ON DIVERGENCE

A

Further

Explanation

October (written)

2021-07

Contact us at :

https://www.weibo.com/kickstarhttps://twitter.com/kickstarchow

Find our courses at： https://www.bilibili.com   (search "Potato Research Association" please) https://www.youtube.com (search "Potato Research Association" please)

catalogue

TOC \o "1-3" \f \h \u

# Self order

The interaction between agricultural risk and human behavior constitutes the theme of this book. Although this has been my interest for a long time, the completion and publication of this book is completely inseparable from the help and encouragement of your co authors and friends. Without discussion with the bishop, there would be no "population dynamics of chaos control cycle" as the beginning, no "agricultural risk and human behavior" as a theoretical attempt, no "reinterpretation of the origin of capitalism" as a theoretical development and subsequent progress, no discussion with card teachers and friends, no encouragement and support from Huo Ye, In addition, I would also like to thank the Bishop's Dialectics of masters and slaves, heroes and the last people, koyev for the reference provided by the K-r model, teacher GUI's criticism of the K-r model in the lancet and operating table, especially Julia's integration of the K-r model and Yang Xiaokai's theory of division of labor evolution, It opens up a new vision for this theme. It is everyone's thinking and help that makes the K-r model grow a detailed and three-dimensional new image from a few dry words. Everything is a product of its time, and so is this book. It is a product of the Internet age. Its starting point and course are all related to the Internet. The co-author and contributor of this book, looking at the names mentioned above, you may have guessed that we are all direct or indirect netizens, as well as early readers who have contributed comments to these thoughts. The author of this book signed "October", The wechat group "October group" from the co authors (Note: this group name is a ridicule and tribute to the "September group" of the British Marxist School). A group of ordinary people, with the help of the power of the Internet, "crowdfunding" this book, with the help of collective cooperation, completed the work beyond individual ability.

Finally, I would like to thank Mr. Wang Xi and Hua Wei for their running. This book "no door, no faction, unknown origin" will be published soon. The theme it discusses is so grand that it can't exhaust all the details. Therefore, the current goal is not to complete this theme, but to establish a new logical framework. We regard the work around this topic as an open source project. This book is the first release of this project. Each chapter in this book is a stub of this logical framework. I hope that interested researchers can participate, make richer and superior development and Exploration on the basis of these stubs, and promote the research under this theme to a higher level. My friends and I have confidence in this and look forward to this day as soon as possible.

Zhou Fusheng, March 2021

(Note: author's microblog: https://weibo.com/kickstar , kick the stars)

# Reading guide

The reason for thinking about the theme of this book is very simple. Like China, all ancient civilized countries in history have experienced various twists and turns in their development since modern times. In contrast, the history of advanced countries has gone through a completely different path in the past 500 years. How to explain the historical differences between the East and the west is a problem. Various answers continue to appear and be overthrown, each with inspiration, but they still don't explain the truth thoroughly and can't give a complete and clear explanation picture.

The core of this book is the discussion of social differences and the reasons behind them. The first mock exam is based on the concept of risk. This is a K-R model. In the first mock exam, the first mock exam is based on the concept of grain. The concept of food is based on grain production. Friends also call this model intuitively "grain theory". However, this model does not discuss the food problem in general sense. Its core concept is "risk" rather than food itself because of grain production. Renaming is a matter of fact. However, in order to avoid the preconceptions brought by the name, this book generally calls it the K-r model.) to communicate the principles of various categories of Social Sciences, including economics, and combine economic and non economic discussions, such as historical, political and social discussions, to form an overall picture around the theme of "system and institutional change".

In economics, the more in-depth discussion of institution and institutional change is the new institutional economics. As a branch of mainstream economics, the ultimate answer to the problem of economic development by the new institutionalists is North's "institution matters". However, north, as well as Zhang Wuchang and bazel of the new institutionalists, failed to draw a clear conclusion on the formation and evolution of the system, although it can be said that Zhang Wuchang has been infinitely close to this conclusion, But perhaps because of the constraints of the mainstream economic tradition, he did not take the last step. In the hands of Postgraduates like asimoglu, the skill of statistics has improved, while the ability of thought has degenerated. So far, in the whole mainstream economics, including the new institutional economics, the interpretation of the system is still a way of western centralism. The system has good and evil, and there is a difference between "credible commitment" and "national opportunism". For this difference, it can not provide a convincing explanation. Therefore, just like Zuo Dapei's "late disadvantage" in Yang Xiaokai The speech said, "you should answer where the government's opportunism comes from, otherwise we can only explain this problem as ethnic differences". In conclusion, this implies that the Anglo Saxon nation can invent advanced systems, while the Asian, African and Latin American nation will only engage in racial and cultural discrimination of government opportunism. In this book, the K-r model establishes a scale for the risk level of a society and demonstrates the dependence of the system on this risk level. Based on Zhang Wuchang's idea, the K-r model believes that the system is an implicit supplementary clause of any contract. Further, the system can be understood as a contractual arrangement with risk adaptation as the core. In the real world, around the concept of "system" The government behavior of "contractual arrangement" itself also has the scale constraint of living within its means, and there is no unlimited risk disposal ability. Therefore, since the system and the government behavior surrounding this system are rooted in the risk level of a society, the so-called "best practice" which is unrestricted and applicable all over the world In theory, it does not exist. From the perspective of K-r model, the so-called opportunism of government behavior is rooted in the lower risk handling capacity supported by a society at a high risk level, while the so-called credible commitment is on the contrary. Therefore, the K-r model proposed in this book integrates the "geographical determinism" and "credibility" that have been debated for a long time in the field of economic and social development "System determinism" is "institution" , institution, as well as the government behavior around institution, provides a new and neutral explanation. It provides a more realistic and sympathetic explanation for the situation of late developing countries. Moreover, since it points out the basis for the existence of institution, it also points out the principle of institutional change, and provides new enlightenment for these countries on how to get rid of their situation. The first and second volumes of this book The content arrangement follows the theoretical principle of "unity of logic and history", followed by the logical expression of the new paradigm and the historical application of this logic. The name of the first volume, why nations boom, is a ridicule of asimogoro and his partners (their views are expressed in why nations fail), and the name of the second volume, "Changes between ancient and modern times" is a tribute to the great historian Sima Qian. Generally speaking, the length of each chapter is not large, because the book is only a logical framework, and no in-depth research on details has been carried out in all directions. I hope it can play a role in throwing bricks and attracting jade, and provide a new perspective and new ideas for future researchers.­

# Introduction: lancet and operating table

A few years ago, I met star master online. At that time, he was thinking about building a theory to explain the formation power and process of social forms. In short, the social forms we see today are roughly divided into Europe and the United States, East Asia, South Asia, the Middle East, Africa and Russia. Why do they show different organizational methods and social structures? Further, within East Asia and Europe Britain, France and Germany, the three Germanic countries on the continent, can even further distinguish the obvious differences in social forms. The question of interest to the star teacher is, what is the reason for the evolution and stereotypes of these forms? There must be a fundamental driving force to continuously drive the movements of various social roles and forces, and produce conflicts and interactions in different intensities, and finally this long-term movement The process contributes to the form corresponding to this motivation.

Xingshi finally put forward an interpretation model based on grain production, which he abstractly named "K-r model", and the author will try to comment and criticize the "K-r model" through this paper.

1. K-r model -- social evolution theory based on grain yield fluctuation

The so-called K-r model is a social analysis theory based on grain production. Its basic arguments include the following three parts:

1. The fluctuation of grain output is the core factor determining social risk; The core social risk of different intensities and modes, that is, the fluctuation of grain production, determines what strategies society forms to deal with this risk;
2. Human society in relatively high-risk areas and relatively low-risk areas has evolved under the promotion of selection for a long time, forming two different strategic tendencies. Xingshi borrowed the concept of ecology and named them "K strategic tendency" and "R strategic tendency".

The above three parts form the basic framework of K-r model. It is necessary for us to further comb it so that its criticism can be accurate and in-depth.

1. Grain output fluctuation and social risk.

The foundation of K-r model is grain yield, but the yield itself is not enough to cause changes in social form. The driving force that can cause changes is the fluctuation of grain yield. According to the observation of Xingshi, grain producing areas can be divided into stable high-yield areas, stable low-yield areas, frequent fluctuation areas and long-term fluctuation areas according to the pattern of yield fluctuation. The static characteristics of yield and risk are not directly equivalent. Contrary to the intuitive feeling, high-yield areas and low-yield areas belong to low-risk areas as long as their yield change curve is smooth. Secondly, the cycle length and amplitude of yield change are the real indicators to determine the risk intensity. In other words, under the high-speed and large amplitude fluctuation curve, the social risk is far greater than the stable low-yield area and the fluctuation area with long change period and smooth curve.

The author agrees with the basic method of this classification. In the process of risk management in modern society, the basic method of classifying risk types is also to divide the matrix through the two dimensions of risk occurrence probability and impact consequence. The potential risks of high probability and large consequence and low probability and small consequence are obviously divided into different risk categories. With the pointer of fluctuation, Xingshi can easily divide the matrix classification of grain yield and its fluctuation curve, which is a very concise and efficient method.

Combined with historical evidence, in stable low-yield areas, such as northwest Europe before the warm period of the middle ages and North America before the arrival of Europeans, the grain output is not high, but there will be no huge fluctuation. If the environment does not change fundamentally or no new technological productivity is introduced, the grain output in this area cannot be greatly improved within a limited historical time limit. On the one hand, because its output itself is low, it is unable to accumulate a large number of people, which reduces the risk of hunger. On the other hand, it is unable to accumulate a lot of wealth under the low population level, which also makes these places unable to form an effective central government or even sustainable influential public power owners for a long time. In such a low-risk area, it is unable to reach the power threshold to support complex society, organize large-scale movements and interactions, and finally evolve into scattered and small-scale countries or population clusters. At the other end, stable high-yield areas, such as northwest Europe after the warm period of the middle ages and the North American colonies after the great navigation, have high grain yield and smooth fluctuation curve, so another low-risk area is formed. The advantage of stable and high-yield grain areas is that they are sufficient to support long-term social stability under dense population. Due to the adaptation of social members and organizations to low risk, they finally choose a moderate and long-term behavior. In addition, the dense population brought by abundant food, no matter how to explain it empirically, or they don't worry about rice and sorghum, or they have enough options to choose from. Finally, the inevitable result in theory is that this social form will mature quickly, Establish effective public power, and correct or repair the behavior of public power organizations through moderate methods. According to the basic principle of K-r model, the driving force of conflict in this type of society is very weak, and there is not enough energy to cause the large-scale tear of social organizations, which promotes the evolution of social form to the direction of increasing complexity.

The second kind of large type, that is, production fluctuation areas. Although we can continue to subdivide the output fluctuation according to the fluctuation frequency and amplitude, no matter which benchmark is selected, the fluctuation means risk. The fluctuation area of grain output is the high-level area of social risk. Empirically, for example, in the East Asian continent, the grain output will change significantly in a cycle of two to three hundred years. The long-term large amplitude will mean the overturned upheaval of society in a long historical stage, and the looting of land and grain will lead to war, killing or other more violent means; In the South Asian subcontinent, the large amplitude in the short cycle will mean that social conflicts in small time and space will continue to occur rapidly and frequently. To sum up, the amplitude will determine the intensity of social change, and the fluctuation frequency will determine the nature of social movement. No matter what scale, it is because the fluctuation of grain production provides a conflicting driving force for social movement, making it possible for society to tend to the critical point enough to cause social overturn.

With the basic idea of this social risk source, the next step is that the society will make strategic choices to deal with this risk according to the risks it faces. If in the definition of Xingshi, social risk comes from the change of food production, then all social strategies are chosen to deal with this change. Due to the small change in low-risk areas, the motivation to deal with the risks brought by change is correspondingly small. Therefore, the first is the lack of necessity, and the further will lack the ability. As a result, the driving force of social conflict is weak and the response is weak, which will form a strategy; On the contrary, high-risk areas with strong conflict drive and strong response will form another strategy.

According to the K-r model, in the society with high food risk, in order to resist the social changes and uncertainties that may come from time to time, social organizations and individuals choose the strategy of conflict tendency. Therefore, it is difficult for high-risk society to form a detailed and stable social division of labor. Conversely, in low-risk society, social groups and individuals choose the strategy of cooperation tendency, It is helpful for the cumulative evolution of social division of labor in a long enough time. Star Division refers to the confrontation strategy tendency under high risk as R strategy tendency, and correspondingly, the cooperation strategy tendency under low risk is called K strategy tendency.

So far, the core theoretical model of grain theory on the dynamics and laws of social change has been constructed. Generally speaking, a theory of social evolution based on grain risk has been completed in its prototype:

High agricultural risk: low compromise, high resistance to social relations, closed social structure, high fertility, self-sufficient economy

Low agricultural risk: high compromise, low confrontation, social relations, open social structure, low fertility, division of labor and exchange economy

Based on the concept of life history strategy in ecology, the two strategic tendencies of human behavior are defined:

R-strategic tendency: strategic tendency to adapt to high-risk environment, such as low compromise, high confrontation, social relations, closed social structure, high fertility, self-sufficient economy, etc

K-strategic tendency: strategic tendency to adapt to low-risk environment, such as high compromise, low confrontation, social relations, open social structure, low fertility, division of labor and exchange economy, etc.

1. Effectiveness and conciseness of interpretation

Theory is used to explain the world, and social theory is used to explain society. "Theory is a fanatical myth", Russell's conclusion is not to describe the emotional state of the theory builder, but to say that the theory comes from the legal abstraction of phenomena, which is the "Ecstasy" state in the aesthetic sense Russell intends to borrow. Therefore, from the free object to the theory that can explain the object, it must have the following conditions and characteristics:

1. For phenomenon observation and classification, the observed and classified phenomena are summarized, and these summarized patterns are re applied to the observed objects.

These three conditions determine that a theory must have the following characteristics:

1. The birth of theory depends on the observer's perspective, which determines the classification method and standard of observed objects. Therefore, the legal theory must not restate the object from the perspective of God omnisciently, nor explain the object itself universally. Whether any social theory can be constructed legally depends on the selective scales of observers, and the root of these scales lies in the perspective of observation itself, which is not only the prerequisite for the establishment of the theory, but also determines the limit of the effectiveness of the theory. Theory is not an intuitive description of phenomena, but an abstraction and classification based on the accurate description of phenomena - only abstraction can classify, and only classification can establish patterns. For example, I randomly observe 10000 leaves. If I do not abstract these 10000 leaves, they will always be these disordered leaves, which have nothing to do with our cognition and rationality. But once I start abstracting in some way, such as color, shape, size or dryness, I can classify based on these abstractions. When we classify according to the standards stipulated by our rationality, we can enter the key link of theoretical construction: pattern induction. Therefore, the pattern is the link of purely rational regulation of the classified objects, not the appearance of the objects, nor the objects themselves. Taking leaves as an example, we can divide them into needle leaves and broad leaves, or even more simply red leaves and green leaves. It can be divided in any way, but the naming after classification is that we abstract and classify the observation objects, and then create concepts according to the standards specified in advance, that is, the induction of patterns. Here, the first mock exam is formed, and after that, we can say that the core and prototype of a theory have already appeared. But whether this model is established is still third steps to be applied to the object to see if it can happen again. If the steps just taken can establish the basic framework of a theoretical system, whether this theory can be established in the end still needs the final step: verification. Because our classification conditions are stipulated by rationality, whether this subjective stipulation can exhaust the objects and whether it has consistency in internal logic can not be achieved by rationality alone. Applying the theory back to the object for verification is whether the object can repeatedly produce the expected results according to the provisions and framework of the theory when these specified conditions are met. This is not difficult to understand. Experiment and practice are the final criteria for testing the theory, but more importantly, whether the theoretical model is concise in the repeated testing process will be the "last kilometer" for the establishment of this theory. For example, in terms of the computing power of modern society, the "geocentric theory" with the earth as the motion center can actually give a usable model of the motion of planets and stars in the solar system, but the amount of computation is too large. Even if it can have the effect of interpretation, it is not convenient to use this theory for research. In history, in the Copernican era, At that time, the computing power was not enough to continue to support the theoretical model to accurately match the observations at that time.

To sum up, to construct a "good" theory, first of all, the method must legally follow the rational method rules, which is often called "scientific" method in modern times, and establish an internal logically unified conceptual system with legal steps, so as to ensure the basic explanatory effect; The second is to examine whether the theoretical system has an easy to calculate model, that is, simplicity.

According to this standard, the K-r model can explain some historical and social changes, and has a certain explanatory effect. At the same time, the theory selects the benchmark explanatory element of grain production, which can make the model very concise. Even because grain yield is a variable that can be accurately measured, it is optimistic that a mathematical model that can be used for quantitative analysis can be established. An ideal state is that social risk can be predicted on the scale of ten to twenty years or more through the change of grain risk.

In this way, the K-r model has a formal condition of "beautiful" theory, whether it conforms to the observed facts can be tested, and has a high degree of effectiveness and simplicity. I often guess that the knowledge background of Xingshi's computer industry may affect the construction of his K-r model. We should know that a good programmer should not only make the program run smoothly, but also make the algorithm concise to save resources and give full play to computing power.

However, when we put the K-r model back into the real history and society, we find several obvious problems. The existence of these problems may make the K-r model either a blank theory with far less completion, or a "theoretical Exhibition" lacking practical significance.

Food meets the most basic needs of human society, that is, the most basic elements of survival needs. From the perspective of human demand level, food demand is the bottom demand. There is no doubt that the satisfaction degree and state of the underlying requirements are enough to affect the stability of the whole system. The lower the level, the more fundamental. Therefore, it is needless to say that food risk has become the driving force of social change. Then, when Xingshi takes food risk as a single factor to analyze social movement, the problems that will inevitably arise are:

1. Because the influencing factors at other levels are excluded, the timeliness of the interpretation of social changes or social movements will be weakened or even lost. For example, the author once argued with Xingshi about the impact of fiscal revenue, land system or oil production and reserves on social pattern and stability. These changes have occurred frequently and had a significant impact on the scale of the last decade or decades, but these factors are excluded from the K-r model, which is bound to make the K-r model lack direct explanatory effect on the major social movements and changes in the past few decades.
2. Due to the same factors, social changes are not absolutely sensitive to the fluctuation of grain output. Empirically, the factors of grain risk change include at least force majeure factors such as physical and geographical factors, the strengthening or weakening of the ability to resist risks, grain reserves and so on after adaptive strategies or systems are produced based on a certain risk threshold. If trade, a numerical variable that has a great impact on food reserves, is added, the ability to resist food risks in the region will be very flexible. Even if these elasticities do not fundamentally change the risk attribute of a region, they will at least prolong or shorten the cycle of social change and risk accumulation on the time scale. Therefore, the current K-r model can explain social history on a millennium scale, and the change process may be on a century scale. The social theory on this scale lacks empirical significance for the current real social changes. For policy makers, it is already very long-term to consider the impact of 50 years, and predictions on a larger scale can only be lively.
3. Change of type. If we still empirically examine historical and realistic social samples and countries, we will find that a large number of societies have changed from R-Series society to K-series society. For example, Japan, including China, which is still developing at a high speed, is also rapidly changing from R-Series society to K-series society. Even on a larger scale, can we think that all societies used to be R-Series societies, but later changed respectively? In this transformation, taking Japan as an example, food risk has always been the primary risk for a country with R-Series social form. Through industrialization and effective trade, the original risk tolerance can be greatly expanded until it exceeds the risk cycle law in an appropriate historical period, so as to fundamentally change the social form, But the food risk has not fundamentally disappeared. Therefore, when analyzing from the development stage, the increase or decrease of risk rising and falling variables makes the K-r model need to greatly increase the amount of computation. Of course, even if the internal logic is affected, a very inspiring conclusion will be that if human society one day realizes the complete industrialization of food production, that is, by replacing sunlight with artificial light sources, producing food in factories and workshops, completely avoiding the influence of natural factors and getting rid of the restrictions of land, the fundamental risks of human society will disappear, "Social harmony" can be predicted, but under the current theoretical framework, the complexity of operation leads to the internal logic, which needs to be further explained.
4. Grand narrative and pure text research

Based on the discussion in the previous section, we believe that the K-r model is still the prototype of a very low completion theoretical framework. However, this does not affect the possibility of Star Division producing beautiful theory because of its unique perspective of grain production. It is no exaggeration to say that in this era, it is not difficult to save one or more theoretical systems about society. On the one hand, all kinds of social research and theories have been in flood for nearly a hundred years, and several so-called theoretical systems can be created by random excerpts; On the other hand, the accumulation of various materials and data, which can be easily obtained by modern scientific means, also opens the door to various researchers. Because of this, since the 20th century, a large number of researchers in social science have been full of grand narrative ambition, and another trend accompanied by it is the pure text research from text to text.

Philosophical thinking in ancient Greece, from the period of myth and cosmology to systematic ethics, if we say that the philosophical thinking in this era originally took place people's thinking about the unknown and the simple love for the so-called wisdom, no matter what empirical historical ups and downs, we have to admit that, By Kant's time, an unprecedented and mature unified philosophical system had been formed. Kant's achievement is that he delimited the boundary of reason itself for the first time and stipulated the way for reason to obtain knowledge, so that later generations believe that his achievements can be bypassed but can not be surpassed. After inheriting Kant's critical philosophy system, Hegel tried to create his own unified system, but this is the beginning of the end of philosophy. Since Hegel, countless thinkers have tried to create a fundamental theory that can be used as meta interpretation to explain everything. This ambition covers all human knowledge, including physics, ethics, epistemology, history, sociology and so on. Because this ambition is so huge, its temptation to professional philosophers and folk masters has been almost the same for 200 years. However, the theoretical system trying to cover all knowledge is too large, so there must be a variety of logical support points, and the conceptual system is also complicated. Therefore, from the perspective of common sense, the larger the system, the more mistakes and omissions. This common sense judgment was succinctly expressed by Godel, a talented mathematician in the 20th century: a logical system is either incomplete or inconsistent. Therefore, the theoretical attempt of grand narrative is often reduced to a large and inappropriate "ideological display", which has no other use except watching and playing.

It is precisely because there are too many ideological displays that bring another tendency. Since the 20th century, social scientists have stipulated detailed academic norms in form, but acquiesced in the research paradigm of extracting information from pure text for trivial abstraction in method. Its practical function is to provide sufficient discourse threshold for professional scholars and researchers with enough extensive reading. When you try to criticize them, they will calmly throw out the sentence "please read all the materials I refer to before speaking". However, they lack the ability and interest to actually explain the phenomenal world and become "advanced spiritual ornaments" Or an answering machine for "Mastering the masses". In this sense, philosophy struggled to survive as a theological handmaid in the middle ages, and in the modern era, which is increasingly prosperous in expression form, in fact, it has also become a handmaid for some "earthly" needs, and its survival status has not fundamentally changed compared with the middle ages. Once again, social science has seen the rapid development of natural science. Modern physics has even reached or surpassed the edge of human rationality. Social science and philosophy need a new revolution.

Of course, from the perspective of entity, the difficulty of social science is that we observe our behavior and human group itself, which makes this observation unstable, because in addition to the limitation of the observer's perspective, the observation and practice of human behavior may also change the object of observation. When our social community takes a theoretical paradigm to observe or intervene in a group, once the "theory" grasps the masses, the mode and orientation of social behavior may change. In this sense, K-r model attempts to observe the evolution of human society from a traditional and conservative materialist standpoint, which is a scientific tendency. However, it excludes the elasticity of human choice from the historical evolution curve, which will make it difficult for the K-r model to go deep into the historical scale within a hundred years, which will be the fundamental trouble for the progress of the K-r model.

When building the K-r model, Xingshi consciously or unconsciously cited evolution theory as the cornerstone of the theoretical model. The advantage of evolution theory is that it can dynamically explain the process and results of social evolution, and make history get a reasonable explanation when it changes in different directions. However, the problems of evolution theory are still emerging one after another, and it has been criticized by many kinds of critics so far. The most obvious paradox is that evolution theory holds that evolution is "directionless". This feature is reasonable at the phenomenon level, but the problem that social and philosophical theories need to put forward and solve is "directionality". In a word, legitimate scientific theories can not accept the basic conclusion of "no direction". Therefore, both evolution theory and K-r model need to be further explained. When what conditions appear, in what direction will society evolve, which is the appropriate problem. Engels also excitedly introduced and quoted the viewpoint and thought of "evolution theory" in his unfinished work dialectics of nature. But in the end, he didn't continue to write. One possible reason is that it just deviates from the basic concept of dialectical development of Marxist view of history.

To sum up, philosophy and basic social theories need a new "Copernican Revolution", and the energy of this "theoretical revolution" is accumulating. In particular, we can see that the latest physics research has refreshed the most basic epistemological premise of "causality" and "certainty", and mathematical research and artificial intelligence have also improved the one based on "causality" through "correlation" Although the distance between prediction and calculation is still far away, we hope that K-r model can also break through its own limits on the basis of a large number of previous research data, materials and texts. After all, although the author criticizes the research method from text to text, this does not mean that the text is not important. If folk researchers want to break through the barriers set by professional scholars, We still need our own efforts to surpass it.

1. Limits and boundaries of K-r model

How will the K-r model develop in the future based on the existing good foundation? How should it develop? If, as mentioned above, becoming a meta theory that can explain everything has almost the same temptation for professional scholars and folk researchers, Xingshi and future researchers who are interested in working with him to grow and improve the theory need to be vigilant against this "great" direction set by themselves.

In fact, the end of metaphysics is not a new thesis. This problem has been repeatedly raised since Kant. Kant ended metaphysics, Hegel Marx ended metaphysics, Nietzsche ended metaphysics until Heidegger or phenomenology ended metaphysics. This paper does not want to discuss in detail who ended metaphysics, but it is certain that the more valuable direction of a social theory based on the specific element of food production is to move towards the road of scientization. If we continue to study on the road of metaphysics, it is not only difficult to obtain the expected theoretical value, but also easy to slide to environmental determinism and even nihilism on the premise that the effectiveness of the existing theoretical interpretation is still relatively rough and the degree of completion is still relatively low.

Another obvious trend in the development of social theory since the 20th century is to abandon the empty concept of metaphysics, rely on Mathematics and widely combine the research methods and achievements of modern scientific discipline systems such as physics and biology to produce specific empirical social theory. In this trend, economics took the lead in achieving the greatest development because of its natural relationship with mathematics, and even formed the so-called economic imperialism. The penetration and invasion of economics into social theory is even named after itself, such as institutional economics, legal economics and social economics. In fact, what people want to study is system, law or society, and economic theory is just a tool. This impulse to take over has led to many achievements in economics. On the other hand, as Yang Xiaokai said, "it is still in the era of alchemy". He always wants to predict something, but it is almost the same as the magic stick.

K-r model has a natural connection with economics. After all, this is a social game and movement based on the change of grain output, but K-r model must not be grain economics or agricultural economics or land system and property rights economics, but use economic methods, data and existing theories to support and strengthen social theories related to grain production, Instead of studying grain yield or price or land trading system, we abstract the fluctuation of grain yield into basic social risk, and study the driving force of this risk on the overall social movement, as well as the response and reaction of various social groups, all signals and feedback, pressure and strategies, social group consciousness and memory, Are based on confrontation and compromise under this basic risk.

Therefore, the more important task of K-r model is to improve itself in internal logic. Secondly, through the research of more data and mathematical analysis, start to establish a mathematical model, and finally form an executable mathematical model through data collection, analysis, mining and synthesis. If we can do this, we can not only study the formulation guidelines of the basic economic and social policies of a society or country through the K-r model, but also predict the social risks of countries all over the world through it. One belt, one road, can predict the social risk of the "one belt" country, and will provide an effective tool for the smooth implementation of this important national policy and strategy.

The author insists and suggests that under the direction of empirical science, a theory can only solve one problem, and the effective definition domain and value domain of this theory have a certain range. In other words, a theory can explain a specific problem only under certain conditions. Especially today, we are not eager to seek a meta theory that can explain everything, but there is an urgent need for ideas, algorithms and theoretical models to solve specific problems. K-r model should make efforts for the scientific tendency of social theory, which is also storing energy for the future "metaphysics". As the K-r model itself thinks, it is the change of empirical social conditions that promotes the evolution of social thought. When this condition comes into being or even matures, all attempts to meta theory will fail without exception.

In the communication with Xingshi, the author once used a street saying to compare the limits and boundaries of theory. Of course, a pig killing knife can be used to kill pigs and sheep, but if you want such a knife to perform surgery, the result must end tragically in the "rational provisions". An accurate lancet (scalpel) can skillfully solve the due problems, but similarly, the lancet can only be used on the operating table, but it is not easy to kill pigs. More reliable operating table and more accurate scalpel are the inevitable priorities of K-r model. At this time, when we return to Russell's "fanatical myth" again, the researchers of K-r model may have a lot of clear directions for fanatical investment.

GUI Chun, may 2019

# Logic: why is the country prosperous

Exploring the reasons for the rich and poor is the top priority in the study of political economics" (Malthus, 1817). However, there have been different opinions for a long time. In 1991, Huang Zongzhi, a Chinese American historian, published the article "the crisis of normative understanding of Chinese Research - the paradox of socio-economic history". From the perspective of economic and social history research, he pointed out the difficulties of this political economy research: there are defects in the two paradigms derived from Smith and early Marx, which has brought many puzzles to the relevant research. This volume attempts to learn from Darwin's evolution theory and construct a new paradigm on the basis of later Marx's thought as the logical starting point to solve the problem of "rich country and poor country".

## Chapter one: agricultural risk and K-r model

Seven cows came up from the river, beautiful and fat, eating grass among the reeds. Then seven cows came up, ugly and thin, and stood by the river with the seven cows. The ugly and lean seven cows ate up the beautiful and fat seven cows.

Genesis 41:2

### Section 1: is geography not important?

Since Adam Smith, the thinking of rich countries and poor countries has continuously attracted people's attention. In 1776, Smith published a book on the wealth of nations. The English name of the book, "an inquiry into the nature and causes of the wealth of nations", showed this theme. In 1817, decades later, Malthus wrote to David Ricardo: "exploring the causes of the wealth of nations is the top priority in the study of political economics.", Two hundred years later, the search continues. The latest achievement on this topic was made by the famous professor asimoglu and his collaborators (Note: Daron Acemoglu, John Bates Clark award winner, MIT Elizabeth and James Klein Chair Professor of economics, Simon Johnson, former IMF chief economist, MIT Sloan School of management professor, James Robinson, academician of the American Academy of Humanities and Sciences and professor of political economics at Harvard University) That is, it was made by three professors from famous universities collectively known as AJR. What we want to point out here is that although we agree with North's famous saying "institution matters" like AJR, AJR's negation of the importance of geographical factors cannot be established.

AJR's research results are written in the book why the state fails. First, let's review the first example used to deny the importance of geographical factors. At the beginning of the book, it is called "Rio Grande economics" In Section 1 of Chapter 1, AJR made a comparison between two nogares cities located on both sides of the Rio Grande but separated by a wall, belonging to the United States and Mexico respectively:

If you stand next to the fence and look north, you will see nogares, Arizona, in Santa Cruz County. The average family income here is about $30000. Most teenagers and men study in school, and most adults have high school degrees. Although many people criticize how inadequate the U.S. health care system is, the residents here are relatively popular For health, life expectancy is high by global standards. Many residents are over 65 years old and enjoy the protection of the federal medical insurance plan. This is only one of the services provided by the government and taken for granted by many people. There are also services such as electricity, telephone, sewage treatment system, public health, and road network connecting other cities in the region and other parts of the United States And the same indispensable security, etc. citizens of nogares, Arizona can engage in daily activities without fear of life danger and other security threats, theft, expropriation or anything else that will endanger their investment in their career and home.

By contrast:

A few feet away from the fence, things are very different in the south. Although residents of nogares, Sonora Province, Mexico live in the relatively affluent part of the country, the average annual income of families here is only one-third of that of nogares, Arizona. Most adults in nogares, Sonora province do not have a high school degree, and many teenagers do not attend school. Mothers must worry about the high infant mortality rate. Poor public health conditions mean that the residents of nogares in Sonora province live less than their neighbors in the north. They also have no access to many public facilities. The road conditions here are extremely poor, and the level of public security is even lower. The crime rate is very high, and setting up an industry here is a high-risk activity. It is not only possible to be robbed by bandits, but also to obtain various licenses and bribe many people. It is not easy to start business alone. The residents of nogares, Sonora Province, have to live with the corruption and incompetence of politicians every day.

This is a contrasting picture. The two places separated by a boundary river cannot be closer and similar geographically. The people of the two places also have common ancestors and history and culture, but there are great differences in the level of development between the two places. From this, the author infers that the only reasonable explanation is the different systems of the United States and Mexico owned by the two nogares, and the origin of the two systems can be traced back to the beginning of the North American colonies and the Latin American colonies. Therefore, the differences in systems can be attributed to the differences in the formation history of colonial systems.

Then we come to the second example in the book to deny the importance of geographical factors. In Section 1 of Chapter 3, entitled "economics of the 38th parallel of north latitude", AJR compares South Korea and North Korea on both sides of the 38th parallel. It seems to be in sharp contrast to the first example:

The living standards of the people of South Korea are similar to those of Portugal and Spain. The living standard of North Korea, named the Democratic People's Republic of Korea, is similar to that of sub Saharan African countries, only one tenth of that of South Korea. The health of North Koreans is even worse. The average life expectancy of North Koreans is ten years less than that of their relatives south of the 38th parallel. The map drawn according to the night light density data of satellite photography shows the economic gap between North and South Korea in a dramatic form. North Korea is almost dark because of lack of electricity, while South Korea is bright everywhere.

At first glance, these two examples are very convincing. What is more convincing than the contrast between two geographically closely connected cities or countries with the same culture and divided into two to deny the importance of geographical factors? However, such examples are just statistical and psychological tricks loved by the author, and they are not enough to deny the importance of geographical factors.

Since the agricultural age, there have been dozens or even hundreds of civilizations recorded in writing or excavated in archaeology on the earth. In the field of social development with complex causality, to deny the importance of geographical factors, the effectiveness of a few extreme cases is doubtful. Of course, some people will say that a negative example is enough to prove a full name judgment. Let's accept this logic for the time being. Then, these two examples regarded by AJR as typical deny the importance of geographical factors as they imagine?

no, it isn't.

Institution is a complicated concept. The explicit "institution" embodied in the boundary example of AJR, especially the external manifestation of political power. The two nogares on both sides of the Rio Grande have different systems from two political forces. These two political forces come from the core of the United States and Mexico and from different colonial historical paths of both sides. Similarly, the political forces that shape the different systems of South Korea and North Korea, which confront on both sides of the 38th parallel and are at the forefront of the cold war, also come from both sides of the cold war, the core of the United States and the Soviet Union, and from their very different historical paths. Whether it is the United States and Mexico on both sides of the Rio Grande, or the United States and the Soviet Union on both sides of the cold war front, their political reality and origin cannot be proved to have nothing to do with geography. On the contrary, geographical factors cannot be ignored in the historical and practical differences between the United States and Mexico and the historical and practical differences between the United States and the Soviet Union.

Of course, the three authors of AJR do not agree with the role of geographical factors in the formation and evolution of civilizations. In addition to these two boundary examples, they also use many historical examples to demonstrate how those "small and random deviations" lead to huge differences in the process of the formation and evolution of the system of various civilizations. There are too many such examples in the book to be detailed one by one. Let's take a look at AJR's summary description of how the system formed and evolved:

No two societies create the same system. They all have unique customs, different property rights systems, different ways to share prey or plunder finance from other groups. Some societies recognize the authority of the elderly, while others do not; Some societies developed political centralization very early, but others did not. Economic and political conflicts continue to occur in society and are solved in different ways because of historical differences in society, different roles of individuals, or just random factors. These differences are small at the beginning, but they continue to accumulate, creating a process of institutional drift. Just like two isolated species groups will drift away in a process of genetic drift because of the continuous accumulation of random genetic mutations, the two originally similar societies will drift away in the system. However, like genetic drift, institutional drift has no preset path, or even cumulative; Over the course of centuries, it can lead to significant and sometimes important differences. The differences caused by institutional drift are particularly significant because they affect the way society responds to changes in the economic and political environment in a critical period.

Indeed, by comparing the two processes of institution formation and species formation, AJR gives us an image. But is this picture rigorous enough to deny the importance of geographical factors?

no, it isn't.

If AJR could really understand the evolution theory since Darwin, rather than just know some fur, they would remember that there are two main points of evolution theory: "material competition" and "natural selection". As the cumulative product of random mutation, genetic drift does not have a preset direction. However, this does not mean that the process and result of genetic drift are completely random and isotropic, because genetic drift is not only constrained by "competition for things", but also constrained by another evolutionary law, that is "natural selection" The specific natural environment will make tailoring constraints on whether random and non directional genetic mutations can survive. Not all drift possibilities can get the same survival opportunities, and this natural environment is based on the geographical environment. As a part of the life world, human beings cannot be subject to evolutionary constraints, and institutional mutations can be random and uncertain However, how a society's system evolves is also subject to the tailoring constraints of the living environment based on the geographical environment in which the society is located. The "system drift" that "affects the social response to the changes of the economic and political environment in the critical period" is the product of the tailoring constraints of the living environment and is determined by geographical factors.

To conclude the discussion on evolution theory, let's return to the basis of AJR's discussion. This discussion is based on a series of AJR papers, the core of which is the colonial origin of development differences: an empirical study published in the Journal American economic review in 2001 (Note: the other two papers were published in the Quarterly Journal of economics in 2002) "Wealth reversal: the role of geographical factors and institutions on income distribution in the modern world", and "the rise of Europe: Atlantic trade, institutional change and economic growth", published in the American economic review in 2005. Their views and methods are similar to those in the first paper, which will not be discussed in depth here). In this widely influential "empirical" paper, the authors established The logical chain of "colonist mortality - Immigration activities - early system - existing system - current economic performance", in fact, the starting point of this logical chain, colonist mortality, is closely related to tropical diseases and climate. It is itself a factor highly related to geographical environment, and the so-called "path dependence" , that is, the highly consistent inheritance relationship between the existing system and the early system, how can we determine that there is no geographical factor at work? After all, the successive early systems and the existing systems also occur in the same region, such a "highly consistent inheritance relationship" Therefore, the logical chain of this paper can not exclude the importance of geographical factors in its starting point and deduction, but AJR can take this kind of research as the basis to deny the importance of geographical factors in the conclusion. The logic can only become a "mystery" No matter how rich the data collection in these studies and how beautiful the regression analysis are, the logical defects can not be recovered. The basis of AJR is empty.

Put aside the ivory tower fantasy of ajrs, let's face the real world and its historical process. The past and present of any civilization can't get rid of the great role of geographical factors. As AJR said, there are developed urban countries such as Singapore in the tropics, but it is also well known that the economic development here is generally not comparable with that of other regions. Temperate regions have the oldest ancient civilizations, but these once brilliant civilizations are generally backward in the process of modernization. The advanced countries that have sprung up in the past 500 years are generally located at a higher latitude than all ancient civilizations. The great influence of geographical factors in the real world and its historical process can be distinguished by common sense and rationality, and does not need any extraordinary thinking. The Marxist School believes that material determines consciousness, productivity determines production relations, and economic foundation determines superstructure. This is the most straightforward and simple fundamental concept in social science, but its importance is often ignored because it is commonplace. It deviates from this fundamental concept and leaves the specific material living environment to study human society. Ajrs never forget it "System" has become a rootless thing suspended in the air. Waving "economic logic" on the one hand and "regression analysis" on the other hand, denying the importance of geographical factors with "scientific construction" that deviates from real existence and historical experience can only remind us once again of the old saying: "God laughs when human beings think".

Of course, AJR's research on inclusive and extractive systems is wonderful and enlightening. Although this research has no theoretical creativity, it still promotes the thinking related to social development without losing its practical significance. However, as bystanders, we still believe that a more profound discussion is the more fundamental driving force.

Now, let's go back to the questions raised by pioneers like Smith and Malthus 200 years ago. What is the reason why countries are rich and poor? Although the causality in the field of social development is so complex that generations of great scholars and thinkers are tied up, we still have to firmly give our own discussion:

**In the final analysis, geographical factors are the logical starting point of the problem of rich countries and poor countries.**

A good exposition will create a broad speculative space and open the way for a simple and consistent interpretation of Universal facts. Like Professor asimoglu, we disdain to use the contrast between the rich and the poor on both sides of the border to prove the importance of geographical factors. We are not eager to go deep into every detail to express our correctness, but to launch a new discussion on the basis of extensive comparative methods, in order to establish a stable new paradigm and help future researchers to create a new height of social science.

Next, let's start a new discussion.

### Section II: population dynamics of chaos control cycle

According to materialism, the decisive factor in history is, in the final analysis, the production and reproduction of direct life. However, there are two kinds of production itself. On the one hand, it is the production of means of subsistence, namely food, clothing, housing and necessary tools for this purpose; The other is the production of human beings, that is, the reproduction of species. The social system under which people in a certain historical era and region live is restricted by two kinds of production: on the one hand, it is restricted by the development stage of labor, on the other hand, it is restricted by the development stage of family.

Engels: family, private ownership and the origin of the state

All social science research is comparative. However, their analytical theories are different and their comparative dimensions are different.

Wang Huning: preface to comparative political analysis

The rise and fall of chaos control can be regarded as the most remarkable phenomenon in human history, which has always been valued and studied by people. Because of the observation of this phenomenon, the Chinese people in the Warring States period have invented the circular historical view of "civil engineering, gold, fire and water, five virtues from beginning to end". This concept is confirmed by thousands of years of Chinese history and has become a "subconscious" deeply rooted in the hearts of the people. In contrast, Europe, the origin of modern society, throughout its history, although it also has rhythmic rise and fall, such as the "deep breath of the Mediterranean" described by Brodale, a historian of the Yearbook school, or the "two-stage agricultural cycle" described by Brenner, a historian of the Marxist School, the significance of its chaotic ups and downs is far weaker than that of China. Furthermore, in recent hundreds of years, the process of modernization originated in England and went to the world. This process gives a typical impression that it is not "cycle", but "progress".

The traditional concepts of each region explain its own historical path. The five virtues and the salvation of God have always been a long-standing concept "since ancient times". Of course, we can dig deep into the pile of old papers and make "compassionate understanding" from the perspective of the ancients. However, this method has limited help for the purpose of improving our knowledge. Especially in the past 100 years, the development of all regions of the world has been gradually far away from their historical traditions, In the face of this "change of luck", the explanatory power of traditional ideas is even weaker.

Since modern times, western scholars have made further research on the similarities and differences of historical roads in different regions. The focus of these studies is often the rise of the west, and their attention to other regions is secondary. They have their own wonderful explanations of historical roads outside the west, but they also have one-sided defects. Of course, the Chinese people are more concerned about the historical path of Chinese society. The most recent and direct research on this is the paper "the structure of Chinese feudal society: a super stable system" by Jin Guantao and Liu Qingfeng based on system theory and dialectics. This paper attributes the characteristics of the historical path of Chinese society to the consequences of a specific social structure, However, like the above-mentioned traditional ideas and various western thoughts since modern times, this interpretation is too specialized and has made limited progress in improving our understanding of universal history. A good exposition should be able to explain the common facts simply and consistently. Taking this as the criterion, there are still significant defects in various traditional concepts and various historical interpretations of China and the West. Fortunately, in recent decades, the surge of scientific, technological and cultural knowledge has provided us with new tools, new perspectives and new possibilities. The sage said, "all social science research is comparative", and the pursuit of new knowledge promotes us to boldly cross the discipline boundary and find inspiration for the problem of chaos control cycle in a broader range of comparison. Marvin Harris, an anthropologist of Marxist School, proposed in his book cultural materialism that in order to better investigate human society, we should fully understand the importance of human reproduction in addition to the importance of material production. This paper draws on this thought from Engels, uses the knowledge from ecology and evolution theory, and takes the differences between China and the West as the starting point to try to discuss the cycle of chaos control in history. In Chinese and Western history, although the degree is different, there is no lack of cruel social unrest. Of course, the Chinese people have the feeling of "prosperity, suffering of the people, death and suffering of the people", and the Europeans have never forgotten their fear of the four knights of the apocalypse. Starting from Malthus's theory of population, the mismatch between the geometric increase of population and the arithmetic increase of food is theoretically related to social unrest. Although this theory is not perfect, it provides a starting point for future generations and reminds us of the relationship between population, food and chaos control. The rise and fall of chaos in Chinese history needs special attention. One is its significance, which has occurred periodically in the form of the rise and fall of dynasties for thousands of years. The other is its cruelty. During the transition period, there is always a huge number of abnormal population deaths. A picture is worth a thousand words. Let's have a visual experience from the following picture:

Feuerwerker (1990), "Chinese economic history in Comparative Perspective", Zhao, G. (1986), man and land in Chinese History: an economic analysis. (excerpted from Chapter 1, page 10 of China's huge debt by Liu Haiying). As shown in the above figure, in Chinese history, along with the rhythm of the cycle of chaos control, the rapid increase of the population governing the world, And the drastic decline of the population in troubled times. It is in sharp contrast to the relatively slow population fluctuation in European history. Then, why does this particularity of Chinese history come from? Human history is unique. We cannot create a laboratory to reproduce and manipulate the course of a society. However, as a member of biological groups, human beings are not unique in the world. Compared with other organisms, the population of human society is equivalent to the population of other organisms. With the accumulation of modern biological knowledge, we know that this phenomenon of sharp fluctuation in the number of biological populations is not rare. In fact, in some biological populations, the periodic sharp fluctuation of population number is even a normal state.

Ecological research has explained the sharp fluctuation of biological population with the so-called life history strategy theory, which also provides inspiration for us to understand the "time between heaven and man" between the natural environment and human society. Life history strategy can be understood as the adaptive response to the living environment formed in the long-term evolution of organisms. After decades of rich development, it has included a series of interrelated theories. Instead of going deep into ecology itself, as a reference, we will only make a brief introduction to the most basic concept of life history strategy theory, K-r strategy.

R-strategy: some organisms live in unpredictable and changeable environments, such as areas with periodic climate disasters. Under the pressure of selection, they show the characteristics of high birth rate, rapid development, short life span and small individual. They lack the mechanism to protect their offspring, have weak competitiveness, but have strong diffusion ability.

K-strategy: some organisms live in a predictable and stable environment, such as areas with rare climate disasters. Under the pressure of selection, they show the characteristics of low birth rate, slow development, long life span and large individuals. They have a relatively perfect mechanism to protect future generations, weak diffusion power, but strong individual competitiveness.

Ecological research tells us that the population of r-strategists living in unpredictable and changeable environment often changes violently, suddenly erupts and drops violently, which is similar to the population change in China seen in the figure above. Accordingly, the population of K-strategists living in a predictable and stable environment changes slowly and converges relatively, which is similar to the population change in Europe in the figure above.

Comparing the historical changes of Chinese population and European population, we are inspired to extend the K-r strategy to the observation of human society. So, how do we understand the comparison of population changes in Chinese and Western history? Can we say that the Chinese are r-strategists and the Europeans are K-strategists?

From the physiological characteristics, the answer is No. On the physiological level, compared with other organisms, all humans can be said to be typical K-strategists. Humans usually have only one offspring at a time, and the offspring have a long early childhood and need careful care, so it is impossible to raise too many children in their whole life. Compared with other creatures, human life is also relatively long. Although the body shape is not prominent, it is not "small" in the modern biological world Finally, as a species at the top of the biological chain, there is no doubt about the competitiveness of human beings in the ecosystem. The physiological characteristics are stable and universal, and there is no difference between Chinese and Europeans in this regard.

However, the reason why human can occupy the top of the biological chain is because of his strong adaptability, which comes not only from physiological characteristics, but also from behavioral complexity. Human beings use language and other means to create social behaviors that are far more complex than other animals. In short, human beings have culture, system and rely on the division of labor and cooperation between individuals, so that human adaptability breaks through the limitations of individual ability. Then, at the level of cultural system, what can the differences between China and the West inspire us? From the study of history and society, we know that there are some lasting differences in cultural systems between China and Europe. In China, there are many children who share equally and are polygamous. Early marriage and early childbearing are common, and women of childbearing age have full marriage. In Europe, there are more eldest son inheritance systems, monogamy, late marriage and late childbearing are common, and some women of childbearing age do not marry (Note: refer to the new interpretation of Hajnal line & Todd diagram in Section 2 of Chapter IV of this volume). Compared with the two, China's cultural system tends to disperse land and other resources, resulting in faster population proliferation and family growth. The European cultural system tends to concentrate land and other resources to enhance individual wealth and competitiveness.

The essence of the dichotomy of K-r strategy is the trade-off between the pursuit of group quantity or individual competitiveness under limited resources. Looking at the differences in social life between China and Europe from this perspective, it is not difficult for us to see the intuitive expression of this trade-off in cultural systems such as marriage inheritance, and distinguish the differences similar to the comparison of r-K strategies. Therefore, we promote the understanding of K-r strategy, classify the cultural system that gives priority to promoting the number of groups as R strategy, and the cultural system that gives priority to enhancing individual competitiveness as K strategy.

From the study of ecology, we know that the K-r strategy of the population evolved in the adaptation to the living environment. Accordingly, the tendency of K-r strategy in the cultural system of human groups comes from the complexity of human social behavior to make up for the limitations of physiological ability in adapting to the changes of living environment. Like other species, it is the different living environment that leads to the different choices of human groups on the tendency of K-r strategy.

For human beings, the so-called predictable stable environment and unpredictable changeable environment in ecology, that is, the environmental classification that leads to the tendency of K-r strategy, what is its practical meaning? Compared with other creatures, human adaptability to the living environment is extreme due to the ability to make tools and use resources. From desert to rainforest, from polar to equator, no other creatures on the earth can adapt to and survive in various environments with such great differences like human beings. However, human beings still depend on survival materials like any living creature. For plants, survival depends on sunshine, rain and dew. And human beings, like other animals, the primary materials for survival are food and water. The history of human civilization began with the agricultural era. Food has become the main food source for mankind since then. Livestock is the food equivalent on the grassland, which can also be simplified and incorporated into the concept of food. Therefore, from the beginning of civilization to today, the most concentrated embodiment of the stability and predictability of the environment is the stability and predictability of food production.

In the East Asian region where China is located, food production depends on monsoon rainfall, and the climate in the monsoon region is unstable. In years with strong monsoon, it brings more water vapor and precipitation, which is easy to cause floods. In weaker years, less water vapor is brought, and less precipitation can be formed, which is easy to cause drought. At the same time, the change of monsoon intensity is also accompanied by the problem of rainfall balance between regions. More rainfall in one region and less rainfall in another region often occur at the same time. Therefore, in China, waterlogging in the South and drought in the north or waterlogging in the South and drought in the North are often either or seesaw. This regular and irregular annual monsoon change brings instability and unpredictability to grain production in a large area in a short period of time. In addition, there are long periods of rapid climate change at intervals of hundreds of years. Through the investigation of biological traces by geological drilling, relevant scientific research has found that there are large and small climate cycles of about 300 years and more than 100 years in East Asia. In the temperature drop phase of a specific cycle, the average temperature can drop by more than 1 ° C in less than a hundred years. Intuitively, it may be difficult for us to understand the impact of this change on food production, so we can refer to the medieval warm period that lasted for hundreds of years and made agriculture prosperous in northern Europe. During this period, the average temperature in northern Europe increased by only about 1 ° C. The average temperature has dropped by more than one degree in less than a hundred years. Under the pre-modern production conditions, the speed and amplitude of this change are enough to cause sustained and severe grain production reduction in a large area of East Asia.

This high uncertainty of grain production in the short term and the disastrous continuous reduction of grain production in the long term force mankind to make an adaptive response to it, which explains the r-strategy tendency in China's regional cultural system.

So how does the unstable climate environment promote the r-strategy tendency in the cultural system?

The uncertainty of climate change is the superposition of unpredictable changes in various periods and amplitudes, which has an extremely complex model. The impact on human behavior strategies also has extremely complex consequences. Not only because of the limited understanding of this complexity, but also in order to simplify the description, we only discuss the changes of grain production in the short and long periods, which are more obvious and divided. The climate instability in the short term will lead to unpredictable changes in grain output. The struggle around its risks will reduce the benefits of resource investment in grain production, and then reduce the benefits and accumulation of grain production. In turn, this situation limits the ability to invest resources in food production. The low efficiency and low input of food production hinder the improvement of food production efficiency. In the end, the low efficiency of food production, coupled with the fluctuation of food production caused by unstable climate environment and the weak transportation and reserve capacity under pre-modern conditions, make the margin of security of food supply very low, Human beings living in this situation can not get rid of the high-risk survival state.

The difficulty of wealth accumulation, coupled with the high-risk survival state, makes the strategic choice of relying on wealth to increase survival advantage not dominant. More offspring and larger relative groups have more opportunities to continue the family in this living environment. Therefore, among the trade-offs of various survival strategies, the dominant tendency is more fertility, not more wealth accumulation. This is the driving effect of agricultural risk on r-strategy tendency in cultural system in a short period.

Robert Brenner, a historian of the Marxist School, made the best expression of this high-risk survival state in the study of the origin of capitalism with the comparison between Britain and the European continent as the core. Here is a direct reference: specialization conflicts with the goal of farmers' pursuit of economic security in many aspects. Given the unpredictability of agricultural harvests, specialization means risking total failure. In the case of poor harvest, grain prices will rise because of the reduction of supply. Therefore, the possibility that consumers can buy consumer goods other than grain is greatly reduced, which will lead to a decline in the prices of other consumer goods. Under such circumstances, farmers engaged in specialized production will find themselves trapped in such a scissors gap, that is, on the one hand, they have to spend high prices to buy food in the market, on the other hand, they have to sell their non food products at low prices, which reduces their income. When such a scissors difference tends to be extreme, it will lead to closure, which may mean disastrous consequences such as hunger and even death. Farmers cannot bear such risks, so they must avoid market dependence and specialization risks, and prefer to take "safety first" and "survival production" as reproduction rules, that is, continue diversified self-sufficient production, and only trade the material surplus beyond their own survival needs in the market. Farmers' demand for disease and old-age security also goes against the trend of specialization, because their demand is essentially "uneconomical" - especially in order to ensure that children in the family can support themselves, parents have to have more children to form a big family. However, if farmers' families rely on and obey competition (i.e. engage in specialized production), such a strategy is not feasible, because raising more children does not comply with the cost-benefit principle, that is, the cost of raising children is much higher than the income that children can bring to families, and leads to the non competitiveness of farmers' economic units. Therefore, for the sake of insurance, we must specifically avoid specialization and bear the resulting survival competition. The wise choice at this time is "survival production". The move of farmers to subdivide their land is also based on the same reason, that is, to provide material support for their sons (who may provide pension for their parents in the future) to continue the family incense. Like raising many children, the subdivision of family land is also an uneconomical choice, because it will reduce the area of land and naturally lead to the reduction of economic benefits and the weakening of competitiveness. However, farmers have to subdivide their land for livelihood and family continuity. In view of this (plus other reasons), they once again avoid specialization and choose the reproduction rule of "safety first". Finally, it should be added that in order to benefit the son at home, the parents generally not only provide the material basis for the son to form a new family by subdividing the land, but also prepare for it as soon as possible so that the son can get married early. In order to make such an approach economically feasible, farmers have to avoid market dependence and specialization. In view of the above reproduction rules selected by farmers, on the whole, farmers will choose survival production, early marriage, more children and subdivision of land products, which will avoid specialization and cause Population expansion (with diminishing marginal benefits). Early marriage and having more children led to population increase, which in turn led to settlement expansion and farmland subdivision. The expansion of settlements led to worse land becoming cultivated land, while farmland subdivision led to the decline of land labor and capital labor ratio. These two long-term development trends jointly led to the inevitable trend of medieval agriculture, namely The decline of labor productivity is reflected in the rise of food prices, the decline of wages and the trade (relative price) of industrial and agricultural products Deficit. This is a development model opposite to self-sufficient growth. Due to the reduction of agricultural per capita output, the proportion of urban population in the total population will be strictly limited, that is, it will not exceed 12% ~ 15% before 1700. Perhaps the most critical thing is that with the decline of labor productivity, when population growth crosses a critical point, it will lead to famine , disease did not limit the size of families. Population growth in Europe reached its limit between 1300-1350 and 1560-1620, and then triggered a "general crisis" in the 14th and 17th centuries. This shows that during 1100-1750, stable economic and population growth was not interrupted by some short pauses, but two "agricultural cycles" , which is marked by the long-term population growth and the decline of per capita marginal output, followed by the emergence of the opposite trend characterized by long-term population stagnation, attenuation and exhaustion. (Brenner, from history to theory: Europe's transition from feudalism to capitalism, see Chapter 5 of the Chinese translation of Brenner's anthology NEW interpretation of Marx's theory of social development) For Chinese farmers, in addition to the unpredictability of grain output in a short period similar to that in Europe, there are worse conditions waiting for them. As mentioned above, in addition to the climate instability in a short period, there are also long-term rapid climate changes in China, which will lead to sustained and severe grain production reduction in a wide range of regions and eventually lead to economic losses A large number of people have lost their food supply. The survival crisis around these people will lead to severe anarchy chaos and refugee war, which in turn will promote further grain production reduction. Therefore, the political difficulties and military crisis centered on grain shortage promote each other, and the social order is rapidly collapsing. This happened repeatedly in the turbulent period of ancient China The historical process of.

In this kind of "burning jade and stone" Under the pre-modern mobilization conditions, having strong personal competitiveness, such as wealth and skills, is limited to the survival of individuals and even ethnic groups. From families to ethnic groups, if they are r-strategists relative to others, their population base will be relatively large, and their survival opportunities will increase significantly under the pre-modern mobilization conditions. Modern people There is no intuitive experience of the pre-modern turmoil, which may be difficult to understand. There is an online "Urban Survival Report of the civil war in Yugoslavia" , a modern version of this anarchy is described for reference. This report will remind us how much mutual support between relatives and friends can help us survive in an anarchy environment where people and people are enemies. Therefore, the periodic rapid climate change in a long period of time is superimposed with the climate instability in a short period of time- The repeated promotion of strategic tendency and the r-strategy of rapid population expansion will become a common choice for all ethnic groups in China.

So, what kind of impact will this general r-strategy tendency have on human survival and development?

The tendency of r-strategy to rapidly expand the population will promote the land use mode consistent with this tendency. The rapidly expanding population will not only promote the opening of wasteland to expand the area of cultivated land, but also promote the investment of more labor in unit cultivated land to improve the marginal output, which will eventually lead to the rise of the ratio of people to land and the total population, and reduce the safety margin of food supply. Finally, but perhaps the worst is that agricultural technological progress under pre-modern conditions has limited ability to cope with climate change. Such technological progress can not substantially reduce agricultural risks. Combined with human r-strategy tendency, it can raise the population level and lower the safety margin of food supply, Thus, it strengthens the universality and severity of the next food crisis. During the new round of large-scale and continuous grain production reduction, it will lead to more complete anarchy and larger-scale refugee war, which in turn will further strengthen the r-strategy tendency in the cultural system.

From the above discussion, we can conclude that:

The unpredictability of high-level grain production and the tendency of R strategy strengthen each other, locking in the thousands of years of historical road of Chinese society from the beginning of civilization to the green revolution. The chaos control cycle characterized by wavy population growth and deepening social crisis is the visual presentation of this historical road.

### Section III: agricultural risks and human behavior

The way people use to produce their own means of livelihood first depends on the characteristics of the ready-made means of livelihood they get and the means of livelihood they need to reproduce. This mode of production should not only be examined from the aspect that it is the reproduction of personal physical existence. To a greater extent, it is a certain way of activities, a certain form of expression of their life, and a certain way of life of these individuals. How individuals express their lives, so do they. Therefore, what they are is consistent with their production - consistent with what they produce and how they produce. Therefore, what individuals are depends on the material conditions under which they produce.

Marx: Volume I of German Ideology, chapter Feuerbach, human consciousness of historical and social differences between each other has a long history and can be found everywhere. As far back as the classical times, Aristotle has described the different social characteristics of Greece, Germania and the eastern world (Egypt, Syria and Persia) in his book political science. The Greeks call the northern ethnic groups outside their own land "barbarians", and our Chinese have long regarded ourselves as shangguo to distinguish between the surrounding "barbarian" ethnic groups. With the increasingly frequent exchanges between the eastern and Western world and the widening development gap since the era of great navigation, this sense of difference has become more clear. Hegel advocated that the Christian Germanic world is "the peak of the world spirit" in his book philosophy of history, and commented on the stagnation of "no history" in China. In his book ancient law, Maine "From identity to contract" The change of history and society distinguishes the progressive society from the stagnant society. Then, why do the historical and social roads of various human groups that have been connected and communicated with each other in history have such different trends? Different perspectives lead to different explanations. The causes of historical and social differences are interpreted by the sages as different gods, races, geography, culture, contingency, etc Each explanation brings us inspiration, but no one can simply and consistently cover the general historical and social experience. The research of history and the process of modern society have accumulated a lot of materials for the comparative study of historical and social differences and changes. Accordingly, the sages have also had rich research results on this issue. This paper will not be repeated Continue to add materials or annotate predecessors, but with the help of inspiration from philosophy, ecology and evolution theory, and with the interaction between natural environment and human society as the core, to discuss the impact of natural environment on human history and society. I hope it can be used as a reference for investigating historical experience and provide a new perspective for studying historical and social differences and changes An abstract discussion, we will try to simplify the expression in order to highlight the analytical framework. First, the history of agricultural risk and social relations is the sum of all human actions, and different historical and social roads are finally presented in every action of everyone. Man is the sum of all social relations, and every action of everyone depends on a specific social relationship network Therefore, the nature of social relations has become the constraint of the historical and social road. Investigating the differences of social relations has become a perspective to investigate the differences of historical and social relations. First, let's discuss the concept of "master slave relationship" and use it to abstract social relations. Master slave dialectics is a concept derived from Hegel's philosophical system The French philosopher koyev, a "right-wing Marxist", gave full play to this concept and made it the cornerstone of his historical philosophy. We use the form of koyev's historical philosophy for reference and from the perspective of evolution theory to revise the master slave dialectics into "master slave relationship", and use it as the starting point of the discussion. (Note: most of koyev's works are laborious to read. Please refer to Appendix 1 of this book: Dialectics of masters and slaves, heroes and the end, koyev) The master slave relationship is understood here as a game relationship between people. In the master slave relationship, both sides fight and cooperate, and the master slave relationship is unequal. The establishment of the master slave relationship, that is, the so-called "recognition", is the result of confrontation, but "recognition" In itself, it is a kind of tacit cooperation. What both masters and slaves pursue as individuals is the same thing, that is, the survival advantage in the sense of evolution. Both masters and slaves have the same rejection of death. The master does not just pursue the recognition of the slave without fear of death, nor does the slave recognize the master just because of fear of death. The strong pursue it with the courage of defying death Master status, requiring the other party to "admit" is a game means to seek comparative advantage. The weak are willing to live under the other party and "admit" The other side is a trade-off under a specific cognition, because the relative disadvantage as a sub optimal choice is better than death. The opposing sides become masters or slaves, which is also an accidental result of the trade-off of pursuing survival advantages. The premise of the establishment of the master slave relationship is that there is more than food. Otherwise, the only rational choice for the two sides who meet on a narrow road is to escape the other side or risk their lives to kill If the other side dies, the two sides have no basis for common survival, so there will be no master slave relationship. The reason why the agricultural era has started the process of civilization is that the emergence of food surplus allows the conflicting sides to survive together under certain interest arrangements, and there is room for mutual compromise, rather than being doomed to life and death. Therefore, the master slave relationship is established. In a civilized society The social relationship between people is the concrete manifestation of this master slave relationship. Since the agricultural era, human beings rely on food for survival, and food depends on the natural environment for production. Food production has a significant impact on human survival, universal and sustainable, and has become the benchmark factor of human survival risk. Low per capita output and poor stability will push up the survival risk of human beings, and vice versa It will reduce the survival risk of mankind. This survival risk derived from grain production is called agricultural risk. The output and stability of grain constitute the core of agricultural risk. In the long historical period of the pre green revolution, the fundamental force determining this risk is the attribute of the natural environment, not human ability. The natural environment has various attributes on grain production Climate is the main factor, climate and its change have relatively stable characteristics, and human food production skills are relatively stable. The combination of the two will cause fluctuations in specific patterns of food production and constitute specific patterns of agricultural risks. Masters and slaves are cooperative, and both sides benefit from cooperation, coping with agricultural risks from nature and improving the survival of both sides Opportunities for renewal. Masters and slaves are also unequal. Masters gain more interests and have more opportunities for survival, while slaves gain less interests and have less opportunities for survival. The pursuit of survival advantages will promote both masters and slaves to pursue a larger share of interests and lead to confrontation with each other. Master slave relationship is an abstract expression of social relations, and the survival risk brought by this confrontation between masters and slaves is specific Contained in various social relations, we call it order risk. In order to simplify the discussion and the investigation of risk, here we give up the in-depth study of risk model and only roughly determine the level of risk. In order to strive for more share in benefit distribution and adopt the strategy of high confrontation intensity, order risk will be increased while reducing agricultural risk. When When the increase of (order) risk brought by it exceeds the decrease of (Agriculture) risk, it will not pay off. In order to reduce the order risk, adopt the strategy of low confrontation intensity. While reducing the (order) risk, it will also reduce the income in benefit distribution, so as to increase the (Agriculture) risk. When the decrease of (order) risk brought by it is lower than that of (Agriculture) When the risk increases, the gain will outweigh the loss. Therefore, under a specific level of agricultural risk, in order to pursue the survival advantage, either of the owner and slave needs to make a balance between the two burdens of agricultural risk and order risk. Under a high level of agricultural risk, a small gain or loss of interest can cause a great change in the survival advantage. Adopt the strategy of low confrontation intensity Therefore, under the pressure of choice, the strategy of low confrontation intensity will be restrained, and social relations will reflect the characteristics of low compromise confrontation. Under the low level of agricultural risk, the greater benefits and losses will only cause less losses Change of survival advantage. Adopting the strategy of high confrontation intensity can reduce the agricultural risk burden, and the resulting increased order risk burden may also lead to the sharp attenuation of survival advantage, which is not worth the loss. Therefore, under the selection pressure, the strategy of high confrontation intensity will be restrained, and social relations will reflect the characteristics of high compromise cooperation. In conclusion, regardless of It is due to the "lesser of the two evils" within human cognitive ability Second, agricultural risk and social structure after examining the relationship between social relations and agricultural risk, we further consider the complexity of social relations. The high intelligence of human beings makes human behavior show a high degree of diversity and flexibility in confrontation and cooperation Activity. In the competition for survival, human individuals do not fight alone, but rely on the community to confront and cooperate with each other inside and outside the community. The overlapping communities, large and small, constitute a complex network. The relationship between the communities in such a network and the relationship between the members of each community become the basis of social relations Specialization and concretization. The essence of social structure is the existence form of each community and its internal and external relations. Individuals in the community have low antagonism and high compromise. They cooperate to form a collective force and strive for advantages in the confrontation with the outside of the community. The higher the agricultural risk, the more they promote the confrontation strategy of low compromise between mankind. The confrontation strategy of low compromise Promote mankind to strengthen the "distinction between ourselves and the enemy" We call it a closed social structure. The lower the agricultural risk, the more we promote the highly compromise cooperation strategy between mankind. The highly compromise cooperation strategy promotes mankind's "creative conflict resolution" To sum up, the constraints imposed by agricultural risk on social relations make agricultural risk the benchmark factor for shaping the characteristics and interaction of the community Third, agricultural risk and population reproduction. Family is the basis of human's own "reproduction". It has fewer offspring for him

Therefore, drawing on the concept of life history strategy in ecology, we define the two strategic tendencies of human behavior:

**R-strategic tendency: strategic tendency to adapt to high agricultural risk environment, such as low compromise, high resistance to social relations, closed social structure, high fertility rate, self-sufficient economy, etc**

**K-strategic tendency: the strategic tendency to adapt to the low agricultural risk environment, such as high compromise, low confrontation, social relations, open social structure, low fertility, division of labor and exchange economy, etc**

6、 Stagnant society and progressive society human activities to strive for survival advantages are not only adapting to agricultural risks, but also constantly changing agricultural production conditions, and then changing the level of agricultural risks. Different strategic tendencies adapt to different levels of agricultural risks and have different effects on agricultural production conditions. Long-term iterative accumulation will cause greater and greater historical and social differences.

The high level of agricultural risk promotes the r-strategy tendency. The high fertility rate will increase, rapidly improve the population level, reduce the surplus of arable land, and increase the human land ratio when the arable land is limited. More human input per unit of land will bring diminishing marginal benefits and reduce per capita surplus. Furthermore, the social relations, social structure and economic forms that adapt to high-level agricultural risks, work together with demographic factors, which hinder capital accumulation, division of labor exchange and technological progress. In the long run, this will make high-level agricultural risks self consolidating. The accumulation and application of low trust, low capital and low technology will eventually bring the society to a standstill. This "stagnation" is not static, but a circular movement without development.

Low level agricultural risk promotes the K-strategy tendency. Low fertility will maintain the convergence of population relative to environmental carrying capacity, retain the surplus of arable land and maintain a low person land ratio. Per capita has more cultivated land, which will maintain a high level of per capita surplus. Further, the social relations, social structure and economic forms adapted to low-level agricultural risks, and the interaction with demographic factors contribute to the promotion of capital accumulation, division of labor exchange and technological progress. In the long run, this will make low-level agricultural risks self consolidating. The accumulation and application of high trust, high capital and high technology will promote the sustainable progress of society. This "progress" will not be uniform and linear, but cumulative development under disturbance.

To sum up, the dichotomy of agricultural risk level consolidates itself and forms a path restriction similar to the "right wall principle" in social change: Although society is disturbed and evolved from time to time, social progress will not be seriously damaged in the environment of low-level agricultural risk, while social progress will be finally capped in the environment of high-level agricultural risk. Because the living environment of each society has relatively stable natural characteristics, the level of agricultural risk it faces is also relatively stable. This self consolidation under the interaction of agricultural risk and human action stipulates different historical and social paths of different societies. 7、 Are these all true? The true and false merits of a discourse are influenced by three factors. Firstly, whether its basic assumptions are reasonable, secondly, whether the reasoning and deduction is logical, and finally, whether its conclusion is consistent with the facts. The basic assumption discussed in this paper is the abstraction and construction of historical experience on the basis of observation and thinking. Please criticize whether it is good enough. Whether the reasoning and deduction based on the hypothesis is logical is a relatively objective problem. Please criticize it. Whether the conclusion is in line with history and reality needs empirical research. Whether the consistency between agricultural risk and various social phenomena such as population, politics and economy is established needs in-depth quantitative investigation. Although this is not an easy work, with the great progress of measurement methods in various social disciplines such as anthropology, sociology, political science, economics and so on, such empirical research can be realized in theory. The preliminary work can start with the measurement research based on hajinal line and Todd diagram (Note: refer to section 2 of Chapter IV of this volume) The new interpretation of hajinal line and Todd chart can verify the K-r model by measuring the consistency of agricultural risk in various regions with family structure and economic and social development. Of course, before the empirical research is fully realized, the true and false advantages and disadvantages of this discussion depend on the rational judgment of readers.

## Chapter two: Reinterpretation of the origin of capitalism

The mutual relationship among nations depends on the development of each nation's productivity, division of labor and internal communication. This principle is recognized. However, not only the relationship between a nation and other nations, but also the whole internal structure of a nation itself depends on the development of its production and internal and external communication. The development level of a nation's productivity is the most important It is obviously reflected in the development degree of the national division of labor.

Marx: German Ideology, Volume I, chapter Feuerbach

After the ancient slave cultivators, a kind of farmer called split sharecropper in France today gradually appeared. This kind of farmer is called coloni partiarii in Latin. In England, this system has long been abolished, so I don't know what they are called in English.

Adam Smith: on the wealth of nations, Chapter 3, Chapter 2 discusses the inhibition of agriculture in the old state of Europe after the collapse of the Roman Empire

(Note: This article is not a complete exposition of the origin of capitalism. Alan M. wood, a political scholar of the Marxist School, in the origin of capitalism Based on the work of Robert Brenner, this book summarizes various views on the origin of capitalism. This paper is a comment on some of the main views, and uses these comments to lead to a new view of the K-r model on the origin of capitalism. The origin of capitalism is a complex problem that has caused a long-term debate. The goal of this article is limited, but it just attempts to point out A new perspective under the K-r model still lacks a complete and throughout discussion on the origin of capitalism, which may cause difficulties in understanding. Please refer to the original text of Alan M. wood when necessary.)

Compared with the traditional societies around the world that have lasted for thousands of years, the modern society with the rise of capitalism as its source is a new thing. Even if Alan McFarlane pushed the "origin of individualism" in England to the 13th century, it is less than a thousand years since the seeds of modern society germinated. The industrial revolution marks the all-round rise of capitalism, and the great changes it has caused have attracted the attention of the world in the same era. Marx wrote in the Communist Manifesto that "the productivity created by the bourgeoisie in its class rule of less than 100 years is more and greater than all the productivity created by all generations in the past", Li Hongzhang, such a traditional social elite, lamented that "the situation has not changed in 3000 years" in the face of the Western forces coming across the sea and the ocean. The industrial revolution has brought such great changes to human society that some modern scholars, such as Gregory Clark, an economic historian, simply believe that it is the only important thing in world history. The distinction between before and after the 18th century is the only important distinction in world history. However, can the various "traditional societies" before the 18th century really ignore their differences and be regarded as one?

Let's go back to the starting point of the problem and think about the origin of capitalism again.

The classic discussion on the origin of capitalism began with Adam Smith, the founder of economics, and repeatedly appeared in the discussion of "progress" in classical political economics, the enlightenment and various modern history discussions. Alan M. wood, a political scholar of Marxist School, called it "commercialization model". Under this discussion, since the beginning of human history, rational individuals have participated in exchange behavior in order to seek their own interests. The technological development represented by the progress of production tools makes the two complementary behaviors of division of labor and exchange increasingly developed and specialized. Therefore, commercial activities gradually mature in a long history and are liberated from the constraints of politics and culture. Capitalism, which is equivalent to commercial society, naturally appears as the highest stage of progress. Under this discussion, compared with the early social forms, capitalism is not qualitatively different, but more a kind of quantitative accumulation, the expansion of the market and the strengthening of the commercialization characteristics of economic life.

Based on the discussion of commercialization model, since the 19th century, many sociologists and historians, such as Marx, Weber, Brodale and pirana, have made their own research and interpretation on the origin of capitalism. There are various emerging theories about the development of capitalism, such as demographic model, world system theory, dependency theory and so on, which can also be regarded as an extension of the commercialization model. Such as the rational man hypothesis of neoclassical economics, Michael Mann's historical sociology research and so on, are also closely related to the commercialization model. Karl Polanyi's great change is a rare exception to challenge the commercialization model, but this challenge is not complete.

As mentioned earlier, Smith's "commercialization model" has a great impact. However, there is not only this kind of discussion on the origin of capitalism, but also one which is very different from the "commercialization model", which originates from Marx's discussion. Marx followed Smith's ideas in his early works, but in the critical outline of political economy and capital, Marx opened up a new way and expressed a new principle, that is, "capital" is a specific social relationship, not wealth itself. According to this principle, simple wealth accumulation is not the decisive factor in the origin of capitalism. The real origin of capitalism is a transformation of social property relations:

Money and goods, like means of production and means of livelihood, were not capital at first. However, this transformation itself can only occur under certain circumstances, which can be summed up as follows: two very different commodity owners must oppose and contact each other; On the one hand, they are the owners of money, means of production and means of living. They want to buy other people's labor force to increase the total value they own; On the other hand, they are free workers, the sellers of their own labor, that is, the sellers of labor. Free workers have a dual meaning: they themselves do not directly belong to the means of production like slaves and serfs, nor do they have the means of production like owner farmers. On the contrary, they are free from the means of production, separated from the means of production and lost the means of production. This two-level differentiation of commodity market has created the basic conditions of capitalist production. Capital relationship is based on the separation of ownership between workers and labor conditions. Once capitalist production has a firm foothold, it will not only maintain this separation, but also reproduce it on an expanding scale. Therefore, the process of creating capital relations can only be the process of separating the ownership of workers and their working conditions. On the one hand, this process transforms social means of living and means of production into capital, on the other hand, it transforms direct producers into hired workers. Therefore, the so-called primitive accumulation is just a historical process of the separation of producers and means of production. This process is therefore "primitive" because it forms the pre history of capital and the corresponding mode of production. (Chapter 24, Volume I of Das Kapital)

This transformation is a unique historical process that took place in British villages:

In the history of primitive accumulation, all changes that promoted the forming capitalist class are epoch-making events in history; But the primary factor is that a large number of people are suddenly forcibly separated from their means of subsistence and thrown into the labor market as proletarians without legal protection. The deprivation of the land of agricultural producers, that is, farmers, forms the basis of the whole process. This history of deprivation has different colors in different countries, in different order, through the impassable stage in the impassable historical era. Only in Britain does it have a typical form, so we take Britain as an example. (Chapter 24, Volume I of Das Kapital)

After Marx, the most important historical research of Marxism is based on Marx's own criticism of Smith's concept of "primitive accumulation". After the Dobb Swazi debate in the 1950s and the Brenner debate in the 1970s, Marxist scholars have made in-depth clarifications on many aspects of the origin of capitalism, and revealed the internal defects of the commercialization model and its kinship discussion. Specifically, under these discussions, in terms of income distribution among classes, long-term economic growth and productivity development, the same factors will produce very different and sometimes contradictory effects in different countries. This is enough to make people question the rationality of causal logic in these discussions, and seriously weaken the explanatory power of these discussions. However, despite the successful criticism of the commercialization model, there is still room for further deepening the Marxist School's interpretation of the origin of capitalism. This paper is an attempt to further explain the research results of the Marxist School. First of all, let's look at the recent and most important achievement on the origin of capitalism, the study of agricultural capitalism by Robert Brenner, a historian of the Marxist School. Brenner analyzed why the main population of medieval European continent, farmers, could not participate in division of labor and exchange with specialized production, not only selling products in the market, but also buying means of livelihood in the market, as Smith envisaged and as happened in capitalist Britain, So as to gradually embark on the road of Capitalism: specialization conflicts with the goal of farmers' pursuit of economic security in many aspects. Given the unpredictability of agricultural output, specialization means risking total failure. In the case of poor harvest, grain prices will rise because of the reduction of supply. Therefore, the possibility that consumers can buy consumer goods other than grain is greatly reduced, which will lead to a decline in the prices of other consumer goods. Under such circumstances, farmers engaged in specialized production will find themselves trapped in such a scissors gap, that is, on the one hand, they have to spend high prices to buy food in the market, on the other hand, they have to sell their non food products at low prices, which reduces their income. When such a scissors difference tends to be extreme, it will lead to closure, which may mean disastrous consequences such as hunger and even death. Farmers cannot bear such risks, so they must avoid market dependence and specialization risks, and prefer to take "safety first" and "survival production" as reproduction rules, that is, continue diversified self-sufficient production, and only trade the material surplus beyond their own survival needs in the market. (Brenner, from theory to history: Europe's transition from feudalism to capitalism) based on Brenner's analysis, we make the following inference with the simplest and straightforward logic: since British farmers, who are also the main body of the population, are not trapped in "diversified self-sufficient production" like their counterparts in continental Europe, they dare to give up "safety first" And the reproduction rule of "survival production", so that specialized production depends on market exchange to survive, so as to embark on the capitalist road, then the "unpredictability" of British agricultural output is very low, and the risk of specialization is tolerable. In other words, in the UK, the "scissors gap" caused by poor grain harvest means that while grain prices rise, the prices of other consumer goods fall, which is not enough to threaten the survival and development of specialized producers.

This logical inference may immediately raise the question that agriculture has "depended on heaven" since ancient times, and "heaven" is unpredictable. Can Britain be an exception? Indeed, agricultural production is highly dependent on the natural environment, especially the climate. Climate change is highly unpredictable. Even today, when science and technology are highly developed, it is difficult to accurately predict the weather change in a few days, let alone the past. However, with regard to agricultural production, we should pay attention to one thing, that is, although it is equally difficult to predict the change of "day" all over the world, climate change itself has different models all over the world, which leads to the "unpredictability" of different levels of agricultural output. From this, we further express our inference as follows: the unpredictability of agricultural output brought by the natural environment, especially the climate environment, is different all over the world. There is a scale here. The unpredictability of sufficiently high agricultural output will make farmers face the dilemma described by Brenner, that is, "specialization means taking the risk of complete failure", and correspondingly, the unpredictability of sufficiently low agricultural output will prevent farmers from this dilemma, that is, to participate in division of labor and exchange with specialized production, It is feasible for these farmers to sell products in the market and buy means of living in the market, so as to gradually embark on the road of capitalism. It is quite difficult to directly compare the "unpredictability" of agricultural output around the world from historical data, because it is difficult to widely obtain the records of agricultural output around the world. In addition to the good preservation of historical documents in Britain, the completeness of economic history materials around the world is far from enough, especially in backward areas. In addition, inferring agricultural output from climate change is also a complex process, especially the detailed record of climate change is very recent. To obtain more information, we need a variety of complex scientific means. Therefore, we take an alternative method here to use the analysis of agricultural system in institutional economics and the records of agricultural system in economic history to show the differences of "unpredictability" of agricultural output in different regions.

In the wealth of nations, Smith talked about the agricultural system of Britain and the European continent:

After the ancient slave cultivators, a kind of farmer called split sharecropper in France today gradually appeared. This kind of farmer is called coloni partiarii in Latin. In England, this system has long been abolished, so I don't know what they are called in English. (Adam Smith: on the wealth of nations, Part III, Chapter II on the inhibition of agriculture in the old state of Europe after the collapse of the Roman Empire)

The "sharecropper" in this sentence refers to the farmers who widely pay share cropping in France. In fact, sharing land rent is far from popular in France. It can be said that except England, there is sharing land rent in the whole Eurasian continent. Whether it is fixed land rent or divided land rent has become a significant difference in agricultural system between England and other civilized regions. So what are the reasons behind this difference?

In 1969, economist Zhang Wuchang published his doctoral thesis tenant theory. Based on the land system and its reform and change in Taiwan, this paper demonstrates the relationship between tenancy system and agricultural risk. The agricultural risk here is what Brenner calls "the unpredictability of agricultural output". In Zhang Wuchang's words, the tenancy relationship between landlords and farmers is a contract. Fixed land rent or divided land rent are contractual arrangements with different structures. Different contract structures have different execution costs, which is usually called transaction costs in institutional economics. In order to avoid risks, both parties to the contract will choose between contract arrangements with different transaction costs. As a contractual arrangement, the transaction cost of shared land rent is higher than that of fixed land rent contract. For the purpose of maximizing the interests of both parties, it is of course a preferred choice to adopt the contractual arrangement with lower transaction cost. However, the tenant parties in Eurasia abandoned the fixed land rent contractual arrangement with lower transaction cost and chose the shared land rent contractual arrangement with higher transaction cost, The reason is that it is difficult to clarify the price of government rent. This difficulty is caused by agricultural risk, or Brenner's so-called "unpredictability of agricultural output". Accordingly, when the land rent price is easy to be clarified, the tenant and the lessee will adopt the quota contract with low transaction cost, which is the case in England, which means that the agricultural risk here is low enough, that is, the "unpredictability of agricultural output" is low enough. The logical inference of the previous text is as follows:

Britain and Eurasia represented by France embarked on the road of capitalism or stuck in Malthus stagnation, respectively. The root causes are the unpredictability of sufficiently low or sufficiently high agricultural output. The unpredictable influence of agricultural output has spread all aspects of human social life since the agricultural era. Its influence on whether farmers participate in division of labor and exchange with specialized production is only the tip of the iceberg. According to the relationship between price uncertainty and contractual arrangements expressed by Zhang Wuchang, the higher the price uncertainty, the higher the transaction cost of the corresponding contractual arrangements. Food production is the basis of human survival since the agricultural era, and human labor is the premise of all social products. Therefore, the unpredictability of grain output first leads to the uncertainty of grain price, then the uncertainty of labor price, and then the price uncertainty of all social products. Finally, it affects all contractual arrangements and becomes the benchmark of all transaction costs. Due to the contractual arrangement nature of the system (law, customs, etiquette, religion, etc.) (Note: Here we follow Zhang Wuchang's idea, any specific contract is incomplete, and the system implicitly complements the specific contract to make it complete. Therefore, implicitly, the system is a part of any contractual arrangement), the transaction costs related to the system are called "System cost". The aforementioned "transaction cost benchmark" becomes the "system cost benchmark". This "system cost benchmark" Its influence covers all aspects of social life, from the most basic and direct land system, economic system, to political system, military system, and even customs, culture and ideology. All these factors ultimately play a role in the differences on the road to capitalism or the stagnation of Malthus.

Furthermore, different civilized regions have different models of agricultural risks, and the unpredictability of food output varies from high to low, forming different institutional cost benchmarks and shaping different civilized roads. The relationship between such road differences and agricultural risks also appears in the research of Barrington Moore, a sociologist of the Marxist School. Barrington analyzed Britain, Japan, France, Germany, Russia and China have different modernization paths, which are believed to be due to the differences in the process of agricultural (grain) commercialization in various countries, and the so-called agricultural (grain) commercialization process (strictly speaking, the process of grain commercialization in localization trade) That is, it is a manifestation of the unpredictability of grain output, because high unpredictability means large grain price fluctuations. According to Brenner's description, it will lead to the price scissors difference between grain and consumer goods other than grain. At the same time, it will curb the supply and demand of grain and consumer goods other than grain, prevent the expansion of grain market, and then lead to relatively low prices Correspondingly, the lower unpredictability of grain output means the stability of grain prices, so as to promote the emergence and development of specialized producers, promote the expansion of grain market, and then lead to the more advanced process of grain commercialization.

In order to simplify the discussion, we use the relative concept of K-r strategic tendency to categorize the social order in various regions. Later, when we say that a certain social order is k strategic tendency (k system) or R strategic tendency (R system) Taking the global social system of mankind in the era of capitalist origin as the whole and the hindsight of modern people, the social order in the North Sea coastal areas such as Britain and the Netherlands, which is characterized by the absolute nuclear family structure defined by Emmanuel Todd, is classified as the K-strategy tendency (k-system) , the social order in Eurasia and other regions, which is not the origin of capitalism and characterized by the family structure other than absolute nuclear family, is classified as R strategic tendency (R system). (Note: refer to the new interpretation of Hajnal line & Todd diagram in Section 2 of Chapter IV of this volume) First, let's return to the question at the beginning of this paper. The industrial revolution and even the early societies before capitalism can not be regarded as an undifferentiated whole like Gregory Clark.

Although different early societies may have too many commonalities and look similar at a glance, the accumulated differences of K-r strategy under different social orders have laid a foundation for them to enter the order of modern society. Moreover, although the differences between early societies were subtle, their evolution towards different trends was not without trace. Alan McFarlane's the origin of British individualism shows us the unique cumulative changes in all aspects of British society in the late Middle Ages. Although the author may love his motherland too much and evaluate British history not calm enough, this book is still a good material to recognize how the social order with K strategy tendency can consolidate itself. The rise of individualism in England is the gradual deepening of the trend that individuals leave the land, leave the big family, work freely, migrate freely, and form a new atomic family. In contrast, Brenner's description of the lives of farmers in continental Europe under the stagnation of Malthus is widely applicable to the whole Eurasian continent. It is the best reference to understand how the social order of R strategy tendency consolidates itself. In this historical process, individuals increasingly rely on subdivided land, the support of extended families, and traditional communities rather than free labor and free migration. It is not the rise of individualism, but the opposite direction of individualism.

Second, about the origin of capitalism, the commercialization model derived from Smith and the theory of social property rights derived from Marx can be compatible under the new logical framework.

On the one hand, as envisaged by the commercialization model, coupled with the evolutionary pressure on individual life, it will indeed promote human beings to embark on the road of professional division of labor and exchange. However, how far a society can go on this road depends on the institutional cost benchmark limited by the natural environment and unpredictable food output. The excessively high system cost benchmark will set a very low ceiling for the development of division of labor and exchange, and finally prevent the capitalist origin of the society. The reason why the commercialization model and its kinship thought encounter difficulties in explaining the origin of capitalism is that as mentioned above, "under these discussions, the same factors will produce very different, sometimes even opposite effects in different countries in terms of income distribution among classes, long-term economic growth and productivity development", The reason is that the capitalist origin theory of commercialization model does not distinguish between different types of social order, and implicitly establishes its discussion on the K-strategy tendency order rooted in the benchmark of low institutional cost.

On the other hand, as envisaged by the Marxist School, capitalism is a special relationship of social property rights. Moreover, capitalism is not just a social property right relationship. It is the self consolidation of the pre capitalist social order with the tendency of K strategy, the further reduction of the system cost benchmark rooted in the fixed land rent system, and a set of new social order established on this further reduced system cost benchmark. There is no fracture between it and the traditional British social order, It is not an unnatural existence that needs special explanation, but a natural evolution before and after the traditional social order. At the same time, such a social order has its particularity. There is indeed a fracture between it and the traditional social order in Eurasia on the other side of the English channel, rooted in the sharing land rent system and established on the basis of higher system cost. Take the transformation of rural property rights in Britain discussed by Marx as an example:

The primary factor is that a large number of people are suddenly forcibly separated from their means of subsistence and thrown into the labor market as proletarians without legal protection. The deprivation of the land of agricultural producers, that is, farmers, forms the basis of the whole process (Marx, Volume I, Chapter 24, capital, the so-called primitive accumulation)

Such a process is a unique British phenomenon in history. The rulers of Eurasia in history will never actively drive farmers to leave the land. On the contrary, they try their best to maintain the dependence between farmers and land, because in a society where food production cannot be stable and food market cannot be developed, A large number of farmers who have lost their land will not be able to get food security, so they will first become "refugees" and then become "mobs". If the rulers here condone the eviction actions like the "enclosure movement" and promote the separation of farmers from the land, it would be tantamount to digging their own graves and ringing the death knell for their rule in advance. Third, under the pre capitalist social order, the different evolution of Brenner's so-called "property composed of politics", that is, Marx's so-called "Exploitation in forms other than economy", in Britain and France. France and Britain in the middle ages were both Germanic countries under the feudal system. Their feudal order had a common origin and extensive similarities. "Political property" is the common starting point of the aristocrats in Britain and France. Accordingly, as agricultural workers in the aristocratic territory, the starting points of farmers in the two countries are also similar. However, from the decline of feudalism to the rise of capitalism, the social development process of the two countries is different, which is also reflected in the different trend of "exploitation methods". In France, with the decline of local nobles' power in mutual attack and the rise of absolutist monarchy, nobles gathered more and more around centralized monarchs and participated in the bureaucratic system. Their political property in the territory was weakened, but as officials of the bureaucratic system, they gained new political property from the taxes imposed by the centralized monarch on farmers. Farmers gradually obtained the property right of their small piece of land from the aristocratic territory. Laws and customs protected them from paying little land rent to the aristocracy, which freed them from the aristocracy, but on the other hand, they fell under the heavy tax pressure of the centralized monarch. The situation in Britain is in sharp contrast to that in France. British nobles were demilitarized earlier than other European countries. Their territory did not have the attribute of an independent small country. Their political property in their territory continued to weaken. They were also a part of the bureaucratic system and an alliance of the centralized monarch, but they did not share in the tax income of the centralized monarch as part of the bureaucratic system, To obtain alternative political property. In contrast to the French aristocrats, in the historical evolution, their main income is neither the political property on the territory nor the political property in the form of tax sharing of the centralized monarch, but from the "competitive land rent" obtained by renting land (Note: the land is rented, the higher the price, and the land rent income obtained under this condition is called "competitive land rent") 。 The difference of this historical process between Britain and France indicates that the social order of the two countries is self consolidating in the opposite direction under the unpredictability of different food output. In France, where agricultural output is highly unpredictable, the contradictions between nobles and farmers, and between nobles and nobles, are intensified in the continuous conflict. The political property of nobles in their territory is weakened, and they retreat under the pressure of farmers and monarchs, but at the same time, they gather in the centralized bureaucratic system to obtain fertilizer from the heavy tax pressure imposed on farmers, This is a process of the aristocracy holding together under the pressure of social conflict. Through "collective" action, it obtains the power that the individual aristocracy does not have when facing the peasant resistance alone. This kind of bureaucratic group's strong squeeze on small farmers, together with other factors, prevented the improvement of French agricultural productivity, raised agricultural risks, and worsened the social conflict in France. In Britain, the unpredictability of agricultural output is very low. Based on this, the institutional cost benchmark of British society is also very low, and political property ("Exploitation in other forms than economy") is obtained by resorting to violence. Its institutional cost is high. Since the British nobility and farmers in the territory can reach an agreement in the "economic form" contract with lower institutional cost, The pursuit of interests will make British nobles and farmers will not easily resort to violence and confront each other in "forms of exploitation other than economy". Without high-intensity confrontation, the British nobility would not have to sacrifice their existing rights and interests in their territory, gather around the totalitarian monarch and make a living by sharing taxes and fertilizers in the bureaucratic system. British farmers also accept "competitive land rent", rather than resorting to "laws and customs" based on violent struggle to minimize land rent payment. Furthermore, this social order of weak confrontation and high compromise encourages the improvement of agricultural productivity, reduces agricultural risks, and further reduces the institutional cost benchmark of the whole society, thus paving the way for the rise of capitalism.

Fourth, the different nature of pre capitalist trade in Europe and British domestic consumer goods trade.

The pre capitalist trade in Europe is characterized by cross regional luxury trade. Britain is also an integral part of this trade network. The food trade between Eastern Europe and Western Europe is a subsidiary of this trade network and also has cross regional characteristics. The rise of British domestic consumer goods trade with grain as the core has become the source of capitalist mode of production. Behind this difference, there are also different social processes caused by the unpredictability of different levels of food output. The high unpredictability of food output in the European continent leads to a high degree of uncertainty in the price of social products, and this uncertainty still has an upward trend over time. Luxury goods trade has a stronger tolerance to price fluctuations, so the traditional trade network can not get rid of the characteristics of serving the minority mainly with luxury goods, with limited growth capacity and rigid structure. The cities of continental Europe and their so-called bourgeoisie (citizen class) are the products of this trade network. Therefore, fundamentally speaking, the urban bourgeoisie (citizen class) is neither the product of capitalism nor the source of capitalism, but a part of the old world. In contrast, the unpredictability of food output in the UK is very low, so the price scissors between food and other consumer goods are affordable in bad harvest season. As a result, stable grain output eventually creates the price stability of assets represented by land, daily consumer goods represented by grain and wage labor. The characteristic of capitalist enterprises is to employ labor. On the one hand, entrepreneurs buy the right to use labor with wages, on the other hand, they buy the right to use capital with interest, and sell products in the market for profit. On the one hand, the land renting farmers obtain the land use right with the fixed land rent, on the other hand, they obtain the hired labor with the salary, and make profits by selling grain in the market. Therefore, the land renting farm as a mode of operation is the prototype of capitalist enterprises. Moreover, the agricultural productivity brought by the land renting farm has further enhanced the stability of grain prices. Over time, the price stability of the above-mentioned assets, labor and consumer goods market has promoted farmers to leave the land, engage in specialized production, sell products in the market and buy grain in the market. Such groups are growing, and supply and demand promote each other, which makes the daily consumer goods market with grain as the core prosper day by day, that is, capitalism develops and grows with agricultural capitalism as the source. Without such assets based on the stability of grain prices, the stability of labor and consumer goods prices, no matter land leased farms or handicraft factories, agricultural capitalism, capitalism or even the industrial revolution, which is the case in the whole Eurasian continent. Finally, the discussion that agricultural risk determines the road of civilization is a highly abstract and simplified theoretical framework based on concept and logic. It can not replace specific research, but provides a research tool to prompt a research path. The research on the origin of capitalism faces many aspects, and there is no ability to explore them one by one here. A complete and in-depth New Discussion on the origin of capitalism should be left to future researchers to enrich and improve. I hope this article will inspire readers' thinking, which will be its greatest value.

## Chapter three: Economic Analysis of agricultural risk

All people in the world eat rice. Since the price of rice is long, it is not allowed to increase the price and husband's work." (Qing Qianlong)

### Section I: Tenant analysis, the right and wrong of Zhang Wuchang and Smith

Custom and law are part of the market contract structure.

Zhang Wuchang: economic interpretation and choice of system, Chapter 3, general theory of contract

In the book "choice of system", Volume IV of economic interpretation, Zhang Wuchang denied that there had been a share of land rent system in British history and explained why there was no share of land rent system in Britain. However, from the principle expressed in his book "tenant theory", "risk aversion determines the choice of contractual arrangements", this explanation is questionable. Let's quote this paragraph from the book:

In 1776, Smith wrote in the second chapter of Volume III of his wealth of nations when analyzing the tenant farming system in France, which had a long impact on future generations:

Tenant farmers will never take money from their savings to improve their land, because landlords who can't afford anything have to take half of their products. (the government or church) taking one tenth of agricultural products has been a great obstacle to improving their land. Taking a 50% tax will certainly have a greater obstacle.

This shows that the deep-rooted tradition of dividing tenant farmers into government taxes stems from Smith. But Smith did not write about the inefficiency of the tenant system. His treatment is to use a whole chapter to trace the development of the land use system in order to claim that the more economically efficient system will phase out the less efficient ones. The whole wealth of Nations has the taste of the fittest eliminating the fittest, which affected Darwin later. The latter's "natural elimination" is considered by many scholars to be the greatest ideological contribution of mankind today. An important philosophical issue is involved here. Let me talk about it from Smith's view of the evolution of land system.

First of all, Smith said that the tenant system had not been adopted in Britain for a long time. I don't know what to call it. That's why he took France as an example. He went on to say that slavery before tenant farmers was even more inefficient, because a slave without assets just ate and did nothing. Smith's view is to increase the efficiency of land use, and tenant farmers replace slaves. The corollary is that the tenant system is still inefficient, so slowly, a fixed rent system replaces the tenant sharing system. Smith then said that although the fixed rent is better than the tenant share, the contract term of the former is too short and the farmers have no sense of security. He then said that leases with a permanent term were the most efficient, and such leases existed only in the UK. The implication is that the agricultural land use system in Britain was better than that in other countries in Europe.

How do we look at Smith's analysis of institutional evolution? There are two points. The first is that what he said is wrong. Looking at the history of Britain, I can't find that the tenant system once existed in the country, not only for a long time. I have to explain that this does not exist, not because of inefficiency, but because permanent or near permanent agricultural land leases were popular in Britain in the middle ages or even earlier: short-term agricultural land leases are not recorded in British history. The long-term appointment leads to the high supervision cost of tenant sharing, so the tenant system is not adopted. Whether in the West or Asia, tenant farmers can renew their contracts, but each contract rarely exceeds three years. I will add in Section 5 about the regulatory difficulties of tenant farmers. Turning to the problem of slaves, we have no evidence that slaves just eat and don't do anything. In fact, Vogel and bazel traced the historical data about slaves in the 1960s and 1970s, and came to the conclusion that the productivity of slaves was objective, and the stories of master abuse of slaves were mostly fictional.

Smith's worst mistake was that he thought the tenant system would be eliminated. In many parts of the world today, not only do tenant contracts exist, but the popularity of share contracts can be seen in the oil industry and department stores. Without the influence of the government or trade unions, many lawyers will settle accounts with customers in some cases. Moreover, as pointed out above, China's inter county competition system is also a sharing system.

The second point is more troublesome. Regardless of Smith's mistake in fact, it is reasonable to say that the evolution of the system will move in the direction of higher economic efficiency: under the constraints, mankind will strive for the maximization of interests and form a chapter smoothly. However, the emergence of collective farms in the past led to famine everywhere, which could not be a system to improve interests. Smith's review of history was different from our review of history today. We recall that in the 20th century alone, there were several catastrophes concocted by mankind, which deepened enough to destroy mankind. Smith thinks that human selfishness will bring benefits to society. I agree, but I also think that human selfishness may increase transaction or social costs and push it to the end. Human beings have the opportunity to destroy themselves. I don't agree that economists use game theory to explain human disasters in recent years, because the theory can't be verified, but it is obvious that human beings can have the tendency of self destruction. Yes, on the one hand, we can cite countless examples to show that contractual or institutional arrangements are moving in the direction of reducing transaction costs; On the other hand, we can also cite the reverse increase in transaction costs.

If we say that human self destruction is also the result of natural elimination - human beings are not suitable for survival - then the views of Smith and Darwin can easily become a set of logic, saying is equal to not saying. However, the view of natural elimination is obviously important. It is supported by countless examples in biological evolution. It is only the introduction of human economic system and the evolution of killing each other. I can't deduce what institutional costs and how the change will lead to different effects of two different ends. (updated edition of economic interpretation, Volume IV, choice of system, Chapter IV, from tenant division to Chinese system, Section II, starting from Smith's tenant analysis)

The K-r model is consistent with the principle that "risk aversion determines the choice of contractual arrangements" expressed by Zhang Wuchang in tenant theory (Note: see Chapter IV of tenant theory, transaction costs, risk aversion and contract choice). It also agrees with his examination results on whether there is tenant sharing in British history. In fact, Zhang's examination results, That is, there was no tenant share in British history, which is in line with the inference of the K-r model. From the perspective of K-r model, considering the relative stability of agricultural risk in a specific natural environment, the universal sharing land rent system and the universal quota land rent system will not exist successively. The difference lies in the interpretation of this fact:

My explanation is that this does not exist, not because of inefficiency, but because permanent or near permanent agricultural land leases were popular in Britain in the middle ages or even earlier: short-term agricultural land leases are not recorded in British history. The long-term appointment leads to the high supervision cost of tenant sharing, so the tenant system is not adopted. Whether in the West or Asia, tenant farmers can renew their contracts, but each contract rarely exceeds three years. (updated edition of economic interpretation, Volume IV, choice of system, Chapter IV, from tenant division to Chinese system, Section II, starting from Smith's tenant analysis)

If it is said that "long dating leads to too high supervision cost of tenant share" to explain the non existence of tenant share, then it can be inferred from this explanation that the existence of tenant share can be explained by using a short contract (customarily) of less than three years (which will not make the supervision cost of tenant share too high), but this explanation can not be justified, Because the supervision cost of tenant sharing is high, even if it is a short contract, the use of fixed land rent instead of tenant sharing can also reduce the supervision cost. Then why is tenant sharing common in Eurasia? In fact, regulatory fees (transaction costs) and lease arrangements (length, sharing or not) are two sides of the same thing. It is a kind of synonymous repetition with no practical significance to explain whether it is divided or not by regulatory fees. The confusion of Zhang's interpretation here is caused by retrogression from the interpretation position in tenant theory. There, the reason for adopting tenant sharing is not the length of the contract or the level of supervision costs, but to avoid agricultural risks.

In tenant theory, the core of Zhang's explanation of tenant sharing is that "risk aversion determines the choice of contract arrangement". The reason why tenant sharing is reasonable lies in the avoidance of unpredictable agricultural losses, which makes both tenants unable to adopt the fixed lease with lower transaction cost. Accordingly, the more consistent explanation for the non existence of sharecropper share in British history with the sharecropper theory should be that there is no agricultural risk in Britain, or at least the level of agricultural risk is quite low. Zhang himself rejected the concept of "risk" that "you can't look out of the window". According to his own memory, in the writing of tenant theory, he threw out "risk avoidance" several times and had to pick it up several times. However, in any case, this exclusion was deeply rooted in his consciousness. In his later academic career, Zhang finally buried "risk aversion" and only talked about "transaction costs". The inconsistency between "choice of system" and "tenant theory" should be rooted in this.

From the perspective of K-r model, the "avoidance" of the concept of "risk" which "can't be seen when you look out of the window" just shows the importance of the tendency of "risk avoidance" in human mind. The obliteration of "risk aversion" is unnecessary, and even obliterates an important analytical perspective. Because abandoning "risk aversion" and only talking about "transaction costs", it logically cuts off the relationship between human behavior and its living environment, making human behavior a rootless thing in the air. Therefore, this explanation in the choice of system has caused new questions. Compared with the tenant theory, it is a step back, making the issue of tenant sharing more ambiguous.

Let's adhere to the principle that "risk aversion determines the choice of contractual arrangements" in tenant theory. Therefore, the first point stated by Zhang in the previous article is that there is no tenant sharing in Britain. The fundamental reason is that there is no agricultural risk in Britain, or the level of this agricultural risk is quite low. This conclusion is not only simple and clear, but also measurable and empirical. Further, the second point stated by Zhang in the previous text:

On the one hand, we can cite countless examples to show that contractual or institutional arrangements are moving in the direction of reducing transaction costs; On the other hand, we can also cite the reverse increase in transaction costs. I can't figure out which institutional costs and how the change will lead to the different effects of two different ends. (updated edition of economic interpretation, Volume IV, choice of system, Chapter IV, from tenant division to Chinese system, Section II, starting from Smith's tenant analysis)

It can also be explained simply and clearly under the K-r model.

The principle of K-r model is consistent with "risk aversion determines the choice of contract arrangement". Grain production has unpredictable factors caused by the natural environment, that is, agricultural risks, which determine the agricultural system such as long contract or short contract, quota or share, etc. Agricultural products represented by grain are the cornerstone of human survival since the agricultural era. Agricultural risk is transmitted to the whole social life through grain price, labor price and the price of all social products. Therefore, the "risk aversion" of the price uncertainty of all social products determines the "choice of contractual arrangements" in all aspects of the whole society. Various institutional arrangements of a society can be regarded as the implicit terms of specific contractual arrangements, which is determined by this "risk aversion". Therefore, the level of agricultural risk has become the benchmark of transaction cost, the benchmark of institutional cost, or the basis of institutional arrangement. The change of agricultural risk level has become the logical starting point to explain Zhang Wuchang's second point. The decline of agricultural risk level can lead to the decrease of transaction costs in contracts or institutional arrangements. On the contrary, the increase of agricultural risk level can lead to the increase of transaction costs in contracts or institutional arrangements. Therefore, "it is reasonable to say that the evolution of the system will move in the direction of higher economic efficiency; it is reasonable to say that under the constraints, mankind will strive for the maximization of interests and form a chapter smoothly". Of these two sentences, taking the second sentence as the logical starting point, the former sentence may not be tenable. Although human beings strive for the maximization of interests, under the limitation of "high-risk" living environment, the behavior of human individuals striving for the maximization of their interests may conflict with each other, not necessarily cooperate with each other, and the improvement of economic efficiency depends on mutual cooperation, not conflict with each other, Considering that the level of agricultural risk created by the natural environment around the world is different, and although the level of agricultural risk in the same place is relatively stable, the agricultural risk in a specific period can still change in a higher or lower direction, so "the evolution of the system will move in the direction of higher economic efficiency" is not inevitable.

It should be noted that the change of agricultural risk level is only the logical starting point of the change of contract or institutional arrangement. There is still a complex change process to be studied. I hope more researchers can go deep into this topic to reveal a clearer picture of institutional change.

### Section II: North's confusion about institutional change

From the day I decided to become an economist, I knew clearly where I was going. From the beginning, I explored what factors contributed to economic prosperity or poverty, because in my opinion, only when this is done can we talk about how to improve economic performance.

My academic career - North

Although several famous papers on the problem of rich countries and poor countries come from AJR, AJR does not put forward any new ideas on system and institutional change. Their papers are still based on a series of work of Douglas North. This paper discusses North's theory of institutional change.

North is a scholar of the new institutional economics school, and the new institutional economics grew up on the basis of neoclassical economics. Although North also said that it is necessary to increase the institutional dimension and time dimension related to economic and social changes in neoclassical economics, his core work is still based on the paradigm of neoclassical economics, And thus fell into a lasting dilemma.

On the issue of institutional change, it is a long-standing difficulty to explain the road differences between Britain (and the Netherlands) and France (and Spain, Italy and Germany), which share the same history and current situation in Europe. These countries were also trapped in the Malthusian trap. In the evolution of the new Malthusian cycle from the 14th century to the 17th century, the former overcame the Malthusian crisis and achieved sustained economic growth, but the latter failed and continued to be trapped in the Malthusian trap.

In his early work, North explained the process of institutional change in this period with the price theory of neoclassical economics, and described a logical clue of "population growth - marginal decline of land - relative price change - adjustment of ownership form - institutional change" in the rise of the western world. However, the price theory can not consistently explain the adjustment of ownership form and the formation of efficient economic organization. This explanation is only feasible for the United Kingdom and the Netherlands. However, in the face of the relative change of price, the institutional changes of France, Spain and other countries are different from those of the United Kingdom and the Netherlands. In order to make up for this defect, North introduced national power into the logical chain. The national power of Britain and the Netherlands successfully adjusted the form of ownership, promoted the formation of efficient economic organizations and moved towards sustainable growth, while the national power of France and Spain failed to successfully adjust the form of ownership, and inefficient economic organizations continued to exist, These countries continue to be trapped in the Malthusian trap. In the state theory invented by North, the rulers pursue the maximization of their own interests, and the existence of transaction costs makes the creation of efficient property rights contrary to the pursuit of the rulers. Therefore, the state forces maintain the existence of inefficient economic organizations for self-interest, which hinders economic growth. This explains the situation represented by France, Spain and other countries, A widespread situation in human history. In this way, the road differences of France, Spain and other countries compared with Britain and the Netherlands have been explained, but the institutional innovation of Britain and the Netherlands has become an exception to be explained. Therefore, as a last resort, North turned his eyes to voluntary groups and individuals outside the national power, imagined that in a country, voters outside the ruler put pressure on the ruler, which may lead to rule changes, and conducted empirical research based on the historical materials of Britain and the Netherlands, but the results were limited. At a loss, North turned his attention to people's belief, people's cognition of history and reality, culture and ideology, and finally came to the conclusion of "cultural determinism" that "belief is transformed into system, and system is transformed into the evolution mode of economy".

Although these efforts were not completely ineffective and even enlightening, North failed to get a clear picture of institutional change in his life. The fundamental reason is that North's core work is still based on "maximizing individual utility" "As the core of neoclassical economics paradigm, whether it is the maximization of rent monopoly of rulers, or the maximization of the interests of interest groups and individuals, are the expression of the basic assumptions of neoclassical economics. Human behavior is the result of the interaction between its behavioral logic and living environment. Human mind is the same everywhere. Relying solely on the logic of individual utility maximization itself can not explain the difference Although North put his attention to belief, cognition, culture, ideology and so on in his later thought, and initially got rid of the hypothesis of rational man, he still paid too much attention to the individual man himself, but failed to fully pay attention to and understand the interaction between people, let alone the interaction between people and the environment Therefore, the road differences between Britain, the Netherlands, France, Spain and other countries are always a fog for North. After a long time of thinking, he just moves from one confusion to another, from lost to lost.

Institutional change is a subject with many details. Here we have no spare effort to go deep into all the details. The following discussion just tries to point out how to look at North's confusion based on K-r model. It does not try to replace specific research work, but hopes to provide reference for researchers on this subject.

As mentioned above, North noticed that transaction costs hinder the adjustment of ineffective property rights. Here, let's quote North's original text to emphasize that he said in institution, institutional change and economic performance (1990):

In the book structure and change of economic history (North, 1981), I gave up the perspective of considering the system with efficiency. Rulers design property rights from their own interests, and transaction costs make typical invalid property rights widespread. This can explain why the long-standing and widespread property rights have not brought about economic growth.

North noticed that the blocking effect of transaction costs "existed since ancient times" and "widely existed", but he did not realize that under various traditional orders of "existed since ancient times", the interaction mode between people can be very different, the "inefficient" property rights under various traditional orders are not the same, and the transaction costs (system costs) under various traditional orders are not the same There can be great differences. Further, this difference can lead to road differences.

Now, from the perspective of K-r model, we see the road differences between Britain, the Netherlands, Spain, France and other countries. The national forces, interest groups and individuals of the two sides have no different behavioral logic in pursuing their own interests. The difference is the living environment of both sides and the social order from the interaction between people and living environment. From the inference of K-r model and the display of Todd diagram (Note: refer to the new interpretation of Hajnal line & Todd diagram in Section 2 of Chapter IV of this volume), it can be safely said that the social order of Britain and the Netherlands is the order of K strategy tendency generated by the interaction between people and low-risk agriculture, while the social order of France, Spain and other countries, It is the order of R strategy tendency under the interaction between people and high-risk agriculture. Moreover, from the comparison of traditional family structures in various civilized regions on Todd diagram, it can be seen that the traditional family structure of Britain and the Netherlands is dominated by "absolute nuclear family", which is at the end with the strongest tendency of K-r strategy in the continuous interval of K-r strategy. North viewed the failure of France and Spain as "the two autocratic monarchies could not create a set of ownership to improve economic efficiency in the struggle for political rule", and the success of the Netherlands and Britain as "creating a system that can reduce transaction costs and improve the efficiency of economic organizations" "These are correct observations, but without an essential understanding of the differences in social order between the two sides, it is difficult to understand the reasons for this success and failure. The K-r model points out that the order of strategy K is based on the benchmark of lower transaction costs, while the order of strategy R is on the contrary. Accordingly, it is at the end of the continuous range of strategy k-r In Britain and the Netherlands, their social order is based on the lowest transaction cost, while in France and Spain, it is not difficult to understand this success or failure. An expression of Coase theorem tells us that no matter what the initial allocation of property rights is, as long as the transaction cost is zero, the allocation of property rights can be adjusted from inefficient allocation to efficient allocation. Britain and the Netherlands The social order with the strongest K strategy tendency means that the transaction cost here is the lowest. Even if the transaction cost is not zero, it also means that the threshold to overcome it to adjust the invalid property rights is the lowest. From the history of Britain, the layers of non tradable feudal obligations originally attached to the land are "fabricated" under the common law system The transaction problem was solved relatively peacefully, and finally the capitalist "efficient land ownership" was reached , this process and outcome is the result of low transaction costs under the K-strategy inclined order, while the r-strategy inclined social order in France, Spain and other countries means that the transaction costs here remain high, and the adjustment of property rights means a fierce struggle, which deviates from the "efficiency" of its risk environment In the violent and bloody revolution, France finally got rid of the feudal land ownership and established not the "efficient" capitalist land ownership, but the absolute ownership of land by small farmers. This process and outcome is the consequence of the high transaction costs under the social order of R strategy.

As a conclusion, it should be emphasized here that in North's early explanation of institutional change, the so-called "rulers create and implement efficient ownership" and "rulers create systems to reduce transaction costs" are wrong, if not wrong. Whether efficient or inefficient ownership, or the system of reducing or increasing transaction costs, are the product of the evolution of order on the basis of certain transaction costs. Neither of the social members can "create and implement" simply by virtue of desire and brute force. They can only be the product of multi-party game and compromise under a specific risk order. In his later explanation of institutional change, North's emphasis on the so-called "belief" and the so-called "cultural tradition" expressing this "belief" can be regarded as a kind of evasion, throwing the unexplained contradiction into an unknown theoretical black hole. As the K-r model points out, the so-called tradition and path dependence of cultural system are not the product of accidental emptiness, but the relative stability of the risk characteristics of human living environment. Only the in-depth study based on this new understanding can reveal a clearer picture of institutional change.

### Section III: Yang Xiaokai: trading conditions and late developing disadvantages

I personally feel that if we compare the development of chemistry, the current situation of the whole economics should be equivalent to the stage of alchemy in the past. Economics is still far from reality and can really explain reality.

Reaffirming the classical thought of Economics -- an interview with Yang Xiaokai by the reporter of economic news

Based on the new classical endogenous growth theory of Yang Xiaokai and his collaborators, this paper discusses Yang Xiaokai's explanation of transaction conditions (Note: for the new classical endogenous growth theory, please refer to Chapter 13 of Yang Xiaokai's Chinese version of development economics or Chapter 14 of the English version, economic development generated by the endogenous evolution of division of labor, and the Chinese version shall prevail), This reinterprets the order of economic growth in all countries in the world, and modifies the meaning of the concept of "late developing disadvantage".

Firstly, we quote the description of this growth theory in the book "emerging classical economics and beyond marginal analysis".

This model of endogenous evolution of division of labor was first developed by Yang Xiaokai and Bolan, which is called the emerging classical endogenous growth theory. This growth model has much higher explanatory power than the traditional growth model and Romer's new growth theory.

The evolution process of division of labor under this model is as follows: in the initial stage, people have no experience in various production activities, so their productivity is very low, so they can't afford transaction costs, so they have to choose self-sufficiency. In self-sufficient production, everyone gradually accumulated some experience in each activity, and the productivity gradually improved, so that he could afford a little transaction cost, so he chose a higher level of specialization. Through the market free choice of jobs and free price mechanism, the interaction of these self-interest decisions improves the division of labor of the whole society, and the market appears. As the increased level of specialization in turn accelerates the accumulation of experience and skill improvement (or the increase of professional human capital, as it is often said), productivity increases further. At this time, after weighing the future remuneration of specialization and the current increased transaction costs, everyone thinks that they can pay more transaction costs, which in turn will further increase the level of specialization. In this way, a virtuous circle process (or what people call a positive feedback process) will appear. This process makes the division of labor evolve faster and faster, resulting in the so-called economic take-off phenomenon (that is, the accelerated growth or growth rate of per capita real income).

When the potential of the evolution of division of labor is exhausted due to the restrictions of population size or system related transaction conditions, the evolution of division of labor slows down or stops, and the learning process is no longer accelerated by the evolution of division of labor. Therefore, the society enters the stage of slowing down economic growth (the so-called mature growth stage), and the growth rate of per capita real income decreases. Here are two points that deserve special attention. First, the decision to choose specialization is actually the decision to choose commercialization and buy more and sell more or buy less and sell less. For example, Chinese people over the age of 50 have this experience. In the 1950s, most urban people bought cloth to make clothes themselves or asked tailors to make clothes; By the 1970s, most city people bought ready-made clothes and rarely bought cloth clothes. In the 1950s, there were many farmers in rural China spinning and weaving clothes by themselves; By the 1960s, more and more rural people bought cloth for clothes, and by the 1970s and 1980s, rural people began to buy ready-made clothes. This process is the process of people's increasing level of specialization.

Second, we should pay attention to the three economic growth modes with the evolution of division of labor. When the level of self-sufficiency or low division of labor is low, the dynamic effect of learning while doing can only produce deceleration growth when the level of division of labor is not high, because in fixed activities, the dynamic effect of practice makes perfect is always limited. When the division of labor began to evolve faster and faster, the dynamic effect of practice makes perfect and the effect of division of labor accelerating economic accumulation strengthened each other, so the phenomenon of economic take-off occurred. When the potential of division evolution is exhausted, economic growth can only have a dynamic effect of practice making perfect, without the cumulative effect of the interaction of division evolution, and the potential of practice making perfect is always limited under the fixed level of specialization, so there is a deceleration of economic growth when there is a high level of division but no division of labor. (Yang Xiaokai, Zhang Yongsheng, emerging classical economics and beyond marginal analysis, Chapter 10, spontaneous evolution of division of labor and social organization experiment)

This growth model has much higher explanatory power than the traditional growth model and Romer's new growth theory", Yang Xiaokai does not exaggerate, and the "Smith Yang format model" is the best economic growth model so far. Next, we will discuss issues related to economic growth from the perspective of K-r model on the basis of this "Smith Yang format model".

The economic growth under the first mock exam model is closely related to the concept of transaction costs and transaction terms. We quoted Yang Xiaokai's part of the model as follows: (Note: the complete model is presented in the thirteenth chapter of Yang Xiaokai's Development Economics):

If the trading condition parameter K and the degree of professional economy a are small enough, the dynamic equilibrium is always self-sufficient from t = 0. (Chapter 13 of development economics, economic development generated by endogenous evolution of division of labor, theorem 13.1)

If K and a are neither too large nor too small, the division of labor will evolve from a low level to a complete division of labor. For such an intermediate value of K and a, the better the trading conditions, the faster the evolution of division of labor. (Chapter 13 of development economics, economic development generated by endogenous evolution of division of labor, theorem 13.1)

One of the empirical meanings of Smith young format model is the coexistence of divergence and convergence. The Smith young model means that the three stages of growth will occur in order: pre industrialization growth, accelerated growth and take-off, and mature growth. The growth rate first decreased, then increased, and finally decreased. This is consistent with Rostow's description of the three historical stages of economic growth. When the transaction condition parameter K increases, the growth rate of per capita real income increases. Of course, the change of K is not necessary for accelerating growth and endogenous evolution of division of labor. This balanced dynamic comparison characteristic can be used to explain the different growth rates of different countries, because different tariff systems and openness, different institutional arrangements, different legal systems and related property rights systems, and different geographical conditions mean different K values between countries. Therefore, those countries with large K value will enter the take-off stage earlier. (Chapter 13 of development economics, economic development generated by endogenous evolution of division of labor)

Historically, at the starting point of any society, its professional economic degree is very low (a is small enough). If its trading conditions are poor (k is small enough), it will always stay in the pre-modern economic state of self-sufficiency. If it is lucky enough, the trading condition parameter K and the professional economic degree a can reach not too small values, so as to enter the process of accelerated economic growth and take-off of the evolution of division of labor, then the size of the trading condition parameter k is also very important for the morning and evening of economic take-off and the speed of economic growth. The transaction condition parameter K depends on the following factors: "different tariff systems and openness, different institutional arrangements, different legal systems and related property rights systems, as well as different geographical conditions".

Let's discuss the value of transaction condition parameter K from the perspective of K-r model. The factors that affect the transaction terms parameter K expressed by Yang Xiaokai can be divided into two categories. One is the relationship between people such as "different tariff systems and degrees of openness, different institutional arrangements, different legal systems and relevant property rights systems". We can classify these factors as abstract "institutional arrangements", that is, various concrete representations of "institution", The other is "different geographical conditions", which plays an important role in the impact on transportation costs.

Firstly, the K-r model points out that all abstract "institutional arrangements" and "institution", as the carrier of the relationship between people, contracts in a broad sense, take agricultural risk as their benchmark according to the principle that the choice of contractual arrangements is determined by risk aversion. In other words, the first type of factors that affect the value of a country's transaction condition parameter k are based on the specific agricultural risk in the country's living environment. (Note: the tariff system and openness will also involve the relationship between countries, and the geographical factors of a country depend on the geographical factors of other countries, so the influence of this benchmark is still established indirectly).

Furthermore, the transportation cost of a country is also affected by the scientific and technological level of the country in addition to the unalterable geographical factors. The progress of scientific and technological knowledge itself is a part of the evolution of social division of labor. (Note: refer to Section IV of the appendix to this volume, refuting Popper's poverty of historical determinism). Therefore, the second category of factors affecting the value of a country's transaction condition parameter k is also indirectly based on the country's agricultural risk level.

From the previous discussion, we deduce the following conclusions: the value of the transaction condition parameter K, which determines a country's economic development path, is directly or indirectly based on the country's agricultural risk. Risk aversion determines the choice of contractual arrangements. Low-level agricultural risk becomes a system with low transaction cost and achieves better transaction conditions, while high-level agricultural risk is on the contrary Therefore, the different agricultural risk levels of different countries have become the benchmark factors for whether the country's economy can get rid of self-sufficiency, take-off time and growth rate. (Note: refer to the new interpretation of Hajnal line & Todd diagram in Section 2 of Chapter IV of this volume.) , in the course of economic development of various countries in history, the growth rate and take-off sooner or later can establish a corresponding relationship with different traditional family structures in various countries. According to the K-r model, different traditional family structures are the representation of different agricultural risk levels.)

The emerging classical economics established by Yang Xiaokai has created a new stage of economic theory and has been highly praised all the time. However, as the most important basic concept of the theory, the "transaction condition parameter" is confusing because of the lack of "reality", which has caused some theoretical confusion, such as the famous "late developing disadvantage" The K-r model describes the evolution of social order based on agricultural risk, which not only provides a reference for the realization of the concept of "transaction condition parameter", but also brings a new perspective for such theoretical confusion. Next, we will discuss the "late developing disadvantage" from the perspective of K-r model.

In a speech in 2002, Yang Xiaokai quoted the concept of "late developing disadvantage" from American economist Watson. We quoted Yang Xiaokai's expression as follows:

The English name he (Watson) proposed is "curve to the Late Comer". It's "the curse on the latecomers". What he meant was that because backward countries developed relatively late, there were many things that could imitate developed countries. There are two forms of imitation, one is imitation system, the other is imitation technology and industrialization model. As a late developing country, it can achieve rapid development through technological imitation without basic system (the so-called late developing advantage). Why do you say "Curse"? In other words, due to the large space for imitation, backward countries can achieve the achievements that developed countries can only achieve under a certain system by imitating the technology and management mode of developed countries without a good system. In particular, it is easier for backward countries to imitate technology and more difficult to imitate the system, because it will violate some vested interests to reform the system, so backward countries will tend to imitate technology. However, although backward countries can achieve very good development in the short term, they will leave many hidden dangers for long-term development, and even long-term development may fail.

Around Yang Xiaokai's discussion, there were many comments and disputes at that time and later. "Late developing disadvantage" itself can not be said to be a wrong observation, but various comments and disputes so far have not penetrated the essence of the problem. From the perspective of K-r model, the so-called "late developing disadvantage" is, in the final analysis, a "geographical dilemma". The reason why late developing countries are "late developing" is because of the unfavorable "transaction condition parameters" brought by the high agricultural risk level and poor transportation conditions. In particular, how to solve the high agricultural risk in some countries is still a deep-rooted problem under the current historical conditions. A late developing country overcomes unfavorable geographical factors, achieves economic take-off and obtains good economic growth. The threshold of technology and investment it needs to cross is much higher than that of advanced countries. The result is that, on the one hand, even if it crosses this threshold, the overcoming of agricultural risks is often incomplete and unstable. On the other hand, in the foreseeable future, We should continue to pay a huge price for overcoming agricultural risks and improving transportation. It is precisely because of this double dilemma that "late developing disadvantage" will be a long-term test for these countries. This is the root of the repeated economic development in some late developing countries, that is, falling into the so-called "middle-income trap". This is not a superficial conclusion that "it is difficult to imitate the system", because the system is based on agricultural risk, which is fundamentally impossible to "imitate" but can only "grow by itself". To completely get rid of the "late developing disadvantage", it may not be realized until the next agricultural revolution and mankind has a way to get rid of natural agriculture. (Note: this agricultural revolution probably needs an energy revolution as the guide)

Finally, the K-r model is only the beginning of the realistic interpretation of trading conditions. The combination of K-r model and Smith Yang format model growth model has the opportunity to grow into the most complete and realistic explanation of economic development history. It is expected that future researchers can follow up the mutual reference of the two models, deepen the work created by Yang Xiaokai, and enable us to further understand all aspects of economic growth.

## : social analysis of agricultural risk

For Marx's great principle, cultural materialism holds the following view: the mode of production and reproduction of guest behavior determine the family economy and political economy of guest behavior, and the family economy and political economy of guest behavior determine the thematic superstructure of behavior and thought. For the sake of brevity, this principle can be called the principle of infrastructure determinism.

Marvin Harris: Chapter 3 of cultural materialism, the theoretical principles of cultural materialism

### Section I: patriarchy, feminism and forms of war

Each way of life is covered by countless myths and legends, and this appearance often leads people astray and turns their eyes to the absurd and beyond nature. This false coat gives people a certain social status and sense of mission, but at the same time, they hide the real side of social life.

Marvin Harris: cow, pig and witch - the mystery of human culture

Roman jurisprudence has the longest and most famous history of any human system. The nature of all the changes it has experienced has been well affirmed on the whole. From its beginning to its end, it has gradually changed better, or developed in the direction considered better by the reviser, and the improvement is carried out continuously in various periods. In these periods, all other human thoughts and actions have slowed down in essence, and have fallen into a state of complete stagnation more than once.

Henry Mayne: ancient law, Chapter 2, legal fiction

The distinction between the two strategic tendencies of K-r is easier to distinguish in the history of civilized countries with written regulations. Do the primitive tribes living in the era of pre civilized countries also have the difference of this strategic tendency?

In Marvin Harris's book the origin of culture, there are some materials of primitive agricultural tribes, which provide a basis for our analysis. Let's first extract some fragments from this book:

My view is that all these customs of inequality between men and women are actually a by-product of war and men's monopoly of weapons. War makes social organizations with fathers, brothers and sons as their core. This has led to the control of father brother interest groups over resource wealth and the exchange of sisters and daughters between these groups (i.e. paternal society, living with the father system and bride value), the distribution system of women as men's brave remuneration and the resulting polygamy system. Out of the need to sacrifice women to repay men, and also out of the need to provide a supernatural name for all the psychological consciousness of male chauvinism, society naturally formed a situation in which women were allowed to do cheap work and put them in a humble and humiliating position in rituals.

……

In fact, the combination of matrilineal inheritance system and martial and belligerent spirit is by no means accidental, because this situation is common. If we are not convinced that the war leads to the psychological state of patrilineal inheritance - living with the father, we will logically conclude that the war also leads to the psychological state of matriarchal inheritance - living with the mother. The only natural explanation for this dilemma is that there are different types of wars in the world. The wars fought by matriarchal clans are often different from those fought by paternal clans such as the Yanomamo. William dilwa was the first to point out that the matriarchal clan specialized in "foreign war", that is, it organized a large number of attack teams to go deep into the areas of distant enemies, who were different from the attackers in language and race. On the contrary, the patriarchal clan tribes such as Yanomamo people are called "internal war", because in this war, only a small group of attackers attack the enemies in the neighboring village. These enemies have the same language as the attackers, and may even be blood relatives within three generations. Therefore, this war is called "internal war".

The internal logical relationship between matrilineal inheritance system and external war is as follows: after marriage, men joined the Iroquois clan collective living with their mother, and they came from different families and villages. The change of their place of residence makes them have to consider their own interests only according to the interests of their father, brother and son; At the same time, this situation makes them often contact men in neighboring villages. This contributed to peace and tranquility between neighboring villages and laid the foundation for these people to form a large war group to attack the enemy hundreds of miles away. For example, the Iroquois army composed of more than 500 soldiers set out from New York to attack targets as far away as Illinois. Duval also believed that when the patrilineal clan was attacked by the organized group of the matriarchal clan, it must be organized in the same way soon, otherwise it will be destroyed; In this way, there are more examples applicable to the above logic.

……

The mitigating effect of matrilineal inheritance on Iroquois is stronger and more unusual in the political field than in the field of marriage and family. As far as I know, among all the village cultures with reliable information, no culture is as close to political matriarchy as the Iroquois culture. However, the status of women political decision makers in Iroquois did not establish an equal relationship between men and women. Iroquois housewives have the right to elect and recall male elders elected to the Council, the supreme governing body. Through a male representative in the Council, they can influence decision-making and exert pressure on actions to decide war and alliance. Appointments to public office are made through women, whose duty is to appoint members to the Council. However, women themselves cannot participate in the Council, and working men have the right to veto the appointment of housewives. After examining the gender hierarchy of the Iroquois, judyn Brown concluded that "this nation is not a matriarchal society as some people say." but she added that "housewives are Cardinals." this sentence did not make sense. Women have always been more influential behind the scenes than at the front desk. What really puzzles people is the fact that they rarely go to the front desk. I think this fact can be explained only according to the acts of war. (Chapter 6 of Marvin Harris, the origin of culture, the origin of male chauvinism and Oedipus complex)

Careful readers will notice that Marvin Harris encountered logical difficulties in explaining the relationship between war and inheritance. Let's summarize Marvin Harris's discussion as follows:

Marvin Harris first recognized

1. The war led to male chauvinism and paternal inheritance, living with his father.

however

1. The combination of militancy and matriarchal inheritance is also common in Iroquois, although the matriarchal clan itself is not common.

In this way, 2) challenges 1). More detailed facts were then introduced:

1. If we limit our investigation to agricultural tribes, then matrilineal clans, such as Iroquois, are engaged in "external war", while paternal clans, such as Yanomamo, are engaged in "internal war".

then,

1. Marvin Harris explained the "external war" by the maternal inheritance lifestyle of the Iroquois.

also

1. Explain the existence of other neighboring matriarchal clans by the external war pressure caused by the existence of a matriarchal clan.

last,

1. Taking Iroquois as an example, it shows that male chauvinism is more diluted in the matriarchal clan. Although the matriarchal clan is not maternal power, the status of women here is higher than that of the paternal clan in both family and political life.

This implies the circular causality between "external war" and "matrilineal inheritance". Of course, readers may be able to tolerate such logical difficulties. After all, circular causality is too common in the field of social theory. Readers are not surprised, so that these theories can often turn a blind eye to their own logical difficulties and continue to openly publicize themselves, such as the so-called multiple determinism in social development theory. However, the so-called cyclic causality usually means that this "cause" and "result" is not a substantive succession of causality, but an accompanying phenomenon in the same process, and the real causality is outside the two.

Back to the beginning of this paper, let's look at the war mode of agricultural tribes and the unequal relationship between men and women from the perspective of K-r model. In these two specific cultural expressions, the matriarchal clan reflects more compromised social relations than the paternal clan, that is, the matriarchal clan shows a strong K-strategy tendency compared with the paternal clan. Paternal clan, on the contrary, showed a strong r-strategy tendency. According to the principle that agricultural risk determines the type of order in the K-r model, although war has an impact on the formation of matriarchal clan or paternal clan, the fundamental reason for the difference between the two orders does not come from the difference from the war mode, but from the stability of agricultural harvest obtained in their respective living environment. In Marvin Harris's example, the Iroquois, as the representative of the matriarchal clan, lived in North America and today's New York, while the Yanomamo, as the representative of the paternal clan, lived in the parima plateau and the border between Venezuela and Brazil. The prosperity of the United States and the turmoil in Venezuela can be seen as modern traces of this old-fashioned contrast.

The information of agricultural production in the tribal era may be retained very little, and it may be difficult to recover today. However, we can still try to preliminarily verify the interpretation of K-r model from the geographical distribution of matrilineal clan and paternal clan (Note: please refer to a tribal cultural data and Atlas produced by anthropologist George P. Murdock and his successors, http://eclectic.ss.uci.edu/ ~Drwhite / worldcul / atlas.htm, which would be a good starting point). According to the K-r model, the distribution area of matriarchal agricultural clans should be consistent with the geographical area belonging to "absolute nuclear family" on Todd diagram (Note: please refer to the new interpretation of Hajnal line & Todd diagram in Section 2 of Chapter IV of this volume). It is expected that future researchers can follow up this work, which will provide confirmation or challenge for the K-r model and enrich our understanding of early agricultural society.

Finally, as an extension of the issue of the origin of early culture, we look at the comparison between the above two inheritance systems and the two modes of war in the whole human history. Then, the evolution of patriarchy in Eurasia, the rise of modern feminism, and the comparison between civil strife and foreign war, Both can be regarded as the continuation and comparison of the two clan cultures of paternal inheritance and maternal inheritance from ancient times to now.

In ancient law, Mayne tells us that in history, the strength and continuation of patriarchy in various civilized regions are different. Roman history begins with its harsh patriarchy. Compared with the Romans, the Germanic patriarchy is a weak form of "corruption". England lacks the patriarchal tradition of patriarchy. When it comes from the European continent and originated from the patriarchal system, it prohibits the mutual inheritance of half brothers (from Normandy custom, half brothers cannot inherit each other, because they are not relatives under the patriarchal system) When it was introduced, English judges could not properly understand its principle and interpreted it as a general prohibition of half blood inheritance, and extended it to brothers of the same blood, that is, half brothers. Patriarchy, its companion and patriarchal system, gradually faded in the West and long preserved in the East. In the era change from the Republic to the Empire, Luo Ma's patriarchy gradually weakened and women's status gradually increased. Although the national conquest and legal mixture of barbarians and Rome interrupted this trend, resulting in the rise of patriarchy and the decline of women's status in Europe, this retrogression was reversed again in modern history. In the world, patriarchy and patriarchal system played an important role in Arab India, China and other places At the other extreme, we know from anthropologists that patriarchy is also the weakest among the North American Indian ethnic groups under the matrilineal inheritance system. Although the United States, as a colonial civilization, has no direct cultural inheritance relationship with the local Indian civilization, the modern feminist movement, which marks the rise of women's status, is still here The greatest power rises.

Accordingly, the forms of war associated with patriarchy and women's status also show similar distribution and continuity characteristics. Historians have noticed that there have been differences between the forms of war between the East and the West since ancient times, the ubiquitous Mini civil war for water and land that has plagued the eastern countries for a long time since modern times, and the colonial wars of the early Western European troops The conquest of the land is in sharp contrast to the cruising of the US Navy in the oceans today.

To sum up, the characteristics of some cultural systems, such as patriarchy, women's status and the form of war, are consistent with each other and in the historical period. But in this picture, there is one place enough to attract our attention. Generally speaking, the continuity of cultural system, the so-called "tradition" and the so-called "path dependence", is intuitively considered to be related to the continuous cultural inheritance of human groups carrying this culture. However, as a new colonial civilization in North America, the United States has no cultural inheritance relationship with the civilization of North American Indians. The two are still consistent in the "tradition" of patriarchy, female status and war form, which gives us an alternative hint. Combined with the principle of K-r model, our conclusion is very clear:

**The so-called tradition and path dependence of cultural system, as the inheritance relationship between previous generations and future generations, is only a representation, and its essence is the relative stability of the risk characteristics of human living environment.**

### Section 2: new solution of Hajnal line Todd graph

I'm a statistician and a "cosine scholar", if you think this statement is interesting. "The roots of the Arab revolution - the mirror reporter's visit to Emanuel Todd

Hajnal line:

John Hajnal, a Hungarian British economist, found that connecting St. Petersburg and Trieste, Italy, the marriage rate and fertility rate on the left side of the line are low, and many women marry late or even remain single, while the opposite is true on the right side of the line. This is the so-called hajinal line.

Todd diagram:

French anthropologist Emmanuel Todd once put forward a shocking theory, that is, the ideology of a country / region is highly related to its family organizational structure and marriage strategy in history. Displaying this correspondence on a map is the so-called Todd graph.

Todd distinguishes between the following seven main family forms:

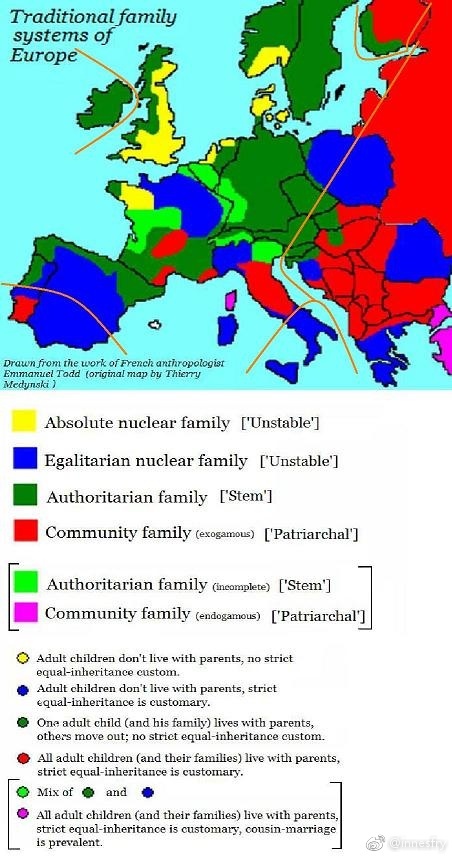
1. Absolute nuclear family: free choice of spouse, forced extramarital marriage, unspecified inheritance rights (often in the form of wills), and the son does not live with his parents after marriage. Representative countries / regions / cultures: Anglo Saxon world, Netherlands, Denmark. Representative ideology: Christianity, capitalism, free will liberalism, feminism.
2. Egalitarian nuclear family: free choice of spouse, forced marriage, equal distribution of inheritance rights among brothers, and the son does not live with his parents after marriage. Representative countries / regions / cultures: northern France, northern Italy, south central Spain, central Portugal, Greece, Romania, Poland, Latin America, Ethiopia. Representative ideology: Christianity (Catholicism), "freedom, equality and fraternity" liberalism.
3. Authoritative family: parents choose a spouse, few cousins intermarry, unequal inheritance rights, inheritance is transferred to a son, and the son lives with his parents after marriage. Representative countries / regions / cultures: Germany, Austria, Sweden, Norway, Belgium, Bohemia, Scotland, Ireland, surrounding areas of France, North (Basque), Spain, northern Portugal, Japan, South Korea, Jews and Gypsies. Representative ideology: Fascism, various separatist and autonomous (anti universalist) movements.
4. Exogamous community family: parents choose a spouse, intermarry without cousins, the right of inheritance is equally distributed among brothers, and the son lives with his parents after marriage. Representative countries / regions / cultures: Russia, Yugoslavia, Slovakia, Bulgaria, Hungary, Finland, Albania, central Italy, China, Vietnam, Cuba and North India. Representative ideology: communism, socialism.
5. Endogamous community family: customary frequent intermarriage between cousins. The right of inheritance is equally distributed among brothers. The son lives with his parents after marriage. Representative countries / regions / cultures: Arab world, Turkey, Iran, Afghanistan, Pakistan, Azerbaijan, Turkmenistan, Uzbekistan, Tajikistan. Representative ideology: Islam.
6. Asian community family: intermarriage between cousins is prohibited, but it tends to be intermarriage between cousins. The right of inheritance is equally distributed among brothers, and the son lives with his parents after marriage. Representative country / region / Culture: southern India.
7. Anomic family: free choice of spouse, forced outside marriage, cousin intermarriage is feasible or even frequent, the right of inheritance is uncertain, and the son does not live with his parents theoretically but actually after marriage. Representative ideology: Buddhism, Christianity, communism, uncertainty.

Following Todd's ideas, there are many interesting viewpoints to explore, such as the relationship between nuclear family and industrial revolution and modern capitalism, the relationship between cousin intermarriage and the contemporary Muslim world, the origin and division of Anglo Saxon capitalism and Rhine model capitalism, and so on.

(注：以上关于 John Hajnal 和 Emmanuel Todd 理论的简述，引用自 @innesfry的微博，可以在以下两个链接中找到： https://weibo.com/1821945517/EB6FfFryH ， https://weibo.com/1821945517/EB7hbdiHL ，Todd的理论可在他的两部书 《The explanation of ideology: Family structures and social systems》和《The Causes of Progress: Culture, Authority, and Change》当中找到，但是这些书还没有中译本。）

The family system map of Emmanuel Todd in Europe can be found in the following link: https://weibo.com/1401081271/I059c6Ynu , the line in the figure is the so-called Hajnal line. There is also a worldwide map of Emmanuel Todd's home system, which can be found in the following link: https://weibo.com/1401081271/I058ZouOT 。

We also show the two Todd diagrams in Europe and around the world as follows:



图片包含 文字, 地图

描述已自动生成

From the perspective of K-r model, we make the following comments on the corresponding relationship between traditional family structure and economic and social system reflected in Hajnal line and Todd diagram (Note: the color description on the map is based on the color labels of Todd family system map in Europe, which are: absolute nuclear family = yellow, equal power nuclear family = blue, authoritative family = green, extramarital family = red, church Pro marital family = pink. Some light green areas are also marked in Todd map in Europe. The family structure here is equal power nuclear family Court and authoritative family are transitional family structures. The three family structures of cousin marriage extended family, non normative family and African family exist in southern India, Southeast Asia and American jungle, and sub Saharan Africa respectively. They can be found in Todd map all over the world, but they do not appear in Todd map all over Europe):

Britain, the birthplace of capitalism, and the developed Anglo Saxon world, the Netherlands and Denmark, all have large yellow areas. This situation is in line with the view of K-r model on capitalism, because the inheritance right is not specific and the son does not live with his parents after marriage, which means that the lives of immediate family members are rarely interdependent, indicating that the risk level in this area is higher than that in other areas The lowest risk level means that the lowest transaction fee should be the benchmark and the best transaction conditions. Therefore, these regions have become the birthplace of capitalism, that is, the place where economic growth takes off the fastest and the earliest, and their economic performance is also the best in the long run.

The capitalist regions of Rhineland model (including Japan) are mainly green. Although there have been outbreaks, the long-term economic performance has not been better than that of the Anglo Saxon world. This situation is consistent with the risk view of the K-r model in this region. Unequal inheritance means that the risk level is lower than that of the equally divided inheritance region, but the inheritance is handed over to a child and the son lives with his parents after marriage, It shows that the risk level here is higher than that in Anglo Saxon region. Historically, this is an area where the economy took off after Anglo Saxon, but it is not easy for the long-term economic performance here to surpass the Anglo Saxon world.

France seems to be a mixed region of various risk strategies, from yellow to pink, with many changes. Although there are regions with low risk level in the northwest, which makes its capitalist economy originated earlier, the total risk level is dragged down by other regions, which may be higher than the capitalistic region of the Rhineland model, and the long-term economic performance may be lower than the Rhineland model. In his book ancient law, Mayne mentioned that France has different customary laws in many places. This unique situation has not only brought great difficulties but also great stimulation to the implementation of Roman law. This situation is consistent with the changing level of local risk, and may also be the reason why France, like China, has a relatively developed centralized bureaucracy.

In addition, the whole territory of Germany is green, but according to John Hicks's theory of economic history, Germany's agricultural system is different on both sides of the Elbe River. The system on the East Bank of the Elbe River is closer to Eastern Europe, which is a sign of a higher risk level, but this dividing line of the Elbe River is not reflected in Todd's map. The reasons need to be further studied, which will be an important question.

Along the north coast of the Mediterranean, it is dominated by blue and green, but there are also a large area of red areas in southern France and central Italy, and even a small pink area such as Corsica island. Compared with the traditional "Germanic" area north of the blue and green Alps, the high-risk signs along the Mediterranean coast are obvious, coupled with the Hajnal line, which is similar to Marx's understanding of Germanic and classical antiquity, There are faint similarities in the division of the three "pre capitalist modes of production" in Asia. The red in central Italy looks dazzling at first. After all, this is the place where ancient Rome rose and the source of the western world. However, it is associated with the social struggle caused by the debt slave problem in ancient Rome and the Roman citizens as "farmers and soldiers" The enthusiasm for foreign conquest is also a reasonable situation.

In addition, the customary church marriage system in the Arab region and the customary cousin marriage system in southern India both emphasize blood ties and seem to be strong high-risk strategies. However, are they different types of risk strategies? If so, what kind of risk difference does the two correspond to? Is the cousin marriage system different from the church marriage system Aspiring to higher risk? This is also a problem to be further studied.

Finally, the relationship between the "anomic" family system prevailing in the jungles and islands of Southeast Asia and the special "African family system" prevailing in sub Saharan Africa and the low level of agricultural development also needs further research.

To sum up, the so-called "shocking" is only because the existing social theories have no way to explain the information in Hajnal line and Todd diagram. If we examine the Hajnal line and Todd diagram from the perspective of K-r model, the corresponding relationship between the ideology of a country or region and its historical family structure and marriage strategy is no longer "shocking", but reasonable. Ideology, family structure and marriage strategy are adaptive construction of agricultural risks. Yellow, green, blue and red constitute a continuous range of strategies for increasing agricultural risks from K to R. this time, it is also the second time in the history of economic growth and industrialization take-off. Up to now, the regions on the high-risk side of this continuous range, such as India and Arab regions, Southeast Asian Jungle Island countries, sub Saharan Africa and other places have not been fully industrialized. Measuring the agricultural risk level corresponding to various regions of yellow, green, blue and red powder, combined with the Smith Yang format economic growth model proposed by Yang Xiaokai and compared with the economic development process of each region, will confirm or challenge the K-r model, which is a very valuable econometric demonstration and needs to be further studied by future researchers. (Note: Space Economy Research Center under the London School of economics and Politics http://www.spatialeconomics.ac.uk/SERC/about/default.asp A paper published in 2008 entitled "family types and the persistence of regional divisions in Europe" https://ideas.repec.org/p/cep/sercdp/0009.html , based on Todd diagram, this paper makes a detailed study on the regional differences of traditional family structure and persistence in European countries. On the basis of this paper, further measuring agricultural risk can constitute an empirical study of K-r model. For further research, the following two articles are from the global economy of Utrecht University The paper of the economic history center will also be helpful: 1) "testing Todd and matching Murdock: global data on historical family characteristics" https://ideas.repec.org/p/ucg/wpaper/0072.html 2）“Towards an ethnographic understanding of the European Marriage Pattern: Global correlates and links with female status " https://ideas.repec.org/p/ucg/wpaper/0067.html ）

## The final chapter: a compendium

Darwin wrote insightfully in the origin of species: "Although I fully believe in the truth of the views in this book... I do not expect to convince naturalists whose views are completely opposite to mine. Their minds are full of the facts observed by their views... But I am confident that they will be able to see this question without prejudice in the face of the future and young and growing naturalists Two views on the topic.

Thomas Kuhn: the structure of the scientific revolution

### Section I: similarities and differences between K-r model and its kinship theory

The historical level of the book a brief history of mankind may not be generally recognized, but the historical thought in it is endorsed by some historians. It believes that history is untested, experimental, non recurring, and unpredictable. Learning and studying history is to "understand that the situation we are in is neither natural nor inevitable". However, if we can broaden our disciplinary vision, as the whole of the origin and evolution of all social systems, history is untested, experiments can not occur repeatedly, and in a sense, it is indeed unpredictable, but these do not mean that history is irregular, and our current situation does not contain natural or inevitable nature. (Note: as for the research on the origin and evolution of this macro system, biology's research on the evolution history of life on earth has given an excellent demonstration to social science. Human's ability to intervene in the evolution of life is extremely limited, but this has not stopped the great progress of biology since Darwin.) the K-r model focuses on the origin and evolution of social forms, It is the basic theoretical research pointing to this regularity and this inevitability.

The origin and evolution of social form is a basic theoretical problem common to all categories of social disciplines. In different disciplines, it can have different themes. North is the rise of the west, Barrington Moore is the road of modernization, Henry Maine is from identity to contract, Robert Brenner is agricultural capitalism, Ellen McFarlane is the origin of individualism in England, and so on. Most categories of modern social sciences have borrowed and transplanted the research methods and systems of natural sciences, but compared with natural sciences, social sciences are still in an early stage of development. Precisely because of the mismatch in this stage, the effect of this kind of reference and transplantation is not completely positive. On the one hand, "learning by discipline" and "specialized in technology and industry" have refined our understanding of society. On the other hand, the barriers between these disciplines and the "specialized" within the disciplines have also hindered the research of basic theoretical problems. Because of the integrity of the social system and the one-sided, distorted and incomplete historical records, that is, unreliable in a sense, this "specialization" inside and outside the discipline will make the thinking on this common basic theoretical problem fall into the dilemma of "over fitting" (Note: over fitting, a term in computer science, can be understood here as too careful consideration of local materials and insufficient consideration of global data, resulting in one sidedness of the theory and failure to achieve the goal of revealing the universal law) Therefore, it is necessary to integrate the knowledge and theory of various disciplines to avoid this "over fitting" trap.

We should avoid this "over fitting" by integrating various disciplines K-r model not only needs to cross the discipline boundary to consider a wide range of knowledge materials, but also needs to cross the discipline boundary to learn from various existing theoretical achievements. It needs to cover the historical facts at any time and place, but also any discipline angle of this historical fact, but it will not depend on any historical fact or any discipline angle. It will not be a stone In fact, there are very close and different kinship theories among various categories of modern social disciplines. In many aspects, they are only a paper apart from each other. This paper attempts to partially describe the similarities and differences between K-r model and these theories for readers' understanding And thinking.

1. In the field of anthropology, K-r model has the same theoretical principles as Marvin Harris' cultural materialism. Like Marvin Harris, K-r model agrees with the cultural concept of materialism. On the basis of paying attention to productivity determining production relations and economic foundation determining superstructure, it further pays attention to the interaction between man and environment and the causes of population reproduction based on this interaction Compared with the K-r model, Marvin Harris has an obvious teleological tendency in the understanding and application of evolution theory, which hinders his in-depth understanding of the impact of risk factors on human behavior.
2. In the field of history, the K-r model agrees with Robert Brenner's criticism of the traditional "commercialization model" on the origin of capitalism, his description of the lifestyle of farmers in the European continent, his analysis of why the European continent is trapped in "Malthusian stagnation", and his investigation of the special origin of capitalism in Britain. Further, I also agree with his view that Britain's special class relations played a decisive role in the origin of capitalism. The difference between the K-r model and Brenner's view is that the K-r model's investigation of the origin of capitalism does not stop at the special class relationship of Britain, but follows the Marxist principle that material determines consciousness, productivity determines the mode of production, and economic foundation determines superstructure, It traces back to the special natural environment in England, the relationship between man and nature and the relationship between man and man based on this special environment, which deepens Brenner's view
3. In the field of economics, K-r model is inspired by Zhang Wuchang's tenant theory. Zhang Wuchang later expressed the concept of transaction cost as institutional cost, which was recognized by Coase. The K-r model recognized the implicit meaning of Zhang Wuchang's expression and regarded the system as a broad contractual arrangement. Moreover, according to Zhang Wuchang's "risk aversion affects the choice of contract arrangement" expressed in tenant theory, it is considered that agricultural risk has finally shaped the social system as a whole through the transmission of food price, labor price and social product price. At this point, the K-r model popularizes Zhang Wuchang's expression and makes an economic expression for the impact of the natural environment on the social system.
4. In the field of sociology, K-r model is consistent with Barrington Moore's research on the road to modernization. Barrington Moore believes that different agricultural commercialization processes around the world are the key factors affecting the road of modernization. The K-r model determines the action mode of agricultural risk on human economic activities, that is, the relationship between agricultural risk and agricultural commercialization, so as to express the process of agricultural commercialization as the dependent variable of agricultural risk, and further extend the influence of agricultural risk to the evolution of general social order outside the road of modernization, It extends the theory of Barrington Moore.

After hundreds of years of continuous development, the accumulation of various categories of social disciplines has been vast. Although the co authors of this book come from different disciplines such as law, history, economics and computer science, the relationship between K-r model and existing knowledge and theory is still far beyond our ability. I believe that future researchers will find more links between K-r model and existing knowledge and theory, Thus, it helps to integrate different knowledge fields and build a clearer and consistent theoretical picture for social science.

### Section II: potato dialogue: viewing universal history from the evolution of order

Participants: Kicking stars (Star teacher), card teacher, GUI teacher, diva, recorded by kicking stars. GUI teacher: let me say a few words first. I met the star master because of his grain theory. Of course, it didn't rise to "theory" at that time. Card master: Well, at the beginning, it was just some opinions. Miss GUI: Yes, and I didn't listen to him. I saw the netizens on the microblog. When talking about history and society, I quoted his view, the core of grain theory, to explain the changes of social form. At that time, he did not talk about the classification characteristics of social forms. He mainly talked about the theme of dynasty change. He believed that what really worked here was an element such as grain production. Card teacher: a materialistic idea.

Miss GUI: Yes, that's what he said at that time. After reading it, I thought, well, this view is actually very interesting, so I paid attention to Xingshi's microblog. At that time, his microblog was really like nonsense. For a while, it was r department and K department.

Kick the stars: ha ha, yes, very fragmented, very divergent. Miss GUI: Yes, so I had to guess at first. Fortunately, I can actually touch the logic of his core part. It is a core element of grain production that ultimately determines the social form and its changes, that is, why a social form comes into being, from the collapse of the previous form to the birth of the next form. But many of the expressions we could see at that time were really like nonsense. R-society, r-biology, k-society, k-biology, and then from time to time, other people will be pulled out and criticized. Kick the stars: Yes, intersperse some criticism and adjust it. Miss GUI: at that time, when criticizing others, I was mainly talking about my aunt (Liu Zhongjing). My aunt learned to talk more. Right. Kick the stars: Yes, Aunt Liu was very hot at that time. It was amazing. Miss GUI: Master Xing always says he is Aunt Liu's black powder. Black powder is actually a popular word on the Internet, that is, I powder you, but I don't agree with you.

Diva: that's normal.

Mr. GUI: Yes, but this matter was later criticized by Dr. Qian. Dr. Qian said that if you want black, black and powder, there is no such illogical thing as black and powder. Well, this is an episode. Let's get back to the point. At that time, I often asked the star master, what do you mean, what does that mean, what does this concept represent and what does that concept represent. Xingshi was also very happy. He finally had his first fan. Ha ha, as I communicated more with Xingshi, my questions became more and more in-depth. Later, Xingshi asked me to meet offline. Kick the stars: I'm very excited. Someone finally asked me. I have powder, too. So I happily took a box of Li dada's oranges as a gift to see Mr. GUI. Card master: he succeeded in touching porcelain. He should say so. He always touches porcelain at the door of others, and finally you find him. Miss GUI: Yes, yes, a typical porcelain touch. Ha ha ha.

Card master: he touched his aunt, the Bureau seat (@ outsider C) and some strange people. This is a typical Chinese touch porcelain. There is also a routine for touching porcelain. I found your ability to touch porcelain. It's also very strange.

Kicking stars: that's how I bumped into porcelain all the way.

Diva: hahaha, it's like this.

Kick Star: let me put in a word. I want to thank two people for this. The first is the bishop and the second is Miss GUI. The bishop loves to talk about knowledge. Once we talked about a manuscript of Buddhism in Han, Jin, Hu and Han by de Ge. We talked about the relationship between the spread of Buddhism to Han and the North-South swing of rainfall line. We talked about that the swing of rainfall line not only affected the spread of Buddhism, but also the fundamental force shaping the characteristics of Chinese civilization. But at that time, when we talked, we didn't go any further. Later, I happened to hear a speech by Liu Haiying in monsoon bookstore to promote his new book "China's huge debt", and mentioned the reproductive cultural differences between Chinese and Western societies in history, that is, how to explain the Hajnal line, so I thought of writing something for the first time. However, what was written at that time was too rough and rudimentary. With teacher GUI's later comments, it can only be called "reading notes". During this time, I met Mr. GUI. I thanked Mr. GUI for his guidance and told me how to improve and what kind of writing should be called a theory. In this process, koyev's historical philosophy was copied from the bishop, revised with the theory of evolution, and made an applicable logical routine. Mr. GUI: later, master Xing told me a lot about his systematic ideas in this theory. I beat him again and again, I denied him again and again, and advised him not to go that way.

Diva: that is, how to boast with strength.

Miss GUI: ha ha, yes. Is how to make this cow more perfect and more practical. Star master, what was your original problem? At that time, you talked about this with everyone in the wechat group. Dr. Qian and director Ma always led you to the scientific methodology. Dr. Qian is well-known and decent. He pays attention to academic norms and rigorous routines. Ma Dao, after all, he studies quantum physics, so he has such an empirical epistemology. His cultivation of scientific methodology is still relatively high. So at that time, you were guided. You always hope to start from scratch to lay a strict theoretical system. You can't go this way. That's why I always advise you to write more scattered articles and start easily. Write it down first, explain your point of view as much as possible, and gradually develop a theoretical system. If you want to start a system similar to Marx and Kant from scratch, the challenge is too great, and you may not finish this road in your life. Card master: if you write too many sporadic articles, will there be problems, such as losing focus. Mr. GUI: Yes, so later I suggested, first, in terms of internal logic, you should still focus on your own problems and write them, not from other people's texts. Starting from someone else's text, you can only discuss his opinions. We should start from the basic problem, that is, instead of talking about the phenomenon, miscellaneous, Kant's construction method of German classicism, you should first ask a real question. I talked to the star master. From a theoretical point of view, a good question is asked, which is more important than how you answer it. Xingshi asked a good question, that is, what is the relationship between food production and social form. This question, in the words of Xingshi himself, is why they are like Britain and the United States, while our China is like this. A very basic, real and good problem arises. So what are you going to do next? First, describe what they look like and what we look like. This is the basis of your theory. Kick the stars: Yes, the essence of comparison is how to define the object you want to compare. Because the way you define implies the direction of your comparison. Mr. GUI: then, you begin to ask, why "they are like that, we are like this", why? Then you have to talk about what is working. Directly speaking, that is, grain production is working. Accurately speaking, it is the fluctuation of grain production that plays a role. Among the various risks affecting human society, it exists as the lowest risk, affecting, or even determining other social factors. Then we specifically investigate the existence of the lowest risk, summarize its attributes, or the matrix of patterns, and list various situations, such as sustained high yield and the best situation, such as some modern western countries. In the worst case, such as early India and southern Africa, they can not even stably support a central government. Kick the stars: Yes, others, such as high yield but unstable, or not very high yield but stable, also have their own characteristics. Mr. GUI: there are large and small fluctuations in grain output, long-term fluctuations and short-term fluctuations, resulting in different risk attributes, or risk levels. Different risk levels bring different social forms. Card master: but wait a minute, the problem has appeared. The four words of grain production give people the first impression that grain production? Isn't that the agronomy that Mr. Yuan Longping studied? How can it be connected with the social form? At first glance, it doesn't seem to be connected. Mr. GUI: indeed, many people can't connect food production with social form. Including many people who have participated in the discussion in our group. They will think that food is the way to eat. Kick the stars: Yes. When Li dada first heard me talk about it, he just felt "how is this possible..." so did lawyer sun. Every time he talked about grain theory, he would laugh: "grain! Grain!", that is to say, it is easy to understand it as the food itself, rather than a social activity such as grain production, and a chain of social activities. Mr. GUI: including me, it was the same when I first came into contact with this theory. At that time, before we had an in-depth exchange with the star master on the hard core of this theory, we would feel that food is very important, and "no farmers are unstable, no workers are not rich".

Diva: why not? It's normal to think so.

Card master: Yes, people depend on food. Everyone knows. Mr. GUI: after in-depth communication, I understood this theory. It actually talks about the concept of fluctuation of grain output. It focuses on fluctuations, fluctuation, not food.

Diva: Miss GUI, this is the feeling of the English teacher.

Mr. GUI: ha ha, yes, the philosopher feels it. Card Division: further, the key to this problem is not just the fluctuation, but the fluctuation of grain production. It can only be explained clearly as a natural phenomenon. From the perspective of human production capacity, it doesn't make sense, because people can't control the fluctuation of grain production. Miss GUI: Yes, this is the key. Further, if we push the grain theory one step further, people can't control and resist the economic cycle of industry. Kick the stars: This is something I didn't want to understand, because I don't know how the industrial cycle came, and there seems to be no ready-made theory to explain it. Mr. GUI: among the ready-made theories, we really don't understand. For example, a small cycle in 10 years and a large cycle in 50 years are the so-called modern economy. This is far away. Let's stop first and return to grain production and the problem of card division. As Kashi said just now, grain production actually depends on heaven. Ten years of drought, you produce a ghost's food, and ten years of flood, you produce a ghost's food. This is especially true if the disaster lasts longer. Card Division: Yes, if there is too little water or too much water, where can there be food. But think about it, is building a reservoir a remedy? Mr. GUI: indeed, building a reservoir can obtain certain flexibility in combating flood and drought disasters. So how elastic is it? I have learned that my family is in Hubei and there is a reservoir nearby. A relative happens to be the director of the water resources bureau. I asked him how much disaster the reservoir can resist. The answer is two years. There is no problem for two consecutive years. If the disaster continues, the role of the reservoir will be very limited. I once challenged the Star Division on the question raised by Mr. Kass, that is, for example, major floods and droughts often occur in Chinese history, which does not always lead to changes in the corresponding degree and intensity of social form. Later, after discussing with the astrologer, it was the attenuation cycle of grain production mentioned in this theory. It can be very long, at least for ten years, or even 20 or 30 years, such as the situation in the late Ming Dynasty. Card Division: in other words, what manpower can do is to deal with the crisis for several years. If the crisis continues, there will be nothing to do. Two years of drought is fine. If it's a ten-year drought and a hundred years of drought, it won't work. Miss GUI: Yes. It doesn't work at all. The reservoir should work as usual. Card master: that's for sure. Water is hard to store. Mr. GUI: as Mr. Ka said just now, grain production depends on heaven. Since it's collected by heaven, you can't resist the disaster for too long. So when you put food production and environmental conditions together and refer to each other, you can understand why British and American society is like that. Just because their environmental conditions are such a relatively stable situation, so the grain output is also relatively stable rather than drastic changes, so the social form is naturally like that. Why is our society like this? Our environmental conditions determine that grain production will fluctuate significantly in a long cycle and a short cycle. In addition to changing year by year, it is generally considered that there is a long cycle of two or three hundred years. Sometimes, if life is bad, it may be more than a hundred years. Card master: there are two levels of thinking. First, our environmental conditions are like this. Second, our "tools" born under these environmental conditions are like this. In other words, our level of development is very compatible with our natural environment. Kicking the stars: extreme examples will also appear when such environmental conditions cooperate with social development. For example, the Aztec people in Central America, due to the limitations of environmental conditions and isolation from Eurasia, are difficult to introduce technological resources. Their path of rise has been blocked, so they can only survive in such a shocking way as large-scale human sacrifice. KASH: the Mayans also have water problems. Their living environment is in the forest without big rivers. The underground is full of limestone structure, water is easy to go through underground rivers, and the resistance to water shortage is very poor. Kick the stars: Yes. Facing the water shortage caused by the drought, the Mayan civilization could not even survive. It eventually collapsed and disappeared because of drought. Mr. GUI: so good. After the previous paragraph, I won't elaborate on this part. Now let's look at the social form. Our social form, its composition, its strategy, belongs to the individual biological strategy, or belongs to the collective social strategy. What is it used for? It is used to adapt to this risk level. The adaptability of the same strategy is different under different risk states. In the face of the risk level of our society caused by this specific long-term fluctuation and short-term fluctuation, the composition and strategy adaptability and survival efficiency of our social form may be relatively the highest. Card teacher: all societies have reached the highest level of adaptability and survival efficiency under their own environmental conditions. It must be so. Miss GUI: it must be running in to such a degree. It adapts to the risk environment it faces, and its survival efficiency is the highest. If the risk environment changes and the risk is higher or lower, its survival efficiency will be reduced when it deals with the changed risk environment. Card master: so you can't look down on any society. A society must reach its most efficient state of survival. India has Indian society and Africa has African society, both of which are the result of adaptation. Miss GUI: Yes. So I agree with master Xingshi that what our social form has achieved is really the best state in our history. Card master: that's because we have new tools that the ancients didn't have.

Mr. GUI: Yes, with the help of new tools, we have reached the best state in history. But from another point of view, it can also be said that you want us to reach a higher level of civilization. It is very difficult for R system to become k system. Now with good tools, you can flourish, but leapfrog evolution is difficult.

Kick the stars: Yes, it is conditional to overcome environmental risks. To overcome it thoroughly, we need not only stronger strength, but also more time.

Mr. GUI: compared with our K department, it's another situation. In September this year, I went to Canada, then passed through Canada to the United States and looked at the five Great Lakes. At that time, I thought, OMG, why is it called K-series? If you look at the living environment around the lake, you can fully experience that living state.

Diva: hahaha, we feel Mr. GUI's mood.

Mr. GUI: Yes, such a large freshwater lake and such good climatic conditions must be enough for the K series. In his low-risk environment, if ok, he can do many, many and various things, and he has a lot of choices.

Card master: it should be said that in such an environment, there will always be people who do things that are not limited to survival. It is not that they have to do it reluctantly, but that they naturally have the conditions to do it. Just like the local tyrants in Hong Kong, when they have money, they can drive to central to give money to everyone. They can do anything. We can only sit down and watch them do it, and they really have the option to do so. Miss GUI: Yes. We always want to fight against environmental risks, and the society formed by adapting to this environmental risk also contains the order risk due to this adaptability. The dilemma is multifaceted. Card master: let me interrupt here. Star master, didn't you talk about "stage theory" with Julia earlier? When it comes to stage theory, this problem begins to become troublesome. But if we only talk about the type, not the stage, it will change back to the general discussion. Only you are K and I am r forever. I'm dead. It's the only way forever.

Kick the stars: Yes, the K-r model, as a typology, has limitations. K-r divides social types, so each type has its own development process. I haven't talked about the different stages of this development process carefully. There are several key points. The first is that since K and R are distinguished, K and R, in the logic of our theory, it has a characteristic about the evolution process, that is, it will consolidate itself. Specifically, the risk of K-series social form will decrease and decrease in the evolution process until it converges to a certain limit, while the risk of R-Series social form will increase and increase in the evolution process until it converges to a certain limit. In this positive feedback evolution process, there will be several stages of adaptation and promotion between environmental risk and social form. For example, when we look at Chinese history, the pre Qin period was one state, the Qin and Han Dynasties were another state, and there were new changes after the Tang and Song dynasties.

Kashi: if we say that all ancient Chinese history is k, or R, there is nothing to say, right?

Kick the stars: the K-r model itself does not discuss the process of phased change in detail, but it does not deny, but rather affirms this process, because the positive feedback evolution logic itself contains the necessity of phased change. In all ancient Chinese history, it is type R, but as a type feature, R does not deny its changes in stages. Before the Qin and Han Dynasties, vassal states were still normal, although the characteristics of blood feudalism were more obvious. From the Qin and Han Dynasties to the Tang and Song Dynasties, the per capita cultivated land has not fallen to less than ten mu. Although the unification is gradually consolidated, there is still some degree of aristocratic politics. From the Tang and Song Dynasties to the Ming and Qing Dynasties, paddy farming technology developed, and the South developed day by day. More labor force can be invested per unit land to obtain more marginal output. As a result, the upper limit of population scale increased significantly, and the per capita cultivated land further fell to two or three mu. Aristocratic politics tends to die out and bureaucratic politics tends to extremes.

Kashi: Yes, for example, there was no such thing as civil commotion in the pre Qin period. We talk about aunts every day because what aunts say seems to have something to do with grain theory.

Kick the stars: Yes, the unrest in the latter stage has more cruel characteristics than that in the previous stage, and is accompanied by larger population losses. In the pre Qin period, before the Tang and Song Dynasties, after the Tang and Song Dynasties to the Ming and Qing Dynasties, there were different forms of unrest in different stages, which marked the increase of social pressure. Accordingly, the centralized nature of politics was also strengthened. This change process is derived from Spengler's word "ferrarization", which shows a trend of higher social risks. Such a trend is also an inherent nature of R-system social order. The K-r model explains the positive and feedback self consolidation of order risk.

Miss GUI: Yes.

Kick the stars: about this process, the K-r model can only explain its trend. The details of the process itself, limited to ability and energy, have not been studied carefully. There are some questions. If you don't have new technological progress, then R is the process of social order. Where will it develop? Under certain technical conditions, it will not change to a certain extent, but enter a stagnant state? Or will it continue to fall into some terrible situation like Aztec? For example, our technical conditions remain in the era before the Tang and Song Dynasties, because it is impossible to invest more labor force on the unit land to obtain that marginal output. Will we always stay in the situation of more than 10 mu of cultivated land per capita, and it is impossible to enter the social order of the Ming and Qing Dynasties, or will we move towards another unknown, Even a terrible social order like Aztec? I prefer the former, but I'm not sure.

Card Division: let me say a word about this question. I think that the K-r model is insensitive to some historical conditions. To find out the sensitive places to these situations, it is not possible for K-r as a theoretical tool. You need something else, another tool, to work. For example, the Tang Dynasty is like this, the Song Dynasty and the Ming Dynasty are like that. We should be sensitive to this change.

Kick the stars: Yes, explaining this change requires more tools than the K-r model, which will introduce more factors. The first is production capacity. For example, the similarities and differences between before the Tang and Song Dynasties and after the Tang and Song dynasties. During this period, the farming technology of paddy fields changed. Under the new rice farming technology, more labor was invested in unit land and less cultivated land per capita. This is not only a great change, but also a major factor causing social change.

Ka Shi: Yes, because of the popularization of new rice farming technology, the whole South has been developed. Kick the stars: the second is mobilization ability. Your farming technology and production mode have not changed, but your mobilization ability has changed, and society will also change greatly. For example, with the advent of the bronze age, there was an early civilization such as Shang. Has its production capacity changed before and after Shang? I don't think so. At that time, everyone used wood and stone tools to cultivate in the fields, which didn't change much. However, there was no typical civilized country before, and then there was the emergence of classical countries. The biggest factor is the jump in mobilization ability brought by bronze weapons.

Card master: Well, the country has changed. The K-r model cannot explain why countries change.

Kick the stars: Yes. Similarly, in the course of R, the change of mobilization capacity can cause phased changes, and the change of production capacity can also cause phased changes. If the mobilization ability is enhanced, it will be more able to transfer risks to some people, then the ability to maintain the state form will be enhanced, and the threshold of social collapse will be raised. Therefore, the change of mobilization ability will have a very direct impact on the change of "state". If the production capacity has changed, its impact on food output has caused changes in the whole environmental risk, and its impact on social order is another situation. This impact may not be as direct as the impact of mobilization capacity, but it is more far-reaching.

KASH: So where these factors of national change come from is a new problem. Kick the stars: Yes, that's another problem. In the final analysis, new things come from human invention and creation. At the same time, it comes from the interaction between different civilized regions. Take Aztec for example. It is located in Central America and has no boundary with other civilized regions. Therefore, its stage change has nothing to do with others. It is a closed and isolated process. Until the Europeans broke in and broke this closure and isolation. In this closed and isolated state, its invention is very difficult, and the technical ceiling is very low. However, in Eurasia, various civilized regions have been able to spread technology to each other since ancient times. The inventions and creations of "others' home" have been introduced through various ways, causing their own changes. Let's make a comparison. How different is the turmoil after the fall of the Manchu and Qing Dynasties from that after the fall of the Ming Dynasty? The difference is that with the technology imported from the west, machine guns, mortars and railway telegrams, the mobilization ability has been enhanced, so the ability to control social order has also been enhanced. In the decades of war after the collapse of the Qing Dynasty, it did not lose half of the population as in the late Ming and early Qing Dynasties, but went through the process of social change when the population loss was much less than that in the late Ming and early Qing Dynasties. According to the statistics in the history of China's land system, at the end of each era in the past, half of the population had to be lost. But this time, the population loss is much smaller, although the loss figure is also amazing. Card Division: many people still die. Kick the stars: Yes, the number is still amazing. But compared with the past times, it should be said that it is still much less. Among them, the jump of mobilization means has played a very important role, that is, the ability to maintain order is stronger than before. In the past, for example, the Taiping Heavenly Kingdom revolted in Guangxi. When the local officials understood how big it was, they hurried to fly to Beijing for 800 miles. Due to the delay of various links and roads, Beijing knew the news. Maybe more than ten days and ten days have passed. Besides, they can't know the situation of the front line in time. Maybe the military order given to Guangxi has not been sent to the front line, The local army that should accept the military order has collapsed. The Hunan army that may be mobilized to the front line for support has not been assembled yet. The rebel army has come up from Guangxi. It has changed from the first tens of thousands of rebels to hundreds of thousands of rebels who kidnapped the people along the way. The local government is unable to suppress it. However, in the 20th century, the central government knew where the rebellion had occurred, mobilized troops to suppress it and put it out in the bud. That was very fast. Miss GUI: Well, it's coming soon. It's fast. Kick the stars: Yes. For example, if Henan rebelled during the drought in the Republic of China, as soon as this happened, even if the local military and political forces could not suppress it immediately, they could support it for a few days with advanced firearms and corresponding military training. The local military and political officials reported this news to the central government in Nanjing, and it may be delivered within 24 hours. How fast it is to send a telegram for help. The military order of repression may be issued within 48 hours. The mobilized army may have come by train along the Longhai line and the Beijing Guangzhou line. Within a few days, the army got off the train very close to the rebellion, and was also armed with machine guns and mortars. Therefore, the rebellion was surrounded and suppressed by the army before it could lead to a great unrest of hundreds of thousands of people. This ability did not exist in the past. And where does this ability come from? It relies on new technology imported from the West. Therefore, the improvement of mobilization ability due to technology dissemination is very important for the change of stage. Miss GUI: Yes, it is.

Kick the stars: as mentioned earlier, another situation affecting stage change is the change of production capacity. This change may be more important because its change will even further cause type changes. For example, the green revolution can be said to have brought "changes that have not been seen in 5000 years". In the whole ancient history, the change of production capacity has never been able to shake the K-r type of society. Whether you are R or R, you can only increase production, but you still can't get rid of the risk. For example, after the Tang and Song Dynasties, the development of paddy farming technology brought about the development of the south. During the Ming and Qing Dynasties, American crops were introduced. From the perspective of total population, total economic output and development area, it seems to be prosperity and development, but from another perspective, per capita land is decreasing, productivity is declining and risk is increasing. In a sense, this is not prosperity and development, but decline and retrogression. With the improvement of production capacity such as the green revolution, driven by the joint force of technological progress such as seeds, pesticides and fertilizers, the grain output has increased high enough, fast enough and quickly doubled several times. In addition, with the improvement of various capacities such as railway transportation, automobile transportation, telephone and telegraph, the agricultural risks have been effectively curbed. Today's society is facing a risk environment, It is no longer the typical R-system situation in the past. The risk trend has been reversed, and the development trend of the whole society has changed.

Card master: so, when the technological means born in different civilized regions drift to other civilizations, there may be new things. That's what stage means. Kick the stars: Yes, different civilized regions have their own risk environment and have created different ways of adaptation, manifested in different technical means of production or mobilization. Different civilized regions spread technology to each other, which has led to new changes. The changes of production capacity and mobilization capacity all have quite complex processes. Coupled with the interaction between them, the problem becomes doubly complex. When we talk about the "stage", all these factors will be highlighted. Therefore, there is no way to clarify the problem of the process of civilization in a few words.

Card Division: in the whole theoretical logic, something geographical will slowly begin to appear. All kinds of different R types have different characteristics.

Kick the stars: Yes. The characteristics of different civilized regions are adapted to the kind of risk environment in which they are located. We discussed the "relying on heaven" of agriculture earlier. Therefore, behind the characteristics of civilization, it is indeed geographical factors that play a great role. Card Division: let me say one more word. The people of the Qing Dynasty had just seen a clue of the five thousand year change, but they didn't feel it. Seeing and feeling are different. All ordinary people feel this tide. This thing has developed greatly and tends to be completed. It is not happening, but has changed and finished. Only then can there be such a thing that pervades everyone. Miss GUI: Yes. Card Division: what we see is a new era. Aunt Liu's problem is that he always reads ancient books. When he opens his mouth, he is Zhang Xianzhong and Li Zicheng. Of course, I can't say anything about this problem. He is such a person. Miss GUI: about Aunt, card master, I think one thing you said is right, that is, he is always Zhang Xianzhong and Li Zicheng. On this issue, one, that is to say, he may be making use of a topic in a sense. Second, from the academic point of view, my aunt believes that our type and stage have not changed. Kick the stars: he is a typical Spengler tune. All civilizations have the same process, spring, summer, autumn and winter. Just sooner or later. Card teacher: if my aunt says that it has been the same since ancient times and has not changed, of course he will not be in the same position as us. But the problem is, how to change can also be different positions. It doesn't mean that we all share the same position when we know that there has been a change. Change and invariance is one position, but how to change is another position. Kick the stars: Yes. So the theory of stages is also a new point of divergence. What stage, what course, is also a big problem. So, card division, how to combine your three five and grain theory is still a big problem. Card master: three five, I can say something today. I told the star master these days. I just thought for myself before. I haven't discussed these problems with anyone, so I don't know how to write an article to express it, because I haven't talked to anyone before. Master Xing is different from you. You talk too much with Miss GUI. Mr. GUI, after you discovered him, you will have something to discuss, right. No one has discovered me. I can't talk to myself. Miss GUI: hahaha, you don't have anyone to touch porcelain. Card master: Yes, I don't have the experience of this porcelain bumper. Let's get back to the point. This stage is very troublesome. Star master, you say that aunt is Spengler's tone all day, so have you ever thought that aunt's tone is also stage theory. There are also many kinds of stage theories. The key is how to make clear what your stage is. In the first stage, its implication can be very simple, that is, there is life and death, and there is a process. This implication is "determinism". If there is this beginning, there must be this end. This implication is a trouble. How can you apply a determinism routine to historical analysis? This is wrong. If you want to solve this problem, you must re-use the idea of the black road. History is a black road. You can't say that this society is on a dead road. I've seen that you're dead now. This kind of words is not historical analysis. If you want to analyze, you can only say that this road is black, but there will always be a road here. Second, there is always a way. You can only compare this way and compare the roads that have been passed. Of course, we have very little information. You also said that many roads are still dark or chaotic. I don't know what it is, but the roads are always passed. Compare the roads. That's the only way. For example, you said that there was aristocracy before, and now we also have aristocracy. For example, Zhao Dingxin said that the Warring States period was very similar to the European Baroque Rococo Era. Yes, it was definitely very similar. We all know that Zhao Dingxin is a sociologist, but he is a scientist. Will he compare anything at will? And so seriously wrote articles to criticize Xu Tianbo, so that is to say, we know that these "roads" can be compared. Why? Like things can be compared. They are like things, right? Mr. GUI: Yes, only on the basis of homogeneity can we compare. Card master: Yes, this discussion will return to "types". It is not different types, but the same types. Only then can there be stage analysis and stage comparison. We need to compare similar things together, which is right, but the problem comes back to what is the same, what is the different, or what is the same, before we can compare them. This problem is troublesome. Kick the stars: I agree. However, the distinction between what is the same and what is different is difficult to determine. I say that when you want to make a comparison, you can only say that you are of the same kind, which is right. But the key to the problem is that the methods of classification are endless. You always have a way to divide it into one category, which is arbitrary. Miss GUI: Yes. For example, men and women are human beings. If you classify them like this, men and women are a group of objects that can be compared.

Kick the stars: Yes. For example, Xu Tianbo and Zhao Dingxin argued about why the "multinational system" in such a chaotic situation as China before the Qin and Han Dynasties, the spring and Autumn period and the Warring States period could finally be unified, while in early modern Europe, the "multinational system" in the past 300 years, from the Venice treaty in the Italian war to the end of the Napoleonic War, was also a chaotic situation of mutual attack, In the end, it did not move towards unification. What is the basis on which they think the two can be compared? In terms of form, they think it is comparable. Both are "systems" composed of multiple countries attacking each other. China and Europe are also geographical regions of similar size. From another perspective, we do not divide by civilization region, but from the perspective of grain theory, we divide it into R-Series civilization and K-series civilization according to the type of civilization. Although the comparison between R strategy and K strategy is a relative concept, we can still draw an absolute line between them historically. According to the hindsight of modern people, Britain and Eurasia do not follow the same road, so we use the English channel to draw a line. On both sides of this line, there is the self consolidation of the two civilized orders. From the English channel to the west, in England, the K strategy tendency order based on the fixed land rent system is self consolidating, and to the East, in Eurasia, the r strategy tendency order based on the divided land rent system or village community system is also self consolidating. In this way, we classify the civilization represented by England as K-series civilization. In contrast, the whole Eurasian continent, from west to East, is divided into 369 grades according to the level of environmental risk, which are all classified as R-Series civilization. R is 369, not exactly the same, but they always belong to the same type. In this way, I classify the European era and the pre-Qin era as R-Series civilization. Under this classification system, they are similar historical stages under similar civilization types, which equates them in a sense. That is to say, as long as it is a region of R-Series civilization, although their course is not exactly the same, they all have a similar historical stage from division to unity.

Card Division: here is a question of the beginning of history. Kicking Star: Yes, it's just that in Western Europe, due to its geographical environment, its development is relatively late, so the rise of the "multinational system" here is also relatively late. On the other hand, its environmental risk is also weak, so its turmoil has not reached the intensity of China. Therefore, after reaching the stage of the rise of absolutist nation states, Its unification process stopped. It did not become a unified system in the end.

Mr. GUI: Yes, the environmental risk is still relatively small, not enough.

Card master: but, you know, they also have unity. Aren't the achievements of Charles V unified? It is also unity. Charles V's achievements can also be compared with Emperor Wu of the Han Dynasty. Absolutely. German princes see that Charles V is Hanwu. Similarly, they want to copy my house. Kick the stars: Yes, in fact, the rise of absolutist countries in Western Europe, from a large number of feudal princes attacking each other to the formation of a nation-state, is the same as the rise of the Qin and Han Dynasties, but the geographical scale is a little smaller, and the scale of war and destruction are not so shocking. The absolutist nation-state is a kind of Qin and Han system realized in a small region and a weak degree, with small unification and centralization. Therefore, in this sense, it does not mean that Europe is different from us in "essence". In the classification system of civilization typology, Europe is the same as us. From the perspective of the geographical region of the whole Europe, it is only China, where the struggle broke out relatively late and the intensity of the struggle is relatively weak. Then, in this case, the interaction between different types of civilizations, as we just mentioned, has prevented Europe from continuing on this road of unification. Card Division: Yes, it should be said that Britain has influenced not only China, but also Europe. Kick the stars: it should be said that if there was no such an alternative country as Britain to put pressure on Europe, people like Charles V, Napoleon Hitler and the situation that created them will sooner or later come to the end of great unification, even if the centralization process of great unification may be weaker than that of China and may be closer to the Roman Empire in history. Card Division: Hitler, it's already a matter of the British. The Americans are coming. Kick the stars: Yes, that is to say, apart from factors outside Europe, it will actually be unified. If we lengthen the so-called "early modern" period considered by Zhao Dingxin and Xu Tianbo for Europe, from the Venice treaty to the end of World War II, rather than the end of the Napoleonic War, the length of this period is similar to the 500 years of the spring and Autumn Warring States period. World War I and World War II are also collectively referred to as the second thirty year war. The first 30-year war, the second 30-year war and Germany are the core factors of the war. If Europe continues to fight like this, it will be unified. If some outsiders, such as the British and the Americans, had not intervened, the achievements of Charles V, Napoleon and Hitler would have been different, and the outcome of European reunification would be entirely conceivable. Why can Europe be unified? Let me give an example of France to illustrate its "essential relationship" with China "Is it different? After the collapse of feudalism, the small-scale peasant system prevailed in France. Like China, farmers' land is constantly subdivided, and all its social problems are similar to China and are on the same evolution track. If the historical process of Europe is not influenced by Britain and the United States, its outcome can be imagined. Card teacher: Yes, France is another one Hebei, isn't it? Paris is the same as Beijing. Unification is the same thing. Teacher GUI: hahaha, yes, it's almost the same. Kick Star: Yes, so from our point of view, neither Xu Tianbo nor Zhao Dingxin is thorough. They think that China's spring and Autumn period and the Warring States period can be compared with Europe's early modern times because of the two In the form of "multinational system", they are consistent, and their focus is "difference" in a certain essential sense That is to say, the reason why the results on the issue of reunification are different is that Europe and China are different in nature. According to Xu Tianbo's idea, when European countries make strategic choices, they are not so Machiavellian and do not do everything. However, the pre-Qin countries are desperate to attack and kill each other. Ka Shi: Yes , the bottom line is too low. According to some people, we have no bottom line. Kick the stars: Yes, there is no bottom line. According to Zhao Dingxin, the difference in social structure is a structural factor that restricts the strategic choice of European countries, that is, they can not act arbitrarily. These statements can not be wrong. They are correct observation and summary at some level, However, in terms of our thinking, it will enter a deeper level, that is, there are not many "qualitative" differences between the two historical processes, but more "quantitative" As mentioned earlier, the two historical processes that Xu Tianbo and Zhao Dingxin are concerned about are the five hundred years from the spring and Autumn period and the Warring States period in China, the three hundred years from the Venice treaty to the end of the Napoleonic War in Europe. If the end of this historical process in Europe is defined as the "Hitler war" What about the end of the war? The time span is closer, and there are more similar phenomena on both sides, which can trigger us to think. For example, the Holocaust against Jews, such as the overall war against rudendorff, require us to rethink to what extent the differences in strategic choice and social structure between the two sides are insurmountable? Another way of thinking, according to the theory of civilization type, It can also be said that the historical process of the two sides is more typical of commonness than differences. The reason why the outcome is different is that the internal factors in Europe are still second. More fundamentally, it is because of the influence of Britain and the United States that Europe did not get enough opportunities and time to present an end similar to the unification of the Qin and Han Dynasties. Card Shi: that is to say, Europe is miserable. It met Britain Country. Kick Star: ha ha, it should be said that it was lucky that it met Britain. Card teacher: it's the reverse. Charles V, Napoleon Hitler can't unify Europe. It should be the reverse. Britain and the United States are bad guys. We can't unify. Kick Star: Yes, if you take unification as your "merit" First, the R-Series attribute of this area is not strong enough. Second, it also meets one neighbor after another with K-series attribute, offshore balancer, porcelain bumpers.

Mr. GUI: it's not enough R. its risk fluctuation is peaceful and slow. In the time period of conflict, it's not enough for it to produce a great unification. It takes too long to continue the conflict and accumulate the conflict intensity required for "great unification".

Kick the stars: Yes, conflicts with weak risk attributes are not enough to crush the whole European society, and they are not enough to be integrated. Card Division: it has come to the age of Charles V, and then suddenly exploded a supernova like Britain. The Holy Roman Empire is a very safe thing. It's so simple that you destroy Britain. Kicking the stars: so back, as Europeans themselves said, Brodale talked about the deep breathing of the Mediterranean, Brenner talked about the two stages of the rise and fall of Western Europe, Europe does not have a cycle of chaos, it also has ah, but the change should be much more gentle, and there will be no great turmoil as violent as East Asia. Card master: it's too easy to handle, so I actually mean, three or five is such a simple thing. That is to take all the old roads of various civilizations and boil them in one pot. If you compare them, you will find that in fact, everyone has gone through the same course. Miss GUI: actually, it means that there is nothing new in the sun. Card teacher: and the stories of emperors and generals are all in this. The game of struggle, the mobilization, can also be analyzed with the theory of biology. You don't think of it as a stage for emperors and generals. You just think of it as the struggle of orangutans. Orangutans fight for the boss, that is biology. Why do you have to analyze it into those philosophies? What strategy, what Machiavelli, Napoleon Hitler. Kick the stars: hahaha, yes, we are materialists. Don't talk about those empty things. Orangutans have no philosophy, but orangutans have to be the boss and struggle. Mr. GUI: philosophy, including later science, is something at another level. It doesn't have much to do with the struggle or social conflict we talk about. Strategy is a matter of choice arising from the struggle. Strategy has an impact on the struggle, but it can only be changed within a very small limit. Card master: Yes, foreigners have made game theory very strict, but game theory has no historical element. No matter how good your game theory is, bridge doesn't necessarily win, does it? These are two different things. Miss GUI: Yes, what do you rely on in the end for your struggle and conflict? It depends on the final strength comparison. Where does the final strength comparison come from? For example, the most important factor may also be who mobilized earlier. For example, in the war period in Chinese history, why did the nomads win with a high probability? Nomadic production methods are more vulnerable, falling into chaos earlier in climate change, while agricultural people are a little later. Therefore, when the nomadic people have formed a violent order in the internal conflict, and the agricultural people have just fallen into chaos, then this close and integrated violent order will fight you with a better mobilization state and take the lead in the conflict. Kick the star: Yes, this is another explanation of aunt's order input theory we discussed. Mr. GUI: first, considering things like order input theory, the model of historical process will become more complex. Kick the stars: Yes, so it's impossible to do it all at once. Just like teacher GUI said, do it piece by piece, paragraph by paragraph. Make it clear that a problem is a problem. Mr. GUI: Yes, to study this super complex problem is to write scattered articles first. I'll write an article on which problem I think and which problem I want to mature. I'll write another article on any question that I think may be supplemented by the previous idea. When I think of something new again, I'll write another one. Don't engage in that grand narrative, it won't succeed. If you write hard, it's easy to become empty. Kick the stars: I have also tried to integrate the typological thinking of grain theory into an article with a logical process. After several attempts, I found that I just can't arrange all things logically and coherently. There are always some things out there. Miss GUI: I can't make it. If you go on like that, you'll have to make three volumes. Card master: don't do that. It's not good to write. That's not like writing capital. Capital, I really read it. Capital is actually very interesting. It is not a philosophy book. If you take it to observe British society, it is very good. Kick the stars: great man. We talked about the topic of great men. Some people are really unusual and can't refuse. For example, Marx, if you read it carefully, you will find that he is really great. Too many people have studied the origin of capitalism, but Marx is the sharpest one to study it. He focused his research on this problem in the countryside of England with unique insight. Other contemporaries don't realize this key, do they? Many contemporaries, even later generations, have understood the medieval urban economy in Europe as the key to the origin of capitalism. Card master: that's normal. Kick the stars: Yes, it's normal. The urban bourgeoisie and business prosperity. But in fact, if you think about this problem thoroughly, Marx is the most correct. He was the first to see this research direction clearly. The citizen class in the city, in essence, they and their activities have nothing to do with the origin of capitalism. There have been these figures since ancient times. In fact, we also have them in China. XiMenqing is such a person, bourgeois and businessman.

Diva: then why do you have to take such a typical example, hahaha

Kicking the stars: This is a typical businessman, citizen class. Open a medicine shop, do business and have some relations with the government. Isn't it the same as the French aristocracy? In addition to business, seek a title in the government. Mr. GUI: Yes, this is the case for the basic petty aristocrats and petty bourgeoisie. Card Division: today we should actually talk about capitalism, which is the most troublesome.

Diva: I thought you wanted to say that today we should talk about Jin Ping Mei. This is a great literary work.

Kick the stars: hahaha, then we have the right way, so we can become more artistic. Card Division: now I'm looking for capitalism with lanterns. When I look for it, I'll find a group of businessmen to cheer them up and regard them as representatives of capitalism. The problem is, I think about it. This is actually wrong. Capitalism is not their thing. Capitalism is not doing business. This is a lot of trouble. Society has changed, but we don't know what it has become. You can have capitalists, but they don't necessarily let you have capitalism.

Mr. GUI: OK, what do you mean by capitalism? Capitalism is not business. I agree with that. I highly agree.

Card Division: Yes, what is capitalism? Not in business, so why not? Mr. GUI: in Marx's words, capitalism comes into being only when capital becomes capital and capital is formed. In Marx's words.

Kick the stars: I understand the key here, that is, when is money just money and when is capital? If you lend money at usury, it's not capitalism, is it? So what are the characteristics of usury? High risk and high interest rate. Because it is likely that it will not be recovered, the interest rate should be very high for loss reserves. If you can earn one vote, you can earn a little. If you can't earn it, you can either collect debt violently or admit it. For example, Huang Shiren wants Xi'er to pay off his debts, or the Spanish monarch depends on the accounts of Italian businessmen, which means that there is a strong violence and "super economy" in this economic activity. On the contrary, if the interest rate is low enough, it means that the risk of debt lending is very low. You can release it at a low interest rate to obtain stable and worry-free income, although it is not huge profits, which will not let both borrowers and borrowers fall into a super economic struggle. On the other hand, it means that it is reliable to obtain income from production and operation to repay debt, and the borrowed money can be safely put into production, Therefore, a large amount of money will be invested in this kind of production and operation, which is capital and capitalism. Card master: Well, it should be said that money can be safely put into reproduction.

Kick the stars: Yes, so I understand that the premise for money to become capital is that the risk in the process of production and operation is low enough to put money in safely. Without this process of input and reproduction, it would not be capitalism. For example, the commercial cities in Italy are very developed and considered by many people to be the birthplace of capitalism, but the money made by their big businessmen is often used to buy land near the city, and big businessmen are often big landlords. This is very similar to the situation in China. Buying land to obtain tenant income is a kind of risk aversion, Then this means that the risk in the process of production and operation is still not low enough, so it is not true capitalism. From this perspective, we can redefine capitalism and define it as the high stage of K-series social order, or the high stage of low-risk order. This is still too abstract, but the benefits of doing so can first roughly frame the concept of capitalism. First of all, it is an overall social order. It is not defined as a partial thing of some fragment. Its most fundamental feature is low risk. However, there are only low-risk, not necessarily capitalism. For example, although the productivity of North American Indians is backward, they are still relatively harmonious. Before the arrival of the colonists, they have no Empire, their tribal alliance is very loose, there is no strong war between tribes, and there is no strong hierarchical oppression within tribes and tribal alliances.

Card Division: they occasionally appear an empire, and then disappear, just like those things in the Amazon forest. Kick the stars: there should be no North America. What you said should be Central America. Central America is close to the equator and the environment has been very unstable, like Aztec. Card Division: the history of Americans has also been a long time. I believe there will be countries in North America that can build pyramids, but it disappears. It occasionally appears, and then it doesn't. Kick the stars: or at least it is not normal, which in itself means that the imperial attribute of social order is not strong in that large area of North America. Indian society is composed of some loose tribal alliances, which belongs to the low-level stage of a low-risk order, and there is no advanced civilization to exist stably. But we say that civilizations influence each other. Europeans have come with tools and technology. New productivity and mobilization ability are combined with low-risk order in the same region. Card master: the question is, did they bring capital too? Kick the stars: don't you need to bring capital? When the colonists came to the United States, they were just sent to "colonize", take root, feed themselves, and then set up shops to transport the beaver skins and other things from that place back to Britain. They started their business. The reason why the British can stand there is that these colonists live in North America, but they have strong trade ties with their home countries and can continuously gain strength from such ties. This kind of trade is not dominated by gold and silver. What is transported back to the home country is very ordinary. It can be daily necessities such as tobacco and cotton. Britain may be the place where the earliest mass consumer market developed, so it can stably support this kind of trade. Later, the colonies also produced grain and sent it to Europe, which is a more typical mass consumer goods. So you don't need to bring capital here. As long as someone comes with tools and technology, coupled with the low-risk order here, the surplus will be transformed into capital, and capitalism can develop here. Mr. GUI: first of all, we must be sure that the capital input is still input. Kick Star: Well, it's OK to understand this. After all, the colonists came to the thirteen states of North America with tools and technologies. These tools and technologies, even weapons, can be understood as initial capital.

Diva: Well, the most basic thing about capitalism is that private ownership is the core.

Card master: diva, you study law. What do you say. Miss GUI: listen to diva.

Diva: capital is not a legal concept. Its most basic definition is private property. The biggest difference between capitalism and feudalism is whether you have capital, and capital is a privatized thing. You used to be a tenant farmer and rent other people's land, so you have no capital. In the future, for example, if you become a small workshop owner or a person who owns a small farm, then you have capital. Why capitalism came into being in the United States is because there is no big lord or manor owner in the United States. Everyone has got their own private property in such a large area of land. Kick the stars: this explanation is not rigorous. Britain has a great Lord. Britain is the birthplace of capitalism.

Diva: Britain has, but why Britain has capitalism is caused by its industrial revolution, that is, people are separated from the land, small workshop owners are everywhere, and Britain is a country of small shop owners.

Kick the stars: it's still not rigorous. The industrial revolution originated later than capitalism.

Diva: Yes, but that is because of the rise of its textile industry. Farmers separated from the land no longer become refugees, but produce modern handicrafts, and people run to the city.

Miss GUI: enclosure movement. First, there was the enclosure movement, which separated the farmers from the land. Kick the stars: Yes, that's right. This is a special phenomenon in Britain. After its farmers left the land, they did not become refugees, and then they may become thugs. Although some of them have been accepted by the poverty relief law, the whole society can afford it.

Mr. GUI: Yes, it has not become a mob, that is, the mobilization ability we mentioned earlier is enough to form a strong government and have enough strength to maintain order. In our words, it is enough K. The government stands on the side of capital at this time, rather than maintaining order at the cost of robbing the rich to help the poor and eliminating capital. However, as the discussion goes on, the problem becomes more and more complex. We talked about the stage earlier. Now there is another element such as capital. If we go on, we will really write capital theory. We can stop first. On the other hand, I think in terms of Xingshi's K-r model, two things can be discussed that are closely related to food, one is the environment and the other is the land system. After we get here, we can't extend it any more. If we continue to extend it, this model can't support it. To discuss capitalism, it has to be another thing, which needs to be discussed independently.

Kick the stars: Yes, in-depth discussion of the growth process of capitalism will enter into details, and new factors outside the K-r model will emerge. More factors need to be introduced to build a new model.

Card Division: my original intention is to talk about China. Before talking about the United States, where have we gone.

Diva: hahaha, we all talked about the world.

Card Division: let's go back to China. Of course, I say change. What has China become after five thousand years of change? Does it have anything to do with capitalism? Kick the stars: my understanding of it has something to do with it. My understanding is that before the green revolution, the early experiences of China and France were similar. You see, after the pressure from Britain, the French also want to develop advanced industries. Then it gathered a group of industrial workers and advanced industries around Paris, France, under the privilege of the king. However, these advanced industries have not penetrated into the villages all over France. They are local things floating outside the traditional French society. Such a system is very fragile. If it can't get food from rural areas at low prices, it can't survive. On the eve of the great revolution, the French agricultural disaster and the lack of food for Paris workers were the catalyst for the repeated radicalization of the great revolution. As a result of the great revolution, in fact, the mobilization force with the city as the core was to layer the French society by eliminating the feudal aristocracy and protecting the small-scale peasant system, and artificially create a local low-risk environment to maintain the advanced industry through the strengthened centralization of power. Card master: This is the earliest special zone. Kick the stars: Yes, in an overall high-risk area, a local low-risk environment is simulated. Here, the workers are promised that you always have food to eat, and your future is guaranteed. You can safely study production technology, build guns, carriages and warships. Card master: let some people get rich first. That's what I mean. In fact, it's exactly the same. Kick the stars: then the extreme situation of this situation is the situation in Russia. It is beyond our power to develop new industries and industrialization in an all-round way. Therefore, we can only develop new industries and realize industrialization in a local society and a small number of people. This is a kind of one-sided capitalism, simulated capitalism, rootless capitalism, what Spengler calls "false crystal". In order to cope with the competitive pressure of Britain, Germany and Japan, I must do so and create a local low-risk area for industrialization. Accordingly, another part of people, rural residents, have to bear greater risks. The water level of this risk has a fracture between different groups. This fracture should be maintained by mobilizing forces. If this fracture cannot be maintained, the risk will be transmitted in the whole society, and the social order will collapse under the competition of various groups. The Russian Revolution itself is an example of this collapse. Card master: Auntie always says this fracture, saying that the cost will be too high to bear this fracture. All his theories are that the cost is too high. One day, the ocean outside will submerge the small island. That's what the flood means. Miss GUI: Yes, that's what the flood means. Kick the stars: for the past, what my aunt said was not wrong, but the situation after the green revolution is different. In the 1980s, township enterprises generally appeared in the country. Township enterprises grew up from the countryside, just like the rise of the British Industrial Revolution. So what does township enterprises mean? That is, the green revolution has lowered the risk level, generally reduced the risk, and raised the vast rural areas to the risk level. In the past, the power of political power was used to isolate a low-risk area in the city. Now this low-risk area has expanded to a large area outside the city. Card master: Hong Kong style. The whole of China is like a small Hong Kong. Originally, the so-called Hong Kong is a little bit of Kowloon on Hong Kong Island, plus the much larger countryside in the new territories. In fact, it can be imagined that China was similar in the past, a little bit of cities and a large number of rural areas. Now I live in the new territories, which is no worse than Hong Kong Island. Kick the stars: Yes. In other words, aunt's theory can not be established now. The big flood mentioned by my aunt is that when you build the dam, the water level is rising, and the water is accumulating more and more. One day you can't stop it. Before the green revolution, this was indeed the case. The mobilization capacity of the past dynasties was limited, but the population was constantly increasing, the land was constantly subdivided, and the ability to resist risks was not increased. Sooner or later, something would happen. This is the inevitable outcome. But now? Different. Now the water level in your reservoir is not bound to rise. Although it fluctuates, on the whole, it is actually falling. The water level tends to fall, not rise. Card Division: so no one lives in the countryside. Where did the flood come from. For example, when you go to the rural areas of Hong Kong, they are all old people, otherwise they are empty and no one. Miss GUI: it's the same in rural areas on the mainland. That's what I was going to talk about just now. You talk about it first. Kick Star: the output of agriculture is high enough. Although the area of farmers' land is still small. Miss GUI: Well, the unit output has become higher. Kick Star: Yes, the unit output has increased, and the degree of mechanization has increased. Our way of mechanization is different from that in the west, because we don't have a big farm, so what's our way of mechanization? I saw a report that a large number of agricultural machinery organized by the government from south to North provide agricultural mechanization services such as harvesting and sowing for farmers from south to North according to the difference of maturity date. It is equivalent to decentralized small farmers contracting their production to a large system, which is jointly organized by individual tractor drivers, harvesters and so on under the coordination of the government. In the harvest season, hundreds of such servers and machines will move from south to north. The government will help maintain the operation of the system, open channels for these tractors and harvesters, provide fuel, and provide convenience for these people. Card Division: it's like going from Henan to Xinjiang to cut cotton.

Kick the stars: Yes, that's the truth. The government coordinates and organizes it. That is to say, it is definitely not a k-system society. K-system society has different historical paths, which is not the case. However, it is not the fatalistic R-system society in the past.

Card master: because the new tool has come, it has given play to our enthusiasm and initiative.

Kick the stars: Yes, the new technical conditions have given new possibilities to the R-system society in the past. The flood is not doomed.

Card Division: of course, if you use my theory to compare the historical stages of various nationalities, you will find that you can't be chaotic just at that stage, or peaceful just at this stage. It won't. It's always a black road. There will be any strange things. What if famine happens at this time? Or did aliens call at this time? How do you know if this will happen. However, the problem is that although there are so many differences, either famine or peace, the stage will still have the characteristics of the stage. It is interesting to compare the third five of this civilization with that of that civilization. Of course, they will not be the same, and they will not be the same in any detail, but they will still have similar stage characteristics. Star master, you said that Charles V and Emperor Wu of the Han Dynasty are the same three or five, right, but they can't be the same. Kick the stars: their "base" is different. Miss GUI: wait a minute, make up the class. What does card master mean by "three five" specifically? I want to make up the class. Card master: Yes, I'm right here. Kick the stars: stage theory is a kind of stage theory. Card master: ah, it's not that simple. Aunt said the stage theory, and I won't say it anymore. Miss GUI: Yes, listen to the master's explanation. Card master: three five, that is, there are three and five. If you want to check the original meaning of the third five year plan, you have to look at the historical records. I won't talk about that more. It's not to follow Tai Shi Gong. Three or five is three hundred and five hundred years. Three hundred years from the Yellow Emperor, but it's not history, it's a myth. What is the most common three hundred years? It was the axis period. In ancient times, it was the Warring States period of great Greece and China. If it is Europe, the most typical is not Charles V. Europe is divided into several parts. If it is the Mediterranean, it is the Warring States period from the demise of Byzantium to the establishment of Italy. If it is northern Europe, the so-called Germanic region, it should be about the 13th to 15th century, almost. Anyway, three hundred years means the axis. What is the axis? Is the rise. Five hundred years is great unification. Generally speaking, great unification is five hundred years. I can't see any exceptions. Most of them are a little shorter than five hundred years, and some are older than five hundred, but they are not much different. Miss GUI: Yes, there is such a similarity. Card master: actually, I've sorted out the chronology of the third five year plan, and I've done everything. But I'm not saying that three hundred years and five hundred years are mysterious numbers. I won't talk about it. I'll talk about the book of changes. What can I say. The problem is comparison. Only when you want to compare can you make a chronology. If you must find out the definite "law", for example, chaos is chaos together and peace is peace together, it's boring. Aliens are calling. What should I do? When the meteorite hits, there may be no life on earth, and then there are three or five? No, there is no iron law of determinism. You can't say that. You can only compare that form. Of course, you can question whether this is a set of logic? You define three five with form, and you define form with three five. I can only say that the logic of any theory should be like this in the end. When it has reached the level of basic assumptions, there is no way to go on to define which. Form and stage are a basic assumption. You can't say who defines who. This is another theoretical issue. Stop. Let's go back to the topic just before the third five year plan. Kick the stars: I said earlier that aunt's theory of great flood is not tenable. Mr. GUI: Yes, that is to say, the flood does not necessarily come. History is a black road. Card master: Yes, of course I don't know what the future is. Black road is the truth, isn't it? Aunt is an interesting person because she thinks too much. It's rare. No one wants to do this, right? I dare not.

Mr. GUI: I don't think his logic has failed. The risk reduction you just mentioned does not necessarily lead to the failure of his logic. The risk is multi-level, and the risk mitigation at the bottom does not mean that everything is OK.

Card master: Yes. But the problem is that the Ming Dynasty was not killed by the flood, but by party struggle. The flood doesn't necessarily have such great power. For example, the flood is going to flood the Song Dynasty. It's not dead. It's not going to Hangzhou to survive. As I said before, Qin Hui is very powerful. He is the number one scholar. He invented Taoism and turned Gaozong into a saint. He created an ideological value. Such a powerful person, we scold him and spit on him every day. Mr. GUI: hahaha, he is really an excellent talent and writes well.

Diva: in contrast, I really wronged Qin Hui and let Gaozong go.

Mr. GUI: he has a brilliant ideological theory of his own, and then he successfully held Gao Zong in that position.

Card master: party struggle is interesting. How to say, Party strife is the strongest morphological feature of the third five year plan, and the K-r model will not show party strife.

Mr. GUI: the K-r model does not enter the level of historical events. It only talks about the system level, such as the land system.

Card teacher: but for the study of history, the party struggle is very interesting.

Kick the stars: the K-r model is very abstract. In terms of the K-r model, it will only talk about the intensity of the struggle. It will only say that k-system social order, like Britain, the degree of struggle is not fierce and easy to compromise. For example, "king in parliament" and "parliamentary supremacy" are the manifestations of this compromise.

Mr. GUI: I agree with Mr. Xing. The key to the K-r model is the amplitude and wavelength of the risk curve. K is the social order, that is to say, its fluctuation intensity is not enough. Generally speaking, it is actually very good to talk about the land system in combination with the conceptual tool of transaction cost used by Xingshi now. We can't go on. If we go on, we'll talk about other things. For example, we can't talk about economics or politics. It's all social sciences, and we can't talk about the environment itself. It's meteorology and meteorological history.

Kick the stars: Yes. Just now that joke ended when we talked about "philosophical principles of social science". It is limited to philosophical principles and cannot replace social science. K-r model is a connector that links various factors around human society.

Card Division: the party struggle in Britain is still very fierce. Moreover, Britain's superiority is also due to geography. Miss GUI: Yes, the environment part is about. The grain theory must be the environmental geography at the lower level, and the land system, transaction costs and efficiency problems at the upper level.

Kick the stars: Yes, specifically, that's Yang Xiaokai's mathematical model. The K-r model can not replace them in economics, but can only be connected with them.

Card master: people don't want you. Why does he want to connect you? Kick Star: Well, connect, that's still needed. On the controversial issue of transaction costs, there is still a lack of understanding in economics. Zhang Wuchang said that Coase agreed with him that transaction costs are system costs. That's right, but going on, society is a whole and system is a representation covering all aspects. What is the root of this representation, or "system cost"? Zhang Wuchang didn't ask. Yang Xiaokai established a mathematical model from transaction conditions to division of labor. Transaction terms is a related concept of transaction costs. The better the transaction terms, the more developed the division of labor and specialization, and the worse the transaction conditions, the stronger the self-sufficiency. He pointed out a series of factors to reach good trading conditions, such as transportation, urbanization and property right system, which are very correct, but only these understanding is not enough. Why? In Yang Xiaokai's opinion, if the economy wants to prosper, it can only follow these seemingly intuitive factors to improve. But back to what I just said, society is a whole, and it is not a random combination of various factors. For example, it may not work to move the British and American property right system to Africa. The improvement of these factors, It may not be able to implement it simply and directly as Yang Xiaokai expected. On this issue, the current economic theory does not point out that these interrelated concepts, whether institutional cost or transaction conditions, are rooted in the environmental risk in which a society exists, rather than an arbitrary existence. In other words, some factors that promote economic development can not be simply and directly changed individually, let alone deregulation will improve automatically. If we can't clarify this problem, we can't explain the "integrity" of society, the differences between systems, and further, the changes of systems. Card Division: only the nuclear bomb can be applied when it comes to us. What else can be applied.

Kick the stars: Yes, so the question is why some method doesn't work. K-r model can at least tell you that the system is rooted, and the external system does not match the local risk environment.

Card Division: according to this idea, does capitalism have roots?

Kick the stars: we redefined the concept of capitalism, which is a social order based on very low transaction costs. Historically, this low transaction cost benchmark comes from the fixed land rent system, because the fixed land rent system means stable grain production and low risk. The low-risk nature of the living environment is the root of capitalism. Compared with economists, such a little thing is more said by the K-r model. As Zhang Wuchang has said, transaction costs are institutional costs. As Yang Xiaokai has also said, the issue of transaction conditions determines whether the society can continue the evolution of division of labor. However, historically and macroscopically, they have not made it clear where the system costs and transaction conditions come from, or the "reality" of these concepts is insufficient. The K-r model uses an environmental risk factor, the so-called "root", to unify these concepts and realize them. In this way, it not only simplifies the macro picture, but also better explains the facts.

Card Division: it's applicable. Of course, it's not just the nuclear bomb, but also the special zone. The special zone is also a nuclear bomb. If Luohu and Shenzhen are open, there will be a Hong Kong, which is also a special zone. So the next question is, is there a nuclear bomb that can make China like Britain? Kick the stars: I think if you can reach a sufficient technical level, you can do it. Card Division: Yes, we invented the sun and solved everything. The sun is a nuclear bomb. Think about it. Kick the stars: Yes, the green revolution is such a nuclear bomb. In fact, I think it is. Card Division: the problem of whether there is a root or not is the same as that of the nuclear bomb. Think about it. Kick the star: Yes, you know where the root is, and it can be changed in theory. is it? Card master: you mean, the most important thing is that we don't understand the logic. The problem is, nuclear bombs don't need logic. We'll take care of them when you ship them. You don't have to figure out the economics, the root and the transaction costs. Kick the stars: this can be no contradiction. I think it is in fact. You see, it has been so in the past few decades. People may not understand that the role of the green revolution is so important, but it does not prevent the green revolution from playing a role. Card master: touch the stone, touch the stone to cross the river, and there are various explanations. Kick the stars: so, if the nuclear bomb of the green revolution is given to you, you will come in handy. As for how you understand, imagine and build this process, that is secondary. Card Division: you can mess around? Kick the stars: it doesn't matter how you explain it. But you won't mess around. You don't have that option. Human behavior has its own logic. You still do what you should do. Card Division: I said that there will always be struggle, and there will be struggle in a thousand years. It should be said that even if someone makes the sun and has a nuclear bomb, he will still have a different fate. Kick Star: I agree with that. Conditions have changed, but human society, history, it has a path. Where your path has been, it will not disappear. The path of the past still has a decisive impact on the present. Ka Shi: so history is always a black road. You have to prepare means to deal with black roads, build reservoirs or use those tools. There's no way. You don't know. There are also black roads in Britain. Won't Britain be chaotic? Britain is also ready. This is also a new era. Although the old experience cannot be cancelled, people like aunts can only imagine a past, not a future. The story is very good. I read history. Of course, I am very interested in the past. You talk to me all day about Li Zicheng and Zhang Xianzhong. Of course, I am very interested, but will there be such people in the future? I don't think so. That's what I mean. Kick the stars: conditions have changed. Card master: there's no way. Everything always changes. The black road, the black road is random, but the black road is determined, there is no way. If historical philosophy does not have a premise first, it is a black road. There is no philosophy. The current history is new. There is no old history. The old history, three hundred and five hundred years, no longer appears, very good. But if you don't blow some mysterious things, people will think you don't have dry goods. People are so annoying. (half time) Mr. GUI: OK, let's continue "historical philosophy". Kick the stars: Card Division said before that the third five lacks a critical goal. Just like when I wrote the grain theory before, I said my own and didn't get in touch with others. Miss GUI: I think it's easy to solve the problem without boundary. Card division's three or five, there are goals everywhere that can be criticized. Card master: I want to find a porcelain object. Of course, I have to find it. I must find it. But I can't touch the porcelain star master. Touching the porcelain in front of the star master is a teacher. He is a professional in touching the porcelain. The porcelain man can't touch the porcelain man. Teacher GUI: Master Xing, please be professional, brother. Ha ha. Card master: I'm surrounded by goals, but it's still a problem to touch porcelain. Because in this way, the stage, in fact, I just said, rise is decline. There are ups and downs. The stage we can imagine is always going to decline. Won't we say it's getting better and better? There is no such stage theory in the world, right?

Diva: you can't say that. In fact, it is a growth cycle one by one, that is, rise, decline, then rise, and then decline.

Card Division: the problem is that you can't cross the decline point. It's over. You can't see the back. Mr. GUI: I think Mr. Ka, your three or five-year plan is similar to the grain theory of Star Division, that is, your theory, any theory, especially social theory, actually has a very narrow boundary. When you try to break through its boundary and expand the scope of theoretical interpretation, you will find that this problem becomes too complex to be discussed. So where should this boundary be located? Just now you discussed the stage theory. I talked to the star master a long time ago. We don't touch this boundary. Once you cross that boundary, for example, just now you talked about the origin of capitalism, what kind of interactive change process is the type and stage, and study it carefully, you will soon find that this thing has become extremely complex. Card master: just take long enough. Mr. GUI: so we should control the theoretical research within the boundary, so as to complete it. As for the theory itself, first, it should be effective, and second, it should have a good perspective. Why am I always interested in Xingshi's food theory and willing to help him work together to improve it as much as possible, that is, we have the opportunity to do well in the above two points. Star teacher has been asking me to write an article, just taking this thinking about theory as the theme. Kick the stars: Yes, hurry up and brew the article. Mr. GUI: now you see, science is so developed. Social science, or this theory of social humanities, is still so backward, isn't it? In fact, this was once Kant's emotion and the starting point of his study of epistemology. But one or two hundred years after him, it's still the same. Even in a sense, after his time, social science may have become worse. What is a theory or a work, or a grand narrative? Anyway, I don't care about 3721. I'll pack everything for you. It's boundless. Or, as the star teacher criticized, some cultural explanations, from text to text, from empty to empty, there is no real problem at all. It is to show off the text. Some people do read a lot of books. You can't help it. From beginning to end, he didn't lead to the connection with the real world, so he took out all the texts he could find, pieced them together and criticized them. Finally, he didn't say anything himself. From text to text, if you are studying the history of a subject, that's all. Or if you are a textbook, that's all. But it also dares to claim its own things as social science theories.

Diva: isn't that an introduction?

Mr. GUI: he doesn't even have a theory. He just discusses the text. Card teacher: because social theory was born in Europe. Europe is not capitalist enough. They don't understand it. They can only observe it in the text. Mr. GUI: Yes, I think this is the big problem of some so-called theories. It is either a grand narrative and omnipotent theory, which wants to include everything, or it is ethereal and untenable from text to text. Card master: Aim small miss small, let's say so. Your aim is just a little bit. You will always get something when you shoot. If you don't know where your aim is, you'll never hit it. Mr. GUI: Yes, so what are the consequences of these two phenomena? One is invalid. From text to text, there is no real problem, then you must be an invalid explanation, an invalid theory, not miss small, but miss everything. The other is not concise. Grand narrative, all encompassing, too much redundancy, so the efficiency is too low. You see, with the development of modern science today, the theory must be concise and powerful. In particular, the computer science you learn, a concise algorithm, can support large-scale systems. As the original Star teacher said, the more effective the theory is, the more concise it should be. Of course, this statement is only a necessary condition, it is not sufficient, but with a concise explanation, it can be universal. It's doubtful how effective a theory and an explanation can be when they are extremely complex and grand. Card master: we all know the benefits of simplicity. The problem is that many people's so-called simplicity is actually just another way to make a trick and repeat the same thing again, which is tantamount to a cover up, magic, magic.

Mr. GUI: the theory should be concise. We use the term computer to express that the core algorithm must be concise so that you can support a large system. What I have always been interested in food theory is that the algorithm contained in the K-r model is simple enough.

Card Division: Code Nong thought of it. Mr. GUI: ha ha, yes, Ma Nong thought of it. It's concise enough. I remember we talked about it. You say, for example, religion. Where is its interesting place? For example, who I am, where I come from and where I go, this ultimate question, first, if you use reason and science to answer, you will find that you can't answer, right? Second, even if you insist on explaining it in a rational way, you will find that I wipe. This matter has become so complicated. But religion gives you a very simple explanation. For example, we say Christianity and ask you where you come from? God made it. Where are you going? If you work hard in heaven, if you don't work hard, you'll go to hell. is it? Master Ka: I told master Xing that only when you believe in religion can you read scriptures. There is no reverse. If you believe in religion, don't read the Bible. If you believe, you will believe. If you don't believe, you won't be a voter.

Mr. GUI: Yes, that's how it explains it anyway. What's the advantage of this explanation? Concise. But what about its effectiveness? I can't say. The reason is that this explanation can not be falsified, and it can not be proved wrong. So OK, if you have the final say, has the final say, the letter just said by the card master. Justified by faith, right. Because you can't falsify it. If it is falsified one day, I'm afraid this is another thing. But at least so far, it cannot be falsified. All right, then I'll just trust him. I was made by God, simple.

Card master: that's tradition. I'm not a believer, but I know a believer. As for believers, it's useless for you to reason with him, and it's useless for him to reason with you. Not that he is unreasonable, but his reason is not your reason, and your reason is not his reason. The two reasons are different.

Diva: we are not talking about a dimension. We are not talking on the same channel or in the same rational space.

Kick the stars: the basic assumptions of the two theoretical systems are different. Card Division: Yes, I can read the Bible and theology, but you are a believer, I am not, so I can't talk to you. Miss GUI: like you, I can read the Bible and theology. Kasch: the Bible is well written, but the understanding of believers is not my understanding. My name is Shenqing (nervous youth), but I just feel religious. Forget it. I haven't entered that state. Miss GUI: Yes, it's well written and the Bible is very good. The first time I read these things was when I was a freshman. I was dragged into the water by Liu Xiaofeng. I read his book the truth of walking to the cross, read the Bible and read those books. The Bible is like this. Of course, earlier, such as primitive worship, and later, such as clan concept and ideology, are the same truth. The explanation should be concise enough. The more concise it is, the more it can be understood and used by more people. Therefore, the grain theory, I think, first of all, it has reached a basic requirement, which is concise enough. That's what Karshi said. It's a good thing that can only be thought of by yard farmers. I've also seen the head of the interpretation Department on the Internet. He explains society from a financial point of view. Can you say it from a financial point of view? It can also be said, but his "algorithm" is still more complex than the star master. Card master: what about President Xue? President Xue and the head of the interpretation department are two people. Kick the stars: learning from economists also pays more attention to financial issues. He tends to be closer to the former dean of the Department, because I remember they were born in banking and insurance. Mr. GUI: Yes, what I agree with the dean is his risk analysis method, because he came from insurance and engaged in risk control in the insurance industry, which is the core type of work of the insurance company and specializes in risk research. Therefore, he has rich theoretical mastery and experience in practice of risk control. The view is wide. Then use these to look at society, politics and history, that is a unique angle. In contrast, I think it is more concise to look at the problem from the perspective of food risk. It reduces the problem to a very single source. But what is the danger of the star master's thing? Any theory is valid only when the preconditions and conditions are certain. If it crosses the applicable boundary, the theory will be invalid. So that's what we want to ask, where is the boundary of your theory? Once it crosses this boundary, the theory is easy to fail, which is also the reason why social science always lags behind natural science, because too many social science theories can not clarify their own boundaries. Kant wrote the three criticisms out of this consideration. When talking about the origin of his works, he said, to what extent has natural science developed, but the research of social science still stays in the wild era. Then I want to change this situation and criticize. Card master: he has seen the problem. Of course, we have also seen it. Everyone has seen it. All efforts are to naturalize society and understand the human world from a natural point of view, but this effort has not succeeded.

Mr. GUI: anyway, after the K-r model of Xingshi defines the boundary conditions clearly, I think it can be self consistent and effective in pure theoretical logic. There is no problem with this.

Card master: let me ask a question about my three or five years. Why does decline have a process of expansion, then contraction, and then autism, that is, self closure. Why is decline such a process. Miss GUI: why is decline inevitable, isn't it? Card master: No, I mean, why does decline go through a process of first expanding, then shrinking, and then rebuilding the great wall outside? Why is it always like this, do you know? Miss GUI: I haven't thought about it yet.

Kick the stars: grain theory can be used as an auxiliary tool to explain this problem. R-line population, which has the characteristics of cyclic change of population number. If we are a k-system social order, the population should converge on a certain line and tend to be stable. If we are a R-system social order, that is, after the environmental risk reaches a certain height, the population will not converge and will fluctuate up and down, which is a continuous process of expansion and then contraction.

Card Division: then close the door. When we build the Great Wall, this is also risk management, which is a management after this turbulence. Finally, the demarcation along both sides of the great wall becomes a dispute between the enemy and ourselves. Kick the stars: Yes, this contraction and closure is a risk response. For example, building the Great Wall is a response to risks outside the Great Wall. However, such a response is ineffective to a considerable extent. It is more a passive adaptation, and the effect of active risk management is very limited. Card master: No, I don't need it to be effective, but it has this tendency and practice.

Mr. GUI: Yes, there is no problem explaining this with Xingshi's K-r model. The underlying theory is very effective in this regard.

Kicking the stars: the population turbulence of R-system social order is really difficult to understand because the K-r model of human society has no mathematical expression and graph, but you can refer to the logistic equation of ecology, which is the mathematical expression of the quantitative change of biological population, and various diagrams can be found. The K-r attribute is determined by a numerical value, that is, the change of population proliferation coefficient. When this value is significantly higher than a certain threshold, the population will reach the peak over time, and then decay down. This process repeats. The higher the multiplication coefficient, the more irregular the cycle will become, and finally become a random bump without cycle, falling into a "chaos" state. If the multiplication coefficient is obviously lower than the determined threshold, the population will converge and stabilize on a certain numerical line. This is the original meaning of k-r. From this perspective, if you understand the population as the population of human beings, you can say that expansion and contraction are actually normal phenomena in some social order. Card master: Well, I see. It also matters. Kick the stars: Yes, the stage change of a social order has something to do with its type attribute. Different types of social order, with the advance of time, it will show phased changes of different nature. Card master: Yes, I'm talking about three or five. It's the wisdom of our ancestors. The three hundred years of the Yellow Emperor were written in ancient books, not invented by me. The problem is that no one knows why 300 years is. The ancients said that 300 years is 300 years and 100 years is 100 years. There is no explanation. Why does the rise, expansion and "axis" of civilization have such a strange three hundred year rhythm.

Kick the stars: there are more complex factors and reasons in this. I can't use the K-r model, because the K-r model is not so complex. Biologically speaking, the logistic equation is more quantitative, because there is a mathematical formula, which will give you a specific period. Of course, it is also an abstraction of the biological world and can only be used as an inspiration for human society. By analogy, if your proliferation rate is low enough, well, like the British, you have children slowly, then the population, or population, will be close to a certain line. There will be very small changes around this line, no longer violent shocks, and then the rhythm will disappear in 300 years.

Card master: you can't see it, but it should be said to have, but it's too weak to see.

Kick the stars: Yes, a slight change. If we use K-r model or logistic equation, we can give a rough explanation. But why is there such a specific change rhythm? The situation of human society is more complex than that of biological populations such as insects.

Card master: complexity is always complex. So we can't do without our ancestors. Our ancestors are better than us. They know for 300 years, but we don't know. Mr. GUI: the 300 years of our ancestors may be an empirical observation. The rise and fall of civilization occurred very early. Card master: that must be true. The "three five" period existed in ancient times. It's not unique to us. Why didn't ancient people know the "three five" period? Anyone can observe this rise and fall. Kick the stars: in fact, this intuitive impression of Historical Periodicity should be shared by people in many places and times. For example, heldon also talks about the corruption and rebirth of civilization, and the Yearbook school also talks about the deep breath of the Mediterranean, which are all historical periodicity. Card master: Yes. If we only observe people, these predecessors' thoughts will become jokes and finally lost in history. It will be too disappointing to them. We should observe nature. Everything is the subject of research. Nature is eternal. People come and go, and only the laws survive. Of course, it's hard for you to naturalize the rise and fall. There is another point. The star Master said that the city is the center of mobilization. I put the "three five" in general, then the city will also have its own "three five", although it is much shorter than the "three five" of a large civilization. The most important thing is the prosperity of the city. It will move around, otherwise Zhumadian will always be the center of China, right? The third and fifth of the city also has an end, and then we have to move to another place. Civilization is the same, moving around. This is actually the transfer of power. Kick the stars: the third and fifth of the city is also a part of this historical periodicity. Card division, what you said is the same as Hegel's world spirit. Card master: Yes. Our emperor also moved around, that is, the same. This is not a myth, it's all history.

Kick the stars: the representative of the world spirit moves from one nation to the next, and this region moves to another region. Such a sequence is abstracted from the three or five of various civilizations. For example, the rise and fall cycle of the Chinese civilization with r-order may reach a development peak when the per capita cultivated land is 10 mu, and then it will go downhill. For another civilization with r-order, such as France, its peak may not come until the rise of absolutism. Look at the three or five of this "World Spirit" all over the world. It is actually extracted from each region's own three or five. If you look at many regions together, there will be ups and downs, right?

Card master: Well, put it in the chronology and compare it together. But I think absolutism has declined when it rose. The peak is what I just said, about the 12th to 15th centuries, almost before the black death. Kick the stars: Yes, compare them together in the chronology, and then draw out the peaks in the three or five years of various civilizations. Connecting these peaks into a line shows the transfer of Hegel's "World Spirit". When this peak came to Western Europe, as Spengler said, it was the age of the Germanic people, and the peak of others was over. Card Division: he blew it himself. Kick the stars: hahaha, yes, he can blow it himself. Card Division: not really. You know, I read Spengler more than anyone. He talks about decline. Europe is declining. Decline becomes the Roman Empire. He imagined that Rome was in Berlin. The problem is that this imagination has not happened. Berlin is nothing. It's a black road. In fact, he is very pessimistic and looks at the world very bleak. He does not say that the Roman Empire is a good thing. The Roman Empire is a sad fact, but he thinks that the Roman Empire is here and it is inevitable to evolve into the Roman Empire. Kick the stars: in a sense, Spengler's idea of Berlin would have been right if there were no Americans to step in. Hitler's grand plan of Berlin construction will become a reality. It is the new Rome, the center of the New Roman Empire. Card Division: Yes, the Americans broke the great event, just as the British broke the great event of Charles V. Otherwise, Europe will be unified and rule the world. Such a terrible thing. Miss GUI: this system can't support so many people, ha ha. At that time, say what card master said, and start to shrink again. Card Division: that's not called contraction. Expansion and contraction is not what we think of as a change in the size of an object. Expansion is when I look out. That's called expansion. In the future, it seems that there is no end. It has conquered the whole world. That's called contraction. It seems that there is no end when I expand, but there is an end. The world conquers light. Miss GUI: I probably understand. At the end, start inward. Card Division: not inward. Now there is no place to expand. It seems that the United States has gone to California, San Francisco, no, and rushed out. Then a great wall should be built to prevent the Japanese and Chinese on the other side of the Pacific from rushing over. That's it.

Kick the stars: I understand that it's the top, stagnant. Imagine a world without K-series, where all places are R-Series. Will this eventually happen, and eventually everyone will become a complete R-Series entity, expand to the limit, and then stagnate.

Card teacher: you say that Emperor Wu of Han Dynasty conquered all the territory of China. Why should he go to the Philippines? I'm kidding. He has no past in Taiwan. Where can he go to the Philippines. Kick the stars: his mobilization ability can't support such a big country. Miss GUI: Yes, the system can't support so much. Kashi: just like we're going to conquer Pluto and Jupiter now, it's impossible to go so far. We can't go and don't want to go so far. Mars was too far away. At that time, Hainan Island was as far away from China as Mars. Like Jiaozhi later became independent, right? Fight with us in the Han Dynasty.

Kick the stars: expansion, contraction, stagnation, enemy and ourselves. I have some understanding of card division's "three five", so I'll try to look at "three five" from the perspective of typology. Card Division said earlier, what is three or five? 3、 Three hundred years, the axis, rise, five or five hundred years, great unity, prosperity and stagnation. This is roughly the process of a R-Series civilization in Eurasia, from its initial rise to the first human peak and then decline. As we mentioned earlier, changes in production capacity and mobilization capacity are two major driving forces for social evolution. In ancient history, there were few opportunities for such a major driving force. The emergence of agriculture may be the starting point of the most significant progress in production capacity, making civilization possible. The emergence of bronze ware is a major progress in mobilization ability and brings the rise of classical civilization. However, bronze is rare. It is mainly used for weapons and ritual vessels and rarely used in agricultural production, which has little impact on the progress of production capacity. Then iron appeared. Different from bronze, it can be produced in large quantities and widely used as weapons and agricultural tools. In a short time, it has led to significant progress in production capacity and mobilization capacity, which triggered the first wave of climax of ancient civilizations in Eurasia. The so-called axis era, that is, the early three fifths, followed the fate of the R-system road, Under the high environmental risk, the population is growing rapidly, the social struggle is becoming more and more intense, the social structure is becoming more and more polarized, and the internal contradictions are externalized. This is the fundamental force to promote merger and expansion in the axis era. Finally, the great unification under centralization will come, which is the early 35 / 5. However, the mobilization capacity in the iron age is limited after all. Merger and expansion have reached the limit of support capacity. With the social shock caused by the fluctuation of grain production, contraction will come. After that, it is a long bumpy process of R-Series ancient civilization, which stagnates in the bumpy process and is trapped in the struggle between the enemy and ourselves inside and outside. Of course, this is an abstract model. Changes in the real world are much more complex than the abstract K-r model. Agricultural conditions around the world are different. With climate change and linkage, such as the warm period in the Middle Ages affecting Europe and the southward movement of the rainfall belt during the Tang and Song Dynasties, and the subsequent changes in iron agricultural tools, such as the heavy plow in northwest Europe and the Qu Yuan plow in Southern China, northwest Europe and southern China entered the period of agricultural prosperity later, This brought a wave of secondary "three five" which was different from the axis era, and created the peak of medieval civilization. Although they are still on the old road of R-system social order, they have caused different side effects. Since the Tang and Song Dynasties, agriculture in northern China has declined. The newly opened paddy rice agriculture in the South has brought a stronger risk nature due to its dependence on monsoon rainfall and the increase of marginal labor input. In contrast, the warm period in the Middle Ages led to the rise of agriculture in the north of the European Alps. In addition to the weak risk nature of this region itself, it has gone further, After undertaking the achievements of ancient civilizations from Eurasia, England, a completely low-risk agricultural area, flourished. The road of modern society is opened up by the marginal but heterogeneous k-system social order of England. In the past 500 years, the k-system social order represented by England has been rising all over the world, which has brought a leap in mobilization capacity starting with the industrial revolution and a leap in production capacity marked by the green revolution. The old "three five" period since the axis era is dying out and the new "three five" period since the industrial revolution is rising, We are still in this process.

(all conversation ends)

### Section III: "the most challenging" issues

In 2005, science magazine published 125 "most challenging" problems to be solved in the "next 25 years" on its 125th anniversary. Five of them can be regarded as deepening and developing the primary political and economic problem of "rich countries and poor countries". They are:

（ https://www.sciencemag.org/site/feature/misc/webfeat/125th/ ）No16: How did cooperative behavior evolve? (how did cooperative behavior evolve?) NO25: will Malthus still be wrong? （Will Malthus continue to be wrong?）

No116: why do some countries grow while others stagnate? (why do some countries grow and others stand?) no118: is political freedom closely related to economic freedom? (are political and economic freedom closely tied?) no119: Why are the efforts to change poverty in sub Saharan Africa ineffective? （Why has poverty increased and life expectancy declined in sub-Saharan Africa?）

To sum up this book, in the previous chapters, we have launched a new discussion on the interaction between environmental risks and human society from the perspectives of history, society and economy. Starting from this discussion, the institutional factors emphasized in the three papers on which the book why the state fails can be traced back to the agricultural risks in a specific geographical environment. The denial of the importance of geographical factors by the three AJR authors is self defeating. Although the K-r model still needs to go deep into various details, it has expressed a basic logical framework, deepened and developed the previous research and thinking, and provided a new perspective for answering the five questions about the rich and poor countries put forward by science. Although a lot of time has passed since 2005, fortunately, the 25-year deadline is still there. We still have time to briefly summarize our views on the five issues of science as follows:

1. How did cooperative behavior evolve?

Human beings have a certain living environment and a certain ability to deal with environmental risks. The cooperative behavior between human beings evolves under the interaction between the living environment and coping ability, and this evolution is not necessarily a one-way enhancement of cooperative behavior.

The ability of human beings to control the natural environment and obtain survival materials enables human beings to obtain highly complex cooperative behavior beyond other organisms. Entering the agricultural society is especially a major event. On the one hand, it makes human beings have a stronger ability to obtain means of subsistence and can support more people on unit land. The progress of productivity has created the possibility of division of labor and cooperation in early society and opened the era of civilization. On the other hand, the agricultural zones that can be developed at the level of early productivity have their geographical particularity, It also reduces the stability of survival data supply, and the struggle around survival risk imposes a ceiling on division of labor and cooperation. The lasting existence of this upper limit was broken under the joint force of the accumulation of human civilization and the change of natural environment, resulting in a high degree of division of labor and cooperation in modern society. Will Malthus still be wrong?

The principle of population theory has not completely failed in the human world, and whether Malthus's pessimistic prediction will come true in the future depends not only on the progress of human ability to deal with environmental risks, but also on the goodwill of the natural environment to human beings.

In fact, so far, Malthus's pessimistic prediction is "wrong" only in Britain and the United States, and only in the areas covered by the green revolution after World War II. There is the shadow of Malthusian theory behind the two world wars in history and the existing development difficulties in sub Saharan Africa. Only the more universal green revolution and even the further development of science, technology and productivity can make mankind truly free from Malthus's pessimistic prediction. Why do some countries grow while others stagnate?

Among the various reasons affecting the national development path, the importance of geographical factors is particularly prominent. The historical order in which countries embark on the path of sustained growth depends on how high the threshold for overcoming adverse geographical factors is and when opportunities appear.

According to Yang Xiaokai's economic model, sustained economic growth and take-off is the self acceleration of the evolution of division of labor when the trading conditions cross the threshold. So far, the order of economic growth and take-off of each country is basically consistent with the order from atomic family to community family marked on Emmanuel Todd's traditional family structure diagram. According to the K-r model discussed in this book, this is the order of agricultural risk from low to high. In other words, the threshold of sustained economic growth and take-off is determined by the threshold of overcoming geographical difficulties, because crossing this threshold means that the transaction cost benchmark is fully reduced, which means that it is possible to reach the threshold of transaction conditions required for economic growth and take-off. Is political freedom closely related to economic freedom?

Political freedom and economic freedom are different representations of the same thing as social order. The two are intertwined and affect each other, but they can not explain each other, because it is equivalent to a kind of circular causality. Only by overcoming agricultural risks can the process of mutual promotion continue and achieve an ideal convergence state. In other words, political freedom and economic freedom are two melons on the same vine. Although they affect each other, their influence on each other is far less than that of agricultural risk. Why are efforts to change poverty in sub Saharan Africa ineffective?

To embark on the road of sustained economic growth and take-off, sub Saharan region first needs to make great efforts to overcome the more unfavorable geographical conditions than other regions. Sub Saharan Africa, on the one hand, has to face the transportation difficulties caused by the lack of plateau continent and ports, on the other hand, it has to bear the high-level agricultural risks brought by the tropical environment. To change this situation, it needs huge investment to improve agricultural production and transportation. As Jeffrey Sachs said, taking 2002 as an example, the 6 cents per person aid given by the United States to the local people is not enough to do this.

For a long time, various historical, sociological and economic studies have described the interaction between human society and natural environment, but compared with K-r model, they either do not pay enough attention to the role of risk factors in this interaction, or fail to give a simple and easy-to-use model for the role of risk factors in this interaction. It is on this point that the K-r model has made progress, and its direction is clear. For the starting point of a country's economic growth and stagnation, there are risk factors beyond the reach of human beings, which play a great role. It is the geographical environment rather than human will that decisively affects the historical path of various civilizations before the green revolution. Comparing the development history of various countries, whether the rise of capitalism in Britain and the United States or the rise of industrialization in China, we can draw lessons from this judgment:

**If a country wants to develop successfully, it must have the opportunity to overcome the adverse geographical conditions. The improvement of trading conditions based on the reduction of agricultural risks and the improvement of transportation is the premise for the country to get rid of stagnation and take off. Whether good trading conditions can be maintained and improved is the fundamental to the sustainability of growth.**

The illusory imagination of human's supreme position in the life world was corrected by Darwin's theory of evolution, and all kinds of confusion caused by cyclic causality in social phenomena also subsided under the interpretation of K-r model. This discussion helps us to have a clearer view of the human situation in this world. Some people may think that its direction has caused some frustration, but I believe it will not weaken our courage, but will help us survive better. Now, let's answer this frustration by quoting an old saying and end this volume:

**Truth sets man free.". (end of Volume I)**

# (Volume II) History: changes between ancient and modern times

Based on the thoughts of Marx and Darwin, the first volume constructs a new paradigm as the logical starting point to solve the problem of "rich countries and poor countries". This volume attempts to present this paradigm in combination with well-known knowledge and theories, and follow the theoretical principle of "unity of logic and history", apply this paradigm to historical investigation, and show a historical observation angle of "typology".

## Chapter I: small diversion

In his criticism of "so-called primitive accumulation", Marx completely parted ways from classical political economics and commercialization model. The general principle created by him in the criticism of political economy - specifically, wealth itself is not "capital", and capital is a specific social relationship - is used to analyze the transformation from feudal society to capitalism. According to this principle, Marx believed that simple wealth accumulation was not the decisive factor in the origin of capitalism. The reason why the "primitive accumulation" proposed in classical political economics is "so-called" is that in Marx's view, capital is a social relationship rather than just a kind of wealth or income, so simple accumulation itself cannot give birth to capitalism. Although wealth accumulation is an obvious necessary condition for the emergence and development of capitalism, it is not a sufficient or even decisive condition. In fact, it is the transformation of social property rights that finally promotes the transformation of wealth into "capital".

Ellen M. wood: the origin of Capitalism: a long review from the perspective of academic history, Chapter 2

### Section I: Smith's on-site records

The world's first modern economy originated in Britain. If we define Britain as an "advanced country" on the modern economic road, then compared with it, any other Eurasian countries are "late developing countries" on this road. This "road difference" between the two sides of the English channel is the so-called "small diversion". Then, what is the special road of Britain, an "advanced country", compared with many "late developing countries" in Eurasia? It has been hundreds of years since the occurrence of this road divergence. So far, among the divergent opinions, there can not be a decisive answer to stand out. In order to get a more real understanding, let's go back to the observation and account of Adam Smith, the great man who lived in the "scene of the incident", for inspiration.

Adam Smith described the "natural" order of wealth growth in his mind in his great book, the beginning of economics, the third chapter of the wealth of nations, "of the different progress of wealth in different countries", and the first chapter, "of the natural progress of wealth": (Note: in the third part of the wealth of nations, "of the different progress of opulence in different countries" means "different wealth growth in different countries". Malthus, a descendant of Smith, once wrote to Ricardo, saying that "exploring the principles of national wealth and national poverty is the top priority in political and economic research". And the wealth of Nations This article is the forerunner of the study of the problem of rich countries and poor countries. It makes an excellent observation record of the phenomenon of rich countries and poor countries in Smith's era and makes a preliminary guess about its causes. However, limited to the tools and materials at that time, Smith made more empirical investigation on this "top priority" problem and failed to go deep in theory. This article is in the wealth of countries Among them, it only takes up 5% of the space.)

According to the natural order, most of the capital of a progressive society is invested first in agriculture, then in manufacturing, and finally in foreign trade. This order is very natural; I believe it can be seen in every society with territory. Before the founding of a metropolis, some land must have been reclaimed; before someone is willing to invest in foreign trade, In the city, there must be some rough manufacturing first.

However, although this natural order inevitably takes place to a considerable extent in such societies, in terms of the situation of today's European countries, this order seems to be completely opposite in many ways. Refined manufacturing or manufacturing suitable for distant sales are mostly led out by foreign trade. The great improvement of agriculture is the result of manufacturing and foreign trade. This order of unnatural degradation was forced by their government. Their original government changed their customs into this. Later, this kind of government changed greatly, but their customs still haven't changed much. (Adam Smith. Wealth of Nations (Guo Dali, Wang Yanan) (Chinese Edition) (Part III, Chapter I, P. 286). Shanghai Sanlian bookstore)

In Smith's observation at that time, there were great differences, even "reverse order", between Britain, which we think is an advanced country on the modern economic road, and those late developing countries on the European continent. This difference between advanced and late development, in our "hindsight" today, is the difference between the origin of capitalism. In Smith's empirical observation, the origin of British capitalism is agricultural progress (Note 1: Ellen M. wood tells us that agricultural "progress", or "improvement", that is, English "improvement" , in the British context of the Smith era, its meaning is not the improvement of agriculture in the general sense, but the cultivation of land to obtain income, which means an improvement in the nature of profit. It is the opposite of Gu Zhun's so-called "living economy" and Huang Zongzhi's so-called "undeveloped growth". - the origin of Capitalism: a long review from the perspective of academic history The fifth chapter begins with the rise of capitalist property rights and the ethics of "progress". As the "natural" situation in Smith's mind, Britain's agricultural progress cultivated its local manufacturing industry, and then the development of local manufacturing industry promoted distant trade. The situation in continental Europe is even reversed, and their agriculture is not "natural" "The local manufacturing industry is fostered by the local progress, but it is the remote trade that promotes the refined manufacturing industry (Note 2: refined manufacturing industry, high-value manufacturing industry suitable for remote sales," luxury "manufacturing industry), which provides stimulation for the progress of agriculture. However, this" contrary to nature " After describing the reasons, rather than the results, for the improvement and development of agriculture in the commercial manufacturing industry in continental Europe, Smith continued to write:

This unnatural order, of course, is slow and uncertain. Compare the progress of European countries based on industry and commerce with the rapid progress of China's North American colonies based on agriculture. You will know how slow the progress of European countries is. (Adam Smith. Wealth of Nations (Guo Dali, Wang Yanan) (Chinese Edition) (Part III, Chapter IV, P. 310). Shanghai Sanlian bookstore)

People at that time could not witness the amazing development of the United States in future generations. But even at that time, the "natural" wealth progress of British and American countries from agricultural progress was so amazing that it dwarfed the slow and uncertain wealth progress of European countries. Then, why does the "natural" progress of advanced countries across the English channel have such a huge advantage compared with the "anti natural" progress of late developing countries? In the wealth of nations, Smith gives some descriptions of this difference between the two sides of the English channel, but what he is familiar with is the situation of Britain, that is, the so-called "natural" progress. For the situation of Europe across the Strait, he has neither personal experience nor materials, so he can't have a deep understanding. He can describe Europe as "against nature" However, it can not point out why the English style "natural" progress has not taken place in Europe. What Smith can give is only such a guess: "this anti natural degradation order is forced by their government. Their original government has changed their customs and habits. Later, this government has greatly changed, but their customs and habits have not changed much". In order to understand this problem deeply, we need to find another way besides Smith's explanation.

### Section II: Zhang Wuchang's insight and confusion

To deeply understand the difference of wealth progress between advanced countries and late developing countries, we should examine the starting point of this difference, whether the "natural" progress of agriculture is or not. For a long time, we modern people have lacked the convenience of field investigation of many materials. Therefore, for this investigation, we first try to find something from historical materials. The principle of Marxism tells us that the development of different productive forces must correspond to different modes of production. Is the progress of agricultural production on both sides of the English Channel "natural" "This difference is bound to be reflected in the comparison of agricultural production modes. This leads us to investigate the differences in agricultural systems between England and mainland Europe on both sides of the English channel, and it is not difficult to find this difference. Similarly, in the third chapter of wealth of nations," on the decline of agriculture in the old state of Europe after the collapse of the Roman Empire " In this chapter, Smith tells us:

After the slave farming system in ancient times, the so-called metayers system in France today gradually appeared. This system, in Latin, is called coloni partiarii. In England, the system has long been reduced, so I don't know what it is called in English. (Adam Smith. Wealth of Nations (Guo Dali, Wang Yanan) (Chinese Edition) (Part III, Chapter II, P. 291). Shanghai Sanlian bookstore)

The original meaning of this "maitaiye system" is "split system", which is a special case of the so-called "share cropping" today, i.e. 50-50. (Note: the split system itself is changeable and is not limited to 50-50 split. Zhang Wuchang in tenant theory It has been recorded in that according to the survey data of 22 provinces in China since 1932, under the tenant sharing system, the proportion of landlords can be as high as 69% and as low as 29%. Similarly, the French sharing system is not limited to the "maitaiye system" separated from the May fifth movement.) Smith told us that in his time, there was no such system in England. On the European continent, the sharing system was still common. In Smith's mind, from serfdom to the sharing system to the quota long-term lease prevailing in Britain, this was a progressive ladder of the agricultural system. Smith himself was the so-called "Scottish Enlightenment" It is not surprising that Smith regarded the differences in agricultural systems from continental Europe to England as the sequential stages of progress. Under this historical concept, the whole human history is a long ladder of progress, Europe is only "backward", while Britain was once "backward" There are differences. However, this does not prevent all parties from making progress on the same ladder. The differences of all parties are just the display of different steps on the ladder of progress, while the differences of historical roads do not exist. It is under such a historical imagination that why England's agricultural progress has not occurred in the European continent, in Smith's view, it is not worth studying in detail Therefore, for such a fundamental traceability problem, Smith just took it through with a guess.

However, is the difference of agricultural system between advanced countries and late developing countries really so simple and so unimportant? In Volume IV of economic interpretation, the choice of system, Chinese American economist Zhang Wuchang challenged Smith's idea of the "step ladder" of agricultural system.

How do we look at Smith's analysis of institutional evolution? There are two points. The first is that what he said is wrong. Looking at the history of Britain, I can't find that the tenant system once existed in the country, not only for a long time Permanent or near permanent agricultural land leases were popularized in Britain in the middle ages or even earlier, and the short-term agricultural land leases were not recorded in British history Whether in the West or Asia, tenant farmers can renew their contracts, but each contract rarely exceeds three years

Smith's worst mistake was that he thought the tenant system would be eliminated. In many parts of the world today, not only tenant contracts exist, but the popularity of share contracts can be seen in the oil industry and department stores. Without the influence of the government or trade unions, many lawyers will settle accounts with customers in some cases

The second point is more troublesome. Regardless of Smith's mistake in fact, it is reasonable to say that the evolution of the system will move in the direction of high economic efficiency, and that under the constraints, mankind will strive for the maximization of interests and form a chapter smoothly. However,... On the one hand, we can cite countless examples to show that contractual or institutional arrangements are moving in the direction of reducing transaction costs; On the other hand, we can also cite the reverse increase in transaction costs I can't deduce which institutional costs (transaction costs) and how the transformation will lead to two different effects at one end (economic interpretation and choice of system, Zhang Wuchang, Second Edition, 2014, Chapter 4, Section 2)

In his challenge to Smith, Zhang Wuchang first pointed out that the sharecropper sharing system did not exist in British history. Furthermore, he pointed out that the sharing system not only existed for a long time in the tenant system of other countries in the world, but also widely existed in other non-agricultural economic systems. Therefore, Smith's view that serfdom, sharing system and long-term fixed lease system must replace the former in order is untenable. These different systems have their own reasons for existence. They can and do exist in parallel. However, Zhang Wuchang's explanation of the cause and efficiency of the sharing system is not only insightful, but also missing. Therefore, further, the problem of institutional change related to this institutional difference also confused Zhang Wuchang. Next, we will examine these issues in depth.

In Zhang Wuchang's doctoral thesis tenant theory published in 1969, the fourth chapter is called "transaction cost, risk aversion and contract choice". In this chapter, Zhang Wuchang takes Chinese data as an example to investigate the causes of share contract.

We can give at least two reasons why there are different types of contractual arrangements. The first is the existence of natural risk, which is defined here as the influence of nature or world state on the variance (or standard deviation) of output value. Given that the variance of expected output (the total income of the contracting parties) is positive, different contractual arrangements mean that there are different income variance distributions between the contracting parties. Under the assumption of risk aversion, people will seek to avoid risk, as long as the cost is less than the benefit. There are many ways to avoid risk, such as searching for information about the future (which may not be available even at an infinite cost), selecting investment projects with low risk (including asset diversification), or choosing arrangements to spread the risk to others - such as insurance or a variety of contractual arrangements The second reason for the existence of multiple contractual arrangements is related to the different transaction costs involved in different contracts. Different transaction costs are due to different natural attributes of factors and outputs, different institutional arrangements, and different contract terms require different efforts in contract execution and negotiation. (Zhang Wuchang, Chapter 4, "transaction cost, risk aversion and contract selection" in tenant theory)

Further:

The choice of contract arrangement is to maximize the benefits obtained by dispersing risks under the constraints of transaction costs. (Zhang Wuchang, Chapter 4, "transaction cost, risk aversion and contract selection" in tenant theory)

For contractual arrangements in agricultural production:

The choice of contracts depends on the trade-off between the benefits obtained by dispersing risks and the transaction costs involved in different contracts. To explain that there are different contract selection modes in different places, both factors seem to be important. Firstly, different natural attributes of crops and different climate types often lead to different variances of output in different agricultural areas. Secondly, different legal arrangements - such as compulsory or subsidized agricultural insurance - affect not only the variance of income, but also the transaction costs involved by the contracting parties. (Zhang Wuchang, Chapter 4, "transaction cost, risk aversion and contract selection" in tenant theory)

Further, there are:

The third factor: different market arrangements will also have an impact on the choice of contracts.

……

In fact, the contractors in the French tenant system, the exemption clauses associated with fixed land rent in China, and the minimum guarantee clauses associated with divided land rent in other regions are different market practices. They are between completely fixed land rent and fully divided land rent, which is an intermediate arrangement. Each of them involves different risk distribution and transaction costs, which expands the selection range of contractual arrangements. (Zhang Wuchang, Chapter 4, "transaction cost, risk aversion and contract selection" in tenant theory)

As mentioned above, "the choice of contractual arrangements is to maximize the benefits obtained by dispersing risks under the constraints of transaction costs", which is a great insight of Zhang Wuchang. However, he failed to further analyze these three factors that determine the choice of contracts, and thus blurred the relationship between agricultural risks and transaction costs. Here we add the following:

The first is agricultural risk. Agricultural risk exists objectively. As Zhang Wuchang said, it comes from the role of natural or real world conditions on agricultural production. Different geographical environments are suitable for different crops, and the biological characteristics of crops and the climatic characteristics under the geographical environment will affect the stability of agricultural production. In the final analysis, it is a natural and environmental factor. Fundamentally speaking, it is beyond people's control, especially in pre-modern society.

Zhang Wuchang has a deep aversion to whether such a factor beyond human control should be included in the theoretical consideration, because considering risk factors, statistical inference must be considered, and Zhang Wuchang has many doubts about the significance and effectiveness of such a thinking method of statistical inference. Although he also realized that "I think the biggest impact on the new institutional economics is the transaction cost, risk aversion and contract choice published in 1969", when recalling the writing of tenant theory, he wrote:

The article "transaction costs, risk aversion and contract selection" has two adverse effects. The first aspect is "risk aversion" - sharecroppers can share the risk. At that time, my own intuition was that the choice of contract was entirely a matter of transaction costs and had nothing to do with risk. On many bitter and cold nights in early 68, I removed the "risk" three times, but added it back three times, If I rewrite the article today, I can safely remove the risk. Taking risk as a factor in the selection of contracts is very bad, because in the real world, we can't look out of the window to know whether the risk of the world has increased or decreased. In this way, based on risk, we can not extend the meaning that can be overturned by facts (causes and consequences of "tenant theory", Zhang Wuchang, 2000)

This is Zhang Wuchang's great misunderstanding of human risk perception ability, or statistical inference ability. There is no doubt that risk does contain unknowable factors, otherwise there would be no risk. However, it is not equal to unknowability. Under the observation of human beings, it is between knowable and unknowable. "In the real world, we can't look out of the window to know whether the risk of the world has increased or decreased.". There is no doubt about Zhang Wuchang's statement that we really do not have the ability to "look out of the window" for risks and their changes. However, in order to meet the needs of survival, our perception of risks and their changes does not need to reach this divine level. For the simplest example, when a coin is thrown, we really can't judge whether it is face up or back up after it falls. In other words, for a specific risk (probability event), as an ordinary carbon based life, Zhang Wuchang is right. We really can't "look out of the window". However, if we throw a coin again and again, with the ability of statistical inference, we can know whether it has the same chance of facing up or facing up. In other words, we can understand the risks that occur frequently and have a stable model by statistical inference, and then make statistical inference on the long-term record of probability events. We can also know whether "the risk of the world has increased or decreased", although it is really not as easy as "looking out of the window". Agricultural risk is such a risk that can be recognized.

As mentioned above, Zhang Wuchang has correctly stated that agricultural risk is caused by geographical, biological and climatic factors. Therefore, it is objective. Although these factors are not immutable, their applicable crops and climatic characteristics are relatively stable in the same place. The agricultural risk (specific change of crop yield) of each year is unknown, but year after year, we can make statistical inference according to experience and understand the local agricultural risk (whether the level is high or low). Moreover, if the risk situation changes and the risk level increases or decreases, after a period of observation and practice, We can also make statistical inference based on experience, so as to adjust the existing understanding. This is not difficult. Biological research tells us that apes have this ability. Even a paper published in nature communication in March 2020 proves that parrots (New Zealand sheep pecking parrots) also have the same statistical inference ability to recognize probabilistic events (risks), adjust their behavior to adapt to such risks and improve their survival opportunities. Since parrots can also make statistical inferences about risks in order to survive, "to be or not to be", we humans need not doubt our cognitive ability.

Summing up the above analysis, the first factor determining the choice of contract, agricultural risk, is both objective and recognizable. Further, since it is recognizable, the theoretical assumptions around it can also be verified.

Next, we continue to analyze the second and third factors that determine the choice of contract, legal arrangement and market arrangement (market practice).

As for the influence of legal arrangement on contract choice, Zhang Wuchang used "compulsory or subsidized harvest insurance" as an example in tenant theory. This is not a good example, because such harvest insurance is very limited in the vast historical time and space. It is a special situation brought about by modern industrial society. Generally speaking, legal arrangement is always the background and constraint of contract choice, not limited to any specific historical time and space. The market arrangement is even more so, "conventions and customs" are ubiquitous. Zhang Wuchang also cited Sismondi to illustrate this point:

(simondi:) custom can also deal with all contracts and can supplement items not indicated in the clause. (Zhang Wuchang, Chapter 3, Section 1, tenant theory)

However, there is no more in-depth analysis of the law and market arrangement in a broad sense in the book tenant theory. As far as legal arrangements are concerned, tenant theory cites special cases. As far as market arrangements are concerned, after listing several situations from France, China to Southeast Asia, Zhang Wuchang said:

As for why there are different intermediate arrangements under different market arrangements, I do not intend to explore this issue. (Zhang Wuchang, Chapter 4, "transaction cost, risk aversion and contract selection" in tenant theory)

Fortunately, in the economic interpretation and choice of system many years later, Zhang Wuchang made up for the lack of tenant theory, expanded the above Sismondi's views and gave further explanations on legal and market arrangements:

Custom and law are part of the market contract structure. (Zhang Wuchang, Second Edition, 2014, Chapter III, general theory of contract)

Therefore, the second factor affecting the choice of contract, legal arrangement, and the third factor, market arrangement, itself become a part of the contract arrangement. As stated above, the agricultural risk situation in the same place is relatively stable. People who have lived there for a long time can make a fixed choice of contractual arrangements adaptively based on their understanding of this risk situation. This is the reason for market arrangements (habitual market practices in the place). Some local "customary practices" and "intermediate arrangements", such as "contractors in the French tenant system, China's exemption clauses associated with fixed land rent, and the minimum guarantee clauses associated with shared land rent in other regions", which Zhang Wuchang "does not intend to discuss", are the reflection of different agricultural risk conditions in different regions, These risk profiles vary according to different crop attributes and climate characteristics.

Furthermore, the law confirms and adjusts the "Customs" in a more clear and systematic way. Therefore, the legal arrangement is fundamentally homologous with the customs. Legal arrangements and market arrangements are nothing more than contract templates that appear in different forms and adapt to the local risk situation. They are abstractions at different levels of risk cognition and complement each other. Therefore, Zhang Wuchang's enumeration of the three factors (in agriculture) that determine the choice of contract can be fundamentally attributed to the first factor, that is, agricultural risk. What determines the specific contract choice (in agriculture) is the general (reflected in practice and law) historical understanding of the local risk situation, plus the current judgment of particularity. The transaction cost of the contractual arrangement is the performance of this risk factor in the contractual arrangement. In other words, the transaction cost of a contractual arrangement is determined according to the risk situation to which the contractual arrangement is adapted. In this way, we go to the opposite thinking path to Zhang Wuchang, and attribute the transaction cost to risk factors, not the opposite. In other words, we use a "materialistic" cognitive path instead of an "idealistic" cognitive path.

After repairing Zhang Wuchang's contract selection theory, we look back at Zhang Wuchang's doubts about "institutional evolution": "on the one hand, we can cite countless examples to show that the arrangement of contract or system is moving in the direction of reducing transaction costs; on the other hand, we can also cite the reverse increase of transaction costs". As mentioned earlier, we have analyzed that in agricultural production, the transaction cost of the contractual arrangement depends on the risk situation faced by the arrangement. Therefore, we can simply and directly deduce that the transaction cost in the contractual or institutional arrangement increases or decreases, that is, the risk situation on which the contractual or institutional arrangement depends has deteriorated or improved. Of course, this deduction will immediately raise questions, because the background of Zhang Wuchang's contract selection theory repaired earlier lies in agricultural production, and the "contract or institutional arrangement" in the general sense is certainly not limited to agricultural production. What kind of risk situation does this "contract or institutional arrangement" in the general sense, or "institutional change" depend on?

Agricultural products are the cornerstone of human survival since the agricultural era. For human society, the role of agricultural products is universal, important and sustainable. Agricultural risks first determine the choice of contractual arrangements or institutional arrangements in agricultural production. Further, in a short period of time, agricultural products lack flexibility in both supply and demand, and supply exceeds demand For a long time, the instability of agricultural production will also strengthen population expansion, thus worsening the supply and demand risk of agricultural products. Therefore, the price fluctuation of agricultural products will significantly affect the stability of labor prices, and all social products are created by labor The price fluctuation of industrial products significantly affects the price stability of all social products through the price of labor. From experience, we also know that once the price of agricultural products rises, the prices of various products in the whole society will rise in order, resulting in significant inflation. (Note: this price transmission process has long been well known. Emperor Qianlong of the Qing Dynasty once said: "Everyone in the world eats rice. Since the price of rice is long, it is not allowed to increase the price, husband and workers.) In the general sense, contracts or institutional arrangements always have the exchange of certain social products. Therefore, agricultural risk significantly causes the price uncertainty of all social products, which significantly affects the transaction cost of all contracts or institutional arrangements, or constitutes the "benchmark" of the transaction cost of all contracts or institutional arrangements From the above analysis, it can be inferred that the change of agricultural risk status, that is, the rise or fall of risk level, will lead to the rise or fall of transaction costs of all contracts or institutional arrangements. This explains the root cause of "institutional change" which has been puzzled by people for a long time.

### Section III: the agricultural origin of capitalism originates from Marx's new paradigm

After the theoretical deduction, we come to the "combination of history and logic". In the historical process of the origin of capitalism, combined with empirical materials, we will analyze the road differences between the "natural order" and "anti natural order" of wealth growth prompted by the third chapter of the wealth of nations.

The third chapter of the wealth of nations records the differences in agricultural systems between Britain and Eurasia. The long-term fixed land rent system prevails in Britain, while the sharing land rent system of various intermediate arrangements prevails in Eurasia from France to China and even Southeast Asia, which reflects different agricultural risk conditions in different regions. In other words, different agricultural systems in different regions are the adaptability of human behavior to the agricultural risk situation in their respective regions. Due to the relative stability of natural factors such as crop attributes and climate types, this risk situation is also relatively stable. Therefore, as Zhang Wuchang found, the existence of agricultural systems is long-term, They will not naturally "evolve" according to the level of "efficiency" as Smith imagined.

Then, how do these long-standing agricultural risk states and corresponding agricultural systems affect the long-term economic growth when they affect the universal "contract and institutional arrangement", resulting in the "natural order" of wealth growth in Britain and the United States and the "anti natural degradation order" in Eurasia, as Smith said What about the differences? For this "road difference", that is, the "road difference" between capitalist origin and non capitalist origin, it is Marx's capital and contemporary Marxist scholar Robert Brenner's research on agricultural capitalism that makes the most insightful description.

First, let's go back to Marx. Marx tells a new principle of "capital", which is different from classical economists (Smith, Ricardo, etc.). "Capital" is not wealth itself, but a specific social relationship. In Chapter 48 of Volume III of Das Kapital, "Trinity Formula", Marx wrote: "capital is not a thing, but a certain, social, production relationship belonging to a certain historical social form. It (production relationship) is embodied in a thing and gives it a unique social nature", Simple wealth accumulation is not the decisive factor of the origin of Capitalism (that is, the so-called "natural order" wealth growth in Britain). The real origin of capitalism is a transformation of social property rights. It is this transformation that leads to the "natural" growth of wealth:

Money and goods, like means of production and means of livelihood, were not capital at first. However, this transformation itself can only occur under certain circumstances, which can be summed up as follows: two very different commodity owners must oppose and contact each other; On the one hand, they are the owners of money, means of production and means of living. They want to buy other people's labor force to increase the total value they own; On the other hand, they are free workers, the sellers of their own labor, that is, the sellers of labor. Free workers have a dual meaning: they themselves do not directly belong to the means of production like slaves and serfs, nor do they have the means of production like owner farmers. On the contrary, they are free from the means of production, separated from the means of production and lost the means of production. This two-level differentiation of commodity market has created the basic conditions of capitalist production. Capital relationship is based on the separation of ownership between workers and labor conditions. Once capitalist production has a firm foothold, it will not only maintain this separation, but also reproduce it on an expanding scale. Therefore, the process of creating capital relations can only be the process of separating the ownership of workers and their working conditions. On the one hand, this process transforms social means of living and means of production into capital, on the other hand, it transforms direct producers into hired workers. Therefore, the so-called primitive accumulation is just a historical process of the separation of producers and means of production. This process is therefore "primitive" because it forms the pre history of capital and the corresponding mode of production. (Chapter 24 of Volume I of Das Kapital, the so-called primitive accumulation, Section 1, the secret of primitive accumulation)

This transformation is a unique historical process that took place in British countryside. Marx wrote down his observations on this transformation:

In the history of primitive accumulation, all changes that promoted the forming capitalist class are epoch-making events in history; But the primary factor is that a large number of people are suddenly forcibly separated from their means of subsistence and thrown into the labor market as proletarians without legal protection. The deprivation of the land of agricultural producers, that is, farmers, forms the basis of the whole process. This history of deprivation has different colors in different countries, in different order, through the impassable stage in the impassable historical era. Only in Britain does it have a typical form, so we take Britain as an example. (Chapter 24 of Volume I of Das Kapital, the so-called primitive accumulation, Section 1, the secret of primitive accumulation)

There are preconditions for the opposition and contact between the owners of these two commodities (on the one hand, the owners of money, means of production and means of living, on the other hand, free workers). In this confrontation and contact, that is, the division of labor and cooperation in the form of capitalism, the owners of money, means of production and means of living buy the labor commodities sold by free workers at a certain price, that is, pay the discount of the share of free workers in the future labor achievements in exchange for the share of future labor achievements with uncertain value, What he seeks is the possibility of future benefits. Accordingly, free workers sell labor goods at a certain price, that is, they give up their share of future labor achievements in order to obtain the discount available at present. What they seek is the certainty of current income. However, if there is no production and circulation process with highly determined price, the possibility of future income or the certainty of current income sought by both parties in their division of labor and cooperation do not exist, because for both parties, this is a game of "long bet and lose". Thus, we can go further from the new "capital" principle expounded by Marx:

**Capital" is a kind of production relationship based on high price certainty of social products.**

The reason why such "opposition and contact" can occur in Britain and "has a typical form" is precisely because of the special agricultural risk state of Britain. As Zhang Wuchang wrote, "permanent or near permanent agricultural land leases were popularized in Britain in the middle ages or even earlier". The long-term fixed land rent system prevailing in Britain since the Middle Ages indicates that the level of agricultural risk here is very low and the agricultural output is highly stable. This highly stable agricultural output provides a guarantee for the price certainty of agricultural products and even all social products. This is determined by the special geographical environment. In fact, records show that in a 100 year annual rainfall statistics of Britain, the change is less than 10% in 50 years, less than 20% in 80 years, and more than 50% in only two years. It is the interaction between such agricultural environment and agricultural system that, after a long evolution process, has created capitalist agriculture and the original capitalist land rental farmers, as well as the free workers who "oppose and contact" with them - agricultural wage workers. Therefore, we further state:

**Capital" is a social relationship based on low-risk agricultural production.**

Marx described the origin process of "capitalism" bred by this low-risk state as follows:

Now I want to ask: where did capitalists first come from? Because the deprivation of rural residents only directly produces large landowners. As for the emergence of land rental farmers, we can find out, because it is a long process that has lasted for many centuries. Serfs themselves, in addition to free small landowners, were in very different property conditions, so they were liberated under very different economic conditions.

In Britain, the original form of land rental farmers was the stewardship of serfs themselves. His position was similar to that of felicus in ancient Rome, but his scope of activities was narrower. In the second half of the 14th century, stewardship was replaced by landlords who provided seeds, livestock and farm tools. The status of this land renting farmer is not much different from that of farmers, but he exploits more wage labor. He soon became a split farmer and a semi leased land farmer. He raised part of the agricultural capital, while the rest was provided by the landlord. Both parties shall distribute the total products according to the proportion specified in the contract. This form soon disappeared in Britain. Instead, a real land rental farmer increased his capital by using hired workers, and handed over part of the surplus products to the landlord in the form of money or in kind. (Note: Marx's Description: "he soon became a split farmer and a semi leased land farmer", "this form soon disappeared in Britain". As Zhang Wuchang said earlier, this is a misunderstanding from Smith. Marx's description may be inherited from Smith.)

In the 15th century, when independent farmers and those who worked both as employees and alone became rich through their own labor, the situation and scope of production of land rental farmers were equally medium. The agricultural revolution, which began in the last 30 years of the 15th century and continued almost throughout the 16th century (except the last few decades), bankrupted rural residents at the same speed and made land rental farmers rich. The plundering of public pastures has greatly increased the number of their livestock at almost no cost, and these livestock have provided richer fertilizer for the cultivation of his land.

In the sixteenth century, an important decisive factor was added. At that time, the lease term was very long, often up to 99 years. The continuous decline in the value of precious metals and thus the value of money has brought golden fruit to the land rental farmers. Apart from everything else that has been pointed out earlier, this decline has also reduced wages. Part of the salary becomes the profit of the land renting farmer. Grain, wool, meat, in short, the rising prices of all agricultural products have increased the monetary capital of the land renting farmer without any effort, and the land rent he must pay is signed on the contract according to the previous monetary value. Therefore, he became rich at the expense of his hired workers and landlords. Therefore, it is not surprising that at the end of the 16th century, Britain had a class of "capitalist land rental farmers" who were very rich at that time. (Chapter 24 of Volume I of Das Kapital, the so-called primitive accumulation, section 4, the emergence of capitalist land leasing farmers)

With the birth of the initial capitalism - agricultural capitalism, the initial capitalist - land rental farmers, and the free workers who "oppose and contact" with them - agricultural wage workers, agricultural productivity has been continuously improved, and the domestic market for consumer goods with free workers separated from land as the main consumer has been established, This is the "natural order of wealth growth" of Smith's so-called agricultural progress promoting local manufacturing industry, that is, Marx's so-called "reaction of agricultural revolution to industry". Marx described this process:

We already know that the intermittent and repeated deprivation and expulsion of rural residents continue to provide a large number of proletarians completely outside the guild relations for urban industry. This wonderful phenomenon made old Ya Anderson believe in the direct intervention of God in his business history. We must also talk about this element of primitive accumulation. Jos é de Silva Saint irelle explained its densification here by the thinning of the world's material there. However, it is not just the industrial proletariat that adapts to the thinning of independent and self cultivated rural residents. Although the number of people farming has decreased, the land provides as many products as in the past, or more than in the past, because with the revolution of land ownership, it is the improvement of farming methods, the expansion of cooperation, the accumulation of means of production, etc., because agricultural employed workers are not only forced to strengthen the labor intensity, Moreover, the scope of production in which they work for themselves is shrinking day by day. Therefore, with the dissociation of some rural residents, their previous means of living have also been dissociated. These means of living have now become material elements of variable capital. The expelled peasants must earn the value of these means of subsistence in the form of wages from their new owners, industrial capitalists. The situation of industrial raw materials provided by domestic agriculture is the same as that of means of livelihood. It has become an element of constant capital

The deprivation and expulsion of some rural residents not only liberated workers and their means of livelihood and labor materials for industrial capital, but also established the domestic market. In fact, those events that transformed small farmers into hired workers and their means of living and labor into material elements of capital also established their own domestic market for capital. In the past, farmers' families produced and processed most of the means of livelihood and raw materials for their future consumption. Now, these raw materials and means of livelihood have become commodities; The big rent farmer sold them, and the handicraft factory became his market. Yarn, linen and coarse wool (in the past, every peasant family had raw materials for these things, which were spun out for their own consumption). Now they have become the products of workshop handicraft industry, and agricultural areas are the sales market for these things. Many buyers scattered around the country, previously caused by a large number of small producers operating alone, are now concentrated in a huge market supplied by industrial capital. Therefore, with the deprivation of the former owner farmers and their separation from their means of production, the rural sideline was eliminated, and the process of separating workshop handicraft industry from agriculture took place. Only by eliminating rural cottage industry can a country's domestic market obtain the scope and stability required by the capitalist mode of production. (Chapter 24 of Volume I of Das Kapital, the so-called primitive accumulation, section 5, the reaction of the agricultural revolution to industry and the formation of the domestic market of industrial capital) this is a gradual process, which lasted for several centuries until the advent of the great industrial era, which provided a solid foundation for capitalist agriculture and established a complete domestic market: however, The real workshop handicraft period did not cause fundamental changes. We remember that the workshop handicraft industry only involves a small part of national production. It has always taken urban handicraft industry and rural household sidelines as a broad background. In some form, it eliminates urban handicrafts and rural household sidelines in some industrial sectors and some places, and makes them reappear in other places, because it requires them to process raw materials to a certain extent. Therefore, it has created a new class of small farmers, who take farming as their sideline and industrial labor as their main industry, and sell their products directly or through merchants to handicraft workshops. This is the first phenomenon that puzzles people studying British history, so it will happen, although not the main reason. People who study British history have seen that since the last 30 years of the 15th century, there have been constant complaints (only sometimes suspended), complaining about the increasing development of the capitalist economy in rural areas and the elimination of farmers. On the other hand, they have seen that these farmers continue to reappear, although their number is decreasing and their situation is deteriorating. The main reason is that in different times in Britain, sometimes grain property and sometimes animal husbandry, so the production scope of farmers also changes. Only large industries use machines to provide a solid foundation for capitalist agriculture, completely deprive the vast majority of rural residents, completely separate agriculture from rural cottage industry, and eradicate the foundation of rural cottage industry - spinning and weaving. In this way, it conquered the whole domestic market for industrial capital. (Chapter 24 of Volume I of capital, the so-called primitive accumulation, section 5, the reaction of the agricultural revolution to industry and the formation of the domestic market of industrial capital)

Compared with the United Kingdom, some "intermediate arrangements" prevailed in countries in Eurasia, such as "contractors in the French tenant system, exemption clauses accompanying fixed land rent in China, and minimum guarantee clauses accompanying shared land rent in other regions" "The sharing system of" means various high-level agricultural risk conditions in these areas. When the agricultural output is unstable and the price certainty of agricultural products and even all social products cannot be guaranteed, these areas not only failed to have the origin of capitalism, but also experienced setbacks in the process of transplanting modern economy from advanced countries. Marx described "Not only suffer from the development of capitalism, but also suffer from the non development of capitalism", "the dead hold the living" is a profound summary of the social development of late developing countries in Eurasia. In these areas, the separation of labor and land is delayed, and the local market is slow to develop, which is not "natural" like Britain The limited manufacturing industry is mainly the so-called "refined manufacturing industry", that is, the manufacturing industry dominated by luxury goods for remote or international markets. On the one hand, there is no capitalist mode of agricultural production (Smith's so-called agricultural progress) , not enough to promote industrial development. On the other hand, the help of this refined manufacturing industry to agricultural progress that can improve agricultural productivity and liberate workers from the land is also very limited. This is what Smith called "anti natural and degraded" of wealth growth Sequence. For this historical process in Eurasia, Brenner, an American Marxist scholar, takes France as an example to make the best description:

In view of the unpredictability of agricultural harvest, specialization means taking the risk of complete failure. In the case of poor harvest, grain prices will rise due to the reduction of supply. Therefore, consumers are much less likely to buy consumer goods other than grain, which will lead to the decline of the prices of other consumer goods. In this case, those engaged in specialized production Farmers will find themselves trapped in such a scissors gap, that is, on the one hand, they have to spend high prices to buy food in the market, on the other hand, they have to sell their non food products at low prices, which reduces their income. When such a scissors gap tends to be extreme, it will lead to closure of business, which may mean disastrous consequences such as hunger and even death. Farmers can't afford such a gap Therefore, they must avoid the risk of market dependence and specialization, and prefer to take "safety first" and "survival production" as the reproduction rules, that is, continue diversified self-sufficient production, and only trade the material surplus beyond their own survival needs in the market.

Farmers' demand for disease and old-age security also goes against the trend of specialization, because their demand is essentially "uneconomical" - especially in order to ensure that children in the family can support themselves, parents have to have more children to form a big family. However, if farmers' families rely on and obey competition (i.e. engage in specialized production), such a strategy is not feasible, because raising more children does not comply with the cost-benefit principle, that is, the cost of raising children is much higher than the income that children can bring to families, and leads to the non competitiveness of farmers' economic units. Therefore, for the sake of insurance, we must specifically avoid specialization and bear the resulting survival competition. The wise choice at this time is "survival production". The move of farmers to subdivide their land is also based on the same reason, that is, to provide material support for their sons (who may provide pension for their parents in the future) to continue the family incense. Like raising many children, the subdivision of family land is also an uneconomical choice, because it will reduce the area of land and naturally lead to the reduction of economic benefits and the weakening of competitiveness. However, farmers have to subdivide their land for livelihood and family continuity. In view of this (plus other reasons), they once again avoid specialization and choose the reproduction rule of "safety first". Finally, it should be added that in order to benefit the son at home, the parents generally not only provide the material basis for the son to form a new family by subdividing the land, but also prepare for it as soon as possible so that the son can get married early. In order to make such an approach economically feasible, farmers have to avoid market dependence and specialization. In view of the above reproduction rules selected by farmers, on the whole, farmers will choose survival production, early marriage, more children and subdivision of land products, which will avoid specialization and cause Population expansion (with diminishing marginal benefits). Early marriage and having more children led to population increase, which in turn led to settlement expansion and farmland subdivision. The expansion of settlements led to worse land becoming cultivated land, while farmland subdivision led to the decline of land labor and capital labor ratio. These two long-term development trends jointly led to the inevitable trend of medieval agriculture, namely The decline of labor productivity is reflected in the rise of food prices, the decline of wages and the trade (relative price) of industrial and agricultural products Deficit. This is a development model opposite to self-sufficient growth. Due to the reduction of agricultural per capita output, the proportion of urban population in the total population will be strictly limited, that is, it will not exceed 12% ~ 15% before 1700. Perhaps the most critical thing is that with the decline of labor productivity, when population growth crosses a critical point, it will lead to famine , disease did not limit the size of families. Population growth in Europe reached its limit between 1300-1350 and 1560-1620, and then triggered a "general crisis" in the 14th and 17th centuries. This shows that during 1100-1750, stable economic and population growth was not interrupted by some short pauses, but two "agricultural cycles" , which is marked by the long-term population growth and the decline of per capita marginal output, followed by the emergence of the opposite trend characterized by long-term population stagnation, attenuation and exhaustion. (Brenner, from history to theory: Europe's transition from feudalism to capitalism, see Chapter 5 of the Chinese translation of Brenner's anthology NEW interpretation of Marx's theory of social development) Under such agricultural production mode and population reproduction mode:

Compared with Britain, French agriculture can freely control a large and concentrated agricultural labor force (i.e. order and pay very low wages) , without providing any opportunities for the development of employment relations; this will naturally promote the full application of labor-intensive farming methods, ignoring the application of capital and labor-saving technologies. Without incentives to improve land capital, landlords have no reason to stop squeezing tenants. Therefore, even if there are a large number of large-scale and unified farmers There are still many small owners who need to rent themselves out as hired labor in order to maintain their basic survival. The strong power of farmers' land ownership is not only closely related to the subdivision of land (as a separable heritage) and the rapidly accumulated farmers' population on small plots of land, but also, more importantly, the lag of economic development (industrial and urban economy) is precisely caused by the established dominant structure of farmers' land ownership - this semi peasant and semi proletarian rural pattern is different from Britain's agricultural labor force, which has almost nowhere to go (the increasing land pressure means the decline of salary level) The need for economic development has greatly strengthened their tendency to continue to retain their small-scale land. Therefore, farmers' agricultural production has formed another backward vicious circle and prevented the emergence of agricultural capitalism and even external forms (large tenants use hired labor to cultivate large-scale unified land). (Brenner, Agricultural class structure and economic development in the pre industrial era of Europe, note 111, see Chapter 6 of the new interpretation of Marx's social development theory in the Chinese translation of Brenner's essays). Under such a historical process, although France's population is growing and the unit output of land is growing, Smith's so-called (profitable) "agricultural progress" , Marx's so-called agricultural capitalism, which is reflected in the opposition and contact between agricultural capitalists - land rental farmers and free workers - agricultural hired workers, can not occur here. Without agricultural progress and agricultural capitalism, agricultural productivity continues to be low, and there will be no solid foundation for modern economy. The continuous wars and revolutions in Eurasia will be lost It is the product of such a historical process. Under the shadow of the "agricultural cycle", following the "general crisis of the 14th century" and "general crisis of the 17th century", Eurasia ushered in the "general crisis of the 20th century": World War I and World War II The term "the second thirty year war" well reflects the position of the two world wars in the historical process. In a sense, it is the inheritance and reappearance of the "general crisis of the 17th century". Similarly, for China, more specifically, it is also the inheritance and reappearance of the war at the end of the Ming Dynasty.) For Eurasia, due to its specific agricultural production conditions and the resulting agricultural production mode, the agricultural productivity is always low. Finally, the universal green revolution replaced the British agricultural capitalism and provided the foundation for the modern economy in Eurasia. After World War II, with the gradual development of the green revolution, Eurasia was in turmoil China's economic growth is the most typical and grand embodiment of this historical process.

## Chapter II: great diversion

(Note: all references to Huang Zongzhi in this paper are from the article (normative cognitive crisis of Chinese Research - Paradox of social and economic history, Huang Zongzhi, 1991). The "current" time in the article is 1991. Please refer to the original text for the publication information of all works in the article.)

The study of Chinese social and economic history is in a crisis of normative understanding. This refers not only to the various models of previous academic circles. The so-called normative cognition refers to those beliefs that have become self-evident and commonly recognized by various models and theories, including opposing models and theories. This normative belief has a far greater impact on our research than those clearly advertised models and theories. They are the real meaning of the word "paradigm" in Thomas kuhu's 1970 "the structure of the scientific cognitive revolution". The accumulated empirical research in recent decades has shaken these beliefs and led to the current normative understanding crisis. The occurrence of this crisis makes everyone feel that the shortcomings of the existing theoretical system can not be solved through the debate between opposing theories. We have a feeling that we need new and different things, but we haven't clearly said what new things we need.

We should systematically measure this crisis and try to explore new understanding. We do not need to go back to pure textual research, or the discussion of secondary issues, or "pure scientific" technical means, or the political debate loved by very few people. Instead, we should see the current crisis as an excellent opportunity to reflect on existing beliefs and explore new ideas.

Huang Zongzhi: the crisis of normative cognition in Chinese Studies -- the paradox of social and economic history

### Section I: Paradox and crisis, Huang Zongzhi's theory of Chinese research

The word "great diversion" comes from the book "great diversion: the economic development of Europe, China and the modern world" published by American scholar Peng Mulan in 2000, but the problem it refers to has a long history. For a long time, people have intuitively believed that since modern times, China and Europe have embarked on different historical paths because of China's "beaten" experience of being invaded by European countries in modern times. Europe has embarked on the road of modernization and changes with each passing day, while China adheres to the old road of pre-modern, poor and weak. The "Needham Problem" in the history of science and technology is an important issue in the study of Chinese history The study of China's historical and economic problems, such as the "germination of capitalism", has the same goal as this "great diversion". The problem of "great diversion" is established or not, first of all, whether there is a "wrong road" between China and Europe. However, whether this "wrong road" exists does not mean that "backwardness will be beaten" It can be determined empirically.

In fact, in the history of human civilization, there are few civilizations without the experience of "falling behind will be beaten". Among the Eight Allied forces invading China, there is no lack of such examples. The French suffered a painful failure in the hundred year war with Britain and almost wanted to destroy the country. Just as the war of resistance against Japan became a stimulus to the awakening of China's national consciousness, the hundred year war between Britain and France gave birth to the French national consciousness. As a politically fragmented region, Germany was also "bullied" before rising to a nation-state. Italy, Russia and Austro Hungarian Empire, as backward countries in Europe, also do not lack the memory of shame. Japan in the Far East is less attacked, but we should not forget the "black ship" incident in front of us. Among the eight countries, only Britain and the United States have relatively few painful memories of "falling behind and being beaten". Although the historical nodes of Britain's "civilization" are almost always foreign invasion events such as Roman conquest, Anglo Saxon invasion, Viking Invasion and Norman Conquest.

So, how should we look at this "big diversion"? The substantive significance of the so-called "big diversion" is not the empirical "backwardness will be beaten", but the difference between the road of modern civilization and the road of pre-modern civilization. In this sense, as we analyzed theoretically in the first chapter, the real "big diversion" , it does not happen between China and Europe, but between Britain and Eurasia on both sides of the English channel, although this diversion occurs on both sides of the smaller English channel, which is called "small diversion". The "big diversion" between China and Europe is "big" because of the vast geographical comparison and the obvious historical memory Yes, but it is called "diversion" However, it is a specious misunderstanding. For a long time, there has been no definite conclusion on the origin of modern economy, or the origin of capitalism. Accordingly, it has brought great confusion to the study of the historical road differences between China and Europe. It can be imagined that if we simply can not clearly define what is modern economy and what is modern society, As early as 1991, the American scholar Huang Zongzhi pointed out the theoretical dilemma caused by the lack of paradigm in the study of "great diversion" with an article entitled "paradox in the study of Chinese economic history and the current normative cognitive crisis" published in modern China.

Now let's review Huang Zongzhi's summary:

In his article "paradox in China's economic history and the current crisis of normative understanding", he first reviewed the academic research of generations in China and the west after World War II:

1. Academic research in China

At the beginning of the 1950s, contemporary Chinese historical studies believed that the Chinese society under the rule of historical dynasties had basically not changed. The dominant model is "Feudalism", that is, the stagnant old China opposite to the progressive modern capitalism. The foundation of the first mock exam is Stalin's formula of "five modes of production", that is, the historical development must go through five stages: primitive society, slavery, feudalism, capitalism and socialist production.

Under the model of "Feudalism", scholars studying the history of Chinese dynasties mainly study the feudal class relationship, that is, the feudal ruling class squeezed the "surplus value" of farmers and producers through land rent, tax and usury. Their research results can be found in the compilation of a large number of data sets recording these exploitative relationships. (Li Wenzhi, 1957, materials of modern Chinese agricultural history, Vol. 1, 1840-1911, Beijing: Sanlian bookstore; Zhang Youyi, 1957, materials of modern Chinese agricultural history, Vol. 2 and 3: 1912-19271927-1937. Beijing: Sanlian bookstore; Yan Zhongping, 1955, selected statistical materials of modern Chinese economic history, Beijing: Science Press) Some scholars also equate the feudal economy with the pre commercialized self-sufficient "natural economy". They believe that the characteristic of this mode of production in China is the combination of family agriculture and small handicraft industry, that is, "men farming and women weaving". They believe that this is a closely combined mode of production, which hinders the separation of handicraft industry from families to form market town workshops, and finally hinders the development of capitalism. They collected all kinds of evidence to prove that the "natural economy" was dominant in the Ming and Qing Dynasties and continued until the 1930s.

As early as the 1950s, the above model has been criticized by scholars studying the "germination of capitalism". These scholars believe that the Ming and Qing Dynasties were by no means stagnant, but full of changes that augur capitalism, similar to the experience of western countries. Some researchers are committed to collecting the data of business expansion in the Ming and Qing Dynasties, and make a systematic estimation of the commodity economy at that time, so as to prove the formation of the domestic market, which marks the transition from feudalism to capitalism. Other studies focus on the relaxation and decline of feudal production relations (especially land tenancy relations) and the development of capitalist production relations (especially employment labor relations).

The original proponents of "capitalist germination theory" did not pay attention to economic development. They believed that the economic development of capitalism was self-evident when the commercialization and capitalist production relations were clarified for a time. However, as the ideology during the reform in the 1980s changed from "production relations" to "productivity" (including technology, resource utilization, productivity, etc.), a new generation of scholars turned to directly discuss economic development. Their main representatives especially emphasized the application of new crop varieties and fertilizers in the Yangtze River Delta (Li Bozhong, 1985a, rational utilization of agricultural resources in the south of the Yangtze River in the Ming and Qing Dynasties, Agricultural Archaeology, 1985, No. 2: PP. 150-163; 1985b, "mulberry competing for paddy fields" and the improvement of agricultural production intensity in the south of the Yangtze River in the Ming and Qing Dynasties ", Chinese history, 1985, No. 1: pp. 1-12; 1984, "The improvement of rice production intensity in Jiangnan during the Ming and Qing Dynasties", Chinese agricultural history, 1984, No. 1: 24-27).

Although the "capitalist germination theory" successfully attacked the old view of "the inheritance of the feudal dynasty remains unchanged", it has not been widely accepted by both the old generation of scholars and the new generation of scholars trained in the 1980s. In the history of Western Europe, due to the vigorous development of industrial capitalism in the 19th century, it is reasonable to call the previous three or four centuries the germination of capitalism or the transition to capitalism. However, there was no capitalist development in China in the 19th century. What is the reason to call the period before this the germination of capitalism? Moreover, the relative backwardness of the economy made China suffer from imperialism. In view of this fact, what is the significance of equating the Ming and Qing Dynasties with early modern Britain?

The "capitalist germination theory" school attempts to explain this problem from the reason that the western invasion interrupted the process of China's capitalist development. Therefore, imperialism is to blame for the backwardness of China's economy in the 19th century, not its own stagnation trend. Although this statement is in line with the anti imperialist sentiment, it is difficult to be convincing. The economic influence of the West was still very limited until the end of the 19th century, while China's economy has not shown its own trend of developing capitalism since the so-called "germination" hundreds of years ago. The fact that China's economy fell behind in the 19th century has once again proved that the previous feudal and naturalistic economy is at least partially correct.

The stalemate between "Feudalism" and "capitalism budding theory" makes Chinese young scholars doubt both, and even disdain to quote these models of their predecessors. Some have moved to the west one fashionable method after another, further expanding the generation gap. This situation itself reflects the crisis of normative understanding in Chinese academic circles. II. Western academic research

Although the academic research in the west is relatively diversified, its main content is surprisingly similar to that in China. American academia in the 1950s also held the view that traditional China was essentially unchanged. Of course, this is no longer the opposite model of "Feudalism" and "capitalism", but the opposite model of "traditional" China and "modern" China derived from the theory of modernization. The focus of the study is not the class relationship of "feudal" China, but the "traditional" system and ideology. In the social and economic fields, it emphasizes the pressure of population on stagnant economy. However, the basic concept of the study is that China stagnated before contacting the west, or changed only within the "traditional scope", which is basically consistent with the views of Chinese peers.

If the Qing Dynasty is essentially unchanged, the forces promoting qualitative change can only come from the outside. Therefore, it can be simply summarized as "the impact of the west" and "China's response" (Fei Zhengqing, 1958, the United States and China; Fei Zhengqing et al., 1965, East Asia: modern change). Under the "impact response" model advocated by the "Harvard School", some important works describe the emergence of the West in China and China's response (Rui Mary, 1957, the last war of Chinese Conservatism: Tongzhi ZTE, 1862-1874; Fei Weikai, 1958, China's early industrialization: Sheng Xuanhuai (1844-1916) and government-run enterprises). But this view was challenged in the late 1960s; Firstly, it was a political attack, "western impact" was considered to defend imperialism and American intervention in Vietnam, and then it was criticized by scholars who demonstrated the significant changes during the Ming and Qing Dynasties.

The latter tendency has formed a new concept in recent years. China was called "early modern times" hundreds of years before it was influenced by the west, just as it happened in Western Europe. Like China's "theory of capitalist germination", the starting point of this view is the commercialization of the economy in the Ming and Qing Dynasties. Some scholars further extend this view to the social and political fields (Rowe, 1984, Hankou: business and society of a Chinese city, 1796-1889; 1989, Hankou: conflicts and associations of a Chinese city, 1796-1895; Han Surui and rosky, 1987, Chinese society in the 18th century).

Just like the scholars of "capitalist germination theory", the scholars of "early modern theory" have shaken the past "traditional China theory" and its derived "impact response" model. Their empirical criticism is more effective than radical scholars' political criticism of Fei Zhengqing. However, just like the "theory of capitalist germination", this new theory is difficult to be generally accepted for the same reason. If China was from the 17th and 18th centuries to the second half of the 19th century, like the West in early modern times, why were the changes in China so different in the following centuries? How do we view imperialism and the revolution of the 20th century? One possible argument is that imperialism promoted the early modernization that had been produced internally before. But if that is the case, how should we view the occurrence of the Communist revolution? Is it just a deviation from modernization? Another possible argument is that imperialism separated China from the normal path of modernization and led to the revolution. At present, scholars of "early modern theory" have not put forward a convincing view on imperialism and Chinese revolution that is logically consistent with their arguments.

Therefore, the academic circles have fallen into the current theoretical dilemma: the old concept of "stagnant traditional China" and its derived "impact response" model no longer have influence, while the new concept of "early modern China" is not enough to become a dominant model. Meanwhile, in the field of Chinese history research, the seemingly neutral "late Chinese Empire" was used to refer to the Ming and Qing Dynasties, although this term overemphasized the role of imperial power in the whole Chinese history.

Next, Huang Zongzhi pointed out the theoretical model of China's social and economic research by generations in China and the West:

The main mode of Chinese scholarship originates from Marx's classical theory. The categories of "Feudalism" and "capitalism" come from Marx's analysis of Western Europe, especially Britain. The theory of capitalist germination is a special model in China. If China was a pure feudal society before the imperialist invasion, it must be affirmed that Western imperialism brought modernization to China, but this is unacceptable to any patriotic Chinese. The formula of capitalist germination solves this problem: before the arrival of Western imperialism, China has begun its own capitalist development process. Western imperialism interrupted this process and reduced China to "semi colonialism". Thus, the budding model of capitalism coordinated Stalin's formula of five modes of production (as well as Lenin's imperialist theory) and the anti imperialist sentiment based on the national position.

On the other hand, although there is no general recognition and little clear expression, the dominant model of western academia mainly comes from two theories: Malthus and Adam Smith. At first, the stagnant "traditional China" was seen as a society whose resources were plagued by Malthusian demographic pressure. This view is based on the assumption that traditional China is a pre commercialized society. Later, the historical facts of the widespread commercialization in the Ming and Qing Dynasties were proved, and the Malthusian view was criticized by Adam Smith's theory.

Smith's vision is the development of capitalism driven by the market. Free trade will promote the development of specialization, competition, renewal, efficiency and subsequent capital accumulation. With the promotion of commodity exchange between urban and rural areas, urban and rural areas will enter a spiral modernization development. (Adam Smith, 1775-1776, wealth of Nations). This assumption has been reflected in Britain to a considerable extent, which gives it a strong historical basis. This assumption has also been supported by the theories of modern economic circles: most of them start from the abstract and simplified Smith theory.

In the Ming and Qing Dynasties, if there was the kind of development that Smith imagined, there would be no problem of overpopulation. Like other factors of production, labor will achieve the most rational use according to the logic of free competitive market. In this way, Malthus theory was replaced by Smith theory and formed the "early modern" model.

The focus of debate between Chinese and Western scholars is whether the reason for China's economic backwardness is feudal class relations or population pressure. Chinese scholars believe that the capital formation in China's economy is hindered by the feudal ruling class, which exploits the surplus value of direct production workers and uses it for their own luxury consumption rather than investment in production. Western scholars believe that the formation of capital is hindered by population pressure, which reduces the surplus of consumption. The debate also involves whether to get rid of backwardness and modernize China through social revolution or population control (and other reforms).

However, in the challenge from the "early modern China" model to the "traditional China" model, and in the criticism of the "capitalist sprout" model to the "Feudalism" model, the focus of debate has shifted. When opposing the "traditional China" and feudal "natural economy" models, "early modern theory" and "capitalist germination theory" stand on the same side. The focus of the question becomes: is the economy of the Ming and Qing Dynasties a highly integrated market economy that has shown the development of early modern times (or the germination of capitalism), or an economy that is still in the pre commercialization period, essentially stagnant and under the burden of population pressure?

As for imperialism, China's two models of "Feudalism" and "budding capitalism" certainly emphasize the destructive role of imperialism. The "Feudalism" school emphasizes how imperialism worsens the feudal exploitation relationship, while the "capitalist germination" school highlights how imperialism hinders the full development of Chinese capitalism.

In the west, we first use the "impact response" model to refute the above views. For example, some scholars argue that the reason for China's "failure of modernization" lies not in the destructive impact of the west, but in the stubborn existence of Chinese tradition (Rui Mary, 1957, the last war of Chinese Conservatism: Tongzhi ZTE, 1862-1874; Fei Weikai, 1958, China's early industrialization: Sheng Xuanhuai (1844-1916) and government-run enterprises). Subsequently, some scholars switched to Smith's model: the expansion of international trade and foreign investment with the influence of the west is beneficial to China's economy. If China's economic modernization fails, the reason is not that the influence of the west is too strong, but too weak, which is limited to coastal trade ports (dunberg, 1975, the role of foreigners in China's economic development; Murphy, 1977, outsiders).

This view finally boils down to the recent formula, which directly replaces the old "Western shock" with "market". Unlike the concept of "imperialism" with various political realities and implications, "market" can be regarded as a purely good objective phenomenon: as long as the market can operate, it will give China the development like the West. This "truth" bears witness to various "facts": the international market stimulated China's industrial and agricultural development until the 1930s. The impact of the market is not limited to coastal trade ports as previous studies have said, but actually goes deep into China's rural areas and the mainland, bringing extensive development. From this point of view, China's misfortune is that market driven development is interrupted by distortions such as war, famine and Communist revolution. Then, Huang Zongzhi pointed out the common process of the evolution of China's socio-economic research between Chinese and Western generations, as well as the common paradigm supporting this process, which runs through Smith theory and Marxist Theory:

Although there are various differences in academic research between China and the west, they obviously have a lot in common. The generation of scholars who believe that there is basically no change in Chinese history is challenged by the generation of scholars who emphasize that Chinese tradition itself has obvious changes. The proposition that China's economy is a pre commercialized and essentially stagnant economy is challenged by the proposition that China's economy is a highly commercialized and booming economy. Both academic schools linked Stagnation with pre commercialized economy and equated modernization with commercialization. China's "Feudalism" school believes that the feudal economy is stagnant because it is equivalent to the pre commercialized natural economy. Like the "capitalist budding theory" school, they also believe that commercialization will inevitably lead to capitalism. Similarly, the western "traditional China theory" school believes that the economy of the Ming and Qing Dynasties was basically not commercialized. For example, how Bingdi's population works in 1959 basically ignored commercialization, and Perkins's research on agriculture in the Ming and Qing Dynasties in 1969 also took low-level commercialization as a consistent premise. William Rowe's works in 1984 and 1989 challenged the past works in the mode of "early modern", starting from all kinds of evidence of vigorous commercialization.

The idea that commercialization will lead to modernization is an example of the normative belief running through the models of "Feudalism" and "capitalist budding theory", and "traditional China theory" and "early modern China theory". It runs through two generations of academic circles on both sides of the ocean, as well as Smith theory and Marxist theory.

Such beliefs are generally not discussed by scholars. The academic circles mainly pay attention to the debate between different theories and models. So we argue about the degree of commercialization in the Ming and Qing Dynasties, or the merits and demerits of imperialism and class revolution. However, we do not pay attention to those common understandings, and think that they are all too clear, so there is no need to discuss them again.

It is this belief that I call normative belief. At present, the academic circles often equate the word "normative cognition" with an influential model. This usage actually obliterates the analytical power of the concept. This is especially true in the field of social sciences where there are many models. This paper defines normative epistemological beliefs as self-evident beliefs recognized by different or opposing models and theories. Such beliefs have a broader and more subtle impact than any clearly expressed model and theory. Their influence lies not only in what we think, but also in what we don't think.

Therefore, the crisis of normative understanding I am referring to is not aimed at a certain theory or model, this generation or that generation of academia, the Chinese model or western academic research. To interpret the current crisis in the study of Chinese history as the decline of the study of the older generation, or to think that it only occurred in China and meant that Smith theory defeated Marxist theory, is to misunderstand the true meaning of the crisis. When the two theoretical systems define themselves by each other for a long time, the crisis of one side is enough to remind us to consider whether it is a common crisis of both sides. The current normative cognition crisis should be understood from the perspective of the common crisis of two generations and two seemingly opposite models and theoretical systems.

As Huang Zongzhi pointed out, "the idea that commercialization will lead to modernization is an example of the normative belief that runs through the models of" Feudalism "and" capitalist budding theory ", and" traditional China theory "and" early modern China theory ". It runs through two generations of academic circles on both sides of the ocean, as well as Smith theory and Marxist theory" "The common" normative belief "(" paradigm ") that" commercialization will lead to modernization (the origin of capitalism "), that is, Alan M. wood pointed out in the origin of capitalism that early Marx inherited from Smith's" commercialization model ". Under such a" paradigm ", many paradoxes can not be avoided:

I (Huang Zongzhi) believe that a series of paradoxes proved on the basis of the accumulation of empirical research in the past have brought the normative belief in our field to the brink of collapse. Paradox phenomenon refers to the fact that those opposite phenomena that are determined by the existing normative beliefs to have this and no other appear at the same time. The challenge of paradox to those beliefs lies in the certainty of the existence of the parties to the paradox. For example, commercialization and economic development do coexist. At a deeper level, the paradox phenomenon doubts the existing concept of causality: will commercialization necessarily lead to economic development? The vigorous and lasting commercialization and the long-term sustainability of subsistence agriculture in the Ming and Qing Dynasties are contrary to the assertion of the "germination of capitalism" and the "early modern China" model, as well as the identification of the "natural economy" and "traditional China" model. This pair of paradoxes challenges the self-evident normative belief that "commercialization will inevitably lead to modernization" recognized by all models.

However, the paradoxes revealed by empirical research and their negative normative beliefs are generally not clearly disclosed in the works. Scholars usually do not discuss subconscious beliefs without resorting to words. Even those who want to discuss them may feel that they do not need to discuss them because they think the reason is too obvious. As a result, these normative beliefs, which have actually been denied by the facts, continue to affect people's thoughts, although many people have been skeptical for a long time. One of the main purposes of this paper is to list a series of paradoxical phenomena that have been disclosed in empirical research, and then reveal the "self-evident" belief denied by these phenomena.

First of all, Huang Zongzhi pointed out that one of the paradoxes is that there is no commercialization of development:

The vigorous commercialization in the Ming and Qing Dynasties is an indisputable fact. In the five centuries from 1350 to 1850, almost all Chinese farmers changed to cotton. This reflects the largest component of commercialization: the development of cotton economy and the accompanying intra regional and inter regional trade. The trade of cotton products also means the expansion of grain commercialization, including the commodity exchange between cotton growing areas and grain growing areas and the exchange between cotton farmers and grain surplus products. With this development, especially in the Yangtze River Delta, there are a considerable number of Commercial Towns providing processing and exchange services for cotton and grain. It is obviously wrong to describe the Ming and Qing Dynasties as pre commercialization (Wu Chengming, 1985, the germination of Chinese capitalism, the development history of Chinese capitalism, Vol. 1, Beijing: Xinhua Bookstore).

However, we also note that despite five centuries of vigorous commercialization, farmers' production remains at the subsistence level. No matter whether production keeps up with the level of population growth (Perkins, 1969, China's agricultural development, 1368-1968) or lags behind the level of population growth (he Bingdi, 1959, China's population research; Erwin, 1973, China's past form), there is no doubt that there is no modern economic development in rural areas.

Similarly, there is no doubt about the emergence of wage labor similar to capitalist relations. At that time, there were many rural wage labor, including long-term and short-term workers. The land tenancy relationship is also relaxing. The old way of sharing rent gives way to fixed rent and physical rent gives way to monetary rent. These changes further affirmed the commercialization of rural economy (Li Wenzhi et al., 1983, the germination of agricultural capitalism in the Ming and Qing Dynasties, Beijing: China Social Sciences Press).

However, we know that there was almost no large-scale capitalist production in agriculture at that time. Many long-term and short-term workers are only employed by ordinary farmers to supplement the shortage of family labor force. In all parts of the country, including the areas with the highest degree of commercialization, small-scale peasant family agriculture still occupies an overwhelming position. At the same time, a few large farms using wage labor do not obtain higher yield per mu than small farmers (Huang Zongzhi, 1985, economic and social changes of small farmers in North China; 1990, family and rural development of small farmers in the Yangtze River Delta, 1350-1988).

In short, the simultaneous occurrence of the vigorous development of commercialization and small-scale peasant production at the level of living is a paradox. This raises questions about the common understanding of Marx and Smith's theory that there is an inevitable connection between commercialization and modernization. The theories of Marx and Smith are mainly based on the actual situation of Britain. In most of the rest of the world, the development of modernization came from the combination of other factors (such as the backbone leadership of the regime) and commercialization, and was later than that of Britain. The model of purely market driven economic development is based on British experience. It is premised by many later economic analysis models, but it should not be confused with the historical reality of other regions in the world.

Connected with the theory of "market promotes economic development", people believe that in the process of modernization, output and labor productivity will develop synchronously. This is true in Britain familiar to Smith and Marx. Therefore, they did not distinguish between output and labor productivity, and did not consider the possibility of growth without development.

Previous studies have revealed that this is the case in the Ming and Qing Dynasties. On the one hand, the increase in output during this period came from the expansion of cultivated land, which was nearly quadrupled; On the other hand, it comes from the increase of yield per mu, through improving the multiple cropping index and increasing fertilizer and artificial input to some crops (Perkins, 1969, China's agricultural development, 1368-1968). However, although the scholars of "capitalist germination theory" are committed to demonstrating economic development, so far no one can confirm the improvement of labor productivity per working day. Only the productivity of land is improved, mainly due to the increase of labor input. The income per working day is still so low, small-scale farmers' production is still at the subsistence level, and most of China's population is still bound to grain production.

Distinguishing between growth and development is crucial to understanding China's rural socio-economic history. Despite the remarkable output growth, the lack of development of labor productivity is the reason why most people in China were still trapped in the production of subsistence food until the 1980s (Perkins and Yusuf, 1984, rural development in China). In contrast, the development of labor productivity in the United States has enabled 4% of its population to meet the food supply of everyone else. The development of labor productivity is the core meaning of modernization, but it did not appear in the Ming and Qing Dynasties.

Another common belief of Smith and Marx is that modern economic development must be a process of modernization of industry and agriculture, urban and rural areas. This is again based on British experience. None of them considered the possibility of urban industrialization without rural development.

However, urban industrialization without rural development is China's experience since the late 19th century. There was no doubt about China's industrial development at that time. Since the 1990s, the capital invested in modern machinery industry, mining and transportation has increased by more than 10% every year. The rise of cities such as Shanghai, Tianjin, Wuxi, Qingdao, Hankou and Guangzhou is an example of this process. Small towns have also developed vigorously, especially in the Yangtze River Delta, and even small workshops in cities and towns have also increased.

These developments took place in the accelerated process of commercialization. The primary content of this process is the collapse of the trinity of cotton planting, spinning and weaving in small-scale peasant families. Machine made yarn, first foreign yarn and then domestic machine-made yarn, has largely replaced native yarn. Cotton farmers sell cotton to cotton mills, while small-scale farmers buy back machine yarn to weave earth cloth. This has led to a large expansion of rural trade (Wu Chengming, 1984, China's semi colonial and semi feudal domestic market, historical research, 1984, issue 2: 110-121; Xu Xinwu, 1990, decomposition of China's natural economy, in Wu Chengming's Chinese capitalism during the old democratic revolution, pp. 258-332; Huang Zongzhi, 1990, Small peasant families and rural development in the Yangtze River Delta, 1350-1988).

However, we also know that the new capitalist part of China's economy never reached 10% of the total output of the national economy. At that time, there was also the decline of traditional handicrafts, especially manual spinning, which led to the decline and even complete annihilation of many cities and towns in the Yangtze River Delta. Most importantly, even in the relatively prosperous 1920s, the income of farmers The majority of China's rural population is still tied to land and engaged in subsistence food production. Economic development is mainly in cities, and rural areas are still underdeveloped.

Then, Huang Zongzhi pointed out other paradoxes:

Next, I intend to further investigate some empirical paradoxes shown by previous academic research. I am not going to give a comprehensive account of past academic studies, but only intend to discuss some research that can particularly illustrate the problem. My discussion will mainly focus on the research direction to be advocated here. This inevitably ignores the contributions made by many scholars to break through the old model and find new ways. I. decentralized natural economy and integrated market

Scholars on both sides of the ocean have made some efforts in using microeconomic methods to explore Chinese history in recent years. The past research was mainly macroeconomic research, and the new research shifted from total output to neglected aspects such as market, price, enterprise and family choice.

The new research has successfully confirmed the market integration trend in the economy of the Ming and Qing Dynasties. There is no doubt that there is a "national market" in the exchange of commodities such as rice, cotton and tea. We can clearly see the route of commodity circulation among regions and estimate the approximate circulation volume. In addition, it can be proved that prices fluctuate synchronously between different regions. During the period of the Republic of China, with the accelerated expansion of the above trend, China's market was further connected to the international market.

However, we also know that the cotton textile production during the Ming and Qing Dynasties was not carried out in urban workshops, but in small peasant families, combined with farming (Xu Xinwu, 1981, commodity production of China's cotton textile handicraft industry and the germination of capitalism before the Opium War, Nanjing: Jiangsu People's Publishing house; Wu Chengming, 1990, Chinese capitalism during the old democratic revolution) , Beijing: People's Publishing House: 258-332). Moreover, most of small-scale farmers' production still directly meet household consumption. The latest systematic research shows that until the 1920s, the production of small farmers for household consumption still exceeded that for the market (Wu Chengming, 1990, Chinese capitalism during the old democratic revolution, Beijing: People's Publishing House: 18-19). In other words, the rural economy is still in the state of "natural economy" to a considerable extent.

Furthermore, the operation of factor market is still under various constraints, which is far from the ideal model of completely free competition market. Land transfer is bound by customs and laws, and relatives and friends of adjacent fields must be given priority to purchase. At the same time, among the widely used pawn trading methods, the seller has almost unlimited redemption right (Yang Guozhen, 1988, research on land contract documents in the Ming and Qing Dynasties, Beijing: People's Publishing House). In employment transactions, attention is paid to personal relations and intermediaries, which limits the spatial scope of the labor market. Loans between relatives and friends in the village (whether personal loans or joint associations) pay attention to feelings and reciprocity, without forming a credit market logic divorced from interpersonal relationships. Small farmers' borrowing reflects the logic of borrowing for survival in the living economy, with a monthly interest rate of up to 2-3%, which is much higher than the interest rate that any profit-making enterprise can bear (Fei Xiaotong, 1939, China's small farmers' life: a field study of rural life in the Yangtze River basin; Huang Zongzhi, 1990, small farmers' families and rural development in the Yangtze River Delta, 1350-1988).

Of course, we can fall into the previous debate again. The new Smith School will insist that according to the fact that the prices of some commodities change synchronously, other factors of their ideal integrated market economy must also exist at the same time: in China's small-scale peasant economy, a fully competitive and textbook factor market exists as in the advanced capitalist economy, and small-scale peasants are like capitalist entrepreneurs, Making economic choices to seek maximum profits in the market (Schultz, 2006, transforming traditional agriculture, commercial press; Brent, 1989, commercialization and agricultural development: Central and East China, 1870s-1930s). Some people even start from this reductive reasoning and further come to the arbitrary conclusion that the modernization of rural qualitative change is bound to develop from such a market. According to their logic contrary to the facts, they don't care whether history is true or not. They can also insist that if war and revolution hadn't interrupted this process, there would be such development sooner or later.

In contrast, scholars of "natural economy" will insist that feudal economy can only be "natural economy". In the normal historical process, capitalism and a fully integrated market will develop, but this possibility is ruled out by imperialism, and the collusion between imperialism and Chinese feudal forces hinders this process. If the West had not invaded, the situation would have been different. In this way, we return to the old debate on basic political consciousness.

Economic dualism" (Hou Jiming, 1963, economic dualism: an example of China, 1840-1937; Murphy, 1977, outsiders) combines the purely competitive factor market model and the natural economic model into an economic system model with two different departments. However, the contribution of this model is limited, because we can see that the two departments are actually closely linked. The most obvious example is the cotton economy affecting every household. It makes no sense to think of the two economies as separate sectors.

None of these three models can outline the actual situation of the market in China's economy in recent centuries. On this topic, just like on China's socio-economic history and other topics, we are facing a conceptual dilemma, which reflects a part of the current normative understanding crisis. The first step to break this dilemma is to change the past practice from theory to historical facts, and based on empirical research. Facing the paradox of the coexistence of decentralized "natural economy" and integrated market, how can we explain the simultaneous and long-term coexistence of the two? Also, how can we explain the formal process of integrated market without modern development? I think, as a first step, we can consider that commercialization has different driving forces, resulting in different results. This assumption can also be extended to the question of whether the market operates according to the established model. A particularly worth discussing object is the commercial firm, which is at the junction of the traditional and modern market system, which can inspire us how the two systems operate and how they penetrate and do not penetrate each other. II. Expansion of the public sphere without the development of civil rights

Another important new research of American Qing history researchers is about the expansion of public social organizations, especially in the Yangtze River Delta, such as guild halls, guilds, academies, good halls, granaries and so on. The rise of such unofficial public organizations reminds people of the concept of "public sphere" in early modern Europe studied by Habermas, and applies this concept to the research in the late Ming and early Qing Dynasties. On the surface, the two historical processes seem very similar.

However, borrowing the words and definitions of Jurgen Habermas will lead to unintentional conclusions and simplification. In the history of Western Europe, the "public sphere" studied by Habermas is the discussion of the origin of Democracy (and the subsequent "structural transformation"). He is not only concerned with the difference between the public sphere and the private sphere, but also their position in the opposite of state power and "civil society". As far as he is concerned, the two concepts of public sphere and private sphere, state power and civil society permeate each other. In fact, it is the alternating use of these two groups of concepts that strengthens his analytical power of the concept of "public sphere". From the perspective of the origin of democracy, the expansion of the public sphere in people's life is only secondary, and the key lies in the synchronous expansion of civil power. In this historical context, we must understand Habermas's "public sphere in civil society" (Habermas, 1989, structural transformation of the public sphere).

In modern urban social life, the public sphere continued to expand, but this expansion was not necessarily accompanied by the development of civil power. In fact, we can imagine that the public sphere is a territory contested by modern state power and civil society. In the modern history of democratic countries, public society has successfully occupied the public sphere, while in non democratic countries, it is just the opposite. This difference can be explained by the overall control of the Chinese regime over the public sphere after the revolution.

Therefore, if Habermas's essentials are used in China, what it highlights should not be the simultaneous development of the public sphere and civil power similar to Western Europe, but the division of the two. Of course, in China, with the development of cities and towns and the disintegration of village life style in urban life, the public sphere has expanded (we just need to consider the differences in urban and rural daily life: rural residents have closer ties with family members, relatives and village neighbors, but less contact with the outside world; while urban residents keep a certain distance from their relatives and friends, but have contacts with the outside world outside their immediate neighbors). However, unlike Western Europe in the late Middle Ages and early modern times, cities and towns in China are not outside the control of political power, and the development of cities and towns does not mean the development of civil political power. In China from 1600-1700 to 1840-1895, citizen public organizations did have a considerable expansion, but there was no corresponding development of civil power independent of the state power. The paradox of the expansion of the public sphere without the development of civil power raises the question: what are the similarities and differences between the driving forces to promote the expansion of public organizations in the Ming and Qing Dynasties and the early modern West? III. normative legal system without liberalism

At present, another hot topic in the study of China in the United States is the history of the legal system. The older generation of researchers pointed out that there is no judicial independence and human rights protection in China's judicial system. The judicial authority is only a part of the administrative authority, and the law mainly means punishment. In order to maintain the thought of official rule and social order, it has made almost no achievements in civil law (Qu Tongzu, 1961, law and society in traditional China; Van de sparenkel, 1977, judicial organization in China in the Qing Dynasty: sociological analysis; Boddy and Morris, 1967, The laws of the Chinese Empire, taking 190 cases of the Qing Dynasty as an example). Like the overall situation of Chinese research at that time, their research focused on the differences between Chinese dynasties and modern West.

The later generation of scholars emphasized the standardization and rationality of China's legal tradition. In fact, justice does not resort to arbitrary punishment and torture, but has a certain testimony procedure, which is effective even according to today's judicial standards. At the same time, this system deals with civil disputes systematically and reasonably. These scholars corrected their predecessors' bias almost at the same time as the "early modern theory" scholars.

The different analytical frameworks used by the two generations of scholars respond to a pair of opposing concepts of Max Weber's instrumentalism ("Carty" law) and normativism (rational law) (Max Weber, 1954, Max Weber on law in economy and Society). For a, law is a political tool, and law is subject to the will and wishes of the rulers. On the other hand, law is based on standardized and formally written principles, and leads to judicial specialization, standardization and independence -- these characteristics are regarded by Max Weber as the expression of modern rationalism.

The two different scenarios are fully reflected in the works of the comparative jurist Roberto angel in 1976 and his critic William Alfred in 1986 (angel, 1976, law in modern society: Criticism of social theory; Alfred, 1984, arsenic and old law: Reconsideration of the criminal legal system in the late Chinese Empire). For angel, China represents a legal tradition without modern liberal law and the protection of individual human rights. For Alfred, angel's view of Chinese law reflects the wrong attitude of Western departmentalism of the previous generation of scholars.

I think both views are partially justified. We can't deny that China's Dynasty law has been highly standardized, relatively systematic and independent. However, we cannot deny that China's imperial laws are still subject to administrative intervention, especially from imperial power (Kong Feili, 1990, soul stealer: China's Witchcraft panic in 1768). Until the period of the Republic of China and the arrival of Western influence, it did not develop towards liberalism to protect human rights. Normative and liberalism were combined in early modern times and modern Western Europe. This was not the case in China's Ming and Qing Dynasties.

If the two sides of the debate only insist that their own side is more accurate and important, the result will be like the debate on whether the Ming and Qing Dynasties were "traditional" or "early modern", whether they were "feudal" or "budding capitalism". The starting point of our research should be the paradox phenomenon that has been confirmed, and there is no liberal normative legal system.

We need to explore the actual implementation of this legal system, especially the cases of civil disputes. Of course, there is no clear boundary between criminal law and civil law in the Qing Dynasty. This shows that civil justice lacks a clear division and independent field, which is different from the traditional law of liberalism in modern times. However, the Qing law clearly contained a considerable number of specific formal provisions related to Civil Affairs (such as provisions on inheritance, marriage, divorce, land sale and debt). A large number of case records in the Qing Dynasty and the Republic of China can now be seen. The microscopic information contained in these records makes it possible for us to explore a series of issues in detail. For example, as far as a local administrator is concerned, what proportion of civil cases are heard? To what extent does he handle cases according to legal provisions or arbitrarily according to his personal will? From the perspective of ordinary people, to what extent and for what purpose do they seek litigation? In the process of resolving civil disputes, how are the mediation between the judicial system and local associations related to each other? The answers to these questions can give us a solid foundation to analyze the similarities and differences between Chinese and western legal traditions.

Further, Huang Zongzhi discussed the structure and choice in the Chinese Revolution:

In the past, the research on the Chinese revolution was divided into different camps on the relationship between structure and choice. China's orthodox Marxist view is straightforward: long-term structural changes have led to the intensification of class contradictions, especially the relationship between landlords and tenant farmers, and the Communist Party of China is the organizational representative of exploited farmers. The factors of structural change and man-made choice merged into the same movement in the class revolution led by the Communist Party (Mao Zedong, 1927, investigation report on Hunan peasant movement, selected works of Mao Zedong, Vol. 1: 207-249, Tokyo, Japan: Beiwang publishing house; 1939, Chinese revolution and the Communist Party of China, selected works of Mao Zedong) Volume 3: 93-136 pages, Tokyo, Japan: Beiwang publishing house; Li Wenzhi, 1957, materials of modern Chinese agricultural history, Vol. 1, 1840-1911, Beijing: Sanlian bookstore; Zhang Youyi, 1957, materials of modern Chinese agricultural history, Vol. 2 and Vol. 3, 1912-19271927-1937. Beijing: Sanlian bookstore).

This view echoes with the study of long-term social and economic changes. The school of feudalism emphasizes the central position of the conflict between landlords and tenant farmers under feudal production relations. Imperialism intensified class contradictions and led to an anti imperialist and anti feudal class revolution. Although the school of "capitalist germination" emphasized how imperialism hindered the full development of China's capitalist germination, it came to the same conclusion about the structural basis of the Revolution: the class relationship of the feudal natural economy still occupied the dominant position, thus determining the anti imperialist and anti feudal revolution led by the Communist Party.

Conservative American scholars hold the opposite view: structural changes and man-made choices are opposite in the Chinese revolution. During the climax of the cold war in the 1950s, the most conservative scholars even insisted that the Chinese revolution was only the product of a few conspirators controlled and manipulated by Moscow (Michael and Taylor, 1956, the Far East in the modern world). Later, the conservative mainstream view evolved to emphasize that the Communist Party organization was the main driving force of the revolution. The class struggle of the peasants is nothing but a fiction made up by the revolutionary propaganda organs. What is really important is the highly centralized organizational work of the Communist Party of China.

This view is also supported by scholars who study the long-term changes of social economy. "Stagnant traditional China theory" emphasizes that population pressure is the source of misfortune in modern China, while the new Smith School emphasizes the role of market in promoting development. Either view holds that the class revolution led by the Communist Party of China is contrary to the trend of structural change: population pressure requires birth control or other reforms, market driven development requires capitalism, and neither requires revolution.

The two sets of views clearly have their own merits. No one can deny that the Communist Party won the support of the people far more than the people, and the support of the people played a decisive role in the outcome of the civil war, especially in the battles in northern China. At the same time, we cannot deny that Leninist Communist organizations have a centralized side besides democracy. After liberation, Chinese farmers are still the object ruled by the highly centralized political power of the Communist Party to a considerable extent, rather than what is said in theory.

In the American political atmosphere in the 1960s and 1970s, it was very difficult for scholars to get rid of political influence and explain the above two facts. Works trying to demonstrate the mass basis of the Chinese revolution often lead a whole set of theories of class revolution (Sarton, 1971, Yan'an Road of revolutionary China). The discussion on the importance of the Communist Party organization takes a set of conservative views (Hof Haines, 1977, broken waves: the peasant movement of the Communist Party of China, 1922-1928). Even scholars who carefully avoid political arguments cannot avoid political attacks. Therefore, Fei Zhengqing was attacked by Raymond Myers and Thomas metzeg to spread "revolutionary examples" and "his political views catered to Beijing's historical views and hindered many American scholars from analyzing the two Chinese governments fairly and soberly" (Myers and metzeg, 1980, the shadow of China Research: the status of American modern China Research: 88).

Most scholars in this field do not believe either of the above two views. Sober minded scholars calmly engage in empirical research in order to establish persuasive analysis. (for example, Chen Yongfa, 1986, creating and guiding Revolution: Communist movement in East and central China, 1937-1945). However, no new explanation that can be widely recognized has been put forward so far.

I think the key to the further development of research in this field is to break through the past normative understanding of the relationship between long-term structural change and revolution. Structural change does not necessarily lead to free-market capitalism or communist revolution, but has other possibilities. I myself have put forward the view of over dense commercialization. In this process, class contradictions were not sharpened, and farmers did not differentiate into capitalist farmers and farm labourers. The role of commercialization is mainly to enhance the reproduction capacity of small-scale peasant families and village associations.

Another example of different views on long-term structural change is: in the 100 years after the Taiping Heavenly Kingdom uprising, the most prominent structural change in Jiangnan is the decline of landlord forces, which is due to the pressure of the government, the increase of taxes and the hesitation of rent. The land tenancy system may not be destroyed by the active class revolution of tenant farmers, as estimated by the orthodox revolutionary model. It may just collapse naturally under long-term structural changes, not necessarily through the revolutionary actions of farmers, at least in the lower reaches of the Yangtze River (Bai Kai, forthcoming, land rent, taxation and farmers' resistance: the lower reaches of the Yangtze River, 1840-1950).

In addition, we need to regard the relationship between structure and choice as neither completely corresponding nor completely opposite. Our choice need not be limited to the two views of the American conservatives on the party without the support of the people or the class revolutionary wave of the Communist Party of China. The real question is: how do structure and choice interact?

It is an important progress to regard structure and choice as both separate and interactive. This makes us regard the connection between the two as a process rather than a predetermined conclusion. In Pei Yili's research on the revolutionary movement in Huaibei area (PEI Yili, 1980, rebels and revolutionaries in North China, 1845-1945), the two factors of long-term ecological instability and the organizational activities of the Communist Party have been temporarily coordinated, which is reflected in the Communist Party's use of rural self-health organizations (Lianzhuang Association). In James Scott's "moral economy" model (Scott, 1976, moral economy of small farmers: Rebellion and livelihood maintenance in Southeast Asia; max, 1984, rural revolution in South China: farmers and the creation of Haifeng County's history 1570-1930), traditional village communities always respect the moral "right to survival" of their members (for example, landlords should reduce rent in case of poor harvest). In the process of revolution, Party organizations and farmers found common ground in rebuilding the moral economy destroyed by commodity economy and modern regime. As another example, Zhou Xirui's research on the boxers shows that (Zhou Xirui, 1987, "the origin of the boxers"), the study of farmers' culture can help us understand the tendencies of farmers' thoughts and actions.

To really draw new views and analysis and break through the confusion of analytical concepts in the past few decades, we need a lot of different materials. Chinese scholars studying revolutionary history are mainly limited to organizational history (Party History), in part because of the lack of information of its nature, and there is little information about the situation when the revolutionary movement really came into contact with rural society. However, it is now possible to obtain micro level information that can solve the problem through local archives and the memories of the parties (their number is rapidly decreasing). Some American scholars have been actively engaged in such research.

Finally, Huang Zongzhi briefly describes the thinking of modern history since 49 years:

The study of contemporary history is also influenced by the above two sets of theories. The analysis that revolution originates from class struggle extends to the contemporary era and becomes the "socialist" model. According to this view, the Communist Party of China is an organization representing the Chinese working people, and the socialist revolution is the due product of the long-term structural change of Chinese society. The political power after the revolution is a corresponding whole with Chinese society. As an opposition to American conservatives, the revolution was all made by the Communist Party, and it became a "totalitarian" model when it extended to China after liberation. 17 according to the first mock exam, the party and government machinery is governed by totalitarian rule of the people. Political power and society are opposite, and Capitalism (not socialism) is the due product of the change of China's social structure.

As for rural changes, the socialist model predicts that the collective ownership of means of production will overcome the weakness of small-scale peasant production and lead to economic modernization. At the same time, it can avoid the disadvantages of capitalist inequality. The capitalist model predicts that collective ownership will be frustrated by the lack of stimulation in private ownership and free market, centralized planning will lead to excessive bureaucratic control, and the socialist economy will fall into inefficiency.

China's decision-makers themselves have long debated this issue, which is reflected in the "struggle between the two roads" proposed during the "Cultural Revolution". With every turn of official rural policy, this or that model is used to explain policy changes. Therefore, the achievements of equality and collectivization were emphasized during the "great leap forward" and "Cultural Revolution", while the adjustment period after the great leap forward and the reform period after the "Cultural Revolution" paid attention to market and material stimulation.

To some extent, this debate has also entered the western academic circles. Some scholars are more sympathetic to the "Maoists", while others are in favor of Liu Shaoqi and the reformers of the 1980s. The most devout believers of the two models criticize China's policies from an abstract point of view: for example, they accuse the state machine of still overriding the working people under Mao's policy (libit, 1987, "China's economic development"), or the development of market economy is still excessively restrained during the reform in the 1980s (Jefferson and rosky, to be published, Urban employment in China's industry: underemployment and employment policy).

With the abandonment of collective agriculture in China in the 1980s, the new Smith School believes that it has seen the recognition of its beliefs in the reform. For them, China's shift to a market economy means the collapse of socialism and the victory of capitalism; Reform means that after decades of abnormal socialist revolution, China's economy finally returns to the correct way of market driven development. If the problem still exists, it is only because the reform is not complete, and there is no complete private ownership and price liberalization, that is, capitalism.

I think the real lesson from China's history in recent decades is the common mistake of the two theories. Just like the research of China before liberation, the research of contemporary China is also influenced by two theories and a common normative understanding. The academic debate mainly focuses on the differences between the two theories, but their shared normative beliefs actually have a greater impact.

Here, normative beliefs still refer to those areas where the two theories are jointly recognized, and both sides believe that they are clear and do not need to be discussed. In these understandings, both sides believe that urban industrialization and rural development, output growth and labor productivity increase occur simultaneously, forming the same modernization development process (whether capitalist or socialist).

The two other normative beliefs recognized by both sides also affect how we view post liberation China. Since both capitalist and socialist models come from the experience of the West and the Soviet Union, they do not take into account the problem of overpopulation. Both estimates believe that with the development of modern economy, whether socialist or capitalist, the population problem will be easily overcome. Both sides have not considered the highly over dense agriculture. The output per unit area has been so high that it is impossible to increase on a large scale. Both believe that production may increase indefinitely. Neither pays attention to how important industrial and sideline production is for the survival of small farmers in an over dense rural economy. Both believe that rural production is basically just planting production.

Both socialist and capitalist models usually consider themselves the only choice other than the other. Many people are affected by this normative belief, including scholars who are skeptical of the two models themselves. Under the influence of this normative belief, rural development either takes the capitalist road or the socialist road, but it is impossible to take the mixture of the two or the third and fourth roads. I. urban development and rural overcrowding in the period of collectivization

The paradox of the coexistence of urban industrialization and rural overcrowding is even more obvious in China after liberation than in China before liberation. Previous studies have clearly demonstrated the great difference between industrial development and agricultural change: from 1952 to 1979, industrial output increased at an annual rate of 11%, a total of 19 times; The annual growth rate of agricultural output is only 2.3%, slightly higher than the growth rate of population (Perkins and Yusuf, 1984, rural development in China). This paradox between industrial development and agricultural non development directly contradicts the prediction of the capitalist and socialist model that cities and villages develop simultaneously.

Of course, rural collectivization has given Chinese agriculture the organizational conditions of capital construction that individual small farmers cannot provide. Through such construction, it would have been possible to improve labor productivity. However, the pressure of population and government policies force more and more labor per unit land area, forcing its marginal return to decline. Finally, although rural output has tripled, the input of labor has increased three to four times - through the full mobilization of women to participate in agricultural work, the annual working days have been increased and the rural population has nearly doubled. This leads to the decline of remuneration per working day, that is, the growth of rural production without the development of labor productivity.

Collective farms have some basic organizational characteristics as small-scale peasant family farms before liberation. Different from capitalist farms using wage labor, their labor source is fixed and can not be adjusted according to needs. It is also different from capitalist farms. They are a unit integrating consumption and production, rather than a unit of pure production. Therefore, they may be highly dense for consumption needs, ignoring the benefits of unit labor. In addition, the government policy after liberation further strengthened the tendency of over secrecy. From the perspective of political power, it is far cheaper to increase labor investment than capital investment in China with rich labor force. In addition, the government's tax and purchase are linked to the total output and do not involve the unit working day income of members. The result is what I call the over densification under the collective system, which is the continuation of the over densification trend of Chinese rural areas in the past few centuries. II. Rural sideline industry in the 1980s

In contrast, great rural development appeared in the 1980s. The total rural output value (comparable price) soared by 2.5 times between 1980 and 1989, far exceeding the population growth of 15% (China Statistical Yearbook, 1990:333, 335, 56-57, 258, 263). With this leap forward, there has been the first real development in China's rural areas in several centuries, which is reflected in the improvement of labor productivity and benefits per working day and a considerable surplus above the standard of living.

How do we view this progress? Some researchers ignore the population pressure and think that rural production is mainly planting industry, pay full attention to the output of planting industry, and expect market and profit stimulation to bring about substantial growth as predicted by the capitalist model (Ni and Su, 1990, China's organizational change and economic development: views from the countryside). The output of planting industry did grow at an average annual rate of about 7% from 1979 to 1984 (China Statistical Yearbook, 1990:335). This fact contributes to intuitive expectations. In fact, the designers of China's reform themselves regard planting production as a symbol of rural development and confidently predict that it may continue to improve by the same margin (Development Research Institute (rural development research center of the State Council: 1985, new growth stage of national economy and rural development) . since 1985, the growth has actually stopped. However, members of the new Smith School once continued to adhere to their views and claimed that there will be further development as long as Chinese leaders do not give up halfway (and then implement privatization and complete price liberalization).

In hindsight, it is not surprising that planting production stagnated after the initial leap. In China's high-density and over dense agricultural economy, the output per unit area has already reached a very high level. Except for the more use of chemical fertilizer in backward areas due to the maturity of China's chemical fertilizer industry, other areas have already used modern inputs that are easy to apply. There is no land Such intensive use of the United States or the Soviet Union, substantial growth is possible, but it is unreasonable to expect China to do so.

Few people pay attention to the real driving force of rural economic development: Industry and "sidelines" (including handicraft industry, animal husbandry, fishery and Forestry) Encouraged by the marketization of the distribution of means of production and government policies, rural organizations at the two levels have actively opened up innovative enterprises. The growth of industry is particularly amazing. It has increased fivefold from 1980 to 1989, far more than 0.3 times that of planting. By the end of the 1980s, rural industry had accounted for more than half of the total rural social output value, while sidelines accounted for another fifth.

The contribution of these sectors to the 2.5-fold growth of total agricultural social output far exceeds that of planting production (the proportion is about 9:1). By 1988, 90 million rural labor force were employed outside agriculture (China Statistical Yearbook, 1990:400329). This change made it possible to remove the overcrowded labor force in planting production in some areas of China for the first time in hundreds of years. By reducing the labor force participating in distribution, anti overcrowding has brought about the increase of unit working day income in crop production. Together with income from new industries and sidelines, real development and relative prosperity have been created for the first time in many parts of rural China.

Finally, the normative belief that capitalism and socialism are the only possible choices makes many scholars ignore the essence of development in the 1980s. The most important proportion is market-oriented collective enterprises (China Agricultural Yearbook, 1989:345-346). They are a mixture of two modes of production and a mixture of socialist ownership and capitalist operating mechanism. They are neither pure capitalism nor pure socialism. We should no longer be stubborn in either of the two simple old models today. III. there is no marketization of "civil society

In cities, the marketization of China's economy in the 1980s was accompanied by the opening of China's political life and the corresponding rise of non-governmental organizations. These developments have led some American scholars to use the concept of "civil society" to describe the political changes in the reform period (white, 1990, Chinese cities: forming civil society?). This concept points out that the problem of power relationship between political power and society is a kind of progress compared with the previous totalitarian model, because the latter simply takes the overall control of political power over society as the premise without analysis.

However, just like using the "public sphere" to describe the Ming and Qing Dynasties, "civil society" can easily confuse us with the experiences of the West and China. In the early modern history of Western Europe and the recent history of Eastern Europe, the development of democratic politics (especially the civil rights independent from the state power and the human rights of individual citizens) is accompanied by the development of free market. "Civil society" contains a complex of various relations: civil groups rising with the development of early capitalism and the beginning of democratic political system. Therefore, using this term without paying attention to the differences in China will create the illusion that the same complex also appears in China.

This formulation was as inappropriate to China in the 1980s as it was to the Qing Dynasty. It exaggerates the Democratic meaning of market transactions and the expansion of civil groups in the 1980s, and further exaggerates the civil power organization foundation of the demonstrators in anmen Square in the spring of 1989. It repeats the habits of some people in the past and applies the Western ideal model to China with the reasoning of simplification and conclusion first: if one or two factors of a complex appear, the whole complex will inevitably or immediately appear.

We should leave the model derived from western experience and start from the paradox of marketization without democratic development and the rise of citizen groups without democratic political development. In the 1980s, China's marketization was very different from the historical experience of capitalist economy, and citizen groups were also driven by forces different from those in the West. If these differences can be analyzed, it will help to understand the possible different social and political implications of marketization to China. IV. a road beyond capitalism and socialism

Of course, some people will continue to adhere to the single capitalist or socialist model and use the old logic of simplification, conclusion first or contrary to the facts. According to that reasoning, the emergence of the market heralds the coming of other parts of capitalism, such as private ownership and democracy. If the other parts don't appear, they should at least appear. So far, there is only a small step to the conclusion contrary to the facts: as long as the Chinese leaders do not stubbornly refuse to give up socialism and turn to capitalism, the expected development is bound to come.

Conservative opponents of reform in China use the same logic to reach the opposite conclusion. With the marketization, other bad factors of capitalism will inevitably follow: class differentiation, capitalist exploitation, social crime, and so on. Therefore, we must resolutely support thorough socialism and oppose the germination of capitalism. Some setbacks encountered in the reform do not mean that capitalism is not enough, but too much. If the planned economy and the collective economy were not weakened by reform, the situation would be much better.

Today, we should put these arguments aside. China's rural areas experienced six centuries of private ownership and market economy before the 1950s, but they have not yet developed. The vast majority of the population is still constrained by the planting production at the living level. If China's rural areas return to the economic organization before the 1950s, they will face greater problems than before: the population has tripled, and the easy to realize progress from the modernization investment such as chemical fertilizer, electric pump and tractor farming has been achieved. It is difficult to imagine how the market can exert its magic under this situation.

The way of collectivization from the 1950s to the 1970s should also be abandoned. In this way, crop output does rise rapidly, but labor productivity and remuneration per unit working day are stagnant. The majority of the rural population remain at a subsistence standard of living. Adhering to this approach is as unreasonable as going back to the 1950s.

So where is the way out? The first step in academic research should be to explain why the rural economy flourished in the 1980s, but did not develop in 1350-1950 when there was a free market and private property, and in the 1950s-1970s when the planned economy was collectivized? Why does the paradoxical mixture of rural collective ownership and market economy promote the dynamic rural industrialization?

A prominent point in the history of Chinese revolution is that the countryside has played a great role. The countryside used to be the location of Communist Party organizations and revolutionary bases. Through collectivization in the 1950s, villages and townships became the basic units for all land and other means of production. Because of the strict registered residence system since the late 50s, the villagers and rural people have been in a stable state for a long time. Then, villages and townships became the basic organizational units of large-scale movements such as water conservancy, public health and education, and expanded their administrative machinery in these processes. These changes give these organizations a special status and role in rural changes, which is different from general developing countries and socialist countries. Finally, under the dual incentives of expanding autonomy and market stimulation in the 1980s, they became the basic units of rural industrialization. The first mock exam of their role in the development of rural China raises the question: does this historical truth in China represent a new road to rural modernization, a road that is neither socialist nor capitalist?

As Huang Zongzhi stated earlier, many "paradoxes" in China's socio-economic research mean that the original "paradigm" has collapsed and is not enough to use. Now, let's consider an alternative "Modernization Paradigm".

### Section II: Reflection on Chinese Research under the new paradigm

The theoretical analysis of the first chapter provides us with a "normative understanding" derived from Marx and preliminarily expressed in capital. It appeared later in Marx's ideological process, which is different from Huang Zongzhi's so-called "commercialization will lead to modernization" throughout Smith theory and early Marxist theory. Its core idea is reflected in Chapter 24 of Volume I of capital, "the so-called primitive accumulation", and in Chapter 48 of Volume III of capital, It is stated in the "Trinity Formula": "capital is not a thing, but a certain, social, production relationship belonging to a certain historical social form. It (production relationship) is embodied in a thing and gives it a unique social nature". Moreover, in the analysis of Chapter 1, we promote this "normative understanding":

**Capital" is a production relationship based on high price certainty of social products. Further, "capital" is a social relationship based on low-risk agricultural production.**

Specifically, with regard to the pre-modern society (capitalist compared with that of Britain), in Chapter 1, we have learned the following conclusions through Brenner's analysis:

(European farmers outside the UK) under the pressure of "the unpredictability of agricultural harvest", in order to avoid the danger of specialization, they must devote themselves to "survival production" of "safety first", early marriage, multiple births and land subdivision, resulting in population expansion with diminishing marginal benefits. The population expansion leads to higher human land ratio and worse land quality level, and finally leads to the decline of labor productivity, which is reflected in the rise of food prices, the decline of wages and the trade deficit of industrial and agricultural products.

This is the opposite of self-sufficient growth (the so-called natural order wealth growth in Britain). Due to the reduction of per capita agricultural output, the proportion of urban population in the total population will be strictly limited. Further, with the decline of labor productivity, when population growth crosses a critical point, it will lead to famine, disease and limit the size of families. This is the so-called "agricultural cycle": long-term population growth and the decline of per capita marginal output, followed by the emergence of the opposite trend characterized by long-term population stagnation, attenuation and exhaustion. (from history to theory: Europe's transition from feudalism to capitalism, Brenner, see Chapter 5 of the Chinese translation of Brenner's anthology new interpretation of Marx's theory of social development)

This analysis is aimed at the European continent (excluding Britain), but it is no different from the basic socio-economic characteristics of traditional China. The only difference is that such a process began very early in China: the process that the European continent began to show in the late Middle Ages has been preliminarily completed in China around A.D. Since then, China has only deepened and solidified such a trend of population expansion, the rise of human land ratio and the decline of land quality in the "agricultural cycle" marked by the rise and fall of dynasties. Therefore, such a behavior pattern derived from agricultural risk has repeatedly promoted the further deterioration of the food crisis, the human survival crisis is more serious, and the competition between people has become a battle of life and death. This process is reflected in social relations, that is, class conflict is becoming increasingly fierce, social stratification is becoming increasingly polarized, and the middle class is fading away. In terms of social form, it is the changes in various stages, from the aristocratic decentralization represented by medieval feudalism, to the bureaucratic aristocratic alliance represented by French absolutism, and then to the bureaucratic landlord alliance represented by Chinese bureaucratic centralization. At the extreme of the intensification of class conflict, the landlord class has completely degenerated, and the social form is composed of simple bureaucrats and small farmers. This is the "Guanzhong model" expressed by historian Qin Hui. The "end" social form such as "Guanzhong model" has been running on the edge of collapse. Following the inevitable food crisis, it is bound to move towards social disintegration. (Note: historian Wang Jiafan tells us that Gu Yanwu, a thinker in the late Ming and early Qing Dynasties, visited Guanzhong and praised the local situation as the salvation of Jiangnan society, which is completely upside down. Guanzhong is not salvation, but the end. To the extreme, the "Guanzhong model" may not be the "end" of the evolution of social form under high-risk agriculture Because it is still under the direct control of the central government, further, it may collapse and disintegrate, and then degenerate into an "indirect" ruling mode similar to the chaimingdar system.)

Due to the different production conditions in various parts of Eurasia, the rise of civilization is early and late, and the evolution is fast and slow. Accordingly, their social forms are scattered in all stages of this historical process. Therefore, the presentation of the above stages can be found in the recorded history of civilization. However, no matter what kind of presentation, such a social relationship fundamentally deviates from capitalism. The closer to the late stage of this process, the more the social form is composed of polarized and opposite strata, and the farther away from the weak antagonistic social relations based on low-risk agricultural production as the essence of "capital". The modern history of Eurasia we see in reality does not represent the various stages of the development of traditional society to capitalism, but various "mixed states" caused by the combination of various stages of traditional society and large industries transplanted into capitalism. In short, that is:

**There is no capitalism in Eurasia", or that is all kinds of "false crystal" capitalism, embedded, foreign, rootless, superficial rather than essential capitalism.**

Only after World War II, with the in-depth development of the green revolution, did the countries in Eurasia jump over the obstacle of the lack of agricultural capitalism and really enter the modern economy.

Under such a "normative understanding", let's examine the so-called paradoxes of Huang Zongzhi.

On the so-called paradox one, there is no commercialization of development.

First, let's reinterpret the relationship between commercialization and modern economy.

The development in the sense of modern economy, or the development in the sense of capitalism originated in Britain, is the improvement of labor productivity and the level of productivity. It is further clarified according to Yang Xiaokai's economic theory that it is the self acceleration of the evolution of division of labor. Therefore, there is no inevitable equivalent relationship between development and commercialization. On the basis of high-risk agricultural production, with the population expansion and the rise of man land ratio, the land quality level is declining, the agricultural labor productivity will decline, and the workers can only maintain a living standard on the edge of life and death. In order to survive, workers engage in "sideline" production outside agricultural production and subsidize the "main business" that barely makes a living, which provides a prosperous impetus for "commercialization". However, according to Brenner's analysis, due to the high level of agricultural risk, if these farmers leave the land and engage in specialized production, they are likely to fall into this dilemma due to the fluctuation of food prices: on the one hand, they have to spend high prices to buy food in the market, on the other hand, they have to sell their non food products at low prices. When the price scissors difference between such food and non food products tends to be extreme, he will face hunger and even death. Therefore, farmers cannot leave the land to engage in specialized non-agricultural production, but can only engage in non-agricultural production as a "sideline", which hinders the improvement of the level of division of labor (productivity). Further, with the decline of agricultural labor productivity, the improvement of productivity level (division of labor level) caused by this commercialization is unsustainable, let alone self acceleration. Thus, prosperous commercialization and non capitalist, low-level agricultural and non-agricultural productivity can be integrated with each other and go hand in hand. This "prosperous commercialization" is not "the germination of capitalism", but the terminally ill pre-modern economy. It must be short-lived and cannot accumulate progress, because it must be destroyed at the end of the upcoming agricultural cycle.

Secondly, let's reinterpret the consistency between industrial and agricultural development and between urban and rural development.

The improvement of agricultural productivity promotes urban industrialization, which is Smith's so-called "natural order of wealth growth". However, as already quoted in Chapter 1, the "anti natural and degraded order" of European countries recorded in Chapter 3 of the wealth of nations also exists. Among these countries, the "fine" manufacturing industry divorced from the basis of agricultural "progress" can also "prosper" for remote trade. However, these countries are based on industry and commerce, Rather than wealth growth based on agricultural progress, it is "slow and uncertain". Since the late 19th century, the "urban industrialization without rural development" in China is a general rule under high-risk agriculture in Eurasia. The situation in China is the recurrence of the situation in Europe. Although it is more "slow and uncertain", it is not an exception. On the contrary, in the face of this "general rule" in Eurasia, it is the "natural order" of Britain. The rapid wealth growth based on agricultural progress is the "exception". In other words, there is no consistent necessity between industrial and agricultural development and urban and rural development. This consistent "natural order" is a special case of Britain, while Eurasia is the "anti natural and degraded order" as its opposite. The former is the characteristic of modern economy, while the latter is the characteristic of pre-modern economy.

On the so-called paradox two, decentralized natural economy and integrated market

For China's so-called (integrated) "national market", it should be emphasized that it is not equivalent to the British style "local market" or "domestic consumer goods market". Although it seems that some products such as "rice, cotton and tea" are also consumer goods for daily use, the production of small-scale farmers is mainly self-sufficient, that is, most of the production of small-scale farmers still directly meet household consumption rather than specialized commodity production, which is a "national market" "It is not a local or (geographically small Britain) domestic market between land separated workers and agricultural workers, as in Britain. Because China's vast territory is similar to the whole European continent, this" national market "is more an exchange between one place and another, and it is more what Smith called" distant trade ", or“ The Chinese version of "international trade" (between European countries). The situation in continental Europe is different from that in Britain. We have quoted Smith and Marx to explain it earlier. Its progress is "slow and uncertain", "the dead hold the living", "suffering from both the development of capitalism and the non development of capitalism" These observations and descriptions of the situation in the European continent from Smith and Marx are also suitable for the situation in China. As the small-scale farmers in the whole Eurasian continent have shown us, rationality, first of all, is survival rationality. Compared with the choice of life and death, pursuing the maximum profit in the market is secondary. Under high-risk agricultural production, highly uncertain social products Price will prevent the improvement of division of labor and labor productivity. Under this premise, any trade expansion and market integration will not lead to the occurrence of modern economy. Not to mention, as inferred from the analysis in the previous paragraph, it must be destroyed at the end of the upcoming agricultural cycle.

On paradox 3, the expansion of the public sphere without the development of civil power

Huang Zongzhi's empirical statement is correct, "the expansion of the public sphere in social life is not necessarily accompanied by the development of civil power", and there is an inconsistency (paradox) between this "expansion of the public sphere and the development of civil power" Not limited to China. In fact, even in Western Europe, this consistency can only be confirmed in Britain, but can not be established in the whole Eurasian continent. The reason for this is that there is no inevitable relationship between the so-called expansion of the public sphere and the development of civil power. Why do you say so?

The concept of "public sphere" comes from Habermas' research on the origin of democracy. According to Habermas' own understanding, the core of the concept of "public sphere" is the so-called "bourgeois public sphere". It originated from the aristocratic society separated from the court, that is, the "representative public sphere" characterized by a set of red tape of the so-called "noble" behavior, and then gradually evolved into the "bourgeois public sphere". Such a so-called "bourgeoisie" typically exists in cities on the European continent. Because of this, the word "bourgeois" is also translated into "citizen class" in Chinese. It is a companion of the evolution of aristocratic decentralization system to bureaucratic aristocratic alliance system on the European continent driven by high-risk agriculture, that is to say, As Ellen M. Wood told us, "bourgeoisie", "civil society", these concepts and existence have nothing to do with capitalism. The development of citizenship in the modern sense (if we are not talking about Roman citizenship) is undoubtedly the companion of the development of capitalism. The development of capitalism starts from the prosperity of land rental farms driven by low-risk agriculture. As Marx said, it has a typical form only in Britain. This explains why there is no inevitable relationship between the expansion of the so-called "(bourgeois) public sphere" and the development of citizenship, because they are the product of two historical processes with different origins on both sides of the English Channel.

In empirical history, it is not difficult to find the inconsistency between the two in Eurasia outside China. As a "bourgeois revolution", the French Revolution was inevitably fueled by the bourgeois public sphere, salons and cafes in Paris. However, as a great revolution that strengthened bureaucratic centralization and small-scale peasant system, it is doubtful how much positive relationship it had with the development of civil power. A person who is not forgetful will remember how the "bourgeois public sphere" such as the beer house in the Weimar Republic gave birth to the Nazis, which is not only inconsistent with the development of civil power, but also runs counter to it.

In a word, the so-called development of civil power (in the modern sense) is essentially brought about by low-risk agricultural production and the weakening of the antagonistic nature of social relations. Without the premise of low-risk agricultural production, the expansion of the public sphere in social life will not establish a substantive relationship with the development of civil power.

On paradox 4, there is no normative legal system of liberalism

The root of this so-called paradox lies in Weber's dichotomy of law, Cartier law and rational law. (Note: Weber's judgment on judicial rationality and irrationality, the so-called distinction between Cartier's law and rational law, is questionable. In the early people's society, the belief in the oracle and the process of obtaining the Oracle is of course "irrational", but the Oracle needs to be explained, and the interpreter and his explanation are of course "rational" Of course, we are not unfamiliar with the word "divine religion". In medieval justice, trial based on substantive reasons such as morality and ethics, political balance, ideology, human sophistication and so on is also a rational process, because such reasons also have rules or logic to follow. Any law, as long as it is a law, will not be "arbitrary" or arbitrary Different from Marx's interpretation and analysis of modern society from the perspective of capitalism, Weber interpreted the power of the emergence and development of modern society as rational development. Under this theory, Liberalism (Modern Society) Development and standardization (rationalization) In Weber's view, although Britain is the first modern country in the world, as a common law country, its jury system can only be recognized as an exception to the rational development. Therefore, this paradox exists not only in China, but also in Britain. This is not a problem of experience and history, but a problem of Weber's theory. Weber brought modern society into being From this theory, there will be not only the myth that British common law is an exception to Modernity (Note: the "irrationalization" of British law is not limited to juries, but also that it is unwritten case law) , the Qin system 2000 years ago will have entered the strange theory of modernity, because Chinese law since the Qin and Han Dynasties is a written code, and case law is much more "rational" than customary law.

Back to the theoretical analysis of the first chapter of this paper, according to this "normative understanding" from Marxism and capital, the emergence and development of modern society is driven by the self acceleration of the evolution of division of labor caused by low-risk agricultural production. (Note: the low-risk agricultural production causes the general price certainty of social products and maintains the general low transaction cost. According to Yang Xiaokai, this will create good transaction conditions and promote the self acceleration of the evolution of division of labor, which is the root of the continuous improvement of the productivity level of modern society and the driving force of all development and changes around modern society.) The essential stipulation of modern society is a social relationship based on low-risk agricultural production and a weak antagonistic social relationship based on the price certainty of all social products. Law, as the presentation and adjustment of social relations, is people's adaptation to the living environment. Its essential stipulation is the strength and weakness of the antagonistic nature of social relations, not "rationalization" Whether or not, or the form of "rationalization". Productivity determines the relationship of production, not the opposite. Therefore, the rationalization of law (normative) is not the source of social certainty, on the contrary, it is a derivative of social certainty. Weber believes that the rationality of British common law is insufficient and can not bring "enough" to society On the contrary, experience and history tell us that modern society originated and developed in Britain precisely because there is the highest degree of society (social product price) Certainty. It is precisely because of this high degree of social certainty that British law lacks the incentive to evolve towards rationality. For example, if you live in Hawaii, wearing a grass skirt is enough to keep out the cold. In contrast, high-risk agricultural production destroys the civilized societies (social product prices) in Eurasia Certainty, which stimulates the laws of continental countries to make a compensatory response to this uncertainty, that is, civil law countries, whether Roman law tradition or Qin system tradition, have the formal rationalization of law (normative) For example, if you are an Eskimo, leather robes are indispensable. However, rational law can not solve the root problem of social certainty. Just as leather robes can not change the Arctic into the equator, Eurasia is not "premature" because of the rationalization of the legal system On the contrary, as analyzed above, the "natural" trend of civilizations in Eurasia follows the cycle of agriculture and evolves on the inherent road of pre-modern society, not towards modernization, but away from modernization.

In a word, neither China with "normative legal system without liberalism" nor Britain with "liberalism without normative legal system" is a "paradox". They just show that there is no inevitable consistency between liberalism and normative legal system. Although, in the highly developed modern society, they are moving towards confluence, at the starting point, they even run counter to each other.

Further, under the new "normative understanding", we will examine the structure and choice of the Chinese Revolution:

As has been analyzed above, due to the dense population and low agricultural productivity caused by this social change driven by high-risk agriculture for a long time, combined with high-risk agriculture itself, the price of agricultural products is highly uncertain, and the price of the whole social products is also highly uncertain. Therefore, this long-term change in social structure does not lead to capitalism, and farmers do not and will not differentiate into capitalist farmers and farm workers. However, this does not mean that the long-term structural change has not led to the sharpening of class contradictions. It just does not show the sharpening of class contradictions in the form of capitalist society, but still shows the sharpening of class contradictions between bureaucrats and small farmers in the traditional society. Therefore, although the social structures of the north and the South have entered different states under the long-term evolution, and their manifestations of sharpening class contradictions are also different, the trend of sharpening class contradictions is still tenable throughout China. As analyzed above, driven by high-risk agriculture, the change trend of social form in Eurasia is that the intensification of social contradictions leads to the decline of the middle class, and the society is increasingly polarized into the two poles of bureaucratic government and natural small farmers. In the Jiangnan area after the Taiping Heavenly Kingdom, the decline of the landlord class is the manifestation of this long-term structural change. Taking the so-called "Guanzhong model" of historian Qin Hui as a typical example, the proportion of self-employed farmers in the north is higher than that in the south. The landlord class has been declining for a long time. The sharpening of contradictions caused by long-term structural changes is mainly reflected not between landlords and tenants, but between bureaucrats and small farmers. In fact, this intensification of contradictions is only more extreme than that in the south, Society is closer to the brink of disintegration. Under such a long-term structural change, the right to survival, not the right to development, and the moral economy, not the commodity economy, are the demands of the people. The more class contradictions become acute and society tends to disintegrate, the stronger this demand is. However, this demand for survival opportunities cannot be realized through family planning. Because, as Brenner analyzed, the high fertility rate itself is driven by the high survival risk, and in a traditional society, there is not enough mobilization capacity to implement the policy of "family planning". It is also impossible to expect the development of capitalism to bring relief. In Eurasia before the green revolution, agricultural capitalism based on low-risk agricultural production could not exist, and agricultural productivity could not be substantially improved. However, capitalist economy other than agriculture, even if it existed, was a kind of "false crystal", an external and rootless, Appearance rather than essence, it can not change the survival crisis brought by high-risk agriculture. Society is bound to disintegrate. Under the crisis of social disintegration, a highly mobilized system based on modern technology and ideological resources is the only relief. The land tenancy system is not necessarily destroyed by the tenant's active class revolution, but it only means that the Jiangnan area where the tenant system widely exists has not reached the extreme of social crisis. The landlord class has long declined, and the long-term structural changes have taken place in North China, which is ahead of the south of the Yangtze River. The social crisis is more serious. In the global "general crisis of the 20th century", the society in North China has been disintegrating. In the civil war, the people in the north have made more support for the revolution than the people in the south, which also shows this point.

Revolution is inevitable.

Finally, under the new "normative understanding", let's examine Huang Zongzhi's so-called contemporary history.

Before the green revolution elements such as pesticides, chemical fertilizers and improved hybrid varieties can be realized, there is not much room to improve agricultural productivity. More agricultural labor input, combined with the collective production system, has brought more agricultural surplus, made it possible for industrial accumulation and provided the basis for maintaining social division of labor and cooperation. Under this development model, despite the sustainable development of industry, due to the increase of population and the continuous low agricultural productivity, agricultural production is still in a high-risk state, and the threat of food crisis cannot be shaken off. Cities often need to evacuate people from villages to alleviate the supply pressure, and socialized mass production cannot be fully carried out.

Fortunately, the accumulation of early industrialization has brought the progress of infrastructure such as agricultural machinery and water conservancy transportation, the development of industrial energy and chemical raw materials such as oil and gas, and finally paved the way for the arrival of the green revolution.

The three elements of the green revolution, pesticides, chemical fertilizers and improved hybrid varieties, have gradually expanded to China with the worldwide technological progress after World War II. The modern pesticide industry began with DDT industrialized manufacturing in 1945. From the late 1940s to the 1950s, various modern pesticides appeared one after another. China's pesticide industry is only about five to ten years later than the leading countries. From the early 1950s to the 1960s, these modern pesticides also entered the industrial production in China one after another. The chemical fertilizer industry started early in the world, but limited by the technical level at that time, the early development was not fast. China's chemical fertilizer industry developed initially in the 1950s and 1960s and blossomed everywhere, but most of them are primary synthetic ammonia products with limited function. With the introduction of large chemical fertilizer industry with urea as the main product in the 1970s, chemical fertilizer has played an important role in agricultural production since the middle and late 1970s. After decades of cultivation and development, the improved hybrid varieties of grain crops such as corn, rice and wheat were also widely popularized throughout the country in the middle and late 1970s. So far, the three elements of the green revolution have been complete in China. Coupled with the progress of agricultural facilities and transportation brought about by early industrialization, agricultural productivity has been greatly improved. China has finally got rid of the agricultural dilemma in which it has been trapped since the occurrence of civilization.

Although China, like all countries in Eurasia, cannot realize agricultural capitalism due to high-risk agricultural production conditions, so as to return to the British style modern economic road, the final arrival of the green revolution enables China, like all advanced countries in Eurasia, to overcome the obstacle of the lack of agricultural capitalism, A decisive increase in agricultural productivity has been achieved. Therefore, China no longer has the pressure to evacuate the urban hungry people to the countryside, but has the ability to accept the rural working population in the cities. The green revolution has replaced agricultural capitalism, completed the separation of labor and land, liberated a large number of people from agricultural production, and created the possibility for the stability and progress of socialized mass production, The process of industrialization and urbanization has developed rapidly, which is a historic progress not seen in 3000 years.

Although the green revolution made China overcome the obstacle of the lack of agricultural capitalism, it is not completely equivalent to agricultural capitalism. The long-term high-risk agriculture has left a large number of dense population and high human land ratio, which are inevitable historical heritages. At the level of science and technology so far, the potential of agricultural production is still naturally limited. China's agricultural productivity and safety margin can not reach the level of western advanced countries. It is unreasonable to expect China's agricultural production benefits to continue to grow and catch up with and surpass western advanced countries. China's success is not to surpass the West in agricultural production, but to follow the path of wealth growth called "natural order" by Smith. The rise of township enterprises in the 1980s is a rapid repetition of the origin of capitalism in British villages.

Further, the social situation since China's reform and opening up can be attributed to "marketization without democratic development" and "the rise of citizen groups without democratic political development" "This paradox is also unreasonable. In a very short period of time, China has extricated itself from the dilemma caused by a persistent high-risk agricultural production state. To investigate its democratic development and democratic political development, it should be a trend investigation, not a state investigation. Its state is rooted in the past, not the present, and" marketization " Or "the rise of civic groups", and political development lags behind economic and social development. Therefore, fundamentally, these so-called "paradoxes" are caused by perspective deviation and time dislocation. Historically, even in Britain and the United States, its "democratization" and "democratic political development" cannot be compared with "marketization", This so-called "paradox" is nothing special in the history of Eurasia. The green revolution has permanently changed the agricultural risk situation in Eurasia, which is the fundamental and reliable guarantee for political development.

Marx told us: "people create their own history, but they do not create at will, not under the conditions they choose, but under the conditions they encounter directly, established and inherited from the past." China, like other countries in Eurasia, has no chance to choose the "natural order" from agricultural capitalism to modern economy Under the historic leap brought about by the green revolution, they must take the heritage given by history to create their own modern society. This is bound to be different from the "capitalism" of British and American countries, but it is still a road of modern society.

As a summary of this chapter, it should be emphasized here that all these theoretical difficulties expressed by Huang Zongzhi do not belong exclusively to China, but to the whole Eurasian continent. Further, it can be solved under the new "normative understanding". China's history is a model of the evolution of pre-modern society driven by high-risk agricultural production in Eurasia. It is both special and universal. However, as far as the "diversion" between modern society and pre-modern society is concerned, this "diversion" does not exist in Eurasia. The so-called "big diversion" between China (East) and Europe (West) can only be the secondary difference of countries transplanting capitalist big industries under the condition of high-risk agricultural production, which is the spillover effect brought by the "small diversion", although it is highlighted by the broad people of Eurasia, and even obscures the original road difference of "small diversion".

## Chapter III: Diversion

Expansion, contraction, stagnation, enemy and ourselves. I have some understanding of the "three five" mentioned by card division. Then I try to look at the "three five" from the perspective of typology. Card Division said earlier, what is three or five? 3、 Three hundred years, the axis, rise, five or five hundred years, great unity, prosperity and stagnation. This is roughly the process of a R-Series civilization in Eurasia, from its initial rise to the first human peak and then decline. As we mentioned earlier, changes in production capacity and mobilization capacity are two major driving forces for social evolution. In ancient history, there were few opportunities for such a major driving force. The emergence of agriculture may be the starting point of the most significant progress in production capacity, making civilization possible. The emergence of bronze ware is a major progress in mobilization ability and brings the rise of classical civilization. However, bronze is rare. It is mainly used for weapons and ritual vessels and rarely used in agricultural production, which has little impact on the progress of production capacity. Then iron appeared. Unlike bronze, it can be produced in large quantities and widely used as weapons and agricultural tools. In a short time, it has simultaneously made great progress in production capacity and mobilization capacity, which triggered the first wave of climax of ancient civilizations in Eurasia. The so-called axis era, that is, the early three fifths, followed the fate of the R-system road, Under the high environmental risk, the population is growing rapidly, the social struggle is becoming more and more intense, the social structure is becoming more and more polarized, and the internal contradictions are externalized. This is the fundamental force to promote merger and expansion in the axis era. Finally, the great unification under centralization will come, which is the early 35 / 5. However, the mobilization capacity in the iron age is limited after all. Merger and expansion have reached the limit of support capacity. With the social shock caused by the fluctuation of grain production, contraction will come. After that, it is a long bumpy process of R-Series ancient civilization, which stagnates in the bumpy process and is trapped in the struggle between the enemy and ourselves inside and outside. Of course, this is an abstract model. Changes in the real world are much more complex than the abstract K-r model. Agricultural conditions around the world are different. With climate change and linkage, such as the warm period in the Middle Ages affecting Europe and the southward movement of the rainfall belt during the Tang and Song Dynasties, and the subsequent changes in iron agricultural tools, such as the heavy plow in northwest Europe and the Qu Yuan plow in Southern China, northwest Europe and southern China entered the period of agricultural prosperity later, This brought a wave of secondary "three five" which was different from the axis era, and created the peak of medieval civilization. Although they are still on the old road of R-system social order, they have caused different side effects. Since the Tang and Song Dynasties, agriculture in northern China has declined. The newly opened paddy rice agriculture in the South has brought a stronger risk nature due to its dependence on monsoon rainfall and the increase of marginal labor input. In contrast, the warm period in the Middle Ages led to the rise of agriculture in the north of the European Alps. In addition to the weak risk nature of this region itself, it has gone further, After undertaking the achievements of ancient civilizations from Eurasia, England, a completely low-risk agricultural area, flourished. The road of modern society is opened up by the marginal but heterogeneous k-system social order of England. In the past 500 years, the k-system social order represented by England has been rising all over the world, which has brought a leap in mobilization capacity starting with the industrial revolution and a leap in production capacity marked by the green revolution. The old "three five" period since the axis era is dying out and the new "three five" period since the industrial revolution is rising, We are still in this process.

Volume I, why the country prospers, final chapter, Section II, "potato dialogue: viewing universal history from the evolution of order

In the "normative understanding" proposed and applied in the previous two chapters, which originates from Marx, we have seen how the agricultural risk level, as the concentrated expression of geographical factors, has decisively affected the road differences between modern society and pre-modern society. In this chapter, we continue to deepen the connotation of this paradigm and investigate the process of civilization in a broader sense.

First, let's think about the origin of civilization. Traditionally, the symbol of the origin of civilization is regarded as the "three elements":

1. Urban bronze characters

Now, many scholars agree with the "seven elements":

1. The labor division and specialization of large-scale settlements, the concentration of surplus products and surplus labor, social stratification and class formation, the emergence of state organizations, the emergence of large-scale public buildings and the use of words

The standards of the elements of civilization have changed with the progress of academia. However, the core of these elements is still the same. We abstract these elements into two:

1. Densely populated. The division of labor is developed.

Without a dense population, there would be no large-scale settlements (or, further, cities). The division and specialization of labor force, the concentration of surplus products and surplus labor force, the emergence of social stratification and class, and national organization are all the manifestations of developed division of labor. Furthermore, large public buildings, bronzes and characters are not only the product of this division of labor, but also the facilities to maintain this division of labor.

So what is the root of this dense population and developed division of labor? There is no doubt that they are the products of the agricultural revolution. Planting crops can harvest more food in a small area, which is the premise of dense population. The harvest of tribes living on fishing, hunting and gathering may not be enough to feed a person in one square kilometer, which is impossible to form large-scale settlements, let alone support a city. If the output of a person planting crops has surplus in addition to supporting himself, then there is the possibility of division of labor. On the contrary, if there is no surplus, even if there is a dense population gathering together, everyone can only farm for a living. All phenomena or outputs related to division of labor will not exist, and the facilities to maintain division of labor will lose their place. Therefore, combined with the analysis of the previous two chapters, we give the following views:

**The emergence and development of civilization is the process of human society to achieve the second-order goal of population concentration and labor division complexity.**

**Achieving such a second-order goal depends on the development and stability of agriculture and, further, on the abundance and stability of surplus.**

The two premises of the process of civilization, the development and stability of agriculture and the abundance and stability of surplus, are decisively limited by geographical factors. Under the specific geographical environment, the combination of soil landform, climate type and the natural attributes of crops has created the foundation of agricultural production. Soil geomorphology and the natural attributes of crops are relatively stable factors, and climate change is the biggest variable among the three. The long-term change of climate is the key variable for the stability of agricultural existence, while the short-term change of climate is the key variable for the stability of surplus existence.

Next, let's examine its examples in specific human society and its history.

### Section I: Agricultural threshold of civilization origin

(Note: the early agricultural data in this section are cited from the geographical analysis of the origin of civilization, Wang enyong, 1995)

The origin of civilization is based on the development of agriculture. From Eurasia to America, there are only a few places of origin of ancient civilization, and various written records and archaeological remains tell us that compared with these few places of origin of civilization, agriculture can exist in a much wider area. So why are not all these regions on the path of the origin of civilization? Although there are many sources of civilization, the ancient civilization highlighted by historical documents and the secondary civilization in Western Europe and North America are still typical in the process of civilization. We take these civilizations as examples to investigate the agricultural threshold in the origin of civilization.

The three continents of Eurasia and Africa in the eastern hemisphere have the "four ancient civilizations" familiar to the Chinese people, Egypt, Babylon, India and China. The geographical location of the origin of these ancient civilizations has obvious similarities. The first three are located on the alluvial plain of the great rivers (Nile, Euphrates, Tigris and Indus), while the last place of origin of China is located on the platform on the Bank of the tributary of the Yellow River. Therefore, they are all called great river civilization. These origins are also located north of the Tropic of cancer in the northern hemisphere, belonging to a temperate climate. The first three are located near the 30 ° north latitude line, and the last China is offset 5 ° north, near the 35 ° north line. In the north and South America of the Western Hemisphere, there are the origins of ancient civilizations in Mexico, Maya and Inca. The situation here is different from that in the eastern hemisphere. The origins of the three civilizations are located in the plateau area (Note: Although the Mayan civilization turned to the plain area in the middle and late stage, it originated in the plateau area like the Mexican civilization and Inca civilization), rather than the riverside plain of the river. They are also within the Tropic of cancer, belonging to tropical and subtropical climate, Not temperate.

The origins of civilizations in the eastern and western hemispheres were as mentioned above. Although their geographical and climatic characteristics looked different at first, these characteristics were adapted to the natural attributes of local crops at that time and led to the development of early agriculture. Among the seven civilizations, Egypt, Babylon and India all originated on the alluvial plain of the river. The geographical and climatic characteristics here are relatively similar and are suitable for wheat planting. The origin of Chinese civilization is on the platform beside the tributary of the Yellow River. The geographical and climatic characteristics here are suitable for the cultivation of millet and millet, while Mexico, Maya and Inca in the western hemisphere are suitable for the cultivation of corn.

Wheat is a biennial crop. It is sown in autumn in the first year and harvested in late spring and early summer in the second year. It originates from the Turkish Plateau on the East Bank of the Mediterranean and is suitable for the Mediterranean climate of drought in summer and rainy in autumn, winter and spring. In terms of climate characteristics alone, Egypt is hot and dry with less rainfall, which is not suitable for wheat planting. Fortunately, the Nile floods regularly from June to November every year. Under the control of artificial ditches, the flood flows slowly into farmland, providing suitable alluvial soil for wheat planting. Moreover, wheat is sown in August and harvested before June of the next year. During this period, the Nile still relies on the water from the upstream to maintain a certain flow. While avoiding the flood, the local government can still use various facilities to divert water from the Nile water and reservoirs during the flood period for irrigation. In this way, the cooperation between alluvial soil and diversion irrigation ensures the success of wheat planting. The situation of Babylon and India is similar to that of Egypt. They are also relatively dry. Although there is a little more rainfall, they still can not meet the needs of wheat. However, they are also located on the alluvial plain of large rivers like Egypt. They can not only retain alluvial soil, but also use river water for irrigation. Similar geographical environment, adapted to similar crop varieties, contributed to similar agricultural development and brought about the rise of similar civilization. At the same time, the three places have close traffic distance and less geographical obstacles, which is convenient for the dissemination of crops and technological inventions. Therefore, the origins of civilizations in these three places are close in time and are the earliest compared with other civilizations.

The situation in China is slightly special. The early agricultural planting on the tributaries of the Yellow River was mainly millet and millet, of which millet was more drought resistant than millet, but the yield of millet was higher and the distribution area was larger than millet. They are dry land crops, annual, sown in spring and harvested in autumn, synchronized with the rainfall season and grew by rainfall. Therefore, these early agriculture did not rely on the irrigation of the Yellow River. There is little rain in spring, so precipitation and soil moisture content (so-called moisture content) are very important. As a monsoon climate area, there is often more rainfall in summer. Under this condition, the ditches in the early agricultural area on the tributary of the Yellow River are only convenient for drainage, and the precipitation drops rapidly in autumn, which is conducive to crop fruiting. However, if there is more rain and low temperature, it will affect crop yield and harvest. The core area of the capital of the Xia, Shang and Zhou dynasties, which played an important role in the origin of China's early civilization, became a horseshoe shape from Anyang to Zhengzhou, and then through Luoyang to Xi'an. The formation of this horseshoe shape depends on the local soil landform and climate. It is a coincidence that this is the edge of the Loess Plateau. The loess is loose and easy to cultivate, which is consistent with the rain line of 600mm-650mm. Millet and millet are dry land crops, but crops always depend on water. Rainfall lower than 600mm will make millet and millet lack water. Rainfall higher than 650mm is easy to cause flood in summer or more rainfall in autumn. Therefore, in areas with rainfall lower than 600mm or higher than 650mm, their yield will decrease significantly. In the early stage of civilization, human beings had very limited ability to resist floods and overcome disasters. Therefore, the foothills and valley highlands on these tributaries of the Yellow River in the civilized area of Xia, Shang and Zhou dynasties were the best adaptation to crops in this period. The Middle East along the Mediterranean is the crossroads of ancient civilization. The two rivers, Egypt and classical civilization meet here, and India is not far away. The geographical distance between China and these early civilizations in Eurasia is a great obstacle to the spread of crops and technological inventions, and this dry farming dominated by millet and millet is also weak compared with the irrigated agriculture in Egypt, the two rivers and India. Therefore, the rise of Chinese civilization is obviously later than the previous three wheat civilizations.

Compared with Eurasia, the course of American civilization is unique. Since the human migration to America in the last ice age, the climate has changed greatly, the sea level has risen, and the transportation between America and Eurasia has been basically cut off. Therefore, the agricultural civilizations on both sides can be said to have independent origins. Mexico, Maya and Inca all rely on the Native American crop corn. The conditions required for corn growth are more light, heat and water, which is more than all dry farming. The other condition is ventilation. There is ventilation root at the base of corn. If it is flooded for a long time, corn will die due to suffocation and hypoxia at the root. More light and heat demand makes the distribution of corn tend to low latitude, making the corn civilization appear within the regression line of North and South America. More water demand requires rainy areas, and ventilation conditions require good topographic conditions to facilitate drainage, while more water and good ventilation are often mutually exclusive conditions, which further limits the specific location of American civilization.

Among the three American civilizations, the Mexican civilization is located in the south of the Mexican plateau. It has plenty of sunshine and moderate temperature. The annual lowest temperature occurs in January, with an average temperature of 12 degrees Celsius. The annual highest temperature occurs in May, with an average temperature of 18 degrees Celsius. The rainfall is concentrated in June, July, August and September, with an annual rainfall of 600 mm. Other months are relatively dry. For corn planting, Rainfall and seasonal distribution are slightly insufficient and need irrigation, but the terrain is good and ventilation is not a problem. The Mayan civilization appeared in the foothills of the western plateau of Guatemala. The environmental conditions here are similar to those of the Mexican plateau. Later, the Mayan civilization turned to the eastern plain. It is a monsoon rain forest. There is much precipitation in the rainy season and water shortage in the dry season. Under normal circumstances, the rainy season on the plain is prone to ponding, which is not conducive to ventilation, and the lack of rain in the dry season is not conducive to the growth of corn, However, there are special geomorphic conditions here. It belongs to limestone area with serious water leakage. Therefore, it is rainy in the rainy season, but it is not easy to accumulate water, and the water shortage in the dry season depends on the irrigation system (the Mayan site Tika is located on the central plain of Guatemala, which is the central area of the middle Mayan civilization, and such a water conservancy system was found), so as to meet the requirements of corn planting. The Inca civilization is mainly located in the valley area of the Andean mountains in Peru. The local mountains are more than 4000 meters above sea level. The mountains are high and the temperature is low, which is not suitable for agricultural production. However, the deep river valley basin is close to the equator and the temperature is high. There is insufficient rainfall here. It depends on the water flow in the upper part of the mountain to irrigate the terraced fields opened on the edge of the valley and grow corn, Where the terrain in the upper part of the valley is high and the temperature is not enough to grow corn, it is used to grow potatoes. Therefore, corn and potatoes constitute the main crops of Inca civilization. Mexico, Maya and Inca have different geographical conditions in their regions, but they all adapt to the cultivation of corn because of the specific local soil landform and climate conditions, which constitutes the premise of the origin of civilization. Compared with the ancient civilizations in middle and low latitudes, some secondary civilizations such as Western European and North American civilizations occurred in high latitudes. The reason why the process of ancient civilization did not develop in these areas is more intuitive and less controversial or misunderstood. In the previous discussion on the origin of ancient civilization, we have seen the significance of agricultural development for the origin of civilization. Due to the cold climate and dense forests in high latitudes, there are natural obstacles to agricultural development. It is far from the origin of agriculture. In the historical period of warm climate, agriculture in high latitude has the opportunity to develop due to the spread of civilization, but it is also easy to be interrupted by long-term climate change. The civilization history of northwest Europe north of the Alps is an example. In the Roman era with a warmer climate, Rome reached the line of the Rhine River and built Hadrian's side wall in the middle of the British island. The west of the Rhine River and the south of the British island were brought into the civilized era, but in the subsequent cold period of Rome, Local and Roman agricultural production was in decline. The Germanic people moved south and the southern British island was abandoned. These places also declined with the decline of Rome and became silent again in historical records. The unstable high latitude agricultural production for a long time is not easy to support the long-term accumulation required for the origin of civilization. After the development of the ancient civilization in the middle and low latitudes to a certain extent, it is necessary to undertake various cultural and technological achievements from the ancient civilization and cooperate with the climatic conditions in the warm period to promote the improvement of agriculture. Only then can the civilization here grow rapidly. Under the opportunity of the warm period in the middle ages, the accumulation of ancient civilization from Eurasia led to the progress of agricultural technology such as heavy plowing, and northwest Europe north of the Alps developed. The Indian cultural area in the north of the American continent is in a similar situation. As Jared Diamond pointed out, the American continent is a north-south continent. In the north-south direction, the soil landform and climate change are obvious, while the ancient American civilization is concentrated in low latitudes, and the transmission of local crops is limited due to the North-South difference of soil landform, They have reduced their influence on high latitude areas. In addition, the American continent has cut off traffic with Eurasia and lacks communication. Before the era of great navigation, there were no crops and technological progress from Eurasia. Under various factors, the ancient civilization of America is weak and develops slowly, and the northern part of the American continent has not entered the era of early civilization, It's conceivable.

The above examples of ancient civilization and secondary civilization show that the role of geographical factors in the origin of civilization is mainly realized through its role in agricultural development. The viewpoint of denying the role of geographical factors often ignores this point, and using the same geographical environment does not necessarily produce a similar origin of civilization as an example. For example, Toynbee used this idea to test the rationality of the causal relationship between "river and civilization", he said:

The environmental conditions of the Rio Grande basin (on the border between the United States and Mexico) and the Colorado River Basin of the United States are exactly the same as those of Egypt and Mesopotamia... But the original residents on both sides of them did not create such a miracle..." "the Andean civilization appeared on a Plateau". In contrast, "the plateau in eastern Africa" failed to "create" Civilized "society." "Chinese civilization is sometimes called the product of the Yellow River, because it happened to appear in the Yellow River Basin, but although the Danube River Basin is very similar to the Yellow River in climate characteristics, soil, plain and mountain features, it has not produced a similar civilization." (historical Research) , Part II, the origin of civilization, Arnold Toynbee, Shanghai People's publishing house, 2010)

Based on these discussions, Toynbee believes that the environment is "not enough to be a positive factor" in the origin of civilization However, such a simplistic negation is not enough. As we have said earlier, the transportation between America and Eurasia is cut off, where agricultural production originated independently. As an ancient civilization in the Far East, China is far away from the crossroads of civilization such as the Mediterranean, and its early agriculture also originated relatively independently. The Rio Grande River Basin and the Colorado River Basin It is located in America. Even if there are similar environmental conditions between Egypt and the two rivers, there is no crop such as wheat. Before the geographical discovery, there is no possibility to obtain such crops through transmission. Similarly, even if there are cultural environmental conditions similar to the Andes on the African plateau, there is no opportunity to obtain corn or similar crops before the geographical discovery Yes. The agricultural environment in the Danube River Basin and the Yellow River Basin is quite different, and is far away from the East and west of Chinese civilization, as well as the wild species distribution area of millet. Therefore, rather than demonstrating that the environment is "not enough to become a positive factor" in the origin of civilization, they confirm the "decisive role" of the environment in the origin of civilization , because of the distribution and spread of crops, as well as the coordination of crop attributes with local soil, landform, climate and other agricultural conditions, these are geographical factors and an integral part of the civilized environment. It is the environmental conditions composed of specific geographical factors that determine the agricultural development and the origin of civilization. At the same time, agricultural development is coordinated among a variety of geographical factors It raises the threshold of environmental conditions for the origin of civilization and constitutes the first "narrow door" in the process of civilization. Ancient civilizations and secondary civilizations in Eurasia and the Americas are the lucky ones who have passed this "narrow door".

### Section II: the source of civilization that died prematurely and the vulnerability of Agriculture

(Note: the early agricultural materials in this section are quoted from the environmental factors of the origin of civilization, Wei Yiping, 2012). Under the "narrow gate", not every civilization seed is lucky. Let's take China as an example to see the complexity of the process of early civilization. The last glacial period ended about 10000 years ago, and the climate warmed up, making it possible for agriculture to exist. Today's Chinese civilization mainly originated in the Central Plains, but archaeological excavations tell us that the birthplace of early civilization in China is far more than this. Around 8000 years ago, six Neolithic cultural areas closely related to the origin of Chinese civilization, including the Central Plains region, Haidai region, Gansu Qinghai region, Xiliao River Basin, the middle reaches of the Yangtze River and the lower reaches of the Yangtze River, have emerged. From 8000 to 6000 years ago, the climate was in a relatively stable warm and humid period. With the progress of agriculture, The range of ancient human activities gradually expanded from mountains to valley plains or alluvial plains. These early cultural areas constitute a vast area with a span of more than 2000 kilometers from east to west, north to south, and there are great differences in climate, landform and soil conditions. The annual average temperature in the Yangtze River Basin in the south is about 10 degrees Celsius higher than that in the Xiliaohe River region in the north, and the annual rainfall in the lower reaches of the Yangtze River in the southeast is 1000 ~ 1500 mm, The rainfall in Gansu Qinghai region in the northwest is only about 500mm, or even lower. Different geographical and environmental conditions resulted in different early cultural characteristics. The middle and lower reaches of the Yangtze River in the South had high temperature and rain and dense rivers and lakes. During this period, it had become a rice farming area, while the Yellow River Basin and Xiliao River Basin in the north had less rainfall and depended on dry farming dominated by millet and millet. The importance of animal husbandry is higher in the arid and rainless northwest Gansu Qinghai region. Although these distinctive regional cultures eventually merged into Chinese civilization, only the Central Plains has become the main source of Chinese civilization. Why? Under the long-term warm climate, agricultural progress and population increase in various cultural regions have created the basic conditions for the origin of civilization. About 5500 years ago, these six cultural regions have successively started the process of civilization. However, this diversified development process of "stars in the sky" ended around 4000 years ago. The Central Plains cultural area has become a survivor in the process of civilization and has been outstanding since then. The key is the large-scale agricultural recession caused by long-term climate change. Around 4500 years ago, the climate was gradually dry and cool, which had a great impact on the primitive agriculture of various cultural regions. The late Yangshao social development in Gansu Qinghai region fell into stagnation. Although the Qijia culture here had relatively developed bronze smelting technology 4000 years ago, it could not restore the civilization process. With the passage of time, the overall agricultural culture in Gansu Qinghai region disappeared and broke into many local cultures dominated by animal husbandry. With the expansion of Horqin Sandy Land in Xiliaohe area, the number of cultural sites has decreased sharply and the distribution area has narrowed. In the monsoon climate characteristics of China, there is a seesaw of drought in the north and waterlogging in the south. With the gradual dry and cold climate and the southward movement of rainfall belt, the flood disasters in the Yangtze River Basin have increased. Around 4000 years ago, the middle reaches of the Yangtze River were significantly silted up. Daxi Shijiahe site in this period has been found. It is located in the north of Jianghan Plain and buried under silt several meters thick. Located in the lower reaches of the Yangtze River, there has been an ancient city with the nature of a capital. Liangzhu culture with irrigation and flood control system has emerged. Around 4200 years ago, its farmland and settlements were also flooded, more than 200 years earlier than the decline of the middle reaches of the Yangtze River. Haidai culture, located in the lower reaches of the Huang Huai River, was dominated by dry farming of millet in the early stage. In the warm climate period, rice farming was introduced here and became an intermediate station for the northward spread of rice farming. However, in this period of dry and cold climate, Haidai area is no longer suitable for rice farming. It is considered that Haidai culture has entered the national era, which is also the same as that in the middle and lower reaches of the Yangtze River, With the decline of rice farming. In contrast, from the plain with an altitude of tens of meters to the Loess Plateau with an altitude of more than 1000 meters, there are a variety of landforms covered by loess in the Central Plains. On different terrain with different heights, there are different agricultural production conditions, so that the dry farming of millet and millet can be transferred on the terrain with different heights, which can be preserved. At the same time, the differentiated terrain also preserves the more developed animal husbandry, provides a supplement for agricultural production, and further improves the viability of the Central Plains culture under the impact of climate change. Therefore, it is the screening effect caused by long-term climate change that makes those cultural areas where agricultural production can not maintain stability and interrupts the process of their civilization origin. In the early culture distributed over a vast area of 2000 kilometers from east to west, north to south, only the Central Plains region with strong anti risk ability and stable development of agricultural production was lucky to escape the fate of premature death and become the main source of Chinese civilization.

### Section III: the stagnant source of civilization and the residual conditions of social division of labor

The seeds of luck (Civilization) are all similar, and the seeds of misfortune have their own misfortunes "We discussed the origins of early civilizations in China earlier. Their agricultural development may be interrupted, but they are accompanied by a clear division of labor. The agricultural region is vast. In addition to the origin of these ancient civilizations or secondary civilizations, or the historical region where the origins of early civilizations absorbed by them are located, we can also see that agricultural development is separated from the evolution of division of labor Other early civilization processes of the festival. In low latitude tropical regions, such as equatorial West Africa and Guinea highland in the Pacific, local unique crops have been domesticated and cultivated independently for a very long time. However, although the agricultural culture in these regions persists and is not interrupted due to cold and other reasons, the civilization process here is delayed due to the slow evolution of division of labor It is backward and presents various early civilization states.

Generally speaking, the natural environment of low dimensional tropical areas is not suitable for agricultural development. There are a few plains and basins in equatorial Africa, which belong to tropical rain forest climate, and then go to the north and south sides, it is tropical grassland climate. It is hot and rainy in the tropics, especially in the rain forest. The decomposition of spoils is also fast. Rainwater combines carbon dioxide in the air and spoils on the ground to become acidic water, which has a significant leaching effect on potassium, sodium, calcium, magnesium and other salts, iron, aluminum oxides and organic matter in the soil. After hundreds of millions of years of rain erosion, the soil here is mostly acidic laterite with low organic matter content and high viscosity, Very barren. Such climate and soil are very unfavorable to agricultural production. Only corn and cassava introduced from America can better adapt to this situation, but this is after the great discovery of geography. In very early times, people living in the forest fringe of equatorial West Africa independently cultivated African Dioscorea. For thousands of years, Bantu people have spread from here to the whole southern Africa and brought African Dioscorea of local origin in West Africa. Along the way, they get all kinds of bananas, Asian Dioscorea, sorghum, millet and other grains, However, due to the weak agricultural production conditions in sub Saharan Africa, Bantu people finally failed to create a prominent civilization process in this vast land.

After Southern Africa, let's look at the island of New Guinea in the Pacific. It is the second largest island in the world after Greenland. It is close to the equator. It was inhabited tens of thousands of years ago, even earlier than America. Its agricultural origin is also very early. It can be traced back to nearly 10000 years ago. Archaeological findings show that taro and banana were independently domesticated and planted in the high valley area of New Guinea about 7000 years ago. Despite the unfavorable agricultural environment similar to that in equatorial Africa, local residents have developed intensive agriculture as exquisite as the civilized world with their intelligence. Because these high mountains and valleys are isolated from the world, it was not known to the "civilized world" until the 1930s. When outsiders took a plane to overlook the mountains and found these high mountains and valleys, they were surprised by the agricultural scenery like the Netherlands. The well-known Malin people who appeared in anthropological research live here. Compared with the fishing and hunting society, the Malin people are "progressive". They live in settled villages and tribal societies. A "big man" who plays a leading role often emerges in the group, and some tribes also build special and exquisite houses to hold ceremonies. However, it is also striking that compared with the standard of "civilization", they are "primitive". Although they have a fairly high population density due to their unique and exquisite intensive agriculture, they have no words, nor are they organized as chieftains' jurisdiction, let alone as countries, that is, compared with agricultural development, The evolution of division of labor, such as the political process, is seriously lagging behind.

Before further discussing this situation in the highlands of New Guinea, let's first review the mechanism for the establishment of social division of labor. While agricultural development produces dense population, it also produces the social relationship between people. As life, our human survival ability is limited. For any agricultural society, agricultural products, as the most important means of survival, have a decisive impact on their individual survival opportunities. As mentioned above, agricultural production depends on the coordination of crop attributes, soil, landform, climate and other geographical factors, whether in a long or short period, There are risks. For social individuals under this risk, the pursuit of maximizing survival opportunities requires a variety of trade-offs between cooperation and struggle. We summarize this survival law as follows:

**In the face of agricultural risks, for any individual, cooperation is helpful to resist risks, but if they encounter betrayal and assume the risk transfer of other individuals, it may lead to the significant loss of survival opportunities. Launching betrayal under agricultural risks such as famine, such as refusing to share food, or even launching further attacks, can be fatal for those who encounter betrayal. Under this situation, those who adhere to the cooperative strategy will lose their survival opportunities under the repeated game. Therefore, individuals will fall into the prisoner's dilemma around risk sharing, and there is no possibility of maintaining a high-level cooperation strategy. They can only rely on blood relationship to maintain the cooperation between individuals in a small group. Groups can only betray each other and can not achieve cooperation. The developed division of labor in the process of civilization is a form of cooperation among large groups. To achieve this division of labor, it is necessary to free all groups from the prisoner's dilemma caused by agricultural risks. It requires authoritative political institutions as the third-party arbitration between groups. However, the establishment and maintenance of such political institutions need resources and armaments. Therefore, whether an agricultural society has resources and armaments to establish political authority will become the decisive factor whether the society can promote its civilization process.**

Back to the social situation in the highlands of New Guinea, there are many independent ethnic groups and tribes. Each group has only a few hundred people. Regardless of language and blood connection, they fight each other fiercely, and live in an intermittent but endless state of war. Lapaport, an American anthropologist, studied a group of more than 200 people named zembaga belonging to the Marin people in the highlands of New Guinea and recorded it in his book pigs dedicated to ancestors. According to this research strategy, another American anthropologist, kissin, briefly described the life of the mbaga people as follows: (Note: at the time of lapaport's investigation, there were more than 7000 Malins, divided into more than 20 groups, and the largest group was no more than 1000, living in amadang Province, new Guinea)

Rapaport's research noticed the importance of raising pigs in zimbaga's life from the beginning. Under normal circumstances, when the number of pigs is small, they are allowed to forage freely during the day and rush back to the owner's house at night to feed inferior sweet potatoes. When there is a battle between ethnic groups or someone is ill, they kill pigs to make sacrifices to sacrifice the ancestors. Lapaport found that these sacrifices had the consequences of physical adaptation, although the parties themselves may not know this. When the pig was killed to comfort Zuling to treat the patient, the patient (and his close relatives) received a large amount of protein supplement at the same time (in the normal diet, the supply of protein was slightly less than needed). People especially need protein supplement during physiological stress. Pigs used for sacrifice before battle have the same effect on soldiers.

The more interesting detail of ecological adaptation is the complex ritual cycle, which can promote the number of pigs far beyond normal needs. The regional group of Malin people lives in the alternating state of war and peace. Usually, there will be war between groups adjacent to the territory. Once the war breaks out, sporadic fighting may last for several weeks. Often the two sides are evenly matched, so it is difficult to have a so-called decisive victory or defeat. But sometimes one group will completely collapse, and the survivors will go to the relatives of other groups; The houses, gardens and pigs of the defeated were often leveled by the enemy. But at that stage, the victor could not completely occupy the territory of the defeated, because the ancestors of the defeated side continued to protect the territory.

When the war was over, the remaining groups held a ceremony to plant a sacred shrub called rumbim. Except for piglets, all pigs were slaughtered for sacrifice to their ancestors. Most of the pork was distributed to neighboring groups who had helped in the war. All kinds of strict taboos imposed during the war have been partially lifted, but the material and spiritual debt to allies and ancestors has not been paid off. This debt and danger that still existed after the truce continued until the wheel handle was long enough to be uprooted and enough to hold a pig feast "Kaiko". It takes a lot of pigs for the ceremony. Maybe it will take five or ten years to raise so many pigs.

With pigs, we have to cultivate many gardens and devote a lot of energy to feeding them. Lapaport's ethnographic records show that when the pig feast is about to be held, there are 169 pigs in cembaga, which can eat more than 54% of the sweet potato harvest and 82% of the cassava. The garden area at this time is 36% larger than that after the pig feast.

The pressure of pulling out the wheel handle and slaughtering pigs can be expected to come from women, who bear most of the work of raising more and more pigs. This pressure also comes from disputes and even fights caused by pigs breaking into the garden; In order to minimize such disputes, the settlement model has become more and more scattered.

At the beginning of the pig feast, wooden stakes should be erected at the border. If the defeated people in the neighboring countries escape everywhere and then go into exile, and still cannot return home to plant their own wheel handles for many years, then the victors can annex their territory, because the absence of wheel handles means that it is a ownerless land. Moreover, once the defeated joined the ritual life of other groups because of seeking asylum, especially when they began to plant wheel handles in other places, they would be tantamount to moving their ancestors and group origins elsewhere.

When the wheel handle was uprooted, it began to kill a large number of pigs (32 of 169 pigs were killed in the example seen by Rapaport), and distributed the meat to allies and in laws in other groups. The activity continued for almost a year. During this period, when the host group entertained the neighboring friendly groups one after another, they danced and distributed food every time. Rapaport guessed that the function of these dances was a "courtship performance"; But more importantly, these dances form a group of possible allies to show the outside world the power of possible alliances when war breaks out. It is like the Political Consultative Conference of the allies in the modern international community. Rapaport noticed that dance was expanded by individuals attracting blood relatives, in laws and friends from other groups, following the same route when inviting help:

In a sense, dance and battle are equally important. This equivalence is mainly reflected in some similar rituals before battle and dance. The Malin people say that those who will come to the dance will also come to assist in the battle. Both the host group and the possible enemy will take the number of people who will come to the dance as a measure of the number of people who will help in the next battle After dancing all night, the participants began to trade, so it provides an opportunity to exchange valuable goods peacefully. These goods include salt and stone tools, as well as symbolic wealth. Qikuo ended with the main animal sacrifice, slaughtered all the remaining pigs, and the pork was distributed to the members of the other groups according to kinship and marriage. Lapaport observed that the distribution of broad pork in zembaga was distributed to about 2000 to 3000 Marins in 17 small groups. It is also an occasion to distribute wealth among marriage groups.

When the pig feast is over, the battle can break out again, and usually it really breaks out; However, if the peace is maintained long enough and the second round of ritual cycle can finally be implemented, the two groups that originally fought can continue to maintain a long-term peace. (culture, society and individual, Chapter 5, "how culture changes", R. M. kissin, 1988)

Lapaport gave us the right knowledge. Pork can provide protein, provide nutritional supplement in disease and battle, and provide an opportunity to consolidate alliance. Feeding an increasing number of pigs not only consumes labor, but also intensifies the contradictions within the group, leading to the evacuation of residents, which weakens both internal unity and external defense. The pig feast ended the production strengthening accompanying the pig raising process and the self weakening of the group in unity and defense. The ensuing war destroyed the failed party's countryside, pigs and houses, and further weakened the production strengthening developed in the previous stage. However, how should we understand such a life cycle with the clue of raising and killing pigs?

Lapaport explained this life cycle of the Malin people from the perspective of "ecological adaptation", and believed that this periodic war restrained excessive agricultural development and protected the local fragile agricultural environment. However, any kind of life must obey the law of evolution. The selection pressure is eternal. Only the pursuit of maximizing the survival opportunity is the fundamental principle of all life behaviors. Using the so-called "ecological adaptation" to look at the circular process of raising and killing pigs can only be a deviation from the perspective of outsiders from modern society. In a common saying, this is "thinking more". Even if this "ecological adaptation" really exists, it is only the accidental and temporary spillover effect of the highland Marin people's pursuit of survival opportunities. It is neither inevitable nor necessarily sustainable, because in any sense, it can not overwhelm the essence of life behavior, that is, the pursuit of maximization of survival opportunities. Now, let's reinterpret such a life cycle of the zimbaga and their other Malin neighbors from the perspective of "maximizing survival opportunities".

On the Highlands, there is no higher political power than village groups, which can integrate various groups and make them live in peace. The relationship between highland groups is equivalent to the anarchy of the international community in the civilized world. The only difference is that the highland, the constituent unit of the "international community", is not a regional country with developed political structure in the civilized world, but a village group of hundreds of people that has not formed political differentiation. However, despite the difference in internal structure and size, the external behavior of highland groups and civilized countries in their "international society" is highly similar. Whether out of conscious and careful planning or unconscious cultural inheritance, the highland Marins, that is, the zembaga and its adjacent groups investigated by Rapaport, show us the way of survival in this anarchy with "best practices" that have been adapted and screened.

Life in the equatorial Pacific is uncertain. Because it is located in the core area of El Ni ñ o Southern Oscillation (ENSO), quasi periodic rainfall changes, rainy or drought will bring great trouble to the life of equatorial residents. Anthropologists tell us that in New Guinea, due to the impact of the local climate, there will always be one or two serious agricultural failures that often lead to famine in the past 20 years. Due to the special historical path and agricultural conditions, highland crops are mainly tuber crops such as sweet potato, sugarcane, yam and taro. Tuber harvests under the local climate are not suitable for long-term storage. Therefore, it is impossible to accumulate harvest to fight against crop failure. The resulting survival dilemma, coupled with the fact that there is no political authority over village groups on the highland, makes the conflict between groups inevitable. The losers in the conflict will lose their property, land and even lives. Those who are not prepared for the conflict will inevitably fail and even destroy in the conflict in the face of those who are better prepared for the war. In a word, the survival opportunities of those who are not prepared for the war will be weakened. In order to avoid this weakening and maximize survival opportunities, war preparation is a must. From this perspective, the life cycle of highland Malin people from raising pigs to killing pigs is a circular process from military preparation to war.

Under the material conditions of the highland Marins, war is a primitive form of conflict, with limited equipment level and organization. All men who can fight are soldiers, and physical strength and skills are the main combat resources. The pork at the pig feast is not only a nutritional supplement, but also a strengthening of "combat effectiveness". Feeding more pigs for a good pig feast is equivalent to accumulating more war preparation materials in peacetime and releasing more combat forces in wartime. In modern words, more pigs are a victory in the arms race. In addition to the participation of group members, the generous pig banquet also invited allies and distributed pork. While mobilizing themselves and releasing pressure, it also won over the alliance relationship and mobilized the combat strength of allies, so as to more fully convert war preparation materials into combat effectiveness and show them to the enemy. The pig feast is guided by pulling out the "wheel handle", which is equivalent to the declaration of war in the civilized world. The pig feast is both internal affairs and diplomacy, but in the ultimate sense, it is the completion of armaments and the starting point of war. Douglas Oliver, an American anthropologist, visited the siwai people on Bougainville Island, New Guinea. They went further than the highland Marins. The pig feast had a sponsor, known as "mmy" (big man). By hosting the pig feast, he attracted followers from neighboring allies and became a group leader in the war, The siwai recall that before the colonial authorities suppressed the fighting:

In ancient times, there was a greater "mmy" than now. At that time, "mmy" was a fierce and ruthless war leader. They made the fields desolate, and their clubs were lined with the skulls of the dead. (Chapter 7 of the origin of culture, "the origin of primitive states", Marvin Harris, 1988)

The siwai people left a eulogy of "mmy" and "star killing of man and pig", which let us have a better experience of the war atmosphere accompanying the pig feast:

You fly like lightning, you shake the earth

How many banquets do you host

When you leave us

The gongs and drums everywhere are silent

Warrior, handsome flower

Killing star of man and pig

When you leave us

Who will bring honor to his hometown?

(Chapter 7 of the origin of culture, "the origin of primitive states", Marvin Harris, 1988)

Due to the toil and suffering brought by this endless arms and war, an authoritative political institution that can maintain peace and order is beneficial. It will free the highland group from such a prisoner's dilemma about arms and war. But why is there no such political authority?

For both parties to the conflict, political authority is a kind of third-party arbitration. As we stated earlier, its establishment and maintenance require resources and armaments, but for the highland Marins, unfortunately, there is no harvest that can be stored for a long time, and there is no effective surplus. On the one hand, it weakens their ability to fight against crop failure, intensifies the struggle between groups, and promotes their demand for authoritative political institutions. On the other hand, it is impossible to maintain the existence of a third-party arbitrator, which makes them lose the possibility of establishing authoritative political institutions. In a word, the lack of effective surplus not only promotes the demand for political authority, but also hinders the supply of political authority. Under such a paradox of demand and supply, the social division of labor is impossible, the inextricable cycle of arms and war has become the main line of life, and the civilization process of Highland groups has stalled.

Surplus is the basis of division of labor. It seems that anthropologists have not fully understood the importance of this common sense. If there is no surplus, people can only kill each other in the battle of meeting on a narrow road. The only outcome of the loser is to become the "skull bones of dead ghosts under the knife" displayed by the enemy. There is only hatred between each other, and there is no possibility of division of labor. In terms of the importance of effective surplus in the process of civilization, in addition to the pig feast cycle in the highlands of New Guinea and Bougainville Island, two other comparative cases can give us more enlightenment.

In the equatorial rainforest at the junction of Venezuela and Brazil and the source of Orinoco River and Rio Negro, there is an Indian named yanumamo. About the middle and late 19th century, they obtained iron and bananas, changed their hunting life in the past, and became settlers planting bananas. They were considered as ferocious "fierce people", almost endless wars, and one third of adult men died in the battle, becoming an alternative sample on the road of civilization.

War is the basic expression of the life style of yanumamo people. The yanumamo are very different from the Marins. They seem unable to establish any solid peace. They have established a series of alliances with nearby villages, but the relationship between families has been repeatedly damaged by endless suspicion, vicious rumors and all kinds of treacherous acts. We said how allies entertain each other through banquets. This occasion is a good time to consolidate mutual friendship. However, even the best allies will be fierce and aggressive, so as not to make people doubt the value of each family's contribution to the alliance. At this kind of friendly banquet, although people were arrogant, swaggering and boasting about themselves, the final outcome could not be expected before the last guest left the village. Everyone is well aware that the host will deliberately arrange celebrations to get rid of those guests, or if the guests have noticed, they will take advantage of this opportunity to kill the host. In 1950, many relatives of the village that presided over the chest fight (recorded by the American anthropologist Napoleon chagono) ended up being the victims of a notorious treacherous party. They trudged for two days to another village in order to form an alliance with the people there. The hosts invited them to sing and dance. The atmosphere was very calm. Then they went back to bed. At night, a group of people broke in with iron axes and sticks. Twelve people were killed. Those who escaped rushed out of the village. On the way back, they encountered an ambush. Several people died and many were injured. (cow, pig, war, Lich - the mystery of human culture, Chapter 4, "savage men", Marvin Harris, 1989)

The frequency of such acts of war is astonishing. In fact, compared with the more than 10-year cycle from pig breeding to pig killing of highland Marin people, anthropologists' observation tells us that there is no stage of armament in the life of yanumamo people:

(American anthropologist) during Napoleon chagono's stay there, a village was attacked 25 times in 15 months. It is a miracle that chagono survived in this situation - which fully demonstrates his superb skills and fearless spirit as an anthropologist. (cow, pig, war, Lich - the mystery of human culture, Chapter 4, "savage men", Marvin Harris, 1989)

Anthropologists have different explanations for such frequent wars, but compared with the highland Marins, it is not difficult to understand. The yanumamo people obtained iron and bananas, cut down the jungle in the equatorial rainforest and established banana plantations. Compared with the past hunting life, this greatly increased their harvest and population density. Compared with the highland Malin people, they also faced the agricultural (banana) failure caused by the equatorial climate, but as a storable surplus, Bananas are not as good as sweet potatoes. At the same time, they can't feed the surplus output to pigs as highland Marins do, and treat pigs as a second best "storage" and "weapon". Without surplus, they have no ability to resist risks. Compared with highland Marins, yanumamo people fall deeper into the prisoner's dilemma of life and death and face the inevitable conflict, The only available resources and armaments of the yanumamo people are human resources. Therefore, they can only convert all their output into population as soon as possible and put it into battle as soon as possible in order to maximize their survival opportunities. This kind of life is cruel, but it is an inescapable fate imposed on them by environmental conditions and the law of evolution.

Compared with the yanumamo people, the African buniolo Kingdom, also located in the equatorial zone, shows us how effective surplus can promote the process of civilization. Buniolo is said to be composed of three ethnic groups with different histories, the original agricultural nation, the invading nomadic huma, and the last invading bito, who originally lived in the Nile basin. The king known to modern people is the descendant of the bito people. Although the colonial government has greatly changed here, the main outline of the traditional system can still be described.

Buniolo is located in the Central Lake area of East Africa in today's Uganda, with an area of about 5000 square miles and a population of about 100000. It is ruled by a hereditary ruler called "mukama". Buniolo people mainly grow millet (pearl millet and millet) and bananas (elephant leg banana?) For a living. The buniolo people were organized into a enfeoffed and still authoritative national society. Their mukama was the king, not just the patriarch responsible for redistribution. Mukama distributed the right to use all land and natural resources to more than a dozen patriarchs, who further distributed the right to use them to ordinary people. In order to compensate for this distribution, a large amount of food was made by hand Goods and labor are gathered at mukama's headquarters through a hierarchy of power. Mukama accordingly directs the use of these goods and labor in the name of the national cause. (anthropologist) John Betty tells us:

The king is regarded as the highest recipient and almsgiver of goods and labor... The great patriarchs receive tribute from their people, and he must give part of the products of his territory, such as food, livestock, wine and women, to mukama... But everyone must pay tribute not only to the patriarch, but also to the king. The king must also act as a almsgiver accordingly. Many special names of the king Both emphasize his magnanimity. According to tradition, he should give widely to people in the form of banquet and reward.

Only mukama has the power to seize by likes and dislikes. If someone doesn't pay tribute to mukama, he may lose his land, be expelled and be beaten by corporal punishment. Although mukama has a big feast and has a "big almsgiving person" But he still used a lot of income to strengthen his monopoly on coercive forces. He maintained a standing court guard by controlling the central barn, and did not hesitate to reward the soldiers who fought bravely and were loyal to him. Mukama also used considerable wealth in the Treasury for what is called "image building" in the contemporary era And public relations activities. He was surrounded by many officials, wizards and magicians, as well as people who kept the king's items, such as spears, King's tombs, King's drums, custodians of the throne and crown. There were also special "wearing the crown" His servants, cooks, bath attendants, shepherds, potters, bark cloth workers and musicians. Many officials also had several assistants. Other counselors, diviners and attendants also stayed in the court in the hope of being designated as patriarchs. In addition, mukama had a large number of harem wives and concubines, many of his sons, his brother's polygamous family and other royal relatives. In order to keep the family As for the power of the whole, mukama and some of his court personnel often travel on buniolo land and live in the palace funded and maintained by patriarchs and people. John Betty pointed out that feudal Europe after the Roman Empire also had some characteristics of buniolo king system. Like mukama, William the conqueror and his entourage often visited Britain in the 12th century The "patriarchs" monitored and accepted their hospitality. At that time, the British kings still had the image characteristics of the head of the redistribution system and the "big almsgiving". For example, William the conqueror held a grand banquet three times a year. At the banquet, he wore a crown and entertained many noble families and subordinates. (Chapter 7 of the origin of culture, "the origin of the primitive state" , Marvin Harris, 1988)

The buniolo people established a kingdom. The king and his government became the arbiter over many small groups, the "anarchy" between small groups was eliminated, and the endless war was stopped. Like the equatorial highlands of New Guinea and the jungles of Central America, the agricultural conditions here are not good. Why can the buniolo people do this, but the highland Marins and yanumamo people can't? Comparing their lifestyles, the key difference is that the buniolo people have grains such as millet. Compared with sweet potato and banana, grain can be stored for a long time and is convenient for transportation. The collected grain surplus, that is, the central barn controlled by the king, can effectively support the Kingdom's political institutions, arbitrate conflicts between subjects, and even provide alms to relieve subjects, so as to further reduce the level of conflict, New Guineans and yanumamo, who rely on crops such as sweet potatoes and bananas, can't do this.

### Section IV: the course of ancient civilization, prisoner's Dilemma and ups and downs

(Note: some descriptions in this section are quoted from the spring and autumn of the loser and the wrong way of the Warring States period, Liu Bo, 2019) in the previous section, we discussed the early civilizations with sluggish development in the equatorial zone. Although there are great differences within the civilized world in Eurasia, the gap between these early civilizations in the equatorial zone is still significant compared with the civilized world in Eurasia. However, it is also because of their simplicity in material and spirit that they have lost a lot of confusing cover, It can give us more explicit Enlightenment on the process of civilization.

When discussing the origin of civilization in the equatorial zone, we have discussed the prisoner's dilemma imposed on mankind by agricultural risks. Agricultural production depends on the cooperation of crop attributes, soil, landform and climate. Therefore, although agricultural risk is common, its situation and the plight it imposes on people cannot be universal. So what is the difference in the impact of different risk situations? Based on the previous discussion, we first make the following inference:

**The greater the agricultural risk faced by a society, the more serious the consequences (loss of survival opportunity) faced by the actors (individuals or groups) when they encounter betrayal, and the deeper they fall into the prisoner's dilemma of "survival or death". To get rid of this deeper prisoner dilemma, we need stronger resources and armaments to establish stronger political institutions.**

Now, under this inference, let's examine the origin of civilization.

The quasi periodic ocean current change in the equatorial Pacific and the El Ni ñ o Southern Oscillation (ENSO) phenomenon are a major driver of global short-term climate change, and the short-term climate change is a major driver of agricultural risk. The farther away from the equator and ENSO, the weaker the agricultural risk. Similarly, crops such as sweet potato, taro and banana, which are difficult to store, can not be seen in the highlands of New Guinea and Bougainville Island, which are close to the core area of ENSO. However, at the north and south ends of Polynesia, Tonga islands and Hawaii Islands are close to the North-South return line respectively, although the process of civilization is still slow, There is the limited authority of the chief and even the king. Back to the origin of ancient civilizations, although the ancient civilizations of the Americas are located in the tropical region, their core areas, like Hawaii and Tonga islands, are relatively far away from the equatorial line and close to the Tropic of cancer respectively. For the ancient civilization in Eurasia, the core area is far away from the equator and ENSO in the middle latitude. In these locations, compared with the equatorial zone, the agricultural conditions such as crop, soil, landform and climate have been greatly improved. Although the agricultural risk is weakening, the sense of existence is still strong. There is a record of "six years old, six years old, six years old, and one big hunger at the age of twelve" in historical records. The story of Joseph governing Egypt for Pharaoh in the Old Testament genesis, storing grain in seven bumper years and relieving hungry people in seven disaster years is the experience or metaphor of ancient civilization about agricultural risk. Anthropologists tell us that although the war cycle of the Highlanders of New Guinea is uncertain, it averages about 12 years, and the homologous relationship is conceivable.

Any civilization, at its source, is gathered by many groups like the highlands of New Guinea. It is said that the earliest founder of Rome came from the seven hills alliance east of the Tiber River, joined by sabins in the north, and then merged the Etruscans in the west of the Tiber River. We can regard the seven hills alliance as the alliance between the highland Marins, and sabins and Etruscans are the alien neighbors of the seven hills alliance, just like those who do not speak Marin in the highlands. The seven hills alliance, the Sabines joined in and annexed the Etruscan city of viai. The gradual growth of Rome was a process of ethnic integration similar to that of the kingdom of buniolo. This process is possible precisely because a civilization like Rome also has grain, but the civilization process of Rome greatly exceeds the equatorial Kingdom late in the historical process, such as buniolo, in terms of time and space. The fundamental reason is that it not only has grain, but also is in a good agricultural production environment in the middle latitude. Its crops are mainly grain. Unlike the buniolo people, highland Malin people or yanumamo people, it depends partly or even entirely on crops that cannot be stored locally, such as bananas and sweet potatoes. Furthermore, all ancient civilizations and secondary civilizations are located in the middle latitude with good agricultural production environment, and are based on grain agriculture. Grain is the basis of effective surplus. Even the ancient civilization such as Inca, which partially depends on potatoes, its potatoes can be stored in warehouses in high-altitude areas for a long time through a fermentation treatment. Such a simple fact covers the fundamental driving force and fundamental law of the process of civilization.

Ancient civilization agriculture takes grains as the core. Grains are easy to store and transport, and provide effective and abundant surplus. These surplus can be used for self rescue in famine. In addition, with the weakening agricultural risk away from the equator and ENSO, compared with the New Guinea highlanders in the equatorial Pacific, the agricultural society in the ancient civilization region is shallow in the prisoner's dilemma. To establish third-party arbitration in such a society, the power requirements of political institutions, that is, the requirements for resources and armaments are low. Moreover, grain brings effective and abundant surplus, and it is more capable of establishing political institutions to implement arbitration and relieve famine to reduce the level of conflict. The paradox between the demand and supply of political authority in the highlands of New Guinea no longer exists in ancient civilizations. Therefore, political authority similar to Rome and even more exemplary is generally established.

In ancient civilized societies, although political authority can arbitrate disputes among various groups and provide relief to various groups, thus suppressing the prisoner's dilemma around agricultural risks, under pre-modern conditions, human power is limited and agricultural risks have not been solved, and the resulting prisoner's dilemma will always be expressed in various forms. Therefore, further, We make the following inferences about the course of ancient civilization:

**Agricultural risks in ancient civilization always exist. The prisoner's dilemma around this risk also exists all the time. The liberation of this dilemma and the reappearance of this dilemma under new conditions constitute the main line of the process of ancient civilization.**

The Egyptian (North African) civilization, the two rivers civilization, the Indian civilization around the Mediterranean, and the subsequent Greek and Roman classical civilization, the Persian civilization, etc. have sprung up in different historical periods. The region and history are intertwined, the process is complex, and there are many missing records. However, the Chinese civilization in the Far East is relatively independent due to its geographical distance, The course is clearer and the records are more detailed. Therefore, let's take China as an example to further discuss the course of ancient civilization.

Based on the archaeological knowledge known today, since the Longshan culture, there have been many fortified city sites in the middle and lower reaches of the Yellow River, and even attached to palace buildings. The distinction between rich and poor has emerged, which shows that a political community with class distinction has emerged, and its volume and complexity have surpassed the villages of hundreds of Highlanders in New Guinea. The establishment of political authority requires resources and armaments. In this historical period, grain is a resource, but without bronze weapons, the armaments behind political authority are still very weak. Therefore, the power of political authority at this stage is very limited, and the group scale and corresponding regional size that can be integrated are also very limited. However, compared with the pre civilization like the highland Malin people, Longshan culture has stepped on the threshold of the civilization process. This civilization stage is also known as the Chiefdom era. According to the records of ancient Chinese books, this is the legendary era before Xia, Shang and Zhou dynasties. The historical records of the five emperors said that Yao's era "the people are clear and unite all nations". Zuo Zhuan AI Gong's ninth year recorded that "the princes of the Yuhui held jade and silk in Tu mountain and held jade and silk in all nations". The "ten thousand" of "all nations" is an empty name. Holding jade and silk "is the recognition of authority among the league, These records are an intuitive display of the small size of the Chiefdom and the limited political authority at that time. On the one hand, small village groups are integrated into the larger Chiefdom community. Individuals are freed from the old prisoner's dilemma. They live in peace and work in a division of labor under the established class order. The prisoner's dilemma is suppressed within the community, which is no longer expressed as a war between groups, but as a class contradiction. On the other hand, these chiefdoms inherited the anarchy between small groups of villages on a larger time and space scale. Relying on fortified settlements, they attacked each other. Despite the low risk level and the intervention of "allies" such as "Yao, Shun and Yu", the chiefdoms need not be locked in a rigid and solidified conflict mode like the highland Malin people, However, the cycle of arms and war still exists, and the old prisoner's dilemma reappears on a new time and space scale. In short, this different relationship model inside and outside the community boundary is the distinction between the enemy and ourselves inside and outside, that is, the so-called "fight inside the nest" and "fight outside the nest", which will coexist for a long time, become both inside and outside, and evolve with the continuous evolution of resources and armaments. The process of ancient civilization takes the symbiosis and co evolution of the two as the main line.

As a follow-up to Longshan culture, Xia, Shang and Zhou dynasties came one after another. The emergence of large cities, bronzes and characters marked that the agricultural zone in the Central Plains really crossed the threshold of civilization. On the one hand, bronze weapons created an unprecedented army. The leap in armaments strengthened the political authority of the agricultural zone in the Central Plains. The "King" of Xia, Shang and Zhou has been known as "home and world" On the other hand, bronze ware was a scarce resource and could not be used to make a large number of agricultural tools. Therefore, agricultural tools in this period were still dominated by wood and stone. Without the leap of agricultural production, the population and force were still limited. The power of political institutions was constrained by Limited agricultural surplus and limited armaments. The authority of the dynasty in Xia, Shang and Zhou Dynasties was always limited It is the most important country among many states. The first vassal, "King" is more the monarch of "Wangji" and less the monarch of "Tianxia". For "Tianxia", that is, the states outside Wangji, whether they have the same or different surnames, they are more controlled by the covenant than the real governance. According to archaeological findings, the late summer and early Shang, and the late Shang and early Zhou were dry periods with cold climate, Guoyu · zhouyu Shang also records that "in the past, Luo exhausted and Xia died, and the river exhausted and Shang died". Although the long-term change of climate brought the replacement of Xia, Shang and three dynasties, the situation of Chinese civilization has not changed much. There are few historical materials from Xia to the western Zhou Dynasty, but after King Ping moved eastward and Chinese civilization entered the spring and autumn and Warring States period, the historical process has accelerated and the historical materials have been enriched.

The process of Chinese civilization accelerated in the spring and Autumn period, which was first manifested in the expansion of civilized areas and the rise of population. Qin, Jin, Chu, Qi and Wu were "emerging powers" outside the Central Plains Before the spring and Autumn period, it could be said that it was unknown. Except that Qin occupied the hometown of Zongzhou, the place where several other countries rose was not in the hometown of Xia, Shang and Zhou dynasties. Duke Huan of Qi, who dominated in the early spring and Autumn period, generally believed that his army scale was 800 chariots and 30000 soldiers. By the end of the spring and Autumn period, the second-class country Lu also had thousands of chariots, and a powerful country such as Jin has been established There are four thousand chariots, and the army depends on all kinds of material support. Behind the rapidly expanding army scale is the rapidly increasing population and the accompanying production capacity. This process depends on the rapid development of agricultural production at that time, and behind this development is a series of changes in agricultural production conditions. Looking back to Section II of this chapter, from 2500 BC to about 2000 BC, there are In a cooling process, among the early civilization sources of Xiliao River, Gansu, Qinghai, Central Plains, Haidai, Jianghan, Jiangsu and Zhejiang, only the Central Plains survived the test of dry and cool climate. Later, for more than 1000 years from Xia and Shang Dynasties to the Western Zhou Dynasty, the civilized areas outside the Central Plains failed to fully recover, and were in a backward state for a long time, becoming the edge of Chinese civilization, especially from Gongzhou From the 11th century BC to the early Western Zhou Dynasty in the middle of the 9th century BC, China was still in a particularly cold period. The bamboo chronicle recorded that in the seventh year of King Xiao of Zhou, "in winter, there was heavy rain and hail, cattle and horses died, and rivers and Han were frozen." , Chinese civilization is more confined to the Central Plains. With the continuous change of climate, this situation changed in the spring and Autumn period. The temperature increased, the rainfall belt moved north, the rainfall increased in the north and decreased in the south, which improved Jianghan and Jiangsu and Zhejiang in the middle and lower reaches of the Yangtze River, the hometown of Xia, Shang and Zhou along the Xi'an Luoyang Zhengzhou Anyang line in the Central Plains, Haidai in the lower reaches of the Yellow River, and the north Due to the agricultural production conditions in inherent agricultural areas such as Fang Ganqing and Xiliao River, the states of Chu, Wu and Qi have sprung up where the source of civilization has been interrupted, and the hometown of Xia, Shang and Zhou in the Central Plains and agriculture in the north of the Central Plains have also prospered. The state of Qin rose in the hometown of Zongzhou and the state of Jin in Shanxi in the north of the Central Plains. However, due to the inherent attribute of monsoon climate, it has been a long time The improvement of agricultural production conditions brought about by climate change can not avoid the famine caused by short-term climate change and the ensuing prisoner's dilemma. Let's take a look at the successive events of the "boating battle" and the "Han Yuan war" between the Qin and Jin Dynasties in the spring and Autumn period as an example of this dilemma.

In the history of Chinese civilization, famine is a frequent situation. Just four years before the "boating battle", in 651 BC, Duke Huan of Qi made a covenant with the princes at kuiqu. Mencius · Suizi II took an oath. The fifth article is as follows:

Five orders said: there is no bend to prevent, no stop to buy, no seal but not to sue.

Among them, "unchecked buying" means that when a country is in famine, neighboring countries that have not experienced famine should provide relief and do not take the opportunity to blockade. The "boating battle" and the "battle of Han Yuan" between Qin and Jin Dynasties are such situations around famine and relief:

Volume 5 of the annals of the Qin Dynasty (the fifth edition of the Benji of the Qin Dynasty): (647 BC, the 13th year of Duke mu of the Qin Dynasty) when the Jin Dynasty was dry, he invited millet. PI Bao said that Duke Miao would not cooperate with him and cut him down because of his hunger. Duke Miao asked Gongsun Zhi, who said, "hunger is more important than ears, so we must not cooperate with him." he asked bailiyao, who said, "what is the crime of the people if I offend the king?" So he used a hundred miles of rice and Gongsun's words to die with the millet. He used boats, water tanks and carts to turn from Yong to Jiang.

In 647 BC, there was a drought in Jin. At this time, the monarch of Jin was Duke Hui, and his sister was the wife of Duke Qin Mugong. When Duke Hui was still a son and exiled, he received the support of Duke Qin Mugong, returned home under the escort of Qin soldiers and became a monarch. He promised to cede land to thank Qin, but he repented after becoming a monarch. "Yi I offended you" refers to this matter. Duke Hui asked the state of Qin to buy food for emergency. The monarchs and officials of the state of Qin had two choices: "when hunger changes their ears, they have to cooperate", push themselves to others and relieve Jin (Note: This is the so-called cooperation strategy in the prisoner's dilemma in the preceding article), or "don't cooperate, cut it down because of their hunger", opportunism and attack Jin (Note: This is the so-called betrayal strategy in the prisoner's dilemma in the preceding article). Qin weighed the pros and cons and chose to relieve Jin.

The next year, the state of Qin suffered a drought and asked the state of Jin for food. The kings and ministers of the state of Jin faced the same choice problem, but they had another balance and chose "cutting because of their hunger".

Volume 5 of the annals of the Qin Dynasty (Volume 5 of the annals of the Qin Dynasty): (in 646 BC, Duke mu of the Qin Dynasty) in the 14th year, when Qin was hungry, he invited Su Yu Jin. The king of the Jin sought advice from his officials. Guo Shi said, "because of his hunger, you can make great achievements in cutting down on him." the king of the Jin followed him. In the 15th year, he mobilized troops to attack Qin. Duke Miao sent troops to make PI Bao general attack him. In September, renxu fought with Duke Hui of the Jin and Yiwu in the land of Korea.

Fortunately for Qin, although famine was an adverse factor, the Qin army defeated him and captured Duke Jin Huigong alive in the battle in handi. This was the "battle of Hanyuan". After the war, on the condition of releasing Huigong, the state of Qin obtained the land in Hexi of Jin.

Let's discuss it from the perspective of survival and death. In the "boating battle" in 647 BC, Qin relieved Jin and preserved the strength of Jin. In 646 BC, Qin was weakened by famine, but he met and defeated the Jin army in the battle of Han Yuan in 645 BC. From time to time, no matter what Qin's consideration was, Qin rescued his future enemy. No matter what Jin's consideration was, Jin got a favorable fighter. This time, however, the balance of power and destiny did not incline to Jin, and Jin's plot ended in losing the army and ceding the land. However, as long as this situation of "hunger and emergency" continues, with the fluctuation of the degree of famine, luck will not always belong to the relief action party, and the strategy of "cutting it because of its hunger" only succeeds once, The loser will not have the opportunity to make another choice. Unfortunately, in China's civilized region, "hunger and change ears" is an unalterable geographical fact. With the progress of agricultural production, the population of various vassal states has increased, the force has increased, and the damage caused by famine has become greater and greater, "cut it down because of its hunger" "The damage caused is becoming more and more serious, which creates the possibility of the sharp dichotomy between prosperity and decline. In such a historical process, the consequences of placing life and death on the goodwill of the other party can not be borne by any party. Seize all favorable opportunities to attack the enemy and" cut it down because of its hunger " This strategy is the only rational choice, so it has become a universal choice. Jin soon had the opportunity to put this "rational choice" into practice again, in the 33rd year of Duke Lu (627 BC) , like Duke Hui, Duke Wen of Jin, who was supported by Duke mu of Qin, lost his new ear. The Qin army failed to defeat Zheng. Returning from Zheng to Qin is the only way. Jin had a discussion on whether to attack the Qin Army:

Jin Yuan Yun said, "Qin disobeyed uncle Jian and worked hard for the people. Heaven serves me too. You can't lose it and the enemy can't be indulged. Even if the enemy suffers health and disobeys the weather, it will attack Qin's division." Luan Zhi said, "if you attack Qin's division without reporting Qin's Shi, will it be a dead king?" Xian Yun said: "Qin didn't mourn my loss, but attacked my family name. Qin was rude. What should I do? I heard that I would fight the enemy one day and suffer for many generations. It can be said that I would die for my children?" so he ordered Jiang Rong to prosper suddenly. Zi Mo declined, Liang Hong Yurong and Lai Ju were on the right. After Xinsi in April of summer, he defeated Qin's master in cuisine and received a hundred miles of Meng Mingshi, Western begging and Bai YIC, so Mo buried Duke Wen（ Zuo Zhuan · the thirty third year of Xi Gong)

When Duke mu of Qin helped Duke Wen of Jin to ascend the throne, Luan Zhi hesitated, but the first did not hesitate. "If you fight the enemy in one day, you will suffer for many generations". In the face of an unknown future, it is absolutely irrational to waste an opportunity at your fingertips, so Jin set up an army. This was a cruel ambush and annihilation war. The records of the historical records are as follows:

Volume 5 of the annals of history of the Qin Dynasty (the fifth edition of the Qin Benji): "no one can escape from the Qin army." according to the Zuo Zhuan, three years later, the Duke of Qin Mu attacked Jin, and the Jin army avoided the war. The Qin army took a detour to the old battlefield to sacrifice the war dead:

Qin Bo attacked Jin, Jihe burned boats, took royal officials, and suburbs. Jin people did not go out, so they gave aid from Maojin, sealed the corpse and returned it. (Zuo Zhuan · three years of Wengong)

Under the specific agricultural production conditions relying on monsoon rainfall, the feudal states in the spring and Autumn period are facing a similar situation. Under the repeated game of life and death, faith and good neighborliness become the way of destruction. The opportunistic strategy of "serving the enemy can not be lost and the enemy can not be indulged" and "cutting it because of its hunger" will become the mainstream, and the oath of the covenant will become a superficial article of falsehood. In the 12th year of Duke Chenggong of Lu (579 BC), Jin and Chu joined forces:

In summer and may, Jin SHIXIE met with Prince Chu and Xu Yan. Guihai, an alliance outside the west gate of the Song Dynasty, said: "all Jin and Chu have no military alliance. They have the same likes and dislikes. They have the same compassion for danger and are prepared to save the evil. If it is harmful to Chu, Jin will attack it. In Jin and Chu, it is the same. There are no obstacles in the way of communication between Zhi and Zhi. If they do not cooperate, they will not be able to discuss the court. There is an alliance of Chongqing, the God will be clear, so that they can team their teachers and have no control over the state." (Zuo Zhuan - the 12th year of Chenggong)

It was agreed that Jin and Chu should not only cease their troops, but also work with one heart and one mind. In case of famine and disaster, they should give relief to each other and jointly fight against all countries that plot against Jin or Chu. We should ensure the safe return of envoys between the two countries and the smooth road. Whoever violates the covenant, let the gods punish it, let its army collapse and the country perish. However, only three years later, the oath was still in the ear, and Chu launched the northern expedition. For the responsibility of the covenant, Chu Lingyin Zi's comment was: "if the enemy benefits, he will advance. What alliance is there?". This "faithless" opportunism became the norm. Thirty years later, in the 27th year of Duke Lu Xiang (546 BC), Jin and Chu met again in the state of song. During the meeting, the people of Chu violated the Convention and wore armor inside:

Xin Si, the king of Chu, allied himself outside the west gate of Song Dynasty. Bozhou Li said, "if you don't believe, you can't do anything. If you don't believe, you will abandon it and serve the princes." Gu asked Shijia. Zi Mu said, "Jin and Chu have no faith for a long time. They only do things for profit. How can you achieve your ambition and use your faith?" (Zuo Zhuan - the 27th year of Xianggong)

In the face of the requirements of interpreting armour according to the regulations, the performance of Chu people is the same as that of 30 years ago. "It's only about profit, how to achieve ambition and how to use faith", which is the real attitude of the vassal states towards the credit of the covenant. Therefore, with the progress of agricultural production and the struggle under the prisoner's dilemma, the vassal states of "how to use faith" have gone through the spring and Autumn period. At the end of this period, the number of vassal states has decreased greatly. According to the historical records, there were hundreds of vassal states in the early spring and Autumn period, and in the early Warring States period, This number has dropped sharply to more than 20, and the more cruel war is waiting for these growing survivors in the Warring States era ahead.

The Warring States period is named after the continuous cruel wars in this era. The thought of "overall war" that appeared in Western Europe in the 20th century was already a fact in the Warring States period more than 2000 years ago. "Teach the people to cultivate war", and war has become the leader of all social actions. The root of the characteristics of this era is the changes of living environment and production conditions.

Ironware had appeared in the Shang Dynasty. By the end of the spring and Autumn period and the first five centuries of the Warring States period, ironware had been popularized to all vassal states, and rapidly applied to all aspects of production and life. It was widely used to make agricultural tools and weapons. However, it was also in the fifth century that the warm climate since the spring and Autumn period ended. In this turning period of climate change, the temperature turned around and fell. The death of King Jing of Zhou is regarded as the turning point of the spring and Autumn period and the Warring States period. King Jing reigned for 44 years and died in 476 BC. Taking the bamboo chronicle as an example, there were few records of abnormal celestial phenomena in the spring and Autumn Period earlier than King Jing, as follows:

Bamboo Annals

(729 BC, King Ping of Zhou) in the spring of the 41st year, there was heavy rain and snow.

(649 BC, King Xiang of Zhou Dynasty) in the third year, Yu Jin came to Jin.

(621 BC, King Xiang of Zhou Dynasty) for 30 years, Luo Jue was at the top of the mountain.

(526 BC, King Jing of Zhou) in the 19th year, in winter and December, taoxinghua.

There are only eight records in the king worship era, and five records of abnormal celestial phenomena:

The Bamboo Annals (505 BC, King Jing of Zhou) lasted for 14 years, and did not appear in the Han Dynasty. (493 BC, King Jing of Zhou) in the 26th year, Jin Qinghong saw him. (491 BC, King Jing of Zhou) in the 28th year, Luo Jue was in Zhou. (483 BC, King Jing of Zhou) in the 36th year, Qi Jue was in the old Wei. (476 BC, King Jing of Zhou) in the 43rd year, the Song Dynasty killed his doctor Huang Yuan on the Danshui. (song Dashui,) Dan water does not flow.

In subsequent records, it is even more inexhaustible, such as:

Bamboo Annals

(471 BC, king of Zhou Yuan) in the sixth year, Jin Jue was superior to Liang. Dan water will never flow for three days.

(463 BC, King Zhending of Zhou) in the sixth year, Jin River Jue Yu Hu.

(457 BC, King Zhending) in the twelfth year, the river was red for three days.

(423 BC, King Willy of Zhou Dynasty) in the third year, there was a drought in Jin, and the ground grew salt.

(421 BC, King Willy of Zhou Dynasty) in the fifth year, Jin Dan water came out and was anti clean.

(387 BC, king of Zhou'an) in the 15th year, there was a strong wind and the day was faint.

(368 BC, King Xian of Zhou) in the second year, the river was red at Longmen for three days.

(365 BC, Zhou Xianwang) five years ago, Yubi was in Ying. The ground suddenly grows more than ten feet and is half a foot high.

(364 BC, King Xian of Zhou) six years ago, the rain and millet were in Qi.

(347 BC, King Xian of Zhou) in the 23rd year, the land in the middle of Jiang River is far away from Fen in the West.

(313 BC, King Yin of Zhou) in the second year, the Qi land grew violently, more than Zhang long and one foot high.

(309 BC, King Yin of Zhou) in October of the sixth year, there was heavy rain, strong wind and sour jujube in the river.

(307 BC, King Yin of Zhou) eight years ago, the west wind was strong.

Zhushu chronicle is a historical book of Jin inherited by the state of Wei. Celestial records are mainly from northern countries, but there are few records on the situation of Chu, Wu and Yue in the middle and lower reaches of the Yangtze River. However, thanks to modern science, we can use a variety of means to supplement the relevant information. Scientific investigation found that the flood level in the east of Jianghan Plain has been rising since about 2500 years ago, that is, the era of King Jing of Zhou. As we mentioned earlier, when the temperature drops and the rainfall belt moves south, it will cause drought in the north and flood in the south. The investigation found that the South was flooded due to heavy rain in the Warring States period, which is consistent with the drought in the North due to cooling at this time. The development of iron and the drastic change of climate have brought profound influence and jointly shaped the historical process of the Warring States period. On the one hand, iron is widely used to make agricultural tools and weapons, which not only improves agricultural productivity, but also improves the military force, resulting in more population and stronger force. On the other hand, the food production dilemma caused by drought in the north and waterlogging in the South has not only pushed up the level of conflict among the vassal states, but also changed the internal development trend of the vassal states. The history of the Warring States period is carried out on this premise. According to the premature death of various civilizations around 2000, under the climate change of drought in the north and waterlogging in the south, the Central Plains Agricultural Area, as the hometown of Xia, Shang and Zhou dynasties, has the strongest anti Strike ability. In the spring and Autumn period, under the warm climate, the agricultural production environment improved. In the early agricultural areas outside the hometown of Xia, Shang and Zhou dynasties, many large countries of Jin, Qi, Wu and Chu emerged. In the Warring States period, under the cold climate, the agricultural production environment deteriorated. Compared with the hometown of Xia, Shang and Zhou dynasties, these emerging countries also suffered more blows. Benefiting from the temperature rise in the spring and Autumn period, the state of Jin rose in Shanxi, north of the hometown of Xia, Shang and Zhou dynasties. This area is also vulnerable to drought during the period of temperature decline. The severe drought and famine, that is, the so-called "Ding Wuqi famine", occurred from the first year to the fourth year of Guangxu of the Qing Dynasty (1875-1878), affected Henan, Shanxi, Shaanxi, Zhili and Shandong provinces, covering the regions of northern countries such as the three jin, Qin and Qi Dynasties in the Warring States period, and Shanxi, the hometown of Jin, was the most serious, Although the impact of climate change over the past two thousand years will not be the same, the landform has not changed much, so we can roughly judge the resistance of various regions to climate change. After the separation of the three Jin Dynasties, the state of Wei was committed to operating along the Yellow River between Qin and Wei dynasties. Wu Qi gradually promoted the establishment of Shaoliang city (now Hancheng) on the West Bank of the Yellow River. From Shaoliang to Yinjin (now Huayin), he established a series of strongholds and completely controlled the Yellow River from north to south, but finally the state of Wei moved its capital to Daliang (now Kaifeng) and failed to develop westward. It is recorded in Lv's spring and Autumn Annals that when Wu Qi left the state of Wei, he said, "if you know me sincerely and make me able, Qin will die, and Xihe can be king!". This is not necessarily a historical truth, but a view of people at the end of the Warring States period, that is, if the state of Wei adheres to the strategy of advancing westward, it is possible to destroy the state of Qin, because in the late Warring States period, it is difficult for the six countries to defeat Qin to break through Hangu pass, In the period of Wuqi, Hangu pass had not been established. The Yellow River controlled by the state of Wei was to the west of Hangu pass. From Yin to Jin along the Weihe River, you can also go straight to Xianyang, the capital of the state of Qin. So why did Wei adopt the strategy of moving eastward rather than westward? The reasons may vary, or may never be explained accurately, but for the choice of this strategic direction, we can simply consider two factors brought by the background of climate change. On the one hand, the hometown of Xia, Shang and Zhou has a stronger ability to resist climate change, and the prosperity and small countries in the hometown of Xia and Shang in the East are certainly an attraction. On the other hand, The decline of the hometown of Shanxi brought about by climate change should be a driving force. As a history book of the state of Jin inherited by the state of Wei, Bamboo Annals recorded many abnormal celestial phenomena in the land of Jin in the early Warring States period, such as the cut-off of river water and the growth of salt in the land. In this case, it developed westward. At that time, the state of Wei did not lose ground in the face of the state of Qin, but when the former land of Jin declined, it could not be said that it had much confidence and developed eastward, The former land of Xia and Shang Dynasties was still the territory of weak and small countries such as Zheng, Lu, song and Wei, which was easier to gain a foothold. Such a situation was established for the three Jin Dynasties. It was not only Wei that moved eastward, but also the three Jin Dynasties. Wei moved its capital from Anyi (today's Yuncheng Basin) to Daliang (today's Kaifeng), South Korea moved its capital from Pingyang (today's Linfen basin) to Yangzhai (today's Yuzhou, Henan), then moved to Zheng (today's Zhengzhou), and Zhao moved its capital from Jinyang (today's Taiyuan basin) to Zhongmou and then to Handan. Compared with the geographical advantages of the six countries, Qin's possession of Hangu pass is more likely to be established due to the relative decline of the hometown of Jin. Another typical example of being hit by climate change is Wu Yue, located in the lower reaches of the Yangtze River. The state of Wu rose late on the stage of the spring and Autumn period, but as soon as it appeared, it was a powerful country. King Helu of Wu broke the Yingdu of the state of Chu to the west, and King fuchai of Wu defeated the state of Qi to the north. It seemed that the princes could compete with the state of Jin in Huangchi. But "the mantis catches the cicada, and the Yellow finches are behind". The state of Wu, which is at its peak, was destroyed by the state of Yue in ten years. At this time, it was just at the time of the spring and Autumn period and the Warring States period. Although the state of Wu collapsed in 473 BC, the land of Wu and Yue did not decline. Instead, the state of Yue inherited the power of the state of Wu and ran across the east of the river. Gou Jian, king of Yue, followed Wu and became a tyrant. Mozi called this belligerent country in the early Warring States period "Qi, Jin, Chu and Yue", but there was no Qin, which shows the status of Yue at that time. However, in the middle and late Warring States period, the momentum of the state of Yue weakened rapidly and was finally destroyed by King Huai of Chu in the boundless era of King Yue in 306 BC. In the past two hundred years, from the destruction of Chu to the destruction of the country, the land of Wu and Yue suddenly rose and fell, so there are few retained materials. However, the question of the sudden rise and fall of Wu and Yue can be inspired by "historical experience". In the second section of this chapter, "the source of premature civilization" In, we already know that the rice farming area in the lower reaches of the Yangtze River, represented by Liangzhu culture, declined around 2200 years ago. In contrast, the Jianghan Plain in the middle reaches of the Yangtze River, which is also a rice farming area, declined around 2000 years ago. In other words, in the face of climate change of drought in the north and waterlogging in the south, the land of Wu and Yue in the lower reaches of the Yangtze River is more vulnerable. On the contrary, when it is warm During the Warring States period, the suitable time point for farming in Wu Yue area will come later. This is based on the ability to resist agricultural risks. Combined with the climate change during the spring and Autumn period and the Warring States period, it can very simply explain the ups and downs of the land of Wu Yue. According to archaeological knowledge, after the mid Warring States period, the tombs in the land of Wu Yue reflected the integration of Chu Yue culture and the dominant Chu culture The customs of Wu and Yue, which had flourished for hundreds of years, were only found in low-level tombs and melted in the culture of Qin and Han Dynasties. However, the number of Chu cultural relics in the Warring States period was far less than that of Wu and Yue in the spring and Autumn period, indicating that Chu did not vigorously develop this place after the destruction of Yue, and the original people of Wu and Yue were lost. As a circumstantial evidence, this place was not opened in the Warring States period, which was in urgent need of war resources At this time, the land of Wu and Yue had declined due to the destruction of rice farming conditions, which is the most concise and reasonable explanation. Compared with the land of Jin and Wu and Yue, the Haidai region and Jianghan region where the state of Qi and Chu were located would be better, but in the end, they occupied the land of Xia, Shang and Zhou respectively. The state of Jin and the state of Qin launched the cruelest fight in the Warring States period. Although the state of Qin accounted for According to the advantage over the six countries in Shandong, but this advantage is not overwhelming. Even after the great victory in the Changping war, Qin also suffered a disastrous defeat in the Handan war. Finally, when all countries have been exhausted, the progress of irrigated agriculture such as Zheng guoqu and Dujiangyan has become the last straw for Qin to overwhelm the six countries. Qin attacked the six countries and "the world" However, the agricultural crisis that caused the prisoner's dilemma among the vassal states has not disappeared, and the prisoner's dilemma between people still exists. Without the vassal states that maintain the local order, "the world" The maintenance of order has now become a challenge for the Qin Dynasty. The deeper the agricultural crisis, the more difficult the prisoner's dilemma, the more powerful the political institutions are needed to maintain order and relieve the crisis, and the more powerful the political institutions are, the more powerful the resources and force are needed as the backing. The unified Qin system is the most powerful political institution, but as a kind of "Tax official" system, which needs heavy taxes to maintain itself, that is, a large number of bureaucrats and troops, and "the world" As mentioned above, the agricultural production in the hometown of Xia, Shang and Zhou Dynasties is more stable and progressive than that in other regions. Therefore, there are fewer crises to be relieved in these regions, the order is more stable, more taxes can be supplied to the Qin system, and the Qin system operates more smoothly. On the contrary, in the old land of vassal states far away from the region, Agriculture is more fragile and backward, and the order is more chaotic. The strong political institutions needed to maintain the order constitute a paradox with the lack of taxes that the place can provide for the Qin system. Such a dichotomous agricultural pattern centered on the hometown of Xia, Shang and Zhou Dynasties and bordered by Qi, Chu, Wu, Yan and Zhao has become the background of the Qin and Han Dynasties.

In the era of the first emperor after a hundred wars, the agricultural progress of "the world" was still limited, and the cold period of the Warring States period continued, so the agricultural crisis was still deep, "the world" The order is still unstable. The tax resources in the hometown of Xia, Shang and Zhou dynasties can try their best to maintain their own Qin system, but the support for the Qin system in other regions is limited. Therefore, the unification of Qin failed to persist for too long, which ushered in the collapse of order at the end of Qin Dynasty. In the war at the end of Qin Dynasty, the most fierce resistance was in Chu, Qi, Zhao and other places far away from the Central Plains, and the local resistance in Han Wei, the hometown of Xia, Shang and Zhou was weak However, Guanzhong, the hometown of the state of Qin, did not lose order. Such a pattern of resistance is the embodiment of the lack of support for the Qin system in the marginal areas such as Qi, Chu (Wu), Yan and Zhao. (Note: Yandi's anti Qin struggle is weak, which should be similar to that of Wu and Yue. As the northeast and Southeast places far away from the hometown of Xia, Shang and Zhou dynasties, the strength here should be weaker than that of other regions under climate change.)

However, such a dichotomy in the pattern of resistance can not change the dichotomy in the agricultural pattern. Therefore, in the dispute between Chu and Han, Chu people were born, but "inherit the land, people and system of Qin" The Liu Bang Group defeated Xiang Yu group, who was born in Chu and based on the six countries of Shandong, established the Han Dynasty and became the second conquest of the six countries of Shandong by the forces of Guanzhong. The "restoration" of the enfeoffment system in the early Han Dynasty , the parallelization of prefectures and states is an adaptation to such an agricultural production pattern. However, the parallelization of prefectures and States itself is a political division. This hidden Warring States situation finally emerged in the chaos of the seven countries. Such a dilemma, which is beyond the power of unification and leads to war chaos due to feudalism, was finally solved in the agricultural development since the Western Han Dynasty. During the Western Han Dynasty, iron With the further development of organic agriculture, iron farm tools, cattle farming and corresponding farming technologies have been widely popularized, and the types and forms of farm tools suitable for new farming technologies have increased. In addition, with the end of the cold period of the Warring States period and the progress of water conservancy and irrigation, the general agricultural progress has laid the foundation for the stability of unification.

In five hundred years, there will be a king.". From the spring and Autumn period and the Warring States period to the Qin and Han Dynasties, the risks and progress of agriculture promoted the formation and stability of great unification. However, is it possible that under the great unification, the country and the mountains will be consolidated forever and the war will no longer be chaotic?

The truth is, No.

Great unification has solved the war chaos caused by various countries competing for supremacy, but it can not eliminate the agricultural risk that promoted the war. A unified political organization needs the support of taxes. Under the production level of pre-modern agriculture, taxes are always limited, and the reserves of political organizations and the bureaucrats and troops they support are also limited. Therefore, its arbitration ability and relief ability are limited. This fact will bring multiple challenges to the unification.

Firstly, the fluctuation of agricultural output caused by short-term climate change will bring many consequences. The fluctuation of agricultural output directly brings the survival crisis to farmers themselves, and the fluctuation of agricultural output causes the fluctuation of grain price, which causes the price fluctuation of all social products and services, which transmits the survival crisis to everyone and causes ubiquitous disputes. No political institution has enough resources to arbitrate all these disputes in great detail, nor do they have enough resources to fully remedy the survival crisis of all people. Therefore, on the one hand, people generally need to seek additional means of violence in addition to the arbitration of political institutions to protect themselves, whether resisting the violence of others or attacking others with violence, "A large number of people and a large number of friends and relatives" are the most basic survival rules. On the other hand, people generally can not expect the relief of political institutions. Mutual assistance has become a necessity for survival. The "large number of people and great strength" of friends and relatives has become the most basic survival advantage. Therefore, whether it is the need of self-defense or self relief, the fluctuation of agricultural output will stimulate everyone and all groups to give priority to population proliferation. The society that gives priority to population proliferation will promote land reclamation, increase the proportion of people to land, reduce agricultural labor productivity, reduce the relative surplus, and form a vicious circle in which agricultural risk and population proliferation promote each other.

Secondly, long-term climate change will bring periodic and overall changes to the agricultural production environment. In each cooling stage of long-term climate change, it will cause a large-scale decline in agricultural production. If this decline and the high-level population driven by short-term climate change are superimposed with the low-level surplus, the relief needs will greatly exceed the relief capacity, Society will therefore lose order, and restoring order requires strong political institutions, bureaucratic organizations and military forces, while declining agricultural production cannot provide sufficient taxes to support such political institutions, which intensifies the contradiction between the demand for political institutions and the tax ability to support such political institutions, Under the paradox between rising demand and declining capacity, the unified political order will collapse.

Therefore, under the joint promotion of short-term climate change and long-term climate change, the unified political order collapsed and rebuilt again and again. The so-called "division and integration for a long time" and "Qin system for two thousand years" have become the established model of Chinese civilization for two thousand years since the Qin and Han Dynasties.

In the "axis era" in the same period as the spring and Autumn period and the Warring States period, due to the popularity of iron, the progress of production and force has benefited from this. Compared with China, ancient civilizations along India and the Mediterranean coast have also had "great unification" with varying degrees of centralization. After the Qin and Han Dynasties, under the oppression of the cold era, Chinese civilization and Roman civilization collapsed at the same time. Under the general decline of production, Chinese civilization was unable to support the unification since the Qin and Han Dynasties, retreated to the feudal system, and entered the era of imperial power feudalization and the so-called "door politics". Until the Tang and Song Dynasties, Chinese civilization developed southward, The agricultural progress based on rice farming has once again launched and deepened the process of great unification. On the contrary, on the ruins of Roman civilization, medieval European civilization developed northward, thus obtaining a low level of agricultural risk, while other civilizations, either the agricultural recession caused by long-term climate change failed to recover (the Middle East), or the residual poverty driven by short-term climate change was stronger (India), so they were unable to bear the unified tax expenditure. Therefore, for various reasons, the rise and fall cycle of ancient civilizations outside China is not as typical as that of China. The "great unification" of varying degrees often cannot be rebuilt for a long time after the collapse, but the superposition of these two factors is still the fundamental force to promote the process of ancient civilizations.

### Section V: modern civilization, agricultural miracle far away from ENSO

(Note: some descriptions in this section are quoted from the general history of Britain (six volume edition), edited by Qian Chengdan, 2016)

Modern civilization began in England.

The British Empire is the first global empire in human history. While envious and jealous, European countries are committed to "modernization" like Britain. "Britain's today is our tomorrow", which was once a common development belief. However, looking back on the historical changes over the past few hundred years, people will find that except that the development process of the United States is comparable to that of Britain, most countries have gone through quite different modernization processes from that of Britain, and people are more and more aware of the British history marked by the origin of capitalism, Is a unique special phenomenon. The detailed research and expression of this particularity have been sufficient, but there is still no holistic and fundamental explanation that can be recognized. In this section, we will start from the new paradigm of the agricultural origin of capitalism, "the unity of logic and history", review and comment on the special nature of the British historical process to promote such a holistic interpretation, A fundamental new explanation.

The origin of capitalism depends on the stability of agricultural output. Stable agricultural output depends on a stable agricultural climate. This climate feature is long-term and stable. Therefore, its impact on the course of British civilization is not limited to the era of the rise of capitalism since 1500, but has existed since ancient times. Compared with the early history of ancient civilization areas, the stable agricultural output on the British island will bring stable survival expectations and will not promote the prisoner dilemma of rational choice of mutual betrayal among people and groups. Therefore, there has been a weak conflict and more peaceful tone of social life on the British island since ancient times, There is a lack of demand for political authority as a third-party arbiter, so the development of administrative and judicial institutions, as well as the armed forces behind these institutions, will also be relatively slow, which gives British history a unique attribute and process. According to archaeological findings, it is not too late for Britain to have the basic conditions for the growth of civilization. The Neolithic age was characterized by farming and settled life. The agricultural age of the British island began between 4000 and 3000 BC. People who migrated to the British island from the European continent introduced domesticated cattle and sheep, planted wheat and barley, and mastered pottery technology. They cut forests to grow grain and grazing. By 3000 BC, This farming lifestyle has covered most of the British island. The Bronze Age in England began around 2150 BC. The southwest of the British island is now called Cornwall and Devon. Tin mines are rich. By the 1600 BC, local tin, as a raw material for making bronze, had been transported to Europe in large quantities. Considering the two-way nature of this exchange, Britain is not short of bronze. Different from the European continent, people in the Neolithic Age lived less in settlements, and cave dwelling was more common. Until the early Bronze Age, people began to live in open settlements with few heavy defenses. From the Neolithic Age to the early Bronze Age, the most prominent change in the landscape of Britain and neighboring Ireland is the emergence of many huge memorial buildings, among which the most famous is Stonehenge in Wiltshire, England, which covers an area of 11 hectares. Archaeologists believe that its construction is divided into several stages and lasted for at least 1500 years, The first stage is equivalent to the late Neolithic age. From about 3100 BC, ring ditches and earth platforms were built, and the prototype of Stonehenge composed of two rings was arranged with blue sandstone. In the second stage, from 2100 B.C. in the early Bronze Age to about 1900 B.C., a road leading to the central part of the stone column group was built. The large-scale Stonehenge was also completed during this period. There are lying huge stones on the top of the stone column as lintels. In the following 500 years, the positions of these boulders were rearranged tirelessly until about 1400 BC in the middle of the bronze age, forming today's pattern. So far, there are different opinions on its function or use, but there is no doubt that it is a continuous and planned social action, indicating a social force based on population and cooperation. Although many huge monuments represented by Stonehenge show that the British island is not lack of population and social forces, there were no heavily fortified settlements in this period. This comparison shows the weak conflict and more peaceful social life inferred above. Archaeological evidence shows that around 1200 BC in the late Bronze Age, corresponding to the collapse of the great empire in the Near East at the same time, there was a large-scale fracture in the culture of Britain and even the European continent, and the early history of Britain was interrupted.

Although more than 1400 years after the invention of bronze, bronze replaced stone and became the main raw material for tool and weapon manufacturing, the British island is located in northwest Europe, with lush forests and the emergence of bronze tools. In such areas, the driving force for agriculture is not strong. Therefore, the agricultural development in the bronze age is still limited. Archaeological discoveries, in the late Bronze Age, The cleared woodland is mainly located in the south of the British island. This situation lasted until around 750 BC, when the iron culture from the European continent began to affect Britain. The advantages of iron are obvious. The hardness is higher, more durable, and the quantity is larger. Compared with wood plows or copper pear plows, iron plows plow faster and deeper, and iron axes cut down forests and open up cultivated land industry more quickly and effectively, which has brought great impetus to agriculture. In the early iron age, the main removal work in Wales has been completed, and in the late Iron Age, a large number of woodlands in northern England have been removed, most of the landform of the island is suitable for farming, there are a large number of grain planting in the north and west of the island, and the whole British island has generally entered the iron agriculture era. It is recorded in Caesar's Gaul wars that in the late Iron age before the Roman conquest, the agricultural population was already quite dense along the coast of the British island in the 1st century BC (Note: Gaul Wars: "According to their own legends, people living in the mainland of Britain were born and raised on the island. People living in coastal areas were originally relocated from birgay for looting and war. They usually called them after the country in which they were born. After the war, they lived here and began to cultivate land. There were many residents, It's hard to count. Their houses are densely built, most of which are similar to those in Gaul. ")

With the development of the iron age, a large number of Shanzhai settlements with an area of about 1 ~ 6 hectares were fortified layer by layer in the south central part of the British island. They reached a peak in the 6th and early 5th centuries BC. Around 400 BC, some shanzhais were abandoned, while a few still used were more prominent, some of them until the 1st century BC After the decline of Shanzhai settlements in the period, there appeared a settlement called "oppida" in Britain. (Note: this word is borrowed from Latin. Caesar once used this word to describe British settlements, but he clearly said that "oppida" refers to "densely leafed and difficult forest areas protected by barriers and trenches" , it sounds more like a refuge, or a "cottage" settlement.) archaeologists call it "opida" It covers a huge area and usually has a solid and discontinuous wall. It is the regional center, a place for gathering and exchange, and even has the function of coinage. It has developed here, showing the amplification of social scale. The decline of fortified cottages and the rise of opida, the regional center, indicate a reciprocating change in British society. From the Neolithic Age to the bronze age, production developed slowly, The iron age brought about a leap in productivity. Different ethnic groups developed fast and slow because of different opportunities. The original social balance was broken and the level of conflict increased. The emergence of Shanzhai settlements with heavy defense during this period showed that this weak conflict and relatively peaceful social life state was broken. However, with the development of the iron age, stable agricultural life As a result, the new social balance was established again, the Shanzhai settlements with heavy defense gradually declined, and the "oppida" with the nature of Regional Center for aggregation and exchange gradually developed , it can be regarded as the return of many early memorial buildings, indicating that the weak conflict and more peaceful tone of British social life had appeared again in the late Iron Age and before the Roman conquest.

With the advent of the Roman conquest, there was a "civilized world" A written record of the situation in Britain. When Caesar invaded the southern coast of Britain, there were many independent tribes that were incompatible with each other. It was through the internal strife between these tribes that Caesar was able to rely on his limited military strength to submit to the local people. After Caesar, the expedition to Britain was silent for a period of time. In the era of Claudius, Rome conquered Britain again, Compared with the well-trained and well-organized Roman army, the force of the local people was still mainly composed of chariot nobles and their militia, which was less effective on the battlefield and could not fight for a long time. As recorded by Caesar, the agricultural population in Southeast Britain was quite dense at this time, so in "oppida" Besides such a regional center, the political and military laxity also shows the peaceful nature of British social life from another angle.

The conquest, which began in the Claudian era, brought the south central Britain south of Hadrian's great wall into the territory of Rome and became the British province of Rome. From the Roman conquest to the Anglo Saxon invasion, the history of Britain in this period was more covered by the history of the Roman Empire, so it showed less of its own uniqueness.

At the end of the fourth century and the beginning of the fifth century, Roman troops withdrew from the British province. Roman Britain south of Hadrian's Great Wall lost Roman protection and fell into chaos caused by the Barbarian Invasion in the north. In the middle of the fifth century, the Roman Britons invited the Saxons from the mainland to settle down and help them deal with the barbarians in the north, but they set up a new enemy for themselves. The Saxons and their Germanic cousins, the angles and the Jutes, continued to come to Britain from the mainland and occupied the East and south of England. After more than a century of intermittent wars, the Anglo Saxons won the final victory over the Roman Britons in the battle of deham in Gloucestershire in 577, Roman Britons only survive in the mountains of Wales, or have withdrawn to Brittany across the English Channel. As a part of the Roman Empire, Roman Britain declined with the Roman Empire.

In the process of occupying England, the Anglo Saxons established perhaps more than 30 small kingdoms. From the sixth century to the eighth century, under the influence of Christian culture, these small kingdoms that fought against each other intermittently merged into seven larger kingdoms, and reached the cultural unity of Anglo Saxons. In such a process, the tone of weak conflict and more peaceful social life on the British island appeared again. Just like the Britons before the Roman conquest, compared with classical countries such as Rome, the social organization of Anglo Saxons was not strict until the Vikings invaded in the late 8th century and early 9th century, The Anglo Saxon army was still based on the militia fighting in the slack, like the Britons before the Roman conquest. Under the attack of the Viking Invasion, among the four Anglo Saxon kingdoms that remained independent in the early 9th century, only the overlord Wessex Kingdom survived. Under the pressure of the Vikings, King Alfred, king of Wessex, carried out military reform at the end of the 9th century, so that the militia fought alternately, farming and combat could go hand in hand, and organized a standing army with the hereditary land granting nobles as professional soldiers. The combination of noble army and civil army greatly improved the level of military mobilization of Anglo Saxons. The new military organization was combined with Fort building defense. The Anglo Saxons blocked the Vikings' attack and limited the Vikings to the eastern, central and northern regions of England called "Danfa district". In the subsequent repeated competition, the Anglo Saxons finally surrendered to Danfa district, The Vikings and Anglo Saxons in Danfa district gradually merged into the new English nation.

At the end of the tenth century, when the New England nation took shape, the Danes invaded again and established the Danish Dynasty in the war. In the dispute over succession to the throne, William of Normandy invaded England, defeated British King Harold, ended the Anglo Saxon era and established the Norman dynasty. It is called "Norman Conquest", which is also the last foreign conquest in British history. The Norman Conquest transplanted the feudal system from the European continent, and the land and Castle covered the whole territory of England. However, in England, feudal features such as fiefdoms and castles did not have no local origin. They first appeared in King Alfred's military reform. Under the production conditions of Western Europe at that time, compared with the people's army from Peasant Communes or small armed groups from tribal people, This wider military service system at the cost of land sealing has greatly improved the mobilization ability, and the fort building defense that has emerged in the era of King Alfred has also been upgraded to a more magnificent stone castle system.

After the shock of the early Norman dynasty, England ushered in the Plantagenet Dynasty. Through inheritance and marriage, the original cross sea territory was further expanded. Besides Britain and Normandy, it also had Anju, Maine, Brittany, Aquitain, powatu and gasconi, forming a so-called "Anju Empire" reaching the North Sea and the Pyrenees in the south. The island of Britain is a relatively safe place, but the rule across the sea makes it impossible to cut the affairs on both sides of the strait between the island of Britain and the European continent. King John, the third monarch of the Plantagenet Dynasty, fought continuously because of his contention with King Philip II of France on the mainland, on the one hand, and for Scotland and Ireland on the other hand, Wales and other places really surrendered and conquered their lands. The rapidly increasing war expenses made king John constantly squeeze money from the nobility, the church and even the city, deepening the contradiction between the king and the nobility, the church and the citizens. King John was repeatedly defeated in the war between the mainland and France. He carried the reputation of "soft sword" and "land lost king", and first promoted and then restrained in the conflict with the church. After being expelled from the church, he sought peace with the Pope. His political image was damaged repeatedly, which further stimulated the resistance of the religious aristocrats. In 1215, the religious and secular nobles who were unwilling to pay for the war against France met in London and submitted the anonymous British privilege gift to King John, asking for the restoration of "the freedom of ancient customs". Under the delay of King John, the nobles openly armed rebellion. With the support of some citizens, they controlled London, especially some nobles, citizens and priests in East Anglia responded. The armed nobles confronted the king's army in London. Archbishop Langton, supported by the Holy See, tried his best to mediate between the two sides. Finally, the king and noble representatives signed the Magna Carta. This is a political document that not only affirms the king's authority and the relationship between monarchs and ministers, but also clearly writes into the privileges of the church and nobility. It contains 63 articles, involving church affairs, noble rights, citizen privileges and so on, trying to restrict the king's authority under feudal customs and rebuild the traditional order that maintains the existing right boundary between the king and his subjects. In order to ensure the implementation, Article 61 of the Magna Carta puts forward the principles and measures of compromise: for the peace of the Kingdom and to settle the disputes between the king and the nobility, the two sides should reach an agreed compromise. In order to abide by each other, 25 barons should be elected from the Kingdom to supervise the king and any nobility. If the king is found to be in violation of the provisions, the king should be required to correct within 40 days. Otherwise, the committee composed of 25 nobles can call on the subjects of the whole kingdom to use force to force the king to correct.

As a historical document, the Magna Carta itself is clear, but there are different opinions on its evaluation. Under the influence of "Whig's view of history", the Magna Carta was once regarded as a groundbreaking constitutional founding document, highlighting freedom and human rights. However, some people believe that the Magna Carta did not put forward any new content, but merely reaffirmed the existing feudal customs and made provisions in the form of written law. It was also pointed out that the Magna Carta "has both feudal and constitutional nature, that is, it is a backward document and a forward document", and its framers "look neither forward nor backward, but just an immediate response to the debate at that time".

If we recognize the unique characteristics of British social life, these controversial views, although they seem contradictory, are not irreconcilable. The emergence of the Magna Carta is inseparable from Britain's special historical and geographical conditions. Since ancient times, the social life on the British island has a weak conflict and more peaceful tone. The geographical location across the sea from the European continent has also produced a geographical protection for this social life. In addition to the early iron age, an era of drastic changes in productivity, from the cultural fracture of the bronze age, to the Roman conquest, then to the Anglo Saxon invasion, and finally the Viking Invasion and Norman conquest, the impact and damage to this social life state has always been foreign, "the wind does not last all day, and the rainstorm does not last all day". After the drastic changes, Social life on the British island will return to its inherent calm. This tone of social life supports and protects all existing "habits" and "contracts". The peace within England gives the existing interest pattern between the king and his subjects a strong inertia and even inertia, which is the so-called "customary rights" and "ancient freedom". King John inherited the continental heritage from the Norman dynasty to the Plantagenet Dynasty, and compared with Britain, the European continent is chaotic. On the one hand, the burden of this cross sea war in the European continent affects the existing interest pattern between the king and subjects of England and destroys the inherent peace of England. On the other hand, the English channel, as a barrier, also provides England with the convenience of cutting with the war in Europe and maintaining its inherent peace. Under the dual effects of geographical and geographical factors, the emergence of the Magna Carta has a solid social foundation. Although the Magna Carta itself was soon abolished, the power and trend it represents are deeply rooted and will not move for generations. The establishment of constitutionalism is based on the compromise social relationship in Britain, and the feudal custom of personal contract is also based on this compromise social relationship. This compromising social relationship, the so-called "Britons are good at tolerance and don't go to extremes", is the expression of this tone of social life since ancient times. As a compromise legal document, the Magna Carta is not only a compromise disposal of the current situation, but also a reaffirmation of the feudal habits of the past, which are also supported and protected by this tone of social life, but also a harbinger of the constitutional meaning of the future, which is also based on this tone. As far as the Magna Carta is concerned, it is based on the relatively peaceful tone of weak conflict in British social life since ancient times, "looking forward" (Constitutionalism), "looking back" (feudal custom), and immediate response to current disputes (current compromise).­

On the unique social track represented by the Magna Carta, British feudalism continued to evolve. The typical feudalism of seizing land at the cost of military service brought about by the Norman Conquest gradually declined. From the end of the 12th century to the end of the 13th century, there had been a contract retinue system different from the typical feudalism. From the 14th to the 15th century, the so-called "abnormal feudalism", that is, the system in which the Lord paid wages instead of granting land to the vassals, servants and servants, prevailed. Historians have many differences on the origin, scope and evolution of abnormal feudalism, and the previous analysis of the Magna Carta can give us an alternative perspective. Compared with the typical feudalism of confiscating land for military service, abnormal feudalism exchanges wages for domestic service. Its flexibility (mobilization efficiency) is higher, which is the advantage that it can replace the former. The foundation for the success of this substitution lies in the feasibility of paying for service in currency, which depends on the stability of currency value, which is still based on the above-mentioned foundation of English social life. The stability of agricultural output is the certainty of grain price, which creates the price certainty of all social products, It is possible to pay wages rather than grant land in exchange for military service, and enable servicemen to leave the land and replace military service with home service. From such a perspective, the significance of abnormal feudalism to British history is highlighted. After the Norman Conquest brought external influence again, it is the re presentation of the inherent social life characteristics of British island. As a "hybrid" feudalism, it is the precursor and breeding of "pure" capitalism that belongs to England alone.

Since the 16th century, the decline of "abnormal" feudalism has always been consistent with the rise of "pure" capitalism. The 16th-17th century was the era of the rise of capitalism. The characteristics of capitalist production took the lead in the capitalist agriculture represented by land leasing farms. On the one hand, land leasing farmers obtained the land use right with fixed land rent, on the other hand, they obtained hired labor with wages, and sold grain in the market for profit. This mode of production is the same as that under the gradual rise of capitalist mass production, on the one hand, entrepreneurs buy the right to use labor with wages, on the other hand, they buy the right to use capital with interest, and sell products in the market for profit. This kind of "pure" capitalism and "Metamorphosis" led by capitalist agriculture originated in Britain Like feudalism, under the condition of stable agricultural output in Britain since ancient times, it is supported and protected by the social production process with high price certainty, weak confrontation and relatively peaceful social life. In this continuous historical evolution, various cultural creations of human society precipitated and merged in England, giving birth to a brand-new modern civilization.

## Final chapter: rivers return to the sea

When the great way is followed, all under heaven will be equal.

The book of rites · Li Yun

In 1993, the quarterly foreign affairs of the United States published an article by Samuel Huntington, President of the American political society, entitled "the conflict of civilizations?". From a theoretical point of view, this article is not good, but because of the background of racism hidden under the one or two points of Western civilization vs non Western civilization, it has aroused great debate from all continents and many countries. In 2019, Skinner, director of the policy planning office of the U.S. State Department, copied Huntington's "theory of clash of Civilizations", declared that the U.S. competition with China was "a contest with a really different civilization", and said, "this is the first time we face a strong competitor of non Caucasians (whites)" The background of racism is more obvious.

In this volume, we have reviewed all kinds of diversion in the history of human civilization, and the root of diversion lies in different ways of cooperation (conflict) under different living environments. Explaining the past is not only to understand the present, but also to foresee the future. Next, we will continue the discussion on the diversion of civilizations in this volume, establish the perspective of "convergence of Civilizations" rather than "clash of Civilizations", and make new explanations and judgments on the "change" rather than "Reconstruction" of the world order.

### : peace, order and prosperity

In a 1755 speech, Smith proposed three elements of wealth growth: "there is no need to turn a backward country into a prosperous country except peace, convenient taxation and passable justice". This sentence has been circulating for a long time. All along, these three elements have been considered to be independent of each other, and the consistency between the three has not been fully recognized. A backward country moving towards prosperity seems to be a treasure hunt story of "gathering treasure beads and summoning dragon". However, from historical experience and the contractual nature of the political and economic order, we do not think so.

Smith's discussion is based on the rise of Britain. Peace, convenient taxation and fair justice are Smith's description of the situation in Britain at that time, and they are also a comparison with the European continent on the other side of the English Channel. The "peace" in Smith's context is not only the "peace" between countries (no war), but also the "peace" in daily life. This peace comes not only from the macro and external state of no war between countries, but also from the micro and internal state of weak conflict between people. In British history, private fights between people, including those between nobles and nobles, were declared to violate the "peace of the king", which should be restrained and mediated by royal power. The officials responsible for local security were called "keeper of the peace" in the early stage and "justice of the peace" in the later stage ）, the word "peace" in these terms indicates the meaning of "peace".

In the historical narration of this volume, we have also said that the social life of Britain and the British island has a tone of weak conflict and relative peace since ancient times. In addition, due to the geographical characteristics of relative isolation from the European continent brought by the English channel, the conflicts between English society and the European continent are also relatively isolated. The "peace" in British history was intermittently interrupted by external conquest, but due to the inherent characteristics of British social life, this "peace" will be quickly re established after the conquest movement. Moreover, after the Norman Conquest in the 11th century, this external conquest did not appear again, and Britain's "peace" lasted for a long time. Similarly, in the historical narration of this volume, we have used the examples of the spring and Autumn period and the Warring States period to describe the uncertainty of agricultural production, that is, the so-called "hunger and change ear", Volume V of historical records - No. 5 of Qin Benji, which promotes the conflict between people and countries. Accordingly, it is the certainty of agricultural production on the British island, It has promoted the weak conflict and relatively peaceful tone of British social life, and the characteristics of agricultural production are relatively long-term and stable. Therefore, both historically and logically, for the social life on the British island, "peace" is not an accidental and fleeting situation. It is "Daily" and permeates and displays in all aspects of British social life. At the same time, the certainty of agricultural production is also reflected in agricultural products, And the price certainty of various social products. A sustained and peaceful social life, a social life in which the transaction prices of various products are continuously stable. For the arbitration of various social and economic conflicts, its demand is both weak and stable.

To implement arbitration, that is, to maintain "the king's peace", bureaucrats and force need to be used as tools and backing, and the provision of bureaucrats and troops is based on taxation. A social life state with weak demand for arbitration has low demand for taxes. Such a living state with continuous high price certainty also means that the structure of division of labor is developed and the level of division of labor is high, which means that the labor productivity is high, the life of social members is relatively rich, and the tax potential is improved. If the tax demand is low and continues to be low, and the tax paying ability of social members is high and continues to be high, the tax rules are easier to determine, and the tax process is less violent. "Easy" of "tax" comes from this. In Smith's context, it is the clarity of tax rules and the simplicity of tax process. Like "peace", it is rooted in the social life of England based on the certainty of agricultural production.

As mentioned above, Britain is a special state of social life. Its conflict level is low, there are few situations requiring arbitration, and the cost is not high. Accordingly, it is not difficult for the government to collect the required taxes. Therefore, whether it is the conflict between social members or the conflict between the government and society, it can be maintained at a low level for a long time. In other words, it has always been easier to maintain the "King's peace" in Britain. In this volume, we have illustrated the difference between common law and rational law. In Hawaii, wearing a straw skirt is enough to keep out the cold, while in Alaska, wearing a leather robe may still freeze to death. Straw skirt and leather robe are the symbols of climate. Accordingly, common law and rational law are also the symbols of different social life. Just as the hula represents a warm environment and does not need to fight the cold, the prevalence of rational and poorly organized common law in Britain is also a manifestation of the special social living conditions in Britain. The task faced by the judiciary here is not complicated and the required resources are not lacking. Therefore, the simple common law system like the Hawaiian Hula is enough to deal with it. Compared with the other side of the English channel, the social life on the European continent is highly conflicting, the work required to maintain order is heavy and difficult, and requires a huge amount of tax support. However, the highly conflicting society hinders the development of production and is not enough to support such tax demand. Therefore, the need for justice is in contradiction with the ability of justice. Compared with Britain, Its judicial situation must be bad. In this contrast, the judicial situation in Britain is naturally "tolerable".

At the beginning of this volume, we have explained that the long-term fixed land lease in the UK and the short-term shared land lease in continental Europe (France) come from different agricultural production uncertainties on both sides of the English Channel. Tax burden and justice are the "agreement" between the government and social members, that is, to "make a contract with all people". Like land leases, they all have the essence of contract. The comparison of tax burden convenience and judicial status between the two sides of the English channel is the same as the comparison of land leases between the two sides of the English channel, which is the contractual expression of the difference in agricultural production environment. The three elements of a prosperous country described by Smith, "peace, convenient taxation and fair justice", only show the same root in different forms: the high uncertainty of British agricultural production.

### : Green Revolution, the turning point from diversion to confluence

In the history of human civilization, Britain has a unique historical path.

Compared with Britain, all civilizations in human history are deeply troubled by high-risk agricultural production. The islands closest to ENSO and located in the equatorial Pacific, although they are also one of the birthplaces of early agriculture and have an agricultural history of nearly 10000 years, they do not even step into the threshold of civilization if measured by cities and bronzes. Other civilizations along the equator, whether located in Africa or America, are subject to poor agricultural production conditions, with relatively slow development and limited progress. The Middle East, India, and China, as the peaks of ancient civilization, once flourished. However, subject to the agricultural difficulties brought about by unstable monsoon rainfall and long-term climate change, they are unable to have and maintain internal and external peace. As densely populated areas, under the social life state of high confrontation and high level of violence, they have been, The evolution of division of labor in ancient civilized society was limited by the high transaction cost level, and fell into order collapse periodically, which further damaged the limited level of division of labor. Despite its glorious early history and large population, the ancient civilizations of the Middle East, India and China generally fell behind in modern history due to the lack of high productivity and the ability to accumulate continuously. Compared with other regions, the situation of the European continent is better. Since the middle ages, on the ruins of the Roman civilization, the European civilization has developed northward. Although the agricultural risk here is higher than that of England, it is far away from the monsoon area and benefited from the warm currents of the Mediterranean and the North Atlantic compared with the ancient civilization regions such as the Middle East, India and China, The level of agricultural risk is low. Therefore, northwest Europe has taken the lead in developing since the late Middle Ages. As a historical term, "great diversion" describes the rise of ancient civilizations in Europe relative to the Middle East, India and China. As a whole, Europe shows its advantages over other ancient civilizations with higher agricultural risk.

In the face of this advantage, people of the times have already felt it. Although people since the middle ages have subconsciously accustomed to and accepted the ancient civilization, it seems to be an eternal cycle of rise and decline. They no longer believe in a harmonious and balanced world like the classical times, but look at the reality more coldly or even slightly contemptuously, or place their hearts on the afterlife, Or looking forward to the coming doomsday judgment. In this spiritual atmosphere, Ibn Helden, an Islamic scholar living in North Africa in the 14th century and the author of the introduction to history, which is considered to be the pioneer of modern historical philosophy, noted that "in our times, civilization seems to move from south to North". The Frankish and Turkic dynasties have gained power, "it is not Egypt that people fear, but the Ottomans". Moreover, he noted with some uneasiness the intellectual development of Europe. "We further heard that in the Roman land and the adjacent North Bank, European Christians developed well in the knowledge of philosophy. It is said that they studied philosophy again and taught philosophy in many classes. The existing explanations of philosophy are very extensive. Many people know these knowledge and they have many students.". He speculated that the transformation of the center of civilization may be due to the increasing power of the sun or some other astrological factors. However, he still believes that "the similarity between the future and the past is higher than that between two drops of water". In the eyes of people at that time, the rise of power in the North was probably just another unpredictable ups and downs of the world. There was nothing special about it. It was worth a wise mind to look at it differently.

This view represented by Ibn Helden is both right and wrong. On the one hand, the rise of Europe, as heldon speculated, is indeed due to "some astrological factors". For Europe north of the Mediterranean, especially Germanic Western Europe north of the Alps, it is indeed "the power of the sun is increasing", because the rise of western Northern Europe is indeed related to the "warm period of the Middle Ages" On the other hand, the rise of Europe certainly did not get rid of the fate of the cyclic rise and decline of ancient civilization. As a special case created by low agricultural risk, Britain stood out from many European countries and opened up a new path of civilization in this wave of Europe. For example, "the similarity between the future and the past is higher than that between two drops of water" Such a conclusion is no longer tenable.

The unique geographical location makes Britain far away from the equator and ENSO, so it is far away from agricultural uncertainty. At the same time, due to the grace of the North Atlantic warm current, it has obtained good agricultural production conditions in high latitudes. Britain and the center of ancient civilization, Eurasia, are only separated by the not wide English channel, which has brought lucky double influence to it. On the one hand, the transportation between the two sides of the Strait is not difficult. As early as the bronze age, there was no lack of civilization exchange between Britain and the European continent. In the Roman age, the British island became a dependency of Rome and further involved in the civilization process of Eurasia. This strait has never prevented Britain from absorbing the ancient civilization of the European continent. On the other hand, although it is not wide, it is relatively separated From the war situation in Eurasia. Therefore, based on low-risk agricultural production, "peace" Although it was intermittently broken, it was never far away from Britain. It was such a positive feedback between the tone of peace and continuous accumulation that opened up a new path of civilization, made Britain stronger and stronger, and finally grew from a frontier in the Roman era to the first world empire in human history.

Take the British road and let Britain have no way to go". Under the powerful demonstration of the first world empire in human history, the impulse to compete for prosperity and power has driven the whole modern history. However, as we discussed earlier, each civilization has its unique tone of social life. In addition, the interaction of different civilizations determines the unique historical path of each civilization. Other European countries competing with Britain, as Smith observed, did not embark on the "pure" and British capitalist road led by capitalist agriculture. Based on their own unique conditions and under the demonstration and pressure of Britain, these European countries were involved in the wave of industrialization. On the basis of creating the risk agriculture of ancient civilization, they transplanted capitalist mass production and formed a variety of "pseudocrystal" capitalism. In Western Europe, where the social living conditions and geographical location are closer to Britain, these "false crystal" capitalism took the lead in growing up. They are neither a typical ancient civilization nor a typical modern civilization, but a mixture of small agriculture with ancient civilization and large capitalist industry. The characteristics of small agriculture from ancient civilization, "poor farmers under land subdivision" and the characteristics of modern civilization, "industrial zone" has a large number of proletariat, and the two characteristics coexist. Various countries involved in the wave of industrial revolution show this mixing in various ways according to their geographical factors. From Engels's speech in ebenefeld, Engels describes the performance of this mixing in German social conditions:

Let's first examine the current social situation in Germany. We all know that there are a large number of poor people in our country. The events in Silesia and Bohemia themselves illustrate the situation in these places. The Rhine has reported in detail the poverty situation in Mosel and Eiffel. The Earls mountains have been shrouded in terrible poverty since ancient times. The situation is not necessarily better in the hemp textile areas of Genet and Westphalia. It is also natural that there are complaints all over Germany. We have a large number of proletariat, which can not be different. Even if we make an extremely superficial investigation of our social situation, we will certainly believe this. It is natural that there must be a large number of proletariat in the industrial zone. Industry could not exist without a large number of workers who worked for it and no longer engaged in any other industry. As long as competition exists, industrial labor makes it impossible for workers to engage in any other industry. Therefore, we can see the proletariat in all industrial areas. They are so numerous and eye-catching that it is impossible to deny their existence. Many people assert that just the opposite is true in agricultural areas, where there must be no proletariat. But is this possible? Where large land ownership is dominant, the agricultural proletariat is indispensable, because farms need male and female farm workers. Without proletarians, large farms cannot exist. In places where land is scattered, it is also impossible to avoid the emergence of a class with nothing, because land dispersion has a certain limit, and it is impossible to divide it beyond this limit. Moreover, because land was owned by only one member of the family at that time, the other members had to become Proletarians and workers with nothing. At the same time, the dispersion of land is usually until the land is too small to support a family. In this way, a class is formed, which, like the urban petty bourgeoisie, forms a ladder from the bourgeoisie to the class with nothing. Land does not allow these people to find another livelihood, but at the same time, it can not provide them with enough means of livelihood. This class is also extremely poor.

On the one hand, this mixture has enabled Europe to partially obtain the great power brought by modern civilization and obtain great advantages over ancient oriental civilization countries, so that Europe has conquered or controlled the vast land and people of Asia, Africa and Latin America in the past few hundred years. The so-called "great diversion" between China (East) and Europe (West) comes from this. This is why we have said in the previous article that the large diversion is not an independent and original problem. It is the product of the small diversion, the spillover effect caused by the diffusion of capitalist mass production in Europe, and an early presentation in the development process of the small diversion.

On the other hand, the development of the early industrial revolution could not change the agricultural risk situation at that time. Therefore, this mixing could not prevent Europe from the rise and fall cycle of ancient civilization brought by risk agriculture. European countries repeated the spring and autumn and Warring States style conflicts and battles at the new productivity level. In this swing and turbulence between the old and the new, the periodic decline of ancient civilization and the linear development of capitalist mass production are superimposed. The road of modern civilization and the road of ancient civilization are intertwined in them, making Europe the source of the so-called "second thirty year war" of World War I and world War II, which is limited to Europe in the eyes of historians The "general crisis of the 14th century" and "general crisis of the 17th century" were repeated in the 20th century. With the help of large industry, they became the "general crisis of the 20th century" that harmed the whole world.

In this "general crisis of the 20th century" Among them, the United States replaced Britain and became a new and more powerful world empire. In the tide of the northward development of Mediterranean civilization since the middle ages, a low-risk agricultural area such as England rose, which achieved Britain's world hegemony. Similarly, in the tide of European colonial expansion since modern times, a low-risk agricultural area such as New England rose Blue is better than blue. The North American colony with New England as the core, the United States, has greatly expanded its territory and power on the vast North American continent. The "general crisis of the 20th century" created by the "second thirty year war" Like the ancient civilizations in the Middle East, India and China that have been repeatedly damaged by the collapse of order in history, following the fate caused by risk agriculture, Europe has also lost its newly acquired civilization "center" in the new round of order collapse In the face of Europe, which was bound by fate and collapsed like ancient civilization, the Anglo Saxon country with the United States as the core has become the "center" of the new civilization. After being obscured by the "big diversion" between Europe and other countries for hundreds of years, the "small diversion" between the two sides of the English Channel It is fully demonstrated that Anglo Saxon countries have opened a distance from Eurasia and become the "second major diversion" between high-risk agricultural areas and low-risk agricultural areas in the civilized world Marked by the cold war between the United States and the Soviet Union shrouded in the shadow of the nuclear war, the diversion of civilization, with the help of large industry, has reached its historical peak and brought mankind to the edge of destruction. Fortunately, in the shadow of destruction, the green revolution, as an extension of the industrial revolution, has greatly increased agricultural output and agricultural labor productivity with technological advances such as agricultural drugs, seeds and chemical fertilizers. The combination of industrialization and green revolution has brought a rapid increase in agricultural surplus and its stability to civilized regions, thus releasing the agricultural risk that has not been shaken for thousands of years, so that the industrialized production in Eurasia is no longer a "pseudocrystal" It has obtained a solid agricultural foundation, which has greatly improved the depth and breadth of industrialization. The relatively peaceful social life order, which was originally limited to the weak confrontation between British and American countries, has rapidly spread to the world.

Among all ancient civilized countries, Western European countries have become the regions with the fastest and largest green revolution results due to lower agricultural risks and correspondingly better industrial foundation. They have taken the lead in realizing this weak confrontation and more peaceful social life order. Therefore, they have become regions with rapid economic recovery and development, which are close to the social structure of Western Europe in history Ben also became one of them. This was the first group of countries that realized the turning point of the road. Because of the historical reasons of the World War II order, they were attached to Britain and the United States and became a part of the "Western civilization" after the war.

Compared with western countries, Eastern Europe, the Soviet Union and other countries, the agricultural risk is higher, the industrial base is inferior, and this transition is realized later. China, as a representative country of ancient civilization, has also reversed the high agricultural risk for thousands of years in the wave of green revolution, obtained a new peace order and embarked on the fast lane of the development of modern civilization. Eastern Europe, the Soviet Union and even China, as civilized regions with a high level of agricultural risk in history, although they pay a high price for realizing the green revolution and obtain peace and order later, once this transition is realized, their progress on the road of modern civilization can be self accelerated. The tremendous strength shown by China's economy today is not only the result of this progress, but also further consolidated it.

Compared with the "Western civilization" and the "northern countries" such as Eastern Europe, Russia and China in Eurasia, South Asian countries, Middle East countries and African countries, or due to the high level of agricultural risk, or the agricultural recession caused by long-term climate change, the progress of industrialization and green revolution has been slower, but even so, in the past few decades, These countries have also made great progress on the road to modern civilization.

Although in the first decades after the green revolution, under the protection of the "Pan western" peace order, Europe and the United States once again distanced themselves from other regions with weak accumulation of industrial revolution and slow progress of the green revolution, with the deepening of the green revolution, the era of diversion has ended and the door of confluence has been opened, as the East and West for hundreds of years The last echo of the "great diversion" and the widening development gap between the East and the west after the war is the end of a powerful crossbow. Since then, many civilization roads created by various agricultural risk characteristics have decisively converged, and the civilization diversion throughout the whole history has finally moved towards the confluence of civilizations.

### : expansion of the peace order

In the past decades, the rapid rise of China has become a major event shaking the world. Lee Kuan Yew, former Prime Minister of Singapore, predicted in 1994:

The scale of China's participation in the reorganization of world status makes the world have to find a new balance in 30 or 40 years. It is impossible to pretend that China is just another big participant. It is the largest participant in human history.".

Facing the changing situation of the world that has become a new reality, people are always in a hurry to seek enlightenment from the past history. Neil Ferguson, a historian at Harvard University, called the relationship between China and the United States the "new cold war". Graham Allison, another historian at Harvard University, put forward in his book "destined for war": the conservative and emerging powers in history are just like Thucydides in the history of the Peloponnesian War Athens and Sparta, as depicted in, often go to irreparable conflict due to mutual suspicion. Whether China and the United States can finally avoid World War I depends on whether the United States and China can escape such a "escape Thucydides trap".

Is that so? The competition between China and the United States is certainly the competition between emerging powers and conservative powers. However, can the relationship pattern between China and the United States really be equivalent to the hegemony war between Sparta and Athens and the cold war between the Soviet Union and the United States?

It seems that some Harvard scholars do take it for granted. Let's take a look at the judgment made by Samuel Huntington, another political scholar at Harvard University, on the competition between China and the United States in the conflict of Civilizations:

1. At the broadest level, the Confucian spirit prevailing in many Asian societies emphasizes such values: authority, hierarchy, the secondary status of personal power and interests, the importance of consistency, avoiding frontal conflict, "preserving" face, and generally speaking, the state is higher than society and society is higher than individuals.

In addition, Asians tend to calculate the evolution of their society in terms of centuries and millennia, and put the expansion of long-term interests in the first place.

These attitudes are in contrast to the primary contents of American beliefs, namely freedom, equality, democracy and individualism, and Americans tend to distrust the government, oppose authority, favor checks and balances, encourage competition, advocate human rights, tend to forget the past, ignore the future and focus on expanding immediate interests as much as possible. The root causes of conflict are fundamental social and cultural differences.

2. Regardless of the economic ties between Asian and American societies, the fundamental cultural differences will make it impossible for them to live together.

3. China's history, culture, tradition, scale, economic vitality and self-image all drive it to seek a hegemonic position in East Asia. This goal is the natural result of China's rapid economic development. All other great powers, Britain, France, Germany, Japan, the United States and the Soviet Union, while experiencing high-speed industrialization and economic growth, or in the following years, have carried out external expansion, self expansion and imperialism.

There is no reason to believe that China will not do the same after its economic and military strength has increased. For 2000 years, China has been an outstanding power in East Asia. Now, the Chinese people have made it more and more clear that they want to restore this historical status and end the long century of humiliation and submission to the West and Japan, which began with the Nanjing treaty imposed by Britain on China in 1842.

Like the ideas of the first two scholars, Huntington's "sensible" is also full of wisdom and knowledge. However, "history is always surprisingly similar, but it will never be simply repeated". In the face of the "unprecedented change in 5000 years" since the agricultural era of the green revolution, history will not simply repeat, but history has fundamentally changed.

Since World War II, the major countries in the north of Eurasia, from western and Eastern Europe to Russia and China, have completed the green revolution. Today, the major countries on the world stage have obtained a peaceful order based on low-risk agriculture. For modern countries in the post Cold War era, national strength, economic prosperity and peaceful order are an inseparable Trinity. Those who can stand on the world stage are homogeneous countries with these attributes at the same time. On the contrary, countries that have not completed the modernization process and lack these attributes will not have the opportunity to play a major role on the world stage. Although the historical path of each civilization has left it a unique cultural heritage, for every major country on the world stage today, this cultural heritage more represents the path of civilization in the past than today's social life. Protestantism, Catholicism, Orthodox Church, Confucianism and Shintoism, these cultural heritages can not define the heterogeneity among major countries. The modern culture based on peaceful order is the substantive consistency hidden under the superficial cultural heritage differences.

Today's world order is homogeneous. It is an unprecedented historical phenomenon to build a world order between countries based on a peaceful order.

At any time, culture is not the purpose of human survival, but the tool of human survival. Cultural differences are not the root of conflict. The living environment behind cultural differences and, further, the living pressure brought by the living environment are the root of conflict. Today, the major countries that determine the world order, including China, have had a peaceful order, have been freed from agricultural risks, and are no longer trapped in the living environment. For these countries, there is no inevitable pressure of foreign conflict. The superficial differences in cultural heritage do not constitute an inevitable impetus to the conflict. From the perspective of religion and culture, Huntington's "clash of Civilizations" is a misreading of history and a false imagination.

Therefore, the so-called "clash of Civilizations" between China and the United States, if we want to seek precedents from history, the only comparable thing is the peaceful end of the competition between "emerging countries" and "conservative countries" between the United States and Britain, which is the first competition between two "modern" countries in world history.

Further, today's China and the United States, no matter how important their competition is, they are only part of many modern countries. Even, there is a great possibility that the balance of power in the future will show that they cannot become the decisive part, because with the deepening and expansion of the green revolution, many countries in the world have developed and will continue to develop rapidly on the road of modern civilization. The weight of the so-called "major countries" today has been diluted by this development, In the future world pattern, it will continue to be diluted.

China will become a new important country. However, even if China's development surpasses the United States, it will not have the opportunity to become a hegemonic country like the United States, because it will face many modern countries also based on peaceful order. These countries, whether the pioneers on the road of modern civilization, "western countries", or the latecomers on this road, other Asian, African and Latin American countries, will be as strong, prosperous and stable as it is. For all these modern countries, the pursuit of peace and order is not only the necessity of internal needs, but also the necessity of external pressure. No matter how many specific differences in the path, the competition between them will be solved on a peaceful road.

Existence is reasonable, and reasonable must exist. The old order based on the "great diversion" between European countries and other countries, the "second great diversion" between Anglo Saxon countries and Eurasian countries and the "Pax Americana" as the core was once reasonable, but it was unsustainable under the "unchanged situation in 5000 years" since the green revolution. The new order pursued by the late developing countries in Asia, Africa and Latin America, with "democratization of international relations" as the core, has become a new reasonable in the post green revolution era and is bound to come.

A hundred rivers run from the east to the sea. The community of destiny of human civilization began here. (end of Volume II)

# On the paradigm defects of liberalism theory

From the consistent standpoint of Burke Darwinism, Hayek's radical economic liberalism is the arrogance of rationalism. John Gray: Hayek and the deconstruction of classical liberalism

## Section I: refute Hayek's liberal social theory

To a large extent, Hayek's liberal social theory is based on the distinction and opposition between spontaneous order and artificially designed order. However, the distinction and opposition between spontaneous order and man-made order is false. It only exists in Hayek's imagination and is caused by Hayek's double ignorance of evolution theory and historical experience.

Hayek believes that the spontaneous order is "the product of human behavior, not the product of man-made design", while the opposite is a variety of man-made design orders. Accordingly, Hayek also divided rationalism into evolutionary rationalism and constructive rationalism. In Hayek's view, evolutionary rationalism is the basis for the formation of spontaneous order, and constructive rationalism is the basis for the formation of artificially designed order. In fact, the spontaneous order in his mind is capitalism and free market, while the ultimate representative of artificially designed order is socialism and planned economy.

The problem is that Hayek does not understand evolution theory. The simplest core of evolution theory is "natural selection". Human beings are rational animals. Human actions are always accompanied by rational participation, even if this participation is subconscious or illogical. Human beings maintain their own survival by action, that is, "material competition", while environmental pressure makes choices for human actions based on the success or failure of life and death, that is, "natural selection". Social order takes shape in the process of "natural selection". The environmental choice in the process of evolution is beyond human control, and the formation of social order is the joint force of "material competition" and "natural selection". Evolution and human rationality are not concepts on the same level. They can not oppose each other, and evolution can not exclude any rational factors in human behavior, whether it is "evolutionary rationality" or "constructive rationality". In other words, evolution is universal. No social order will lose the attribute of its evolution product due to the participation of "constructive rationality", and there is no non spontaneous and artificially designed social order.

In depth historical experience, we will also find that there is no "artificially designed order" in the sense of Hayek, which is opposite to the spontaneous order and dominated by "constructive rationality". Any order is inseparable from human action, because any social participant will express and strive for their own interests in the order with positive or negative actions. In this sense, any order has human rationality, or is artificial, but at the same time, no social member can impose his "constructive rationality" on the whole society, Any realistic order is always a compromise and equilibrium after multi-party game among social members. Its existence goes beyond the "constructive rationality" of any social member and is finally constrained and determined by the living environment of the society. In this sense, any order is also the result of evolution, or spontaneous, rather than designed.

To sum up, at the level of individual events, social order can be constructed, and at the level of historical society, social order always evolves. Construction and evolution can be one and two sides, but they can never be essentially opposite. The distinction and opposition between spontaneous order and artificial order in Hayek's sense have no basis in theory and experience.

Further, let's go back to Todd diagram to review the contradictions of Hayek's liberalism theory. What did the French anthropologist Emmanuel Todd find? That is, the ideology of a country or region is highly related to its family organizational structure and marriage strategy in history. (Note: refer to the new interpretation of Hajnal line & Todd diagram in Section 2 of Chapter IV of this volume.) from the Todd diagram, there is no doubt that the ideology (and corresponding political and economic order) of a large number of countries or regions will be classified by Hayek as an artificially designed order from the so-called "constructive rationality", and the family organizational structure and marriage strategy in the history of these countries or regions, These modern ideologies and political and economic orders existed long before they appeared, and it is obviously impossible to be classified as any artificially designed order from "constructive rationality". So what does the high correlation between the two mean? The only reasonable explanation is that Hayek's so-called "artificially designed order" itself is the continuation and development of the "spontaneous order" in the history of various countries or regions. It is a subsequent spontaneous order and a "historical choice", rather than an unreasonable existence created by "constructive rationality" opposite to the spontaneous order.

The order difference between countries and regions does not lie in whether they are artificially designed order from the so-called constructive rationality or spontaneous order from the so-called evolutionary rationality. From the perspective of K-r model, this difference is caused by the choice of social order by environmental risk. Hayek's preference for the so-called spontaneous order is the social order evolved in the environment with low risk level, while the so-called artificially designed order criticized by Hayek is the social order evolved in the environment with high risk level. In other words, without exception, they are all spontaneous orders, the difference is that they adapt to different levels of environmental risks, that's all.

## Section two: Refuting Popper's poverty of historical determinism

In the book poverty of historical determinism, Popper believes that:

1) The process of human history is strongly influenced by the growth of human knowledge,

2) And it is impossible for us to predict the growth of our scientific knowledge with reasonable or scientific methods,

3) Therefore, we cannot predict the future process of human history,

4) We must give up the possibility of theoretical history,

5) Furthermore, historical determinism cannot be established.

The K-r model points out that in Popper's argument, 2) cannot be established.

The growth of scientific knowledge comes from the generation and accumulation of scientific knowledge, which is essentially a phenomenon of division of labor. The growth of scientific knowledge is a part of the evolution of division of labor in human society. Let's quote Smith to show this:

However, all mechanical improvements are by no means invented by mechanical users. There are many improvements, which come from the ingenuity of specialized machinery manufacturers; There are also some improvements that come from the intelligence of philosophers or thinkers. The task of a philosopher or thinker is not to make any material object, but to observe everything. So they can often combine and use all kinds of completely unrelated and very different material forces. With the progress of society, philosophy or speculation, like other professions, has become the main business and special work of the people of a particular class. In addition, like other professions, this business or work is divided into many departments, and each department becomes a philosopher's industry. This division of labor in philosophy, like the division of labor in industry, improves skills and saves time. Everyone is good at his special work, which not only increases the achievements of the whole, but also greatly improves the content of science. (wealth of nations, part I, on the reasons for the increase of labor productivity and the order in which labor products are naturally distributed to people of all classes, Chapter I, on division of labor)

If the level of human division of labor in ancient times has been very low for a long time, and the growth of scientific knowledge has strong contingency and no law can be seen, the consistent relationship between the explosive growth of scientific knowledge and the accelerated deepening of the evolution of division of labor has been fully demonstrated in the history of hundreds of years since the Smith era.

The part is not equal to the whole, and the inability to grasp the micro things is not equal to the inability to grasp the macro emergence. Understanding the development history of some physics will know that people already knew how to measure the water temperature long before they could observe the micro thermal movement of water molecules. It is true that we may never be able to use reasonable or scientific methods to predict the accidental specific progress in the growth of our scientific knowledge, but this does not mean that we can not grasp the growth of scientific knowledge from a macro perspective. Popper's five paragraph Theory II, "we can't predict the growth of our scientific knowledge with reasonable or scientific methods", only indicates Popper's lack of understanding of the essence of scientific activities as a phenomenon of division of labor evolution.

The K-r model has pointed out that different social orders will be formed under different environmental risk levels. Further, there are different transaction conditions in different social orders, which determines the speed and limit of the evolution of division of labor and the possibility and impossibility of the continuous deepening of the evolution of division of labor. Accordingly, it points out the macro picture of the growth of scientific knowledge. In the presence of such a macro picture, Popper's negation of historical prediction, theoretical history and historical determinism cannot be established.

## Section III: on Berlin's two concepts of freedom

Berlin's distinction between negative freedom and affirmative freedom does not have universal practical significance. The admiration for the former and the rejection of the latter only highlight the narrow historical vision of Berlin.

Negative freedom is the pursuit of conservatives. They are in a relatively superior social position. In their cognition, they are satisfied with their own status and are even expected to be further improved. Therefore, their desire to hold a group is weak, and their right demands are more negative freedom starting from the non-interference of individual actions. Affirmative sexual freedom is the demand of progressives. They are in a relatively inferior social position. In their cognition, they are already in a disadvantageous position and even face further damage. Therefore, they need to keep warm together. Their rights demands are more positive freedom expressed in group interests.

In fact, Yan Fu's translation of mill's "on freedom" into "the group's own right boundary" already contains this meaning. The boundary of the group's own right boundary can be regarded as the result of the struggle between two kinds of freedom. It is not a boundary that can be fixed, but only a compromise under the continuous game between social members in different positions. With social changes, people's understanding and acceptance of this boundary are constantly changing, that is, from a specific and historical point of view, what is negative freedom and what is positive freedom has no fixed meaning.

In an imprecise word, negative sexual freedom is the concern of the rich, while positive sexual freedom is the concern of the poor. Therefore, the admiration of negative freedom and the rejection of positive freedom inspired by Berlin do not become a thought of practical significance, but can only be a psychological vent, which is not helpful to solve the problems in the real world.

The compromises that can be reached in the struggle over how to define the group's own rights change with the changes of social risks. As shown by past history, countries and regions with rapid progress in modernization and release of social risks have guaranteed negative freedom, expanded positive freedom, and failed or tortuous modernization, Countries and regions with accumulated social risks often deny the loss of sexual freedom, while affirming sexual freedom has not made much progress or even regressed. To sum up, the opposition between negative freedom and positive freedom is an expression of the more general relationship between freedom and equality. This opposition is not absolute, but on a more fundamental level, the two are completely consistent. Therefore, the real road of freedom is not to praise the negative freedom and reject the positive freedom, but to make the two freedoms compatible through the release of social risks, so that the group's own rights circle can be respected by social members of different classes while constantly adjusting.

# Appendix 1: master slave dialectics, heroes and the end, koyev

Cardinal Grey's author's note: This is my speech on insight and discovery wechat group in 2014. Kick the stars and work hard to sort out the recording. This time he wants to publish a book. I hope I can follow him. If I give this to him, I won't owe him. This is also a common achievement. In the process of sorting out the recording, Xingxing took pains to revise many vague words of hum and ha ha. In order to facilitate reading, I spend a lot of time squeezing away saliva words and sentences, hoping to refine and vivid without losing my tongue. In addition, more than four years to now, I have a new understanding and understanding of the topics involved in the article. In order to maintain the consistency of the original text, there are not too many amendments or additions. I hope there will be my contact information in Xingxing's book (Note: author's microblog: https://weibo.com/u/3950752868 ）, it is my greatest wish to attract friends.   Hello, everyone, it's everyone's duty to give a lecture. I haven't talked about it all the time, because I'm timid, and because the topic and content are too complicated. So today is not a lecture, but as a member of the book club, I share some reading experience with you and be a Book boy for you. You may notice that I call myself "the cardinal" on wechat. "Cardinal grey" describes an expert who hides behind the scenes and gives advice. The key figure of this lecture, Mr. koyev, is a grey cardinal. The meaning of calling this name is either me or him. He has his ability. He just expresses his worship, idols and fans. Many years ago, before SARS, I invited Wang Wei, the boss of Feng Song song bookstore, for dinner. Wang Wei, who is in the Philosophy Department of Peking University, seems to be in grade 77. He is a graduate student of Gan Yang and follows Mr. Xiong Wei. During the dinner, I asked him what to read about philosophy. He recommended Leo Strauss's natural rights and history. He said that foreigners' research has been far ahead. They have been exploring the basic things behind human society and human code of conduct. At that time, George W. Bush was at the height of the sun, and the book was very popular. I was confused when I took the book back. The translation is very good. Every sentence is clear, but I can't see it. The reason is that there is no echo from the front, back, left and right, so I was very flustered. So I widely collected Strauss information, around, around, teachers, students, who to serve, who to be the enemy, and so on. It is difficult to have a real understanding of a suspended thing. It is only when you touch the boundary that you can be secure. In the process of groping, I found a very strange thing, a name I had never heard before, Alexander koyev. I'm not a scholar. I'm not deep enough, but I have more than enough reading. Things I haven't heard of are very rare. In life, others make fun of it, and I think so, encyclopedia. Touch everything, know everything, at least know a summary. But koyev had never heard of it, so he began to collect koyev's information. Fortunately, the means are really rich now, Google, Baidu and Amazon. Books are easy to buy and news easy to inquire. Slowly I formed some concepts. First I know his story, life story. The result is particularly interested, very, very fascinated. Unfortunately, in China, there are few scholars who have a say in koyev, just two. One is Gao Quanxi of Beihang. In his early years, he took Hegel's phenomenology of spirit as his doctoral thesis and was a student of Mr. He Lin. And Liu Xiaofeng, as a scholar, is very active and famous. I got in touch with you two separately, had dinner, drank tea and coffee, entered the koyev atmosphere, got to know Strauss through koyev, and then found Carl Schmidt. Liu Yu of Tsinghua University said he was Hitler's Yao Wenyuan.

Why talk about koyev, a distant figure? Why are you interested? First of all, he is a scholar. Everyone here is basically a scholar, no matter what discipline you come from, do learning or practice in society. Koyev is a model of scholars. Secondly, he is very similar to Chinese scholars, learning for application, reading and practice. Or koyev is very, very Wang Yangming. Reading and lecturing are everyone. There are innovations in theory and brilliant achievements in practice. Koyev has at least two things to worship. First, he is a master among masters. At that time, the students of his workshop in France, in the real sense, were the students who listened to his lectures and listened to them in ecstasy. They worshipped him very much, and there were a large number of people, such as Sartre. Sartre himself did not fully admit that he was koyev's student, but his thought was deeply polluted by koyev's theory. Foucault's thought is basically derived from koyev's thought, but it is the development of one aspect of koyev's thought. Raymond Aron, a famous figure of liberalism. During the French Cultural Revolution in 1968, he firmly stood on the opposite side of the student movement and was regarded by the left as a positive right and a liberal right. And Lacan, drite, Merleau Ponty, bataye, gno. These people are all the top figures in French thought after World War II. These Frenchmen's thoughts are difficult to understand, but it is a very important aspect of human thought until now in the last century. The origin of postmodernism is in France and among them. Everyone is a mentor, and koyev is one of the mentors. Tutors are not uncommon. For example, Hu Shi in China, most scholars recognize his tutor status. This alone is not enough for koyev. Masters such as Hegel, Plato, Kant, Socrates, Laozi, Mozi and Confucius are not inferior. However, apart from being an ideological mentor, koyev is also a person closely related to the daily work and life of all of you here, which has a great impact. After World War II, he joined the French government and became a core figure. He was the policy maker of the French government at that time. He is one of the original designers of the WTO and EU system.

Koyev's revolutionary practice after the war is closely related to his revolutionary theory before the war. Marx said that philosophers should not only explain the world, but also transform the world. Koyev transformed the world, and we are still working and living in his transformed world. Not only that, but he also pointed out the future, an inevitable silly happiness, but also a boring and gloomy future. Therefore, it is not too much to compare koyev to Marx. Next, let's take a turn to learn about koyev's life, and then focus on his thoughts and actions.

Koyev, a Russian Jew, was born on May 11, 1902. His mother is a lady from a family of bankers and industrialists. Father Vladimir koyevnikov. Therefore, koyev's name is Alexander Vladimirovich koyevnikov, which is simplified to koyev when he comes to France. Uncle and good friend Kandinsky, a famous, foundational artist, the ancestor of abstract painting, my idol in my youth, has similar characteristics with koyev. Most artists, such as Van Gogh, are pure artists. But Kandinsky is not only a pioneering artist, but also a practitioner. He runs a large number of art museums all over the world, served as a member of the Soviet people's Education Committee, and is an extraordinary art organizer. Kandinsky is koyev in the art world, and koyev is Kandinsky in the field of philosophy and politics. Turn your hands to ask for the home of cloud science, and cover your hands to practice rain. In short, koyev was born into a noble family, well-educated, proficient in Latin, French, German, English and so on. But after the October Revolution, life began to be turbulent. His father died early, related to China, and died in Manchuria in the Russo Japanese war. Mother married her father's comrades in arms. Koyev was three years old when his father died. Basically, he was raised by his stepfather. But his stepfather was also killed by vagrants, thieves and robbers in the countryside during the October Revolution. His family was rich. Koyev was arrested for selling soap. Fortunately, he was released immediately at the age of 18. Koyev's family was impacted by the Bolshevik revolution, but still aspired to the revolution. In short, he still thinks he is a Marxist. After his release, he and his friends crossed the border through Lithuania to Poland. Arrested as a spy in Poland. Poland is very opposed to the Soviet regime. This is the era of Paul Kochakin. Trotsky's Red Army is preparing to kill Polish landlords. The Red Army liberated Poland not in the form of national struggle, but in the form of class struggle. Fortunately, his friend George Witt had German blood, and koyev was free again. Then they arrived in Berlin, Heidelberg. Heidegger was there, but he followed Jaspers and became a doctor of Oriental philosophy. He is proficient in Sanskrit, Tibetan and Chinese. Later, he made a secret visit to China and directly communicated with leaders in Chinese with a strange accent. While in Berlin, he met his first wife, covare's sister-in-law. Kovare has a great influence on koyev's life, which is full of legends. Koyev was close to his sister-in-law. When the family knew about it, they were very angry and assigned kowale to negotiate with koyev. As a result, kovare happily told his family that koyev was better than his brother and more worthy of his sister-in-law. Koyev finally got his wish. While studying, he had a wife. After his doctoral study, he settled in Paris and began to live and work. For quite a long time, he lived in big houses and hired people in Paris like a high-class figure. Until the age of 28, he was covare's assistant at the French experimental school in Sorbonne. In 1930, he bought a food company with all his property. The stock market fell sharply, went bankrupt and moved out of the noble apartment. Divorce two years later. Then came a turning point.

In 1933, Hitler came to power. It was in that year that covare was invited to Cairo to preside over the Philosophy Department of a university. Leave a philosophy workshop to introduce Hegel's philosophy to the French. Koyev became a professor on the stage from the teaching assistant who listened below. Koyev began an important period of his life. The lecture was very successful. Raymond Aron recalled that under the hypnosis of koyev's strange and extremely standard and elegant Russian accent French, the audience were intoxicated and impressed, like being hit by thunder, sweating and dripping. The workshop lasted for several years, and the lecture records were later collected and published by Raymond Queneau. This is the famous Hegel's Guide - the course of Spiritual Phenomenology. One of the students of the workshop, marollan, became the economic minister of the French government after World War II. When marollan attended the lecture, he also entered the French cabinet. During the lecture, koyev married his second wife, Angelina Ivanova, Belarus in exile in France. When World War II broke out, koyev was enlisted. Because the French army surrendered at the beginning of the war, koyev did not fight any war. But after the French surrendered, koyev entered the guerrillas. In 1944, koyev plotted against a German army, a Tatar army and a Muslim Legion. However, the plot was unsuccessful, there were many people and some informants, and koyev was arrested by the German army. I'm afraid he will be shot if he tries to counter the enemy in the war. But dramatically, after persuading his rival's parent kovare, koyev once again successfully used his language genius to persuade the German commander to release himself. Before the war, the German commander was a gallery owner, art merchant and art lover. He had the same interests with koyev and had a speculative conversation. The commander felt that their common ground was higher than the hostile relationship in the war, so he let him go. It can be seen that koyev has great talent for language and political strategists. During the war, he completed the outline of phenomenology of legal power. The book was not published in his lifetime because his character was similar to Strauss. He was not keen to share his views with the broad masses of the people, and was more willing to share it with people he was willing to communicate with in a small circle. The basic theme of this book is "universal homogeneous state". Later, he participated in actual politics, promoted the wheel of history with action, and promoted the historical process towards a universal and homogeneous society.

In 1944, the war came to an end. Charles de Gaulle organized the post-war government, and Roland Ma joined the cabinet of Charles de Gaulle's Fourth Republic as director of the Bureau of foreign economic relations. Koyev worked under marollan. Koyev, a Russian, entered the core of the French government, which is worth exploring. There are some less mainstream opinions that suspect that koyev is the KGB. After all, officials and professors are different. A person has a stain. It's OK to be a professor in a democratic society, but entering the core decision-making circle of the government is another matter. Einstein entered Princeton early, but in the end he was never able to participate in the Manhattan Project. Many people attribute the origin of the plan to Einstein's letter to Roosevelt, which is right, but the originator may not be the one who has achieved great success. Koyev's exception is full of doubts. Others believe that it is logical for koyev to enter the core of the government without conspiracy, which is related to koyev's drafting of the outline of state affairs of France. It is not surprising that the outline determines the future direction of de Gaulle's government, so as to enter the core of the French government. From a strategically advantageous position, koyev's article is no less than our Longzhong pair, and he not only Zhuge Liang, but also su Qin Zhang Yi, tugged and maneuvered among the forces of other countries. In short, after entering the French government, koyev got water like a fish. Although he did not understand the economy and had no relevant experience, it did not hinder koyev. Koyev said that it doesn't matter if you don't understand the economy. You can read economic works once a week. Some people say that in other countries, a group of people work, while in France, koyev works alone. Then he took over the Marshall Plan, which was very important to Europe at that time. The plan embodies the Americans and Marshall's own characteristics and kindness. A lot of money went to Europe in the hope that Europe would return to normal, which was good for the free world and the United States. But the specific distribution of money, Americans can not get, should let Europeans do it themselves. France is the most suitable. The strength of the French is not as good as that of the Germans, not as good as that of the British, and they have never listened to the words of the United States. They are more stubborn. But Americans are afraid of the French. This is a historical factor. When the United States became independent, France gave great assistance and directly sent troops to support them. Similar to the Korean War, Washington is Kim Il Sung. Kim Il Sung's defeat of American imperialism is tantamount to Washington running away the British. The statue of liberty outside Manhattan was also given by the French. So Americans have a strange feeling for the French. They have a very stubborn uncle and have nothing to do. Of course, after World War II, Germany could not lose, Italy could not, and Britain did not "Europe". Naturally, France took over the Marshall Plan. Koyev seized the opportunity to become a core figure in dealing with European transnational affairs. In just a few years (44-50 years), he completed the Marshall Plan and signed the general agreement on Tariffs and trade (GATT). GATT was the WTO at the beginning. Because the Americans opposed it, they signed only one agreement. GATT is governed by contract law. WTO has the smell of companies, at least cartels and alliances. At the same time, France and Germany signed the Franco German steel and coal agreement, which is an important countermeasure of the French state outline. The agreement evolved into the European common market, the European Community and the European Union.

During the cultural revolution, koyev paid a secret visit to China. It is not recorded in koyev's biography. Some time ago, Shanghai held a photo exhibition of koyev in China. It is said that koyev met Liu Shaoqi, Zhou Enlai and perhaps Chairman Mao. He has objections to the cultural revolution. I have the opportunity to talk about it again. As a member of the team, he came with culture minister malro and wondered whether he consciously hid his identity. Because of intelligence, koyev should still have a position in China. Koyev's "outline of French state affairs" makes France hold a neutral and western position between the East and the West. France has withdrawn from the NATO military organization. It is a member of NATO, but it has the right not to cooperate with others. France was also the first European country to establish diplomatic relations with China. Koyev died in 1968. After a speech at a meeting of the European common market, he died of a heart attack at the age of 66. This day is also easy to remember, June 4. Next, let's go into koyev's thought. First, let's talk about the pragmatic part, from pragmatism to retreat. Koyev's pragmatic point of view should first mention the outline of state affairs of France. This is the national policy proposal given by koyev to the French government after the war, and it is the most distinctive reflection of koyev's thought. There are two core points. First, how to deal with the relationship between France and Germany. Second, how to deal with the relationship between France and the East and West, and how to deal with the Soviet Union, the Eastern European Group and the United States and the British group.

First, France must not squeeze the Germans as foolishly as after World War I, which is very dangerous. Germany always wants to recover and grow. If Germany has nothing to do with France after its recovery, France will quickly become a second rate country in Europe. So we have to get together with Germany. At that time, there was no Internet and it. The most important strategic materials were steel and coal. The basic proposal of the state outline is that the economies of the two countries should be mixed together. So there was the Franco German steel and coal agreement. Quickly Denmark, Belgium and Luxembourg also came in. German iron ore imports must pass through France, and Germany has no purchasing right. This is not sanctions, it is cooperation. Steel is the most important war material. If the production process is tossed back and forth in France and Germany, no one can form an independent steel industry. No steel, no weapons, no war, no war. This kind of thinking is not uncommon. Before the reform and opening up, China criticized the four little dragons in East Asia as a colonial economy. The colonial economy is to participate in the international division of labor without an independent industrial system. The great socialist cooperation advocated by Khrushchev is also an attempt to castrate China, so that you have no ability to resist, can not be hard, and can only rely on. In short, France must be tied to Germany. Koyev also believes that the era of war between nation states is over and that the future war is an Imperial War. The evolution of war means also means the change of war organization form and war cost. At first, tribe to tribe, then principality to principality, and then nation-state to nation-state. Now the nation-state can no longer afford war, and relying on a nation-state to fight for supremacy is bound to fail. This was proved by the Second World War. Koyev believed that Hitler's failure was closely related to his attempt to rule an empire only by a single German nation.

Second, koyev believes that the Protestant British and American Empire is in the West and the orthodox empire with Russia as the main body is in the East. France is in the middle of the two empires, and there may be a big fight between the East and the West. No matter which side France stands, it will become a battlefield. Whether the battlefield is in French airspace or territory, France will suffer heavy losses and will never be able to turn over. What should I do? Must be neutral, but neutrality is conditional. France has only one nation-state with limited power and wants to establish its own empire. The balance of Empire in exchange for neutrality. Koyev believes that first of all, it should be tied with Germany to establish the European axis. Secondly, along the Mediterranean, relying on the French's own Latin civilization and Catholic civilization, they held the Catholic Germany and established the Latin Empire. Germany is an important Catholic country with a pope from Germany. The thought of Latin Empire did not go forward according to koyev's idea, but it is still the core of French political philosophy. Sarkozy tried to establish the Mediterranean Union. The ideological source of the policy is the outline of French state affairs and the outline of Latin Empire. The de Gaulle government quickly accepted this view. After the war, France was specious on the international political stage. As a Western democratic country, its position was always not coordinated with that of the Americans. Others say, who do Americans hate most? I hate koyev most because he constantly struggles with Americans. The statement that koyev is the KGB may have been spread by the Americans. By virtue of the French state program and his actions in domestic and international political affairs, koyev is already a cow. He looks like Kissinger with a big nose and big glasses. But what he did had a far greater impact on the world than Kissinger. If Kissinger is a celebrity, koyev is a celebrity among celebrities. Kissinger briefly played a role in the field of international politics. As Nixon's assistant, Kissinger influenced the international situation at that time. However, koyev's work has a more solid theoretical foundation and is still playing a role and laying a foundation today. The following is about koyev's ideological contribution and the interpretation of Hegel's thought. Many people questioned koyev, questioned that he misinterpreted Hegel's theory, expressed himself through Hegel, and made a koyev version of Hegel. As mentioned earlier, koyev took over covare's Hegel philosophy workshop at the French higher experimental school. In a very short time, about a month, he grasped two points and expounded his own unique things. First of all, he condensed the theme to the dialectics of master and slave in the fourth chapter of Hegel's phenomenology of spirit. At the same time, he also grasped Hegel's discussion of Napoleon's Jena oerstein battle. In this regard, it unfolds koyev's Hegelian thought. He believes that the dialectics of master and slave is the engine of historical progress. We can think of class struggle. Everyone here should be familiar with class struggle. Zhang Chunqiao said that class struggle is the locomotive of history. Koyev inherited Marx's philosophy. An important source of Marxism is German classical philosophy, which is Hegel's dialectics.

How did the dialectics of master and slave come into being? This brings us to first man, the beginning of the history of human society. Human history is the history of human relations and class struggle. Everyone has examined this set of theories about the history of the Communist Party. How did history come from? To start with human nature, Westerners speak layer by layer. First, we should talk about the most original things. When talking about economics and demand price, we should start from utility. After the utility, it is the price. Zhang Wuchang argued with Wang Dingding. Zhang Wuchang said why do you have to talk about utility when you talk about price? and so on. In short, human nature is a source of historical analysis. According to kayev's Hegel, a very important feature of human nature is that people have desires. Without desire, man cannot feel his own existence. This is a high-level desire, which is different from animals. It is a high-level desire that needs to be recognized by others. Animals have the desire to eat and mate, but only people have the desire to be recognized by others. This desire is so important that life is precious and love is more expensive. If it is freedom, both can be thrown away. The first need of human nature is to be needed by others. For example, if I say, listen, you need me, then I feel that I exist. Further, this need is recognized and respected. I want to be decent and be treated as a character to be needed by you. If you are my leader and need me to help you with your shoes and chores, this is not what people want to be needed. As a teacher, I give lectures to you. You send flowers and coffee. I am respected and recognized by you. My humanity has been greatly satisfied. "Need" has several translations, including "recognition" and "recognition". I think it's better and easier to admit. Being recognized by others is very important in human nature. This is the most important and core point that distinguishes man from animals. The society in the primitive state is like this, and so is the modern society. I'm angry if you don't recognize me. I'm glad you recognize me. If you don't give me money but respect me, I can also work hard for you. The so-called scholar dies for his confidant. If I need your approval, but you don't respect or recognize me, fight and fight. When I beat you, I won your respect and recognition. First man, the master came into being in such a struggle. The emergence of "big brother" in the underworld and anarchy is also similar. The core of koyev's social and political theory is vividly described in Fukuyama's the end of history and the last man. This book is a popular reading of koyev's thought. Koyev: the source of postmodern politics is a critical version of liberalism.

Return to the theme of the struggle for recognition. Many problems are not just economic problems, such as terrorist activities, such as the color revolution. To a large extent, it is not that you don't have enough to eat, but that you don't treat me as a person, and I will fight with you. I want to win my inherent glory and fight for recognition. Classical Marxist economic determinism cannot explain everything. A large number of revolutions and surging fierce struggles are often related to face, not just economic issues. For a medal and an enemy flag, people are willing to throw their heads and shed blood. The struggle between people who produce masters comes at a price. Only those who are not afraid of death can become masters. There are three kinds of struggle. One is to die together. Both the master and slave die. There is no master or slave. It is useless. On the other hand, if one party kills the other, it will be killed and beaten for nothing. There is only one left, which can not form both owners and slaves, and it is useless. It's useful to beat the other party down, subdue him, bow his head and beg for mercy. Let the other party lie down and admit yourself. You don't have to hit the other party. You can hit yourself. Like the underworld in the movie, do you disagree? You don't accept that I put a knife in your lap. The other party is stupid. Brother, forget it. I listen to you and everyone listens to you.

Master, to win the respect of the other party and make himself a "man", he must risk his life. This is a very, very core concept. People's fear of death is human's animal attribute and natural attribute. Therefore, to convince the other party in the struggle, first of all, you have to be a "person". If you are a man, you must have the ability to kill your animal nature and conquer nature. In addition to mountains and rivers, heaven and earth, a very important point of nature is man's own body. We also encounter it in our daily life. For example, to practice, to practice Buddhism, is to let one's soul exist independently. The independent existence of the soul must despise its own body and the opposite existence of the soul. Koyev and Western masters, such as Hobbes, will talk about the separation of soul and body, and human nature is born. In this way, I proved to me that I was a "person". At the same time, when the other party saw this, he was afraid and fell down. In some peacetime activities, such as mountaineering, adventure, jumping from high altitude, crossing the ocean and crossing the desert, there is such a taste of contempt for yourself, the danger of your life, the existence of your life and the sublimation of your spirit. By disdaining yourself, you get the sublimation of spirit, so as to get the recognition of the other party. At the same time, the other party will stop cooking. If you insert the knife into your thigh, I will shrink back. I'm afraid you'll forget it. At that time, koyev told the story very moving. He was elated on the stage and intoxicated off the stage. There are writers, philosophers and politicians. Master slave dialectics has good tools, koyev's eloquence and koyev's creativity.

I came across a practical case. I went to see a dance drama "Luoshen Fu" with a group of friends. Dance drama, very abstract. Talk about the relationship between Cao Zhi and Cao Pi after Cao Cao's death. Both of them are the sons of Cao Cao. Cao Pi is the eldest son, but Cao Cao doesn't like him very much, and Cao Zhi is very smart and likes Cao Cao very much. But Cao Zhi failed in the struggle for inheritance. The dance drama made Cao Zhi lie down on the stage directly and vividly. Get down and put on women's clothes. Cao Pi insulted him. My dancing friends who watched the play teased me and said, Lao Lu, you are so thoughtful, you can express your opinions. At that time, I suddenly thought of koyev's Dialectics of master slave. Thought of "living". In the face of the test of life and death, if you are greedy and afraid of death, you will become a slave. If you can't get through life and death, you're not a real person. Cao Zhi's story well explains what slaves did. After countless collisions, human society formed a structure, a structure of master and slave, and a structure of nobility and slave. History has deduced countless stories of this structure.

But this structure is imperfect, flawed, regretful and unstable. But koyev's argument is that because of imperfections and gaps, power will be generated. Everyone who has studied natural science knows that the premise of exercise is drop, potential difference, water level difference, pressure difference and so on. Isotropic equilibrium does not move. Where is the drop? Let's talk about the master first. If we don't talk about slaves first, it's easy to imagine that slaves are dissatisfied. Why is the master not satisfied? The original motive force of the master's struggle was to be recognized and recognized by others. But what is the premise? Is recognized by the people he respects. But slaves are not people, not complete people. The people he beat down admitted to him that he was not satisfied. That's the problem. He went through fire and water, risked his life, beat the other party down and was admitted. But his heart is not satisfied, because the other party is a low slave, not a noble man. This is easy to understand. For example, it is meaningless for a person who looks down on to flatter. It can only be disgusting. For example, the dictator of a small country is not satisfied with the tears and cheers of a sea of people. The president of the United States is more satisfied with a meal with him than the cheers of millions of his subordinates. In this way, either call around and continue to find other owners to fight. Many wars are meaningless wars without interest demands. If he doesn't fight, he will become the master and become the master within his sight. First, he is not fully recognized and he is not satisfied. Second, he has nothing to do. The life of an idle master is meaningless. Nobility is corrupt. Because they have no desire to continue to struggle.

On the other hand, slaves are not satisfied. Who can be satisfied with being slaves? But dialectics led to a very interesting result, the dissatisfaction of slaves, and finally promoted the progress of history. What is the driving force for advancing history? When the slave was not satisfied and could not beat the master, he went to fight against nature and transform nature. Back to the philosophers, back to Hegel, that is to say, start "negating" and "negating" nature, the historical materialism recited in the college entrance examination, and transform nature. Chairman Mao also said, "the people, only the people are the driving force for creating history", "the noble are the stupidest, and the humble are the smartest". The vast number of slaves, dissatisfied with their state, took part in the three major struggles, class struggle, production struggle and scientific research struggle. Koyev focused on the following two points. When slaves became slaves, they were forced to work and were unhappy. But in his work, he found that conquering nature was also a very interesting thing. He became a slave because he was afraid of death in the struggle. Fear of death is also a kind of submission to nature, but this nature is an animal instinct hiding in his body and preserving his own instinct. So he was subdued by nature. Slaves won back nature in their labor and got happiness. Through the labor of slaves, the transformation of nature and the sublimation of understanding of nature, mankind has promoted the progress of human history. Therefore, although the master slave dialectic said that the winner in the master slave struggle was the master, Hegel, or koyev, gave the certificate to the slaves. After the struggle between masters and slaves, it was slaves who really pushed history forward. The real spiritual enrichment is probably a slave. However, unless class struggle and slave rebellion, after all, being a slave is still flawed and enslaved by others. Therefore, slaves developed their own ideology while struggling in production, scientific experiments and transforming nature. Koyev believes that this ideology is a bad ideology. Like Stoics.

The important point of Stoic school's thought is to basically admit that reality is reasonable. Isaiah Berlin said that there are two kinds of liberalism, positive freedom and negative freedom. Berlin believes that true freedom is negative freedom. Negative freedom is freedom from interference, while positive freedom is freedom of self realization. Active freedom is the freedom of what you want to do. Think, if you do, you will be free. This is meaningful, let us have a positive attitude towards life. However, if you can't reach it, you won't be free. If you want to be rich, you can't earn money and you don't have financial freedom. So some people sell psychedelic drugs, and many religions sell this kind of psychedelic drugs. They say, if you don't want to, then you won't be unable to reach it, so won't you be free? For example, if you let me suffer, I think it's normal to suffer. If you lock me up in a dark room, then I imagine that I am a person who likes to stay in a dark room most. Then you can't help me. I'm still free. This is what Hinduism teaches Untouchables. Let people find happiness from very bad conditions. The idea of positive liberalism has become a tool to fool the people. Many thinkers criticized stoicism as a humble, Slave Law and slave thought.

Koyev also believed that slaves would find a way out in the spiritual world during their years of slave life. The most important of these is Christianity. Koyev believes that Christianity is the ideology of slaves. The most reactionary point of Christianity is that people can seek happiness and happiness on the other side. Interestingly, even so, it is driving history forward. Why? Koyev believes that Christianity provides the most basic ideological basis for the "universal and homogeneous society" he advocates. In short, it is a thought advocated by Napoleon's French Revolution, which is endorsed by koyev Hegel. It comes from Rousseau's freedom, equality and fraternity, and the main source is Christianity. Everyone is equal, no matter who he is, everyone is equal before God. However, the bad thing is that these happiness can only be realized on the other side.

Before I got in touch with koyev, I said the above as a negative example. I used to admire Hayek and Karl Pope. The latter has a very important book "open society and its enemies". It criticizes the ideas just mentioned. The core point is historicism. The so-called history is regular and moves forward according to the law. Karl Pope believes that these are deceptive. History has no personality and history has no laws. Perhaps it is just that the literati despise each other. Karl Pope is excluded in the Jewish circle. Karl Pope once wanted to find a job at the University of Chicago from Cambridge, from Britain to the United States. Koyev's friend, Leo Strauss, said that Karl Popper was not wrong in thought, was ignorant, and was a gangster. He listed a lot of ancient ideas. In fact, he knew a little. In short, he was a gangster. If this bastard is coming to Chicago, I'll go. Finally, the Committee of academic experts felt that Strauss had to stay. As a result, Karl Pope had to stay in Britain all his life. Wittgenstein once wanted to beat him with a firestick. Isaiah Berlin, another master of liberalism, attached great importance to koyev and Strauss. Although he did not agree with them in theory, he thought they were knowledgeable masters. The possession of text and materials and the depth of thought are very good. He didn't like calpope very much. Karl Pope was very famous when he was alive and was never mentioned when he died. My knowledge is not enough to criticize Karl Pope condescending. Perhaps it is because there are too many fashion elements in his thought, and his academic foundation is not solid.

Back to the point, these ideas of Christianity are considered by koyev to be an important ideological source of the French Revolution. We now believe that the French Revolution is the ideological premise of the Bolshevik revolution. The Bolshevik revolution is also the ideological premise of the Chinese revolution. All these have brought some bad things to human society. Turn the pancake, turn it over, turn it over, revolution comes and goes. Historical progress should be reform. The most fundamental problem of the French Revolution was Rousseau's proposal to move the goals and aspirations of the other side to this side, and then it began to rain with blood. In short, the thoughts and feelings of slaves and the thoughts and feelings of the oppressed people led to the emergence of Christianity. The thought of Christianity was transformed and inherited by the French Revolution, resulting in a free, equal and fraternal society. This is Napoleon's victory. Hegel believes that history can end from now on. You can disagree with koyev, but all the people I see who scoff at the end of history may not have an accurate understanding of the definition of this term. Their so-called history refers to the evolution of human social form. In fact, the French Revolution proposed that people are equal to each other and live through democratic consultation, which may be the ultimate social form of mankind. In this sense, history has come to its end. So the end of history came into being.

Such a social system based on France and the United States has defeated one enemy after another and become the final template. The so-called universal values are relied on by the whole world. At this stage, history will not go forward. This does not mean that time stops, but that it does not change. There is a saying that China has no history. The "history" here is similar to the above "history". China has experienced the Dynas like as two peas, Zhang three, Li four and Wang Wu. They are all identical and super stable. They are not "historical". This does not mean that events do not arise, but that old events are the same. Therefore, there may be a reason why koyev was not liked by Chairman Mao at the beginning. According to koyev's idea, from the revolution of 1911 to the revolution of 1949, these things are just a replica of Napoleon's achievements in that year. They are nothing great and history has not advanced. In short, historical dialectics, master slave dialectics, dialectics. When the French Revolution was the template of a universal and homogeneous society, history would no longer advance dialectically. That's all. Many people criticize, many people disdain.

The end of history and the view that history will no longer move forward are criticized even in their "own" circles. Koyev's good friend, Carl Schmidt, believes that a generally homogeneous society is nonsense. National state, national political power will still exist. Carl Schmidt's most famous book is the concept of politics, which has a very famous annex, guerrilla theory. In the past, there were leftist guerrillas, the Japanese Red Army, the German and Italian Red Brigades, and now there is terrorism 9 / 11, which is also Carl Schmidt's "guerrilla" in a sense. I think koyev Schmidt may be right, depending on where the boundary is drawn. Frame everything together. Carl Schmidt was right. The boundary of civilization has the conflict of civilizations. Christian civilization, Islamic civilization and Confucian civilization. Huntington said so, which is also confirming Carl Schmidt's theory. Carl Schmidt said that the first thing in politics is to distinguish between friends and enemies. Chairman Mao also said that we should support everything the enemy opposes and oppose everything the enemy supports. Politics is meaningless if we do not draw a clear border and distinguish between friends and enemies. But on a small scale, koyev's theory is also winning, the national borders in Europe are being eliminated, and the western nation states are also very united. Of course, history does not end. In China, we are confident in our system. We are saying that there is no single best system in the world. Our system is unique.

Next, we will talk about the relationship between koyev's thought and Nietzsche. Koyev's thoughts or ideas, except for the opposition of others, do not understand the opposition. He was not happy himself. "Unhappy" is accurate. In the workshop before the war, koyev had foreseen the end of history, which was not the same society as communism said. In order to explain, let's take a less precise example. I don't know how many students have studied Buddhism. Everyone practices Buddhism, practices and practices. In the end, it is not a paradise. There are fairies, auspicious clouds, music and carefree. The result of practice is nirvana. Nirvana is silence, not going to heaven. Heaven is meaningless. It's meaningless after a long time. I have no meat to eat. I'm happy to eat it once. If you eat meat every day, you'll be in trouble. No music to listen to, listen to can, listen to every day, music becomes noise. Based on this, koyev is deeply saddened by the world's great harmony, the universal homogeneous society and the end of historical evolution. He found that once that time came, everyone was the master. The characteristic of the end of history is that there is no need to conquer others. Everyone is the master, independent personality and mutual respect. He found that this society has become meaningless, and there is no grand and lamentable struggle anymore. Everyone cares whether there is a car at home and whether the house is big or not. In essence, these should not be the happiness that a "person" should pursue. What a "person" should pursue should be divorced from reality and animal nature. People who make money, buy a nice car, a big house and pursue beautiful girls are nothing more than high-grade animals. Therefore, koyev found that the end of history is sad. In fact, it turns people into animals again, which is a dark end. Trulli's book has a vivid example of teasing koyev. History is made up of people. What are the final results of the efforts of several generations? Andersen had a fairy tale little fir tree. The little fir tree dreamed of becoming a Christmas tree from childhood. It thought it was a great dream. It grew up slowly. After countless efforts, it was cut down and became a Christmas tree. Finally, it found that the result was not good. It's painful to be cut down before becoming a Christmas tree. After becoming a Christmas tree, the candle drops and burns on its branches, which is very painful and painful. After Christmas, it was put in the attic and finally became fuel and destroyed. This is the end of history, a dark end.

Koyev's thought bears another fruit here. The group of French who had been educated at the beginning and the thinkers who had nothing to do after eating became the main ideological source of postmodernism. Therefore, France has become the base of postmodernism. Foucault and others are all engaged in postmodernism. The characteristic of postmodernism is dissatisfaction with the current situation, that is, they are particularly opposed to modernity, globalization and the dominance of science and technology. In short, against everything. Occupy central, occupy Wall Street. To rebel and complain without doing anything is postmodernism. Through koyev's teachings, they know that modernity, the end of historical development, is a meaningless state. So we have to struggle, struggle and do whatever we want. I don't think they've figured out what to do. Why is Nietzsche highly respected in postmodernism? Why? The reason is that Nietzsche described it long before koyev. It is not a prophecy. Koyev did the prophecy. He deduced it step by step according to the historical dialectics and deduced the process of history. Nietzsche saw and saw. He lived after Napoleon, in the Bismarck era, the golden age of capitalism. Seeing modern society, he will turn people into last man. The earliest translation into "the last person" should be translated into "the last person". At the end of the year, people are not great, do not fight bloody battles, do not do noble and tall things, and live their own small days like little reptiles every day. They are a group of people without any vitality. Nietzsche said that the root of modernity can be traced back to Socrates in ancient Greece. Nietzsche thought Socrates was the one he hated most in the world. How did Socrates annoy Nietzsche? Socrates brought reason into ancient Greek society. Nietzsche believes that the idea of afterlife was first brought by Socrates, a rotten man. I also agree that Socrates bravely died on the premise that he believed in an afterlife. More importantly, Nietzsche thought that Socrates passed rationality to the ancient Greeks, and then analyzed it with rational analysis. Finally, the ancient Greeks who were very simple, healthy, sunny and noble suddenly felt sick and problematic. Since Socrates, reason has overcome instinct, and knowledge has overcome faith. So the curse is on him. Finally, Christianity came into being and inherited something from Socrates. For example, everyone is equal before God, the love of truth and correctness, and so on. When koyev's history reached the end, there was the last man described by Nietzsche. This last man replaced adventure with safety and youth with years. History is sad.

# Appendix 2: Bibliography

1. The structure of the scientific revolution, written by Thomas Kuhn, translated by Jin Wulun and Hu Xinhe, Peking University Press, February 2004. The logic of scientific discovery, written by Karl Popper, translated by cha ruqiang, Qiu Renzong and Wan muchun, China Academy of fine arts press, March 2008. Guns, germs and steel, written by Jared Diamond, translated by Xie Yanguang, Shanghai Translation Publishing House, 2000, 4. Origin of culture, written by [American] Marvin Harris, translated by Huang Qing, Huaxia publishing house, 1988, 5. Cultural materialism, written by [American] Marvin Harris, translated by Zhang Haiyang and Wang Manping, Huaxia publishing house, 1989, 6. Basic forms of religious life, written by [French] Emil durgan, translated by Qu Dong and Ji Yi, commercial press, Philosophy of art, written by [France] Ippolit Dana, translated by Fu Lei, Guangxi Normal University Press, August 2002. Population theory, written by [English] Thomas Malthus, translated by Guo Dali, Peking University Press, September 2008. Life under pressure, written by [Sweden] Tommy Bentsen, [America] Kang Wenlin, Li Zhongqing, etc., translated by Li Xia and Li Gongzhong, Social Sciences Literature Press, October 2007. From bottom up: the British agricultural revolution, written by Yang Jie, China Social Sciences Press, November 2009. The origin of British individualism, written by [English] Alan McFarlane, translated by Guan Kezhen, commercial press, 2008

12. Shared habits, written by [English] Edward P. Thompson, translated by Shen Han and Wang Jiafeng, Shanghai People's publishing house, 2002

13. History of China's land system, written by Zhao Gang and Chen Zhongyi, Xinxing publishing house, 2006. 14. Small peasant economy and social changes in North China, written by Huang Zongzhi, Zhonghua publishing house, 1886. 15. Small peasant families and rural development in the Yangtze River Delta, written by Huang Zongzhi, Zhonghua publishing house, 2000. 16. Vagrant culture and Chinese society, written by Wang Xuetai, Tongxin publishing house, My imperial career, written by Su Tong, author publishing house, 18, 2009. Strategy of conflict, written by [US] Thomas Schelling, translated by Zhao Hua, etc., Huaxia publishing house, 19, 2006. Micro motivation and macro behavior, written by [US] Thomas Schelling, translated by Xie Jing, Deng Ziliang and Li Tianyou, Renmin University of China Publishing House, 20, 2013 The mystery of butterfly effect: approaching fractal and chaos, written by Zhang Tianrong, Tsinghua University Press, 2013, 21. Selected works of Marx and Engels, [Germany] Marx and Engels, people's publishing house, 2012, 22. Selected works of Mao Zedong, written by Mao Zedong, people's publishing house, 1991

23. Karl Marx's historical theory, written by [e] g. a. Keheng, translated by Duan Zhongqiao, higher education press, 2008

24. Marx's historical theory, written by [US] William Xiao, translated by Ruan Renhui, Chongqing press, 25, 2007. New interpretation of Marx's social development theory, written by [US] Robert Brenner, translated by Zhang Xiuqin, Renmin University Press of China, 26, 2015. Origin of capitalism, written by [plus] Ellen mixins wood, translated by Xia Lu, Renmin University Press of China, Genealogy of the absolutist state, 27, 2015, by Perry Anderson, translated by Liu Beicheng and Gong Xiaozhuang, Shanghai People's publishing house, 28, 2001. The social origin of autocracy and democracy, written by Barrington Moore, translated by Wang Zhuo and Gu Jie, Shanghai Translation Publishing House, 29, 2012. State and social revolution, written by Sida scochebo, he Junzhi Translated by Wang Xuedong, Shanghai People's publishing house, 2007, 30. War and the formation of the state, written by [US] Xu Tianbo, translated by Xu Jin, Shanghai People's publishing house, 2009, 31. War of the Eastern Zhou Dynasty and the formation of the Confucian and French state, written by Zhao Dingxin, East China Normal University Press, 2006, 32. Origin of species, written by [English] Darwin, translated by Miao Desui, Yilin publishing house, 2013

33. Sociobiology: a new synthesis, written by [US] Edward O. Wilson, translated by Mao Shengxian, sun gangbo, Liu Xiaojun and Liu Er, Beijing University of Technology Press, 2008

34. Selfish gene, written by [British] Richard Dawkins, translated by Lu Yunzhong, Zhang Daiyun, Chen Fuga and Luo Xiaozhou, CITIC publishing house, 2012, 35. Since Darwin, [US] Stephen Jay Gould, translated by Tian Ming, Sanlian bookstore of life, reading and new knowledge, 1997, 36. Grandeur of life, [US] Stephen Jay Gould, translated by fan Yufeng, Life, reading and Xinzhi Sanlian bookstore, 2001, 37. Complexity, translated by [US] Melanie Michelle, translated by Tang Lu, Hunan Science and Technology Press, 2013, 38. Wealth of nations, written by [English] Adam Smith, translated by Guo Dali and Wang Yanan, commercial press, 2015

39. Enterprise, market and law, written by [British] Ronald h. Coase, translated by Sheng Hong and Chen Yu, Gezhi publishing house, 2014

40. Tenant theory, written by Zhang Wuchang, commercial press, 2000, 41. Economic interpretation · choice of system, written by Zhang Wuchang, CITIC press, 2014, 42. Introduction to modern economy, written by [English] Joan Robinson, John itwell, translated by Chen biaoru, commercial press, 1982, 43. Agriculture and industrialization, written by Zhang Peigang, Huazhong University of science and Technology Press, 2002, 44. Emerging classical economics and beyond marginal analysis, written by Yang Xiaokai and Zhang Yongsheng, Social Science Literature Publishing House, 2003, 45. The end of poverty, written by [US] Jeffrey Sachs, translated by Zou Guang, Shanghai People's publishing house, 2007, 46. Microeconomics based on practice, written by [US] Herbert Simon, translated by sun Di, Gezhi publishing house, Shanghai Sanlian bookstore Shanghai People's publishing house, 2009

47. Institution, institutional change and economic performance, written by [US] Douglas C. north, translated by Hang Xing, Gezhi publishing house, 2014

48. Great changes, written by [English] Carl Polanyi, translated by Huang Shumin, social sciences literature press, 2013 49. Ancient law, written by [English] Henry Maine, translated by Shen Jingyi, commercial press, 1959 50. On the spirit of law, written by [French] Montesquieu, translated by Zhang Yanshen, commercial press, 1961 51. On the French Revolution, written by [English] Edmund Burke, he Zhaowu Translated by Peng Gang, the Commercial Press, 2010 52. The British constitution, written by [British] Walter Bagehot, translated by Xia Yancai, the Commercial Press, 2010 53. On democracy in the United States, written by [French] Tocqueville, translated by Dong Guoliang, the Commercial Press, 1988 54. Debate: records of the American constitutional assembly, written by [American] James Madison, translated by Yin Xuan, Yilin press, 2014

55. Economic view of the US Constitution, written by [US] Charles A. beard, translated by he Xiqi, commercial press, 2010

56. History of the Peloponnesian War, written by Thucydides [ancient Greece], translated by Xu Songyan and Huang Xianquan, Guangxi Normal University Press, 2004

57. Three crises in early British history, written by [US] Michael v. C. Alexander, translated by Lin Dafeng, Peking University Press, 2008

58. The history of the British revolution in 1640, written by [France] Francois Gizo, translated by Wu Guangjian, the Commercial Press, 2001 59. The pioneering history of Plymouth, written by [America] William Bradford, translated by Wu Danqing, Jiangxi people's publishing house, 2010 60. Philosophy of history, written by [Germany] Hegel, translated by Wang Zaoshi, Shanghai Bookstore Publishing House, 2006 61. The decline of the west, [Germany] Oswald Spengler, translated by Wu Qiong, Shanghai Sanlian bookstore, 2006 62. Historical research, [UK] Arnold Toynbee, translated by Liu Beicheng, Shanghai People's publishing house, 2005 63. World history and redemption history, [Germany] Carl Lovett, translated by Li Qiuling and Tian Wei, Shanghai People's publishing house, 2006 64. Structure and form of world history , written by Shen Han, life, reading and Xinzhi Sanlian bookstore, 2013