho(x) \to 0$ means the lack of capability of self-protection. Of course, it is the basis condition of running the second transfer law.

The stopping condition of the second transfer law is both $(\rho_1 + \rho_2\rho_3) \geq (1 - \rho_2\rho_3)$ and $\rho_3 = c\rho(x) > 0$, which is the running condition of the first transfer law, or, the existence condition of capabilities of both intervention reaction and self-protection.

To follow or utilize the running of the second transfer law is equivalent to the following method. For dong so, it is to protect and maintain the killing or liking relationship of the steady multilateral system. The method can strengthen all of both $\rho_1 - \rho_3 = \rho(x)(1 - c)$ and $\rho_2 - \rho_1\rho_3 = \rho(x)^2(1 - c)$ tending to be small at the same time. In other words, using the method can make c tends to be large for a fixed $\rho(x) > 0$. It is because the transferring condition of the killing or liking relation disease $(\rho_1 + \rho_2\rho_3) < (1 - \rho_2\rho_3)$ is the weaker the use, which dues to $\rho_3 = c\rho(x)$ is the greater the use. The transferring way can make both $\rho_1 - \rho_3 \to 0$ and $\rho_2 - \rho_1\rho_3 \to 0$ at the same time such that the killing or liking relation disease cannot be transferred. In other words again, if the treatment principle of the killing relationship diseases is to use continuously abiding by the second transfer law, then the coefficient of self-protection will tend to be the occurrence state, i.e., $\rho_3 = c\rho(x) > 0$ where $1 \geq c \geq \dfrac{1 - \rho(x)}{2\rho(x)^3} \geq 0$, and the coefficients of intervention reaction also will tend to the healthy state, i.e., $\rho_0 \leq \rho_1 = \rho(x) \leq 1$, such that $(\rho_1 + \rho_2\rho_3) \geq (1 - \rho_2\rho_3)$.#

Medical and drug resistance problem is that such a question, beginning more appropriate medical treatment, but is no longer valid after a period. In the state

$$\rho_1 - \rho_3 = \rho(x)(1 - c) \to 0,$$
$$\rho_2 - \rho_1\rho_3 = \rho(x)^2(1 - c) \to 0,$$

by Theorems **3.2** and **3.3**, any medical and drug resistance problem is non-existence if the treatment principle of TCE is used. But in the state

$$\rho_1 - \rho_3 = \rho(x)(1 - c) \to \rho(x),$$
$$\rho_2 - \rho_1\rho_3 = \rho(x)^2(1 - c) \to \rho(x)^2,$$

by Theorems **3.4** and **3.5**, the medical and drug resistance problem is always existence, even if the treatment principle of TCE has been used. It is because virtual X_K cannot kill real S_X if X is intervened by increasing its energy. In other words, the lack of capability of self-protection, i.e., $\rho_3 = c\rho(x) \to 0$, implies the possible existence of a medical and drug resistance problem, although the treatment principle of TCE has been used. At this point, the paper advocates to follow or utilize the second transfer law in order to prevent and avoid the medical and drug resistance issue occurrence for the unhealthy economy.#

IV. TREATMENT PRINCIPLE OF TCE

In order to explain treatment principle of TCE , the changes in the range of one of PACGGF inflation rate is divided into four parts. From [20] , Theorems **2.1**, **3.1-3.5**, Properties **3.1-3.3** and Corollary **2.1**, it can be easily proved that the following theorem is true.

AAF for the Xiang-Fire Subsystem based on Eight Palaces or Eight Veins– Mathematical Reasoning of Economic Intervening Principle Based on Yin Yang Wu Xing Theory in Traditional Chinese Economics (IV)

Theorem 4.1 *Suppose that the subsystem X of a steady multilateral system falls ill. Let x^{i_0} be the one of PACGGF inflation rates of the falling-ill subsystem X for any i $(1 \leq i \leq 6)$ of the steady multilateral system. Denoted the parameters of the normal range as follows*

$$(a, b, t_0) = (a^i, b^i, t_0^i), \quad \forall i \in \{1, 2, 3, 4, 5, 6\}.$$

Then the following statements are true.

*(1) Suppose that $x < a$ as **virtual**, in which X or X_K falls a virtual disease with an unhealthy economy. The subsystem X or X_K itself is the root-cause of a happened virtual disease. And the son X_S of X is the symptoms of an expected or a happened virtual disease. The primary treatment is to increase the energy of the subsystem X or X_K directly. And the secondary treatment is to increase the energy of the son X_S of X, and at the same time, to decrease the energy of the prisoner K_X of X_S.*

*(2) Suppose that $x \in [a, t_0)$ as **real-normal**, in which X or S_X will fall a virtual disease with a healthy economy. The mother S_X of X is the root-cause of an expected virtual disease. And the subsystem X or S_X is the symptoms of an expected virtual disease. The primary treatment is to increase the energy of the mother subsystem S_X of X which is an indirect treating for X. And the secondary treatment is to increase the energy of X itself, and at the same time, to decrease the energy of the prisoner X_K of X.*

*(3) Suppose that $x \in [t_0, b]$ as **real**, in which X or X_S will encounter a real disease with a healthy economy. The son X_S of X is the root-cause of an expected real disease. And the subsystem X itself is the symptoms of an expected real disease. The primary treatment is to decrease the energy of the son subsystem X_S of X which is an indirect treating for X. And the secondary treatment is to decrease the energy of X itself, and at the same time, to increase the energy of the bane K_X of X.*

(4) Suppose that $x > b$ in which X or K_X encounters a real disease with an unhealthy economy. The subsystem X or K_X itself is the root-cause of an expected or a happened real disease. And the mother S_X of X is the symptoms of an expected real disease. The primary treatment is to decrease the energy of the subsystem X or K_X directly. And the secondary treatment is to decrease the energy of the mother S_X of X, and at the same time, to increase the energy of the bane X_K of S_X. #

Remark 5. Treatment principle of Theorem **4.1** is based on ranges of the economy inflation rate. The one of PACGGF inflation rate is called **the treatment principle of TCE**, since it is in order to protect and maintain the balance of two incompatibility relations: the loving or liking relationship and the killing or liking relationship.

For the unhealthy economy where $x < a$ or $x > b$, the treatment principle is the method for doing so in the following:

The primary treatment is to increase or decrease the energy of X directly corresponding to $x < a$ or $x > b$ respectively, and the secondary treatment is to increase the energy of X_S or X_K while to decrease the energy of K_X or S_X, respectively.

The primary treatment is in order to protect and maintain the loving or liking relationship, abiding by TCE's ideas "Virtual disease with an unhealthy economy is to fill itself" and "Real disease with an unhealthy economy is to rush down itself". It is because the method for dong so is not only greatly medical diseases of their own, but also provides the pseudo side effects as the food for the second physiological system. The method is to promote the first physiological system running since the second physiological system controls the first physiological system. And it is also to improve the loving or liking relationship to develop since the loving or liking relationship mainly comes from the first physiological system. The loving or liking relationship to develop can strengthen both that $\rho_1 + \rho_2\rho_3 = \rho(x) + c\rho(x)^2$ tends to be large and that $1 - \rho_2\rho_3 = 1 - c\rho(x)^3$ tends to be small at the same time. In other words, the way can make all of both $\rho(x)$ and c tend to be large, at least, c greater than zero for an unhealthy economy and $\rho_0 \leq \rho(x) \leq 1$, such that the economy from unhealthy to healthy, or the first physiological system works, or, the occurrence of capability of self-protection, or, the running of the first transfer law, or, the stopping of the second transfer law.

The secondary treatment is in order to protect or maintain the killing or liking relationship, abiding by TCE's ideas "Don't have disease cure cure non-ill" and "Strong inhibition of the same time, support the weak". By the second transfer law in Theorems **3.4** and **3.5**, the more serious relation disease is the relation disease between virtual X_S and real K_X, or between real S_X and virtual X_K respectively.

Abiding by TCE's idea "Don't have disease cure cure non-ill", it must be done to prevent or avoid the more serious relation disease between virtual X_S and real K_X, or between real S_X and virtual X_K occurrence respectively.

Abiding by TCE's idea 'Strong inhibition of the same time, support the weak", it must be done to increase the energy of X_S or X_K while decrease the energy of K_x or S_x respectively.

The method for doing so can improve the killing or liking relationship to develop since real X_S or X_K can kill virtual K_X or S_x respectively. The killing or liking relationship to develop means that both $\rho_1 - \rho_3 = \rho(x)(1-c)$ and $\rho_2 - \rho_1\rho_3 = \rho(x)^2(1-c)$ tend to be small at the same time. In other words, the way can make, for fixed $\rho(x)$, c tending to be large, at least, greater than zero for an unhealthy economy, such that the economy from unhealthy to healthy, or the first physiological system works, or, the occurrence of capability of self-protection, or, the running of the first transfer law, or, the stopping of the second transfer law.

For the healthy economy where $x \in [a, t_0]$ or $x \in (t_0, b]$, the treatment principle is the method for doing so in the following:

The primary treatment is to increase or decrease the energy of S_x or X_S corresponding to $x \in [a, t_0]$ or $x \in (t_0, b]$ respectively, and the secondary treatment to increase the energy of K_X or X while to decrease the energy of X or X_K, respectively.

The primary treatment is in order to protect and maintain the loving or liking relationship, abiding by TCE's ideas "Virtual disease with a healthy economy is to fill mother" and "Real disease with a healthy economy is to rush down its son". It is because the method for dong so is not only greatly medical diseases of their own, but also provides the pseudo side effects as the food for the second physiological system. The method is to promote the first physiological system running since the second physiological system controls the first physiological system. And it is also to improve the loving or liking relationship developing since the loving or liking relationship mainly comes from the first physiological system. The loving or liking relationship developing can strengthen both that $\rho_1 + \rho_2\rho_3 = \rho(x) + c\rho(x)^2$ tends to be large and that $1 - \rho_2\rho_3 = 1 - c\rho(x)$ tends to be small at the same time. In other words, using the way can make all of both $\rho(x)$ and $0 < c$ tending to be large, the best, all equal to 1 for a healthy economy, such that the capability of self-protection is in the best state, or, the non-existence of side effects issue, or, the non-existence of medical and drug resistance problem.

The secondary treatment is in order to protect or maintain the killing or liking relationship, abiding by TCE's ideas "Don't have disease cure cure non-ill" and "Strong inhibition of the same time, support the weak". By the first transfer law, the more serious relation disease is the relation disease between real X and virtual K_X or between virtual X and real X_K corresponding to real X or virtual X, respectively.

Abiding by TCE's idea "Don't have disease cure cure non-ill", it must be done to prevent and avoid the more serious relation disease between real X and virtual K_X or between virtual X and real X_K occurrence corresponding to real X or virtual X respectively.

Abiding by TCE's idea "Strong inhibition of the same time, support the weak", it must be done to increase the energy of K_X or X while decrease the energy of X or X_K respectively.

The method for doing so can improve the killing or liking relationship developing since real K_X or real X can kill virtual X or virtual X_K respectively. The killing or liking relationship developing also means that both $\rho_1 - \rho_3 = \rho(x)(1-c)$ and $\rho_2 - \rho_1\rho_3 = \rho(x)^2(1-c)$ tend to be small at the same time. In other words, using the way can make, for fixed $\rho(x)$, $0 < c$ tending to be large, the best, equal to 1 for a healthy economy, such that the capability of self-protection is in the best state, or, the non-existence of side effects, or, the non-existence of medical and drug resistance issue. #

In order to explain treatment principle of TCE, the changes in the one range of PACGGF inflation rates are divided into four parts. From [20], Theorems **2.1**, **3.1-3.5**, Properties **3.1-3.3** and Corollary **2.1**, it can be easily proved that the following theorem is true.

Theorem 4.2 *Let x^i be the one of PACGGF inflation rates for any i $(1 \le i \le 6)$ of the steady multilateral system. Denoted the parameters of the normal range as follows*

$$a^i, b^i, t_0^i, \quad i = 1, 2, 3, 4, 5, 6.$$

*The Hexagram-image of the **Eight-Palaces or Eight Veins or Eight Extra Meridians** is as follows:*

$$(f_1, f_2, f_3, f_4, f_5, f_6)$$

where

$$f_i = sign(x^i - t_0^i) + (x^i = t_0^i), \quad i = 1, 2, 3, 4, 5, 6.$$

Then the following statements are true.

(1) If the Hexagram-image belongs the Qian palace K_X^+ continuously, then the root-cause of the falling-ill subsystem may be $wood(X)$.

(2) If the Hexagram-image belongs the Dui palace K_X^- continuously, then the root-cause of the falling-ill subsystem may be $fire(X_S)$.

(3) If the Hexagram-image belongs the Li palace X_S^- continuously, then the root-cause of the falling-ill subsystem may be $metal(K_X)$.

(4) If the Hexagram-image belongs the Zhen palace X^+ continuously, then the root-cause of the falling-ill subsystem may be $metal(K_X)$.

(5) If the Hexagram-image belongs the Xun palace X^- continuously, then the root-cause of the falling-ill subsystem may be $metal(K_X)$.

(6) If the Hexagram-image belongs the Kan palace S_X^+ continuously, then the root-cause of the falling-ill subsystem may be $earth(X_K)$.

(7) If the Hexagram-image belongs the Gen palace X_K^+ continuously, then the root-cause of the falling-ill subsystem may be $fire(X_S)$.

(8) If the Hexagram-image belongs the Kun palace X_K^- continuously, then the root-cause of the falling-ill subsystem may be $water(S_X)$.

All laws of Eight palaces are summarized in Figure 5.#

V. CHINESE AAF FOR THE XIANG-FIRE SUBSYSTEM

Suppose that M_2 as issued in the circulation of money and GDP as Gross Domestic Product in Chinese from 1990 to 2014, the annual PACGGF and the annual PACGGF inflation rates can be measured in Tables 4-7.

Watching Tables 4-6, the Hexagram-image belongs to the palace: 2, 7, 1, 1, 1, 1, for 1991-1996, respectively. The main palace is 1 as the Qian palace, except for 2 as the Dui Palace

in 1991, and 7 as the Gen Palace in 1992. During this period of time, large-scale goods have been made.

By Theorem **4.2**, it mainly means that the subsystem wood(X) is the root cause of a real or virtual disease. First for real, secondly for virtual.

Also watching Tables 4-6, the state of the AAF inflation rate is: virtual, virtual-normal, real, real, real, virtual, for 1991-1996, respectively.

It means that the subsystem xiang-fire(X_S^x) of the economic social system with an unhealthy economy encounters a real economic disease since the AAF inflation rate belongs to "agriculture" of xiang-fire(X_S^x).

But also watching Tables 4-6, the state of the PPI inflation rate is: virtual-normal, real-normal, real, real, real, real-normal, for 1991-1996, respectively.

It means that the subsystem wood(X) of the economic social system with an unhealthy economy encounters a real economic disease since the PPI inflation rate belongs to "industry" of wood(X).

There are two subsystems wood(X) and xiang-fire(X_S^x) which have the loving relationship and fall a real disease. By Definition 3.1 in Zhang [23], the relation economic disease is **less serious** because real wood(X) can love real xiang-fire(X_S^x). Because two subsystems wood(X) and xiang-fire(X_S^x) are with two unhealthy economies and falling a real disease, by Theorem **3.4** and **3.5**, the real disease of xiang-fire(X_S^x) comes from the mother wood(X) of xiang-fire(X_S^x) for an unhealthy economy. Thus the mainly root-cause is the subsystem wood(X).

So, at present the most serious problem is to treat the subsystem wood(X) falling a real disease for an unhealthy sub-economy. It is the case in (4) of Theorem **4.1** for wood(X). It conforms to the judgment in Theorem **4.2** in the period of time 1991-1996 by using Eight palaces**.**

By (4) of Theorem **4.1**, the subsystem wood(X) itself is the root-cause of a happened real disease. And the mother subsystem water(S_x) of wood(X) is the symptoms of an expected real disease.

By (4) of Theorem **4.1** again, the primary treatment is to decrease the energy of the subsystem wood(X) directly. And the secondary treatment is to decrease the energy of the mother water(S_x) of wood(X), and at the same time, to increase the energy of the bane earth(X_K) of water(S_x).

In fact, the Chinese government did just that. For 1993-1999, not only had decreased gradually the financial amounts of investment in the manufacture (to decrease the energy of the subsystem wood(X) directly), but also had decreased investment in the Army , such as, big disarmament, a freeze on a large number of military engineering, etc. (for decreasing the energy of water(S_x)) while had increased little by little the workers' wages, the social security and social welfare, such as, the public accumulation fund for housing construction, pension funds, medical insurance, unemployment insurance, etc.(to increase the energy of earth(X_K)).

Watching Tables 4-6 again, the Hexagram-image belongs to the palace: 6, 6, 6, 2, 6, 6, 8, for 1997-2003, respectively. The main palace is 6 as the Kan palace, except for 2 as the Dui palace in 2000, and 8 as the Kun palace in 2003. During this period of time, mass goods cannot be made. Supplies are still scarce. Rush on still appear on the market.

By Theorem **4.2**, it mainly means that the subsystem earth(X_K) is the root cause of a virtual disease.

Also watching Tables 4-6, the state of the AAF inflation rate is: virtual, virtual, virtual, virtual, virtual, virtual, virtual-normal, respectively.

It means that the subsystem xiang-fire(X_S^x) is with an unhealthy sub-economy and falling a happened virtual disease. It is because the AAF inflation rate belongs to the belongs to "agriculture" of xiang-fire(X_S^x).

Also watching Tables 4-6, the state of the CPI inflation rate is: virtual-normal, virtual, virtual, virtual, virtual, virtual, virtual, for 1997-2003, respectively.

It means that the subsystem earth(X_K) of the economic social system with an unhealthy economy encounters a virtual economic disease since the manufacture of large-scale goods or the CPI inflation rate belongs to "industry" of earth(X_K).

There are three subsystems wood(X), xiang-fire(X_S^x) and earth(X_K) which fall a virtual disease.The relationship between wood(X) and earth(X_K) is killing, but others are loving. For an unhealthy economy, the key relationship is killing. By Definition 3.2 in Zhang [23], the relation disease between virtual wood(X) and virtual earth(X_K) is **rare** since virtual wood(X) cannot kill virtual earth(X_K) which cannot destroy the killing order from wood(X) to earth(X_K). But if the subsystem earth(X_K) is intervened such that it is from virtual to real, there is **a more serious relation disease** between virtual wood(X) and real earth(X_K). It is because the virtual wood(X) cannot kill the real earth(X_K) which can destroy the balance of the killing relation from wood(X) to earth(X_K).

So, at present the most serious problem is to treat the subsystem wood(X) falling a virtual disease for an unhealthy sub-economy. It is the case in (1) of Theorem **4.1** for wood(X). It conforms to the judgment of Theorem **4.2** in the period of time 1991-1997 by using Eight palaces. But it does not conform to the judgment of Theorem **4.2** in the period of time 1997-2003 by using Eight palaces.

By (1) of Theorem **4.1**, the subsystem wood(X) itself is the root-cause of a happened virtual disease. And the son subsystem fire(X_S) of wood(X) is the symptoms of an expected virtual disease.

By (1) of Theorem **4.1**, the primary treatment is gotten to increase the energy of the subsystem wood(X) directly. And the secondary treatment is gotten to increase the energy of the son fire(X_S) of wood(X), and at the same time, to decrease the energy of the prisoner metal(K_X) of fire(X_S).

In fact, the Chinese government did just that. For 1999-2008, not only had increased gradually the financial amounts of investment in the manufacture (e.g.,to invest in real estate, to increase the energy of the subsystem wood(X) directly), but also had increased to make money, and investment in the agriculture, such as, exempt from the agricultural taxation, increase of agricultural land expropriation compensation, etc. (to increase the energy of fire(X_S) including jun-fire(X_S^j) and xiang-fire(X_S^x)) while had decreased in the science and education, public facilities, such as, a small amount of teachers and researchers for a raise, schools and research institutions self-sustaining, etc.(to decrease the energy of metal(K_X)).

Therefore, application of nature for the treatment principle of TCE by the Chinese government had brought the sustained and rapid growth of industry economy for 1991-2008.

Watching Tables 4-6 again, the Hexagram-image belongs to the palace:4, 4, 4, 1, 1, 8, 4, 1, for 2004-2011, respectively. The main palace is 4 as the Zhen palace, or 1 as the Qian palace, or 8 as the Kun palace. During this period of time, large-scale goods have been still made. But a lot of society problems begin occurring.

By Theorem **4.2**, it means that the subsystem metal(K_X), or wood(X), or water(S_X) is the root cause of a real or virtual disease.

Also watching Tables 4-6 again, the state of the AAF inflation rate is: real, virtual-normal, virtual, real, real, virtual, real-normal, real-normal, for 2004-2011, respectively.

It means the subsystem xiang-fire(X_S^x) is mainly with a healthy sub-economy falling an expected real disease. It is because the AAF inflation rate belongs to the "agriculture" of xiang-fire(X_S^x).

But the Finance inflation rate is continuously smaller than $a^6 = 2.9515\%$ (deflation) from 2004 to 2008 as virtual, except for 2005 year's normal state. It means the whole economy still is unhealthy. Its some subsystem still has encountered a virtual disease. Observation of the whole economic and social five subsystems, it can be found that there is a virtual disease state of the subsystem earth(X_K).

In fact, also watching Tables 4-6 again, the state of the CPI inflation rate is: real-normal, virtual, virtual, real-normal, real, virtual, virtual-normal, real-normal, for 2004-2011, respectively.

It means the subsystem earth(X_K) is mainly with an unhealthy sub-economy and falls a virtual disease. It is because the CPI inflation rate belongs to the "commerce" of earth(X_K).

Also watching Tables 4-6 again, the state of the PPI inflation rate is virtual-normal, virtual-normal, virtual-normal, real-normal, real-normal, virtual, virtual-normal, real-normal, for 2004-2011, respectively.

It means the subsystem wood(X) is mainly with a healthy sub-economy and falls an expected real disease. It is because the manufacture of large-scale goods or the normal PPI inflation rate belongs to"industry" of the subsystem wood(X).

There are three subsystems wood(X), xiang-fire(X_S^x) and earth(X_K) in which both wood(X) and xiang-fire(X_S^x) are normal but earth(X_K) is virtual. For an unhealthy economy, the key relationship is killing. By Definition 3.2 in Zhang [23], the relation disease between real-normal wood(X) and virtual earth(X_K) is **less** since real-normal wood(X) can kill virtual earth(X_K) which cannot destroy the killing order from wood(X) to earth(X_K). Now the subsystem earth(X_K) can be intervened such that it is from virtual to real-normal.

So, at present the most serious problem is to treat the subsystem earth(X_K) falling a virtual disease. It is the case in (1) of Theorem **4.1** for earth(X_K). It conforms to the judgment of Theorem **4.2** in the period of time 1997-2003 by using Eight palaces. But it does not conform to the judgment of Theorem **4.2** in the period of time 2004-2011 by using Eight palaces.

By (1) of Theorem **4.1**, the subsystem earth(X_K) itself is the root-cause of a happened virtual disease. And the son subsystem metal(K_X) of earth(X_K) is the symptoms of an expected virtual disease.

The X_K as X in theorem 4.1, using (1) of Theorem **4.1** again, the primary treatment is gotten to increase the energy of the subsystem earth(X_K) directly. And the secondary treatment is gotten to increase the energy of the son metal(K_X) of earth(X_K), where $(X_K)_S = K_x$ in Figure 1, and at the same time, to decrease the energy of the bane wood(X) of earth(X_K),where $K_{(X_K)} = X$ in Figure 1.

In fact, the Chinese government did just that. For 2004-2014, not only had increased the financial amounts of investment in commerce, such as, strengthen the support for the WTO trade, etc. (to increase the energy of the subsystem earth(X_K) directly), but also had increased investment in science, education and public facilities, such as to build high speed rail, etc. (to increase the energy of metal(K_X)) while had reduced the industrial support, such as, the appreciation of the RMB, etc. (to decrease the energy of wood(X)).

Therefore, again application of nature for the treatment principle of TCE by the Chinese government had brought the 2004-2014 economic taking off again.

Watching Tables 4-6 again and again, the Hexagram-image belongs to 8, 8, 8, for 2012-2014, respectively. The main palace is 8 as the Kun palace.

By Theorem **4.2**, it means that the subsystem water(S_X) is the root cause of a real or virtual disease.

Also watching Tables 4-6 again and again, the state of the AAF inflation rate is: virtual-normal, virtual-normal, virtual, for 2012-2014, respectively.

It means the subsystem xiang-fire(X_S^x) is mainly to fall an expected virtual disease from a healthy sub-economy to an unhealthy sub-economy.. It is because the AAF inflation rate belongs to the "agriculture" of xiang-fire(X_S^x).

Also watching Tables 4-6 again and again, the state of the CPI inflation rate is: virtual-normal, virtual-normal, virtual-normal, for 2012-2014, respectively.

It means the subsystem earth(X_K) is mainly with a healthy economy and will fall an expected virtual disease. It is because the CPI inflation rate belongs to the "commerce" of earth(X_K) .

Also watching Tables 4-6 again and again, the state of the PPI inflation rate is: virtual-normal, virtual-normal, virtual-normal, for 2012-2014, respectively.

It means that the the subsystem wood(X) is an expected virtual disease for a healthy sub-economy. It is because the manufacture of large-scale goods or the PPI inflation rate belongs to the"industry" of the subsystem wood(X).

The virtual-normal disease of wood(X) is not because of its low energy, but because of its energy is too high to make producing products too much, so much so that there is no way to sell products, low profit of industrial production. In the TCE, this disease is Yang irritability turned to deficiency disease. This disease is not the current urgent problems since it cannot destroy the killing order balance of the economy.

There are three subsystems wood(X), xiang-fire(X_S^x) and earth(X_K) in which all are virtual-normal. Both wood(X) and earth(X_K) have the killing relationship. And others have the loving relationship.For a healthy economy, the key relationship is loving. Most likely from Yang to deficiency is wood(X). But if this virtual-normal disease of wood(X) is continuously to develop such that it is from virtual-normal to virtual, by Theorems **3.2** and **3.3**, the virtual wood(X) will make its mother subsystem water(s_X) falling a virtual economic disease when it encounters an economic disease. In fact, the economic indicators of GDP which belongs to the subsystem water(s_X) is beginning to decline.

Abiding by TCE's idea "Don't have economic disease cure cure non-ill", the prevention and treatment of the current work is the need to prevent the virtual disease of the subsystem water(s_X) for a healthy economy.

So, at present the most serious problem is to treat the subsystem water(s_X) falling a virtual disease with a healthy sub-economy of the subsystem water(s_X). It is the case in (2) of Theorem **4.1** for water(s_X). It conforms to the judgment of Theorems **4.2** in the period of time 2004-2011 about the subsystem water(s_X) by using Eight palaces. And it also conforms to the judgment of Theorem **4.2** in the period of time 2012-2014 by using Eight palaces.

By (2) of Theorem **4.1**, the mother subsystem metal(K_X) of water(s_X) is the root-cause of an expected virtual disease. And the subsystem water(s_X) itself is the symptoms of an expected virtual disease.

The s_X as X in (2) of Theorem **4.1**, the primary treatment is gotten to increase the energy of the mother subsystem metal(K_X) of the water(s_X), where $S_{(s_X)} = K_X$ in Figure 1. And the secondary treatment is gotten to increase the energy

of the water(s_X) itself while decrease the energy of the prisoner fire(X_S) of the water(s_X) ,where $(S_X)_K = X_S$ in Figure 1.

In fact, the Chinese government also is doing just that. Since 2015, not only has increased continuously investment in science, education and public facilities, such as, One Belt and One Road, etc. (for increasing the energy of metal(K_X)), but also has increased to military spending (to increase the energy of the water(s_X)) while has reduced the number of making money, and reduced the agricultural support, such as, reduce the purchase price of agricultural products, etc. (to decrease the energy of fire(X_S) including jun-fire(X_S^j) and xiang-fire(X_S^x)). Therefore, again and again application of nature for the treatment principle of TCE by the Chinese government will lead to economic continue to glory since 2015.

It can be seen: to diagnose a sick subsystem of the steady multilateral system by using Eight palaces is in advance.

Instead of x^1 of the first index of PACGGF inflation rates to $x^{1'}$ of the RPI inflation rate, the Numbers is in Table 7. From Table 7, similarly to the above conclusions can be obtained.This shows that the selection of indicators, does not affect the diagnosis of diseases of the key system.#

VI. CONCLUSIONS

This work shows how to treat the diseases of an economic society by using the one of PACGGF inflation rates x . For the one of PACGGF inflation rates, the range of theory is $x \in [a, b]$, nearly to $x \in [a_0, b_0]$ and the center is t_0 nearly to t_{0*} . From Eight-Palaces or Eight Veins or Eight Extra Meridians, by Theorem **4.2**, the disease problem of subsystems can be easily diagnosed. Abiding by TCE's idea: "Even if all changed, it is hard to change one's nature" (江山易改, 本性难移), it can be used as the basis of analyzing after.

There are the first or second transfer law of economic society energies corresponding to a healthy economy or an unhealthy economy respectively. The first or second transfer law of economic society energies changes according to the different PACGGF inflation rates whether in the normal range or not. For the normal range, the first transfer law of economic society energies in Theorems **3.2** and **3.3** run; For the abnormal range, the second transfer law of economic society energies in Theorems **3.4** and **3.5** run.

Assume that the range of the one of PACGGF inflation rates x is divided into four parts from small to large. Both second and third are for a healthy economy with a virtual or real disease respectively. In this case, the root-cause of a virtual or real disease is the mother or son of the falling-ill subsystem X respectively, and the symptoms is the subsystem X itself. Abiding by TCE's idea: "Searching for the primary cause of disease in treatment, cure both symptoms and root-cause at the same times" (治病求本, 标本兼治), the treating works are first the prevention or the treatment for the mother or son of a virtual or real disease respectively, the second the prevention or the treatment for a more serious

relation disease between virtual x and real x_K or between real x and virtual K_X, respectively. Both the root-cause and the symptoms come from the first transfer law of economic society energies in Theorems **3.2** and **3.3**.

And both first and fourth are for an unhealthy economy with a virtual or real disease respectively. In this case, the root-cause of a virtual or real disease is the subsystem x itself, and the symptoms are the son or mother of the fall-ill subsystem x respectively. Abiding by TCE's idea: "Searching for the primary cause of disease in treatment, cure both symptoms and root-cause at the same times"（治病求本, 标本兼治）, the treating works are first the prevention or the treatment for itself of a virtual or real disease respectively, the second are the prevention or the treatment for a more serious relation disease between virtual x_S and real K_X or between real s_X and virtual x_K, respectively. Both the root-cause and the symptoms come from the second transfer law in Theorems **3.4** and **3.5**.

An economic disease treatment should protect and maintain the balance or order of two incompatibility relations: the loving or liking relationship and the killing or liking relationship. The method for doing so can make the $\rho_3 = c\rho(x)$ tending to be large, i.e., all of both $\rho(x)$ and c tend to be large, at least, greater than zero for an unhealthy economy; or, the best, equal to 1 for a healthy economy.

The following way can make the capabilities of both intervention reaction and self-protection become in the best state, the non-existence of side effects issue, the non-existence of medical and drug resistance problem, and so on.

(1) Suppose that $x < a$, as **virtual**, in which x or x_K falls a virtual disease with an unhealthy economy. The subsystem X or x_K itself is the root-cause of a happened virtual disease. And the son x_S of x is the symptoms of an expected or a happened virtual disease. Abiding by TCE's idea: "Searching for a root cause of disease in cure, treatment of both the root-cause and symptoms at the same time"（治病求本, 标本兼治）, it should be done to do in the following.

In order to protect or maintain the loving relationship, abiding by TCE's idea "Virtual disease with an unhealthy economy is to fill itself"（虚则补之）, increase the energy of x or x_K directly.

In order to protect or maintain the killing relationship, abiding by TCE's idea "Don't have disease cure cure non-ill"（不治已病治未病）, do a preventive treatment for the more serious relation disease between virtual x_S and real K_X.

Through the intervening principle of "Strong inhibition of the same time, support the weak"（抑强扶弱）, increase the energy of the son x_S of x while decrease the energy of the prisoner K_X of x_S.

(2) Suppose that $a \le x < t_0$, as **virtual-normal**, in which x or s_X falls a virtual disease with a healthy economy. The mother s_X of the subsystem x is the root-cause of an expected virtual disease. And the subsystem x itself is the symptoms of an expected virtual disease. Abiding by TCE's idea: "Searching for a root cause of disease in cure, treatment of both the root-cause and symptoms at the same time"（治病求本, 标本兼治）, the following works should be done.

In order to protect or maintain the loving relationship, abiding by TCE's idea "Virtual disease with a healthy economy is to fill its mother"（虚则补其母）, increase the energy of the mother s_X of x. The treating way is an indirect treating for x.

In order to protect or maintain the killing relationship, abiding by TCE's idea "Don't have disease cure cure non-ill"（不治已病治未病）, do a preventive treatment for the more serious relation disease between virtual x and real x_K.

Through the intervening principle of "Strong inhibition of the same time, support the weak"（抑强扶弱）, increase the energy of x itself while decrease the energy of the prisoner x_K of x.

(3) Suppose that $t_0 \le x \le b$, as **real-normal**, in which x or x_S falls a real disease with a healthy economy. The son x_S of the subsystem x is the root-cause of an expected real disease. And the subsystem x itself is the symptoms of an expected real disease. Abiding by TCE's idea: "Searching for a root cause of disease in cure, treatment of both the root-cause and symptoms at the same time"（治病求本, 标本兼治）, the following works should be done.

In order to protect or maintain the loving relationship, abiding by TCE's idea "Real disease with a healthy economy is to rush down its son"（实则泄其子）, decrease the energy of the son x_S of x. The treating way is an indirect treating for x.

In order to protect or maintain the killing relationship, abiding by TCE's idea "Don't have disease cure cure non-ill"（不治已病治未病）, do a preventive treatment for the more serious relation isease between real x and virtual K_X.

Through the intervening principle of "Strong inhibition of the same time, support the weak"（抑强扶弱）, decrease the energy of x itself while increase the energy of the bane K_X of x.

(4) Suppose that $x > b$, as **real**, in which x or K_X falls a real disease with an unhealthy economy. The subsystem X or K_X itself is the root-cause of a happened real disease. And the mother s_X of x is the symptoms of an expected or a happened real disease. Abiding by TCE's idea: "Searching for a root cause of disease in cure, treatment of both the root-cause and symptoms at the same time"（治病求本, 标本兼治）, the following works should be done.

In order to protect or maintain the loving relationship, abiding by TCE's idea "Real disease with an unhealthy economy is to rush down itself"（实则泄之）, decrease the energy of X or K_X directly.

In order to protect or maintain the killing relationship, abiding by TCE's idea "Don't have disease cure cure non-ill"（不治已病治未病）, do a preventive treatment for the more serious relation disease between real s_X and virtual x_K.

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Through the intervening principle of "Strong inhibition of the same time, support the weak"(抑强扶弱), decrease the energy of the mother s_X of X while increase the energy of the bane X_K of s_X.

APPENDIX

Proofs of Theorems 3.2-3.5 and 4.1 can be found in Zhang [24].

Proof of Property 3.1. Consider the system of *Eight-Palaces or Eight Extra Meridians or Eight Veins as*
$$V^8 \times V^8 = \{f = (f_1, f_2, f_3, f_4, f_5, f_6) \mid f_i \in \{1, -1\}, \ i = 1, 2, 3, 4, 5, 6\}.$$
According to the defined of energy function,
$$e_f = ((|f_1| + f_1)/2)2^5 + ((|f_2| + f_2)/2)2^4 + ((|f_3| + f_3)/2)2^3$$
$$+ ((|f_4| + f_4)/2)2^2 + ((|f_5| + f_5)/2)2^1 + ((|f_6| + f_6)/2),$$
$$f_i \in \{1, -1\}, \ i = 1, 2, 3, 4, 5, 6.$$

Directly computational energy function can get the conclusion of hope. And you can get all the Numbers in the palace and the palace of the image. It completes the proof.#

Proof of Property 3.2. Consider the system of *Eight-Palaces or Eight Veins or Eight Extra Meridians*
$$V^8 \times V^8 = \{(i, j) \mid i \in V^8, j \in V^8\}.$$ Its all relations are as follows:

$R_{(8,8)}^{(8,8)} = \{((1,1),(1,1)), ((1,5),(1,5)), ((1,7),(1,7)), ((1,8),(1,8)),$
$((5,8),(5,8)), ((7,8),(7,8)), ((3,8),(3,8)), ((3,1),(3,1));$
$((2,2),(2,2)), ((2,6),(2,6)), ((2,8),(2,8)), ((2,7),(2,7)),$
$((6,7),(6,7)), ((8,7),(8,7)), ((4,7),(4,7)), ((4,2),(4,2));$
$((3,3),(3,3)), ((3,7),(3,7)), ((3,5),(3,5)), ((3,6),(3,6)),$
$((7,6),(7,6)), ((5,6),(5,6)), ((1,6),(1,6)), ((1,3),(1,3));$
$((4,4),(4,4)), ((4,8),(4,8)), ((4,6),(4,6)), ((4,5),(4,5)),$
$((8,5),(8,5)), ((6,5),(6,5)), ((2,5),(2,5)), ((2,4),(2,4));$
$((5,5),(5,5)), ((5,1),(5,1)), ((5,3),(5,3)), ((5,4),(5,4)),$
$((1,4),(1,4)), ((3,4),(3,4)), ((7,4),(7,4)), ((7,5),(7,5));$
$((6,6),(6,6)), ((6,2),(6,2)), ((6,4),(6,4)), ((6,3),(6,3)),$
$((2,3),(2,3)), ((4,3),(4,3)), ((8,3),(8,3)), ((8,6),(8,6));$
$((7,7),(7,7)), ((7,3),(7,3)), ((7,1),(7,1)), ((7,2),(7,2)),$
$((3,2),(3,2)), ((1,2),(1,2)), ((5,2),(5,2)), ((5,7),(5,7));$
$((8,8),(8,8)), ((8,4),(8,4)), ((8,2),(8,2)), ((8,1),(8,1)),$
$((4,1),(4,1)), ((2,1),(2,1)), ((6,1),(6,1)), ((6,8),(6,8))\}.$

$R_{(8,4)}^{(8,8)} = \{((1,1),(1,5)), ((1,5),(1,1)), ((1,7),(1,3)), ((1,8),(1,4)),$
$((5,8),(5,4)), ((7,8),(7,4)), ((3,8),(3,4)), ((3,1),(3,5));$
$((2,2),(2,6)), ((2,6),(2,2)), ((2,8),(2,4)), ((2,7),(2,3)),$
$((6,7),(6,3)), ((8,7),(8,3)), ((4,7),(4,3)), ((4,2),(4,6));$
$((3,3),(3,7)), ((3,7),(3,3)), ((3,5),(3,1)), ((3,6),(3,2)),$
$((7,6),(7,2)), ((5,6),(5,2)), ((1,6),(1,2)), ((1,3),(1,7));$
$((4,4),(4,8)), ((4,8),(4,4)), ((4,6),(4,2)), ((4,5),(4,1)),$
$((8,5),(8,1)), ((6,5),(6,1)), ((2,5),(2,1)), ((2,4),(2,8));$
$((5,5),(5,1)), ((5,1),(5,5)), ((5,3),(5,7)), ((5,4),(5,8)),$
$((1,4),(1,8)), ((3,4),(3,8)), ((7,4),(7,8)), ((7,5),(7,1));$
$((6,6),(6,2)), ((6,2),(6,6)), ((6,4),(6,8)), ((6,3),(6,7)),$
$((2,3),(2,7)), ((4,3),(4,7)), ((8,3),(8,7)), ((8,6),(8,2));$
$((7,7),(7,3)), ((7,3),(7,7)), ((7,1),(7,5)), ((7,2),(7,6)),$
$((3,2),(3,6)), ((1,2),(1,6)), ((5,2),(5,6)), ((5,7),(5,3));$
$((8,8),(8,4)), ((8,4),(8,8)), ((8,2),(8,6)), ((8,1),(8,5)),$
$((4,1),(4,5)), ((2,1),(2,5)), ((6,1),(6,5)), ((6,8),(6,4))\}.$

$((4,1),(4,3)), ((2,1),(2,3)), ((6,1),(6,3)), ((6,8),(6,6))\}.$
$R_{(8,6)}^{(8,8)} = \{((1,1),(1,3)), ((1,5),(1,7)), ((1,7),(1,1)), ((1,8),(1,6)),$
$((5,8),(5,6)), ((7,8),(7,6)), ((3,8),(3,6)), ((3,1),(3,3));$
$((2,2),(2,4)), ((2,6),(2,8)), ((2,8),(2,6)), ((2,7),(2,5)),$
$((6,7),(6,5)), ((8,7),(8,5)), ((4,7),(4,5)), ((4,2),(4,4));$
$((3,3),(3,1)), ((3,7),(3,5)), ((3,5),(3,7)), ((3,6),(3,8)),$
$((7,6),(7,8)), ((5,6),(5,8)), ((1,6),(1,8)), ((1,3),(1,1));$
$((4,4),(4,2)), ((4,8),(4,6)), ((4,6),(4,8)), ((4,5),(4,7)),$
$((8,5),(8,7)), ((6,5),(6,7)), ((2,5),(2,7)), ((2,4),(2,2));$
$((5,5),(5,7)), ((5,1),(5,3)), ((5,3),(5,1)), ((5,4),(5,2)),$
$((1,4),(1,2)), ((3,4),(3,2)), ((7,4),(7,2)), ((7,5),(7,7));$
$((6,6),(6,8)), ((6,2),(6,4)), ((6,4),(6,2)), ((6,3),(6,1)),$
$((2,3),(2,1)), ((4,3),(4,1)), ((8,3),(8,1)), ((8,6),(8,8));$
$((7,7),(7,5)), ((7,3),(7,1)), ((7,1),(7,3)), ((7,2),(7,4)),$
$((3,2),(3,4)), ((1,2),(1,4)), ((5,2),(5,4)), ((5,7),(5,5));$
$((8,8),(8,6)), ((8,4),(8,2)), ((8,2),(8,4)), ((8,1),(8,3)),$

$R_{(8,7)}^{(8,8)} = \{((1,1),(1,2)), ((1,5),(1,6)), ((1,7),(1,8)), ((1,8),(1,7)),$
$((5,8),(5,7)), ((7,8),(7,7)), ((3,8),(3,7)), ((3,1),(3,2));$
$((2,2),(2,1)), ((2,6),(2,5)), ((2,8),(2,7)), ((2,7),(2,8)),$
$((6,7),(6,8)), ((8,7),(8,8)), ((4,7),(4,8)), ((4,2),(4,1));$
$((3,3),(3,4)), ((3,7),(3,8)), ((3,5),(3,6)), ((3,6),(3,5)),$
$((7,6),(7,5)), ((5,6),(5,5)), ((1,6),(1,5)), ((1,3),(1,4));$
$((4,4),(4,3)), ((4,8),(4,7)), ((4,6),(4,5)), ((4,5),(4,6)),$
$((8,5),(8,6)), ((6,5),(6,6)), ((2,5),(2,6)), ((2,4),(2,3));$
$((5,5),(5,6)), ((5,1),(5,2)), ((5,3),(5,4)), ((5,4),(5,3)),$
$((1,4),(1,3)), ((3,4),(3,3)), ((7,4),(7,3)), ((7,5),(7,6));$
$((6,6),(6,5)), ((6,2),(6,1)), ((6,4),(6,3)), ((6,3),(6,4)),$
$((2,3),(2,4)), ((4,3),(4,4)), ((8,3),(8,4)), ((8,6),(8,5));$
$((7,7),(7,8)), ((7,3),(7,4)), ((7,1),(7,2)), ((7,2),(7,1)),$
$((3,2),(3,1)), ((1,2),(1,1)), ((5,2),(5,1)), ((5,7),(5,8));$
$((8,8),(8,7)), ((8,4),(8,3)), ((8,2),(8,1)), ((8,1),(8,2)),$
$((4,1),(4,2)), ((2,1),(2,2)), ((6,1),(6,2)), ((6,8),(6,7))\}.$

$R_{(4,8)}^{(8,8)} = \{((1,1),(5,1)), ((1,5),(5,5)), ((1,7),(5,7)), ((1,8),(5,8)),$
$((5,8),(1,8)), ((7,8),(3,8)), ((3,8),(7,8)), ((3,1),(7,1));$
$((2,2),(6,2)), ((2,6),(6,6)), ((2,8),(6,8)), ((2,7),(6,7)),$
$((6,7),(2,7)), ((8,7),(4,7)), ((4,7),(8,7)), ((4,2),(8,2));$
$((3,3),(7,3)), ((3,7),(7,7)), ((3,5),(7,5)), ((3,6),(7,6)),$
$((7,6),(3,6)), ((5,6),(1,6)), ((1,6),(5,6)), ((1,3),(5,3));$
$((4,4),(8,4)), ((4,8),(8,8)), ((4,6),(8,6)), ((4,5),(8,5)),$
$((8,5),(4,5)), ((6,5),(2,5)), ((2,5),(6,5)), ((2,4),(6,4));$

$((5,5),(1,5)), ((5,1),(1,1)), ((5,3),(1,3)), ((5,4),(1,4)),$
$((1,4),(5,4)), ((3,4),(7,4)), ((7,4),(3,4)), ((7,5),(3,5));$
$((6,6),(2,6)), ((6,2),(2,2)), ((6,4),(2,4)), ((6,3),(2,3)),$
$((2,3),(6,3)), ((4,3),(8,3)), ((8,3),(4,3)), ((8,6),(4,6));$
$((7,7),(3,7)), ((7,3),(3,3)), ((7,1),(3,1)), ((7,2),(3,2)),$
$((3,2),(7,2)), ((1,2),(5,2)), ((5,2),(1,2)), ((5,7),(1,7));$
$((8,8),(4,8)), ((8,4),(4,4)), ((8,2),(4,2)), ((8,1),(4,1)),$
$((4,1),(8,1)), ((2,1),(6,1)), ((6,1),(2,1)), ((2,8),(2,8))\}.$

$R_{(8,1)}^{(8,8)} = \{((1,1),(1,8)), ((1,5),(1,4)), ((1,7),(1,2)), ((1,8),(1,1)),$
$((5,8),(5,1)), ((7,8),(7,1)), ((3,8),(3,1)), ((3,1),(3,8));$
$((2,2),(2,7)), ((2,6),(2,3)), ((2,8),(2,1)), ((2,7),(2,2)),$
$((6,7),(6,2)), ((8,7),(8,2)), ((4,7),(4,2)), ((4,2),(4,7));$
$((3,3),(3,6)), ((3,7),(3,2)), ((3,5),(3,4)), ((3,6),(3,3)),$
$((7,6),(7,3)), ((5,6),(5,3)), ((1,6),(1,3)), ((1,3),(1,6));$
$((4,4),(4,5)), ((4,8),(4,1)), ((4,6),(4,3)), ((4,5),(4,4)),$
$((8,5),(8,4)), ((6,5),(6,4)), ((2,5),(2,4)), ((2,4),(2,5));$
$((5,5),(5,4)), ((5,1),(5,8)), ((5,3),(5,6)), ((5,4),(5,5)),$
$((1,4),(1,5)), ((3,4),(3,5)), ((7,4),(7,5)), ((7,5),(7,4));$
$((6,6),(6,3)), ((6,2),(6,7)), ((6,4),(6,5)), ((6,3),(6,6)),$
$((2,3),(2,6)), ((4,3),(4,6)), ((8,3),(8,6)), ((8,6),(8,3));$
$((7,7),(7,2)), ((7,3),(7,6)), ((7,1),(7,8)), ((7,2),(7,7)),$
$((3,2),(3,7)), ((1,2),(1,7)), ((5,2),(5,7)), ((5,7),(5,2));$
$((8,8),(8,1)), ((8,4),(8,5)), ((8,2),(8,7)), ((8,1),(8,8)),$
$((4,1),(4,8)), ((2,1),(2,8)), ((6,1),(6,8)), ((6,8),(6,1))\}.$

$R_{(6,8)}^{(8,8)} = \{((1,1),(3,1)),((1,5),(3,5)),((1,7),(3,7)),((1,8),(3,8)),$
$((5,8),(7,8)),((7,8),(5,8)),((3,8),(1,8)),((3,1),(1,1));$
$((2,2),(4,2)),((2,6),(4,6)),((2,8),(4,8)),((2,7),(4,7)),$
$((6,7),(6,7)),((8,7),(6,7)),((4,7),(2,7)),((4,2),(2,2));$
$((3,3),(1,3)),((3,7),(1,7)),((3,5),(1,5)),((3,6),(1,6)),$
$((7,6),(5,6)),((5,6),(7,6)),((1,6),(3,6)),((1,3),(3,3));$
$((4,4),(2,4)),((4,8),(2,8)),((4,6),(2,6)),((4,5),(2,5)),$
$((8,5),(6,5)),((6,5),(8,5)),((2,5),(4,5)),((2,4),(4,4));$
$((5,5),(7,5)),((5,1),(7,1)),((5,3),(7,3)),((5,4),(7,4)),$
$((1,4),(3,4)),((3,4),(1,4)),((7,4),(5,4)),((7,5),(5,5));$
$((6,6),(8,6)),((6,2),(8,2)),((6,4),(8,4)),((6,3),(8,3)),$
$((2,3),(4,3)),((4,3),(2,3)),((8,3),(6,3)),((8,6),(6,6));$
$((7,7),(5,7)),((7,3),(5,3)),((7,1),(5,1)),((7,2),(5,2)),$
$((3,2),(1,2)),((1,2),(3,2)),((5,2),(7,2)),((5,7),(7,7));$
$((8,8),(6,8)),((8,4),(6,4)),((8,2),(6,2)),((8,1),(6,1)),$
$((4,1),(2,1)),((2,1),(4,1)),((6,1),(8,1)),((6,8),(8,8))\}.$
... ...
$R_{(1,1)}^{(8,8)} = \{((1,1),(8,8)),((1,5),(8,4)),((1,7),(8,2)),((1,8),(8,1)),$
$((5,8),(4,1)),((7,8),(2,1)),((3,8),(6,1)),((3,1),(6,8));$
$((2,2),(7,7)),((2,6),(7,3)),((2,8),(7,1)),((2,7),(7,2)),$
$((6,7),(3,2)),((8,7),(1,2)),((4,7),(5,2)),((4,2),(5,7));$
$((3,3),(6,6)),((3,7),(6,2)),((3,5),(6,5)),((3,6),(6,3)),$
$((7,6),(2,3)),((5,6),(4,3)),((1,6),(8,3)),((1,3),(8,6));$
$((4,4),(5,5)),((4,8),(5,1)),((4,6),(5,3)),((4,5),(5,4)),$
$((8,5),(1,4)),((6,5),(3,4)),((2,5),(7,4)),((2,4),(7,5));$
$((5,5),(4,4)),((5,1),(4,8)),((5,3),(4,6)),((5,4),(4,5)),$
$((1,4),(8,5)),((3,4),(6,5)),((7,4),(2,5)),((7,5),(2,4));$
$((6,6),(3,3)),((6,2),(3,7)),((6,4),(3,5)),((6,3),(3,6)),$
$((2,3),(7,6)),((4,3),(5,6)),((8,3),(1,6)),((8,6),(1,3));$
$((7,7),(2,2)),((7,3),(2,6)),((7,1),(2,8)),((7,2),(2,7)),$
$((3,2),(6,7)),((1,2),(8,7)),((5,2),(4,7)),((5,7),(4,2));$
$((8,8),(1,1)),((8,4),(1,5)),((8,2),(1,7)),((8,1),(1,8)),$
$((4,1),(5,8)),((2,1),(7,8)),((6,1),(3,8)),((6,8),(3,1))\}.$

Use of these relations, to calculate the cost of all the specified relationship, can be found: the liking relationship with low costs, and the symmetrical relationship with high costs. It completes the proof.#

Proof of Property 3.3. By Properties **3.1** and **3.2**, the relation cost of (8,4),(8,6),(8,7),(8,1),(4,8),(6,8) is the energy of 1,2,4,7,8,16 , it is low, respectively.

The relationships between the **primordial spirit**
$K_X^+(1,1), K_X^-(2,2), X_S^-(3,3), X^+(4,4), X^-(5,5), S_X^+(6,6), X_K^+(7,7), X_K^-(8,8),$ and the **first generation**
$K_X^+(1,5), K_X^-(2,6), X_S^-(3,7), X^+(4,8), X^-(5,1), S_X^+(6,2), X_K^+(7,3), X_K^-(8,4),$
respectively belong the relation $R_{(8,4)}^{(8,8)}$. The relation element (8,4) is a low cost since it is just considering the system X_S^j change. The each of the relationships is called the liking relation.

Similarly, the each of the relation between the **first generation** and the **two generation**, or between the second generation and the **third generation**, or between the **third generation** and the f**ourth generation**, or between the f**ourth generation** and the **fifth generation**, or between the **fifth generation** and the **wandering souls**, or between the **wandering souls** and the **return of soul**, or between the

return of soul and the **primordial spirit** belongs to $R_{(8,6)}^{(8,8)}$,
$R_{(8,7)}^{(8,8)}$, $R_{(4,8)}^{(8,8)}$, $R_{(6,8)}^{(8,8)}$, $R_{(4,8)}^{(8,8)}$, $R_{(8,1)}^{(8,8)}$, $R_{(6,8)}^{(8,8)}$
respectively. The each of the relation elements (8,6), (8,7),(4,8), (6,8) ,(4,8), (8,1), (6,8), is a low cost since it is just considering the each change of the system $S_X, K_X, X_K, X_S^x, X_K, \{K_X, S_X, X_S^j\}, X_S^x,$ respectively. The each of the relations is called the **liking relation**.

Because only the change of these relations can be considered, so each relationship of palace elements is called a similar or **liking relationship**.

By Definition 3.2 and Definition 3.3 in Zhang [23], there are
Qian(1,1),Hou(1,5),Dun(1,7),Fou(1,8),Guan(5,8),Bo(7,8),Jin(3,8),You(3,1);
Qian(1,1)=(Qian Ren Xu, Qian Ren Shen, Qian Ren Wu,Qian Jia Chen, Qian Jia Yin, Qian Jia Zi)
=({Ren}∪{Xin, Wu, Ding}, {Ren}∪{Geng, Ren,Wu}, {Ren}∪{Ding, Ji}, {Jia}∪{Yi, Gui,Wu},{Jia}∪{Jia,Bing,Wu}, {Jia}∪{Gui})
$= (3\frac{1}{3})\{\text{Jia}\} + (\frac{1}{3})\{\text{Yi}\} + (\frac{1}{3})\{\text{Bing}\} + (\frac{5}{6})\{\text{Ding}\} + (1\frac{1}{3})\{\text{Wu}\} + (\frac{1}{2})\{\text{Ji}\}$
$+(\frac{1}{3})\{\text{Geng}\}+(\frac{1}{3})\{\text{Xin}\}+(3\frac{1}{3})\{\text{Ren}\}+(1\frac{1}{3})\{\text{Gui}\}.$
Hou(1,5)=(Qian Ren Xu, Qian Ren Shen, Qian Ren Wu, Xun Xin You, Xun Xin Hai, Xun Xin Chou)
=({Ren}∪{Xin, Wu, Ding}, {Ren}∪{Geng, Ren,Wu}, {Ren}∪{Ding, Ji}, {Xin}∪{Xin},{Xin}∪{Ren, Jia}, {Xin}∪{Ji, Gui,Xin})
$= (\frac{1}{2})\{\text{Jia}\} + (0)\{\text{Yi}\} + (0)\{\text{Bing}\} + (\frac{5}{6})\{\text{Ding}\} + (\frac{2}{3})\{\text{Wu}\} + (\frac{5}{6})\{\text{Ji}\}$
$+(\frac{1}{3})\{\text{Geng}\}+(4\frac{2}{3})\{\text{Xin}\}+(3\frac{5}{6})\{\text{Ren}\}+(\frac{1}{3})\{\text{Gui}\}.$
Dun(1,7)=(Qian Ren Xu, Qian Ren Shen, Qian Ren Wu, Gen Bing Wu, Gen Bing Chen, Gen Bing Yin)
=({Ren}∪{Xin, Wu, Ding}, {Ren}∪{Geng, Ren,Wu}, {Ren}∪{Ding, Ji}, {Bing}∪{Ding,Ji},{Bing}∪{Yi,Gui,Wu}, {Bing}∪{Jia,Bing,Wu})
$= (\frac{1}{3})\{\text{Jia}\} + (\frac{1}{3})\{\text{Yi}\} + (3\frac{1}{3})\{\text{Bing}\} + (1\frac{1}{3})\{\text{Ding}\} + (1\frac{1}{3})\{\text{Wu}\} + (1)\{\text{Ji}\}$
$+(\frac{1}{3})\{\text{Geng}\}+(\frac{1}{3})\{\text{Xin}\}+(3\frac{1}{3})\{\text{Ren}\}+(\frac{1}{3})\{\text{Gui}\}.$
Fou(1,8)=(Qian Ren Xu, Qian Ren Shen, Qian Ren Wu,Kun Yi Mao, Kun Yi Si,Kun Yi Wei)
=({Ren}∪{Xin,Wu,Ding}, {Ren}∪{Geng,Ren,Wu}, {Ren}∪{Ding,Ji}, {Yi}∪{Yi},{Yi}∪{Bing,Geng,Wu}, {Yi}∪{Ding,Ji,Yi})
$=(0)\{\text{Jia}\}+(4\frac{1}{3})\{\text{Yi}\}+(\frac{1}{3})\{\text{Bing}\}+(1\frac{1}{6})\{\text{Ding}\}+(1)\{\text{Wu}\}+(\frac{5}{6})\{\text{Ji}\}$
$+(\frac{2}{3})\{\text{Geng}\}+(\frac{1}{3})\{\text{Xin}\}+(3\frac{1}{3})\{\text{Ren}\}+(0)\{\text{Gui}\}.$

Guan(5,8) = (Xun Xin Mao, Xun Xin Si, Xun Xin Wei, Kun Yi Mao, Kun Yi Si,Kun Yi Wei)
=({Xin}∪{Yi}, {Xin}∪{Bing, Geng, Wu}, {Xin}∪{Ding, Ji, Yi}, {Yi}∪{Yi},{Yi}∪{Bing, Geng, Wu}, {Yi}∪{Ding, Ji, Yi})
$= (0)\{\text{Jia}\} + (5\frac{2}{3})\{\text{Yi}\} + (\frac{2}{3})\{\text{Bing}\} + (\frac{2}{3})\{\text{Ding}\} + (\frac{2}{3})\{\text{Wu}\} + (\frac{2}{3})\{\text{Ji}\}$
$+(\frac{2}{3})\{\text{Geng}\}+(3)\{\text{Xin}\}+(0)\{\text{Ren}\}+(0)\{\text{Gui}\}.$
Bo(7,8) = (Gen Bing Zi, Gen Bing Xu, Gen Bing Shen, Kun Yi Mao, Kun Yi Si,Kun Yi Wei)
=({Bing}∪{Gui}, {Bing}∪{Xin,Ding,Wu}, {Bing}∪{Geng,Ren,Wu}, {Yi}∪{Yi},{Yi}∪{Bing, Geng, Wu}, {Yi}∪{Ding, Ji, Yi})
$= (0)\{\text{Jia}\} + (4\frac{1}{3})\{\text{Yi}\} + (3\frac{1}{3})\{\text{Bing}\} + (\frac{2}{3})\{\text{Ding}\} + (1)\{\text{Wu}\} + (\frac{1}{3})\{\text{Ji}\}$
$+(\frac{2}{3})\{\text{Geng}\}+(\frac{1}{3})\{\text{Xin}\}+(\frac{1}{3})\{\text{Ren}\}+(1)\{\text{Gui}\}.$

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Jin(3,8) = (Li Ji Wei, Li Ji You, Li Ji Hai, Kun Yi Mao, Kun Yi Si, Kun Yi Wei)

=({Ji}∪{Yi,Ding,Ji}, {Ji}∪{Xin}, {Ji}∪{Jia,Ren},

{Yi}∪{Yi},{Yi}∪{Bing, Geng, Wu}, {Yi}∪{Ding, Ji, Yi})

$= (\frac{1}{2})\{Jia\} + (4\frac{2}{3})\{Yi\} + (\frac{1}{3})\{Bing\} + (\frac{2}{3})\{Ding\} + (\frac{1}{3})\{Wu\} + (3\frac{2}{3})\{Ji\}$

$+(\frac{1}{3})\{Geng\}+(1)\{Xin\}+(\frac{1}{2})\{Ren\}+(0)\{Gui\}.$

You(3,1) = (Li Ji Wei, Li Ji You, Li Ji Hai,

Qian Jia Chen, Qian Jia Yin, Qian Jia Zi)

=({Ji}∪{Yi,Ding,Ji}, {Ji}∪{Xin}, {Ji}∪{Jia,Ren},

{Jia}∪{Yi, Gui,Wu},{Jia}∪{Jia,Bing,Wu}, {Jia}∪{Gui})

$= (3\frac{5}{6})\{Jia\} + (\frac{2}{3})\{Yi\} + (\frac{1}{3})\{Bing\} + (\frac{1}{3})\{Ding\} + (\frac{2}{3})\{Wu\} + (3\frac{1}{3})\{Ji\}$

$+(0)\{Geng\}+(1)\{Xin\}+(\frac{1}{2})\{Ren\}+(1\frac{1}{3})\{Gui\}.$

The comprehensive all of the above conclusion, the sum of the ten heavenly stems for the Qian palace is

$\Sigma = (8\frac{1}{2})\{Jia\} + (20\frac{1}{3})\{Yi\} + (8\frac{2}{3})\{Bing\} + (6\frac{1}{2})\{Ding\} + (7)\{Wu\}$

$+(11\frac{5}{6})\{Ji\} + (3\frac{1}{3})\{Geng\}+(11)\{Xin\}+(15\frac{5}{6})\{Ren\}+(4\frac{1}{3})\{Gui\}.$

Similarly, the sums of the ten heavenly stems for all palaces in Table 3 can be obtained. It completes the proof.#

Proof of Theorem 4.2. See Table 3, for the Qian-Palace K_X^+, the energy of Yi (0,0) as Yin wood(X) is abnormal large. Because K_X^+ kills X, so the root-cause of the falling-ill subsystem may be wood(X) if the Hexagram-image belongs to the Qian palace K_X^+ continuously.

Similarly, see Table 3, for the Dui-Palace K_X^-, the energies of Ding (0,1) and Bing (1,2) as fire(X_S) is abnormal large. Because X_S kills K_X^-, so the root-cause of the falling-ill subsystem may be fire(X_S) if the Hexagram-image belongs to the Dui palace K_X^- continuously.

See Table 3, for the Li-Palace X_S^-, the energy of Xin (0,3) as metal(K_X) is abnormal large. Because X_S^- kills K_X, so the root-cause of the falling-ill subsystem may be metal(K_X) if the Hexagram-image belongs to the Li palace X_S^- continuously.

See Table 3, for the Zhen-Palace X^+, the energies of Xin (0,3) and Geng (1,3) as metal(K_X) is abnormal large. Because K_X kills X^+, so the root-cause of the falling-ill subsystem may be the subsystem metal(K_X) if the Hexagram-image belongs to the Zhen palace X^+ continuously.

See Table 3, for the Xun-Palace X^-, the energies of Xin (0,3) and Geng (1,3) as metal(K_X) is abnormal large. Because K_X kills X^-, so the root-cause of the falling-ill subsystem may be the subsystem metal(K_X) if the Hexagram-image belongs to the Xun palace X^- continuously.

See Table 3, for the Kan-Palace S_X^+, the energies of Wu (1,2) and Ji (0,2) as earth(X_K) is abnormal. Because X_K kills S_X^+, so

the root-cause of the falling-ill subsystem may be the subsystem earth(X_K) if the Hexagram-image belongs to the Kan palace S_X^+ continuously.

See Table 3, for the Gen-Palace X_K^+, the energies of Bing (1,1) and Ding (0,2) as fire(X_S) is abnormal large. Because X_S loves X_K^+, so the root-cause of the falling-ill subsystem may be the subsystem fire(X_S) if the Hexagram-image belongs to the Gen palace X_K^+ continuously.

See Table 3 again, for the Kun-Palace X_K^-, the energy of Gui (0,4) as water(S_X) is abnormal large. Because X_K^- kills S_X, so the root-cause of the falling-ill subsystem may be the subsystem water(S_X) if the Hexagram-image belongs to the Kun palace X_K^- continuously. It completes the proof.#

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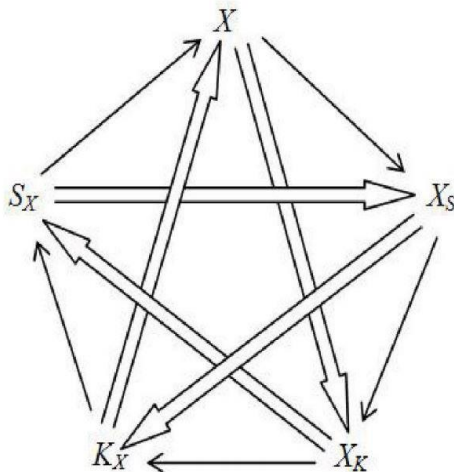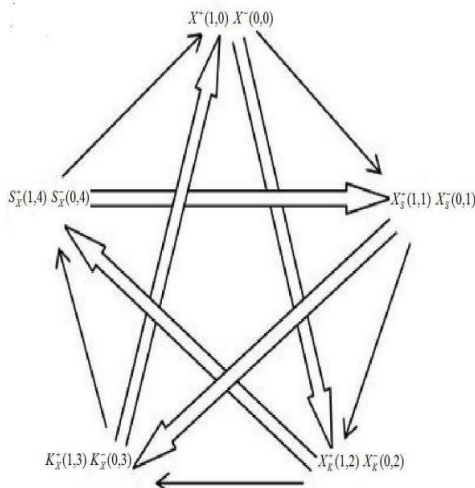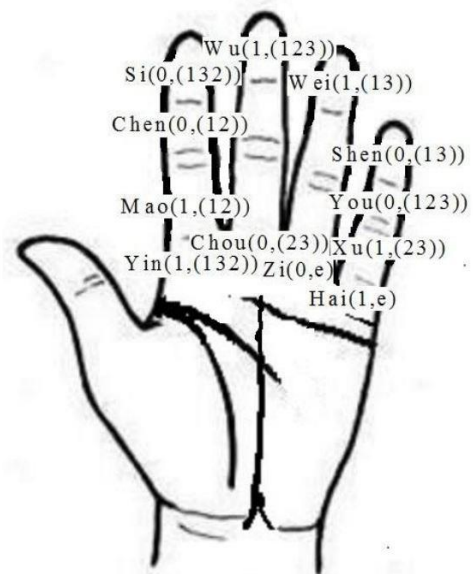Figure 3. Relations of twelve Earthly Branches
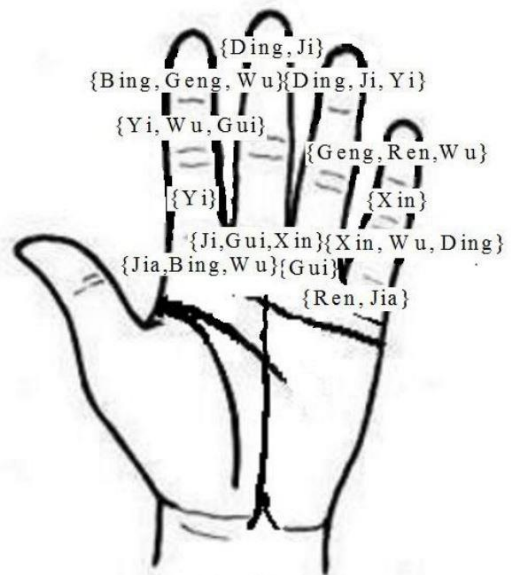
Figure 4. Ten Heavenly Stems Hidden behind Twelve Earthly Branches

Figure 1. Finding Yin Yang Wu Xing Model

Figure 2. Relations of ten Heavenly Stems
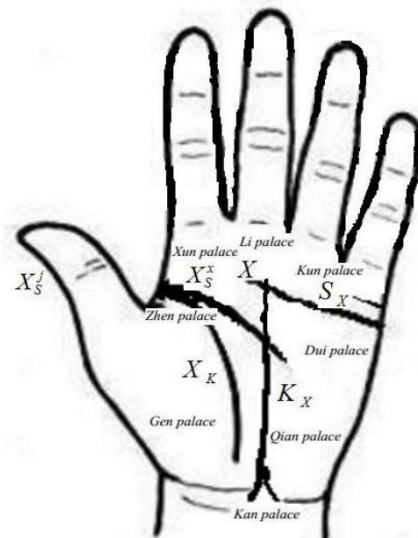

Figure 5. Relations between Eight palaces and Six-fus

AAF for the Xiang-Fire Subsystem based on Eight Palaces or Eight Veins– Mathematical Reasoning of Economic Intervening Principle Based on Yin Yang Wu Xing Theory in Traditional Chinese Economics (IV)

Table 1.Ten heavenly stems and Twelve earthly branches hidden behind Eight - Palaces

Palace sequence	Yang palace	Ten Stems	Twelve Branches	Yin Palace	Ten Stems	Twelve Branches
Outside	Qian	Ren	Wu	Kun	Gui	Chou
Inside	Qian	Jia	Zi	Kun	Yi	Wei
Outside	Kan	Wu	Xu	Li	Ji	Hai
Inside	Kan	Wu	Chen	Li	Ji	Si
Outside	Gen	Bing	Shen	Dui	Ding	You
Inside	Gen	Bing	Yin	Dui	Ding	Mao
Outside	Zhen	Geng	Wu	Xun	Xin	Wei
Inside	Zhen	Geng	Zi	Xun	Xin	Chou

Table 2.Eight Palace Model Energy Distribution

Palace sequence	Yang palace	Ten Stems	Twelve Branches	Yin Palace	Ten Stems	Twelve Branches
Outside	Qian	Ren 41.75	Wu 7.41	Kun	Gui 21.25	Chou 7.41
Inside	Qian	Jia 60.25	Zi 3.10	Kun	Yi 2.75	Wei 3.10
Outside	Kan	Wu 2.25	Xu 12.10	Li	Ji 50.75	Hai 12.10
Inside	Kan	Wu 18.75	Chen 1.71	Li	Ji 44.25	Si 1.71
Outside	Gen	Bing 36.75	Shen 6.55	Dui	Ding 11.75	You 6.55
Inside	Gen	Bing 51.25	Yin 1.71	Dui	Ding 26.25	Mao 1.71
Outside	Zhen	Geng 20.75	Wu 10.37	Xun	Xin 42.25	Wei 10.37
Inside	Zhen	Geng 10.25	Zi 2.63	Xun	Xin 52.75	Chou 2.63

Table 3. The energy of the eight palace synthesized

	Jia	Yi	Bing	Ding	Wu	Ji	Geng	Xin	Ren	Gui
Qian	8.500	20.33	8.667	6.500	7.000	11.167	3.333	11.00	15.16	4.333
Dui	3.666	9.000	15.33	23.67	9.333	6.000	8.333	11.33	2.667	6.667
Li	4.833	5.000	7.333	4.167	3.667	23.50	2.000	30.33	11.50	3.667
Zhen	4.000	5.667	2.000	10.67	8.667	5.000	20.33	26.67	4.333	8.667
Xun	6.167	8.333	9.333	3.167	7.000	9.167	14.67	23.00	5.500	9.667
Kan	4.167	5.667	3.333	8.500	17.67	15.83	8.000	15.67	2.833	14.33
Gen	6.500	9.000	20.00	16.17	6.333	10.17	2.667	10.33	7.167	7.667
Kun	16.83	11.667	3.333	8.500	12.33	3.167	7.333	7.667	2.833	22.33

Table 4. Inflation Rates in Finance, GDP and CPI

No.	M_2	rate	GDP	rate	Finance inflation rate	CPI(1984=100)	rate
1990	15293.4	.	18774.3	.	.	216.4	.
1991	19349.9	0.26525	21895.5	0.14255	0.10739	223.8	0.03307
1992	25402.2	0.31278	27068.3	0.19110	0.10216	238.1	0.06006
1993	34579.8	0.36129	35524.3	0.23803	0.09956	273.1	0.12816
1994	46923.5	0.35696	48459.6	0.26693	0.07106	339.0	0.19440
1995	60750.5	0.29467	61129.8	0.20727	0.07240	396.9	0.14588
1996	76094.9	0.25258	71572.3	0.14590	0.09310	429.9	0.07676
1997	90995.3	0.19581	79429.5	0.09892	0.08817	441.9	0.02716
1998	104498.5	0.14839	84883.7	0.06425	0.07906	438.4	-0.00798
1999	119897.9	0.14736	90187.7	0.05881	0.08364	432.2	-0.01435
2000	134610.3	0.12271	99776.3	0.09610	0.02427	434.0	0.00415
2001	158301.9	0.17600	110270.4	0.09517	0.07381	437.0	0.00686
2002	185007.0	0.16870	121002.0	0.08869	0.07349	433.5	-0.00807
2003	221222.8	0.19575	136564.6	0.11396	0.07343	438.7	0.01185
2004	254107.0	0.14865	160714.4	0.15027	-0.00141	455.8	0.03752
2005	298755.7	0.17571	185895.8	0.13546	0.03545	464.0	0.01767
2006	345577.9	0.15672	217656.6	0.14592	0.00943	471.0	0.01486
2007	403442.2	0.16744	268019.4	0.18791	-0.01723	493.6	0.04579
2008	475166.6	0.17778	316751.7	0.15385	0.02074	522.7	0.05567
2009	610224.5	0.28423	345629.2	0.08355	0.18521	519.0	-0.00713
2010	725851.8	0.18948	408903.0	0.15474	0.03009	536.1	0.03190
2011	851590.9	0.17323	484123.5	0.15537	0.01545	565.0	0.05115
2012	974148.8	0.14392	534123.0	0.09361	0.04600	579.7	0.02536
2013	1106525.0	0.13589	588018.8	0.09166	0.04052	594.8	0.02539
2014	1228374.8	0.11012	635910.0	0.07531	0.03237	606.7	0.01961

Assume that M_2 or M_2' as issued in the circulation of generalized money, Gross Domestic Product (GDP) as G or G' and the consumer price index (CPI) as C or C' for today and last year respectively, the actual need of money in real terms in the circulation $P_0 = M_2' \times (G/G')$ for last year's price level. Then the inflation rate of M_2 is $(M_2 - M_2')/M_2'$, the inflation rate of GDP is $(G - G')/G'$, and the annual finance inflation rate can be measured by $(M_2 - P_0)/P_0$.

Table 5. Inflation Rates in PPI,RPI,GBR and AAF

No.	PPI (1984=100)	rate	RPI (1984=100)	rate	GBR	rate	AAF	rate
1990	207.7	.	159.0	.	2937.10	.	7662.1	.
1991	213.7	0.02808	168.9	0.05861	3149.48	0.07231	8157.0	0.06459
1992	225.2	0.05107	180.4	0.06375	3483.37	0.10601	9084.7	0.11373
1993	254.9	0.11652	223.7	0.19356	4348.95	0.24849	10995.5	0.21033
1994	310.2	0.17827	267.3	0.16311	5218.10	0.19985	15750.5	0.43245
1995	356.1	0.12890	307.1	0.12960	6242.20	0.19626	20340.9	0.29144
1996	377.8	0.05744	316.0	0.02816	7407.99	0.18676	22353.7	0.09895
1997	380.8	0.00788	315.0	-.00317	8651.14	0.16781	23788.4	0.06418
1998	370.9	-.02669	302.1	-.04270	9875.95	0.14158	24541.9	0.03168
1999	359.8	-.03085	294.8	-.02476	11444.08	0.15878	24519.1	0.00093
2000	354.4	-.01524	303.1	0.02738	13395.23	0.17049	24915.8	0.01618
2001	351.6	-.00796	299.2	-.01303	16386.04	0.22327	26179.6	0.05072
2002	347.0	-.01326	292.6	-.02256	18903.64	0.15364	27390.8	0.04627
2003	346.7	-.00087	299.3	0.02239	21715.25	0.14873	29691.8	0.08401
2004	356.4	0.02722	317.6	0.05762	26396.47	0.21557	36239.0	0.22051
2005	359.3	0.00807	333.2	0.04682	31649.29	0.19900	39450.9	0.08863
2006	362.9	0.00992	343.2	0.02914	38760.20	0.22468	40810.8	0.03447
2007	376.7	0.03663	353.8	0.02996	51321.78	0.32408	48893.0	0.19804
2008	398.9	0.05565	378.2	0.06452	61330.35	0.19502	58002.2	0.18631
2009	394.1	-.01218	357.8	-.05702	68518.30	0.11720	60361.0	0.04067
2010	406.3	0.03003	377.5	0.05219	83101.51	0.21284	69319.8	0.14842
2011	426.2	0.04669	400.2	0.05672	103874.43	0.24997	81303.9	0.17288
2012	434.7	0.01955	393.4	-.01729	117253.52	0.12880	89453.0	0.10023
2013	440.8	0.01384	385.9	-.01944	129209.64	0.10197	96995.3	0.08432
2014	445.2	0.00988	378.6	-.01928	140370.03	0.08637	102226.1	0.05393

Assume that P or P' as issued in the producer price index (PPI), the retail price index (RPI) as R or R', the general budget revenue (GBR) as G or G', and the total output value of Agriculture Forestry Animal Husbandry and Fishery (AAF) as A or A' for today and last year respectively. Then the inflation rate of PPI is $(P - P')/P'$, the inflation rate of RPI is $(R - R')/R'$, the inflation rate of GBR is $(G - G')/G'$, and the annual AAF inflation rate can be measured by $(A - A')/A'$.

Table 6. Hexagram-images of Eight Palaces (I)

No.	date	energy	image	f_1	f_2	f_3	f_4	f_5	f_6	Palace	State of AAF
1	1991	11	7	-1	-1	1	-1	1	1	2	virtual
2	1992	43	4	1	-1	1	-1	1	1	7	virtual-normal
3	1993	63	0	1	1	1	1	1	1	1	real
4	1994	63	0	1	1	1	1	1	1	1	real
5	1995	63	0	1	1	1	1	1	1	1	real
6	1996	47	7	1	-1	1	1	1	1	1	virtual
7	1997	5	6	-1	-1	-1	1	-1	1	6	virtual
8	1998	5	6	-1	-1	-1	1	-1	1	6	virtual
9	1999	5	6	-1	-1	-1	1	-1	1	6	virtual
10	2000	4	5	-1	-1	-1	1	-1	-1	2	virtual
11	2001	5	6	-1	-1	-1	1	-1	1	6	virtual
12	2002	5	6	-1	-1	-1	1	-1	1	6	virtual
13	2003	7	3	-1	-1	-1	1	1	1	8	virtual-normal
14	2004	30	6	-1	1	1	1	1	-1	4	real
15	2005	6	4	-1	-1	-1	1	1	-1	4	virtual-normal
16	2006	6	4	-1	-1	-1	1	1	-1	4	virtual
17	2007	62	1	1	1	1	1	1	-1	1	real
18	2008	62	1	1	1	1	1	1	-1	1	real
19	2009	1	1	-1	-1	-1	-1	-1	1	8	virtual
20	2010	22	5	-1	1	-1	1	1	-1	4	real-normal
21	2011	62	1	1	1	1	1	1	-1	1	real-normal
22	2012	1	1	-1	-1	-1	-1	-1	1	8	virtual-normal
23	2013	0	0	-1	-1	-1	-1	-1	-1	8	virtual-normal
24	2014	0	0	-1	-1	-1	-1	-1	-1	8	virtual

Let x^i be the one of PACGGF inflation rates for any i $(1 \le i \le 6)$ of the steady multilateral system. Denoted the parameters of the normal range by a^i, b^i, t_0^i, $i = 1,2,3,4,5,6$. The Hexagram-image of the Eight-Palaces or Eight Veins or Eight Extra Meridians is $(f_1, f_2, f_3, f_4, f_5, f_6)$, respectively, where $f_i = sign(x^i - t_0^i) + (x^i = t_0^i)$, $i = 1,2,3,4,5,6$.

Table 7. Hexagram-images of Eight Palaces (II)

No.	date	energy	image	f_1	f_2	f_3	f_4	f_5	f_6	Palace	State of AAF
1	1991	43	4	1	-1	1	-1	1	1	7	virtual
2	1992	43	4	1	-1	1	-1	1	1	7	virtual-normal
3	1993	63	0	1	1	1	1	1	1	1	real
4	1994	63	0	1	1	1	1	1	1	1	real
5	1995	63	0	1	1	1	1	1	1	1	real
6	1996	47	7	1	-1	1	1	1	1	1	virtual
7	1997	5	6	-1	-1	-1	1	-1	1	6	virtual
8	1998	5	6	-1	-1	-1	1	-1	1	6	virtual
9	1999	5	6	-1	-1	-1	1	-1	1	6	virtual
10	2000	36	0	1	-1	-1	1	-1	-1	7	virtual
11	2001	5	6	-1	-1	-1	1	-1	1	6	virtual
12	2002	5	6	-1	-1	-1	1	-1	1	6	virtual
13	2003	7	3	-1	-1	-1	1	1	1	8	virtual-normal
14	2004	62	1	1	1	1	1	1	-1	1	real
15	2005	38	7	1	-1	-1	1	1	-1	5	virtual-normal
16	2006	38	7	1	-1	-1	1	1	-1	5	virtual
17	2007	62	1	1	1	1	1	1	-1	1	real
18	2008	62	1	1	1	1	1	1	-1	1	real
19	2009	1	1	-1	-1	-1	-1	-1	1	8	virtual
20	2010	54	0	1	1	-1	1	1	-1	5	real-normal
21	2011	62	1	1	1	1	1	1	-1	1	real-normal
22	2012	1	1	-1	-1	-1	-1	-1	1	8	virtual-normal
23	2013	0	0	-1	-1	-1	-1	-1	-1	8	virtual-normal
24	2014	0	0	-1	-1	-1	-1	-1	-1	8	virtual

Instead of the one x^1 of PACGGF inflation rates to $x^{1'}$ of the RPI inflation rate, the Numbers similarly.