

# **A Study of the Changing Livelihood Patterns in Northern and Southern China from a Geographical Determinism Perspective**

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**Abstract:** For a considerable period of time, there has been a divergence of opinion among scholars regarding the concept of "nature". In some cultural systems, the natural environment is regarded as passive and subject to human control. This belief is often accompanied by the idea that human beings can overcome heaven. In contrast, in other cultural systems, the natural environment is viewed as having unlimited magical powers and as being in control of human destiny. This control is seen as absolute and unquestionable. Since the inception of humanity, livelihoods have been the primary means of ensuring survival. From a cultural perspective, the relationship between humans and the natural environment can be examined through the lens of geographic environmental determinism. The evolution of human societies, from their initial primitive forms to the advent of agriculture and pastoralism, and finally to the industrial age, can be seen to be shaped by geographical factors. It is evident that the trajectory of human societal development has consistently followed a similar pattern. It is accurate to conclude that, with the accelerated advancement of science and technology within human society, we have acquired the capacity to influence the natural environment in ways that were previously unfeasible. This has resulted in the natural environment no longer exerting a decisive influence on human beings. However, it is irrefutable that environmental factors continue to exert a significant influence on human activities. This article examines the formation and transformation of livelihoods in North and South China, analysing the evolving roles of environmental factors and their cultural implications throughout this process. It begins by exploring the evolving meanings of geo-environmental determinism itself.

**Keywords:** Geo-Environmental Determinism, Livelihood Options, Livelihood Change.

## **1. INTRODUCTION**

The relationship between human beings and the environment in which they live has consistently been a central concern in the field of ecological anthropology. Indeed, studies that address environmental issues are typically classified as ecological research. Geo-environmental determinism is a cultural phenomenon, a lens through which the world is understood. It is a direct expression of people's perceptions of the world and their

geography within it. Furthermore, it allows people to express and fulfill their environmental responsibilities through concrete actions. Anthropologists have employed distinctive research techniques to examine geo-environmental determinism as a cultural phenomenon in its own right and have contributed to the advancement of geo-environmental deterministic thought. Currently, academic research on geo-environmental determinism is primarily focused on foreign countries, such as Hegel's complementary improvement. Marx and Engels, for instance, identified shortcomings in this concept and attempted to address them by offering new interpretations of its limitations. Among the notable contributions of domestic academics to this field is the re-examination of Montesquieu's ideas (Maldonado, 2018). The philosophical and political thought of Hegel, Marx, and Engels. In regard to the field of geo-environmental determinism, as well as the synthesis analysis of the aforementioned geo-environmental determinism and the characteristics of the ethnic group in question (Peet, 1985). Furthermore, there has been a shift in focus towards reflection and rethinking on the traditional geoenvironmental determinism. This process can be continued indefinitely. In recent years, Chinese academics have devoted considerable attention to the construction and development of ecological civilization, and ecology-related research has also experienced a surge in popularity. However, there is a notable gap in the research on the concept of geo-environmental determinism and its derivatives. It is acknowledged that the concept of geo-environmental determinism is still the subject of considerable debate and uncertainty. However, the purpose of this article is not to assess the veracity of the concept itself, but rather to present an objective rejection of the absolute significance traditionally attributed to geo-environmental determinism. However, it employs geo-environmental determinism merely as a theoretical instrument, concentrating on investigating the natural selection of primitive subsistence strategies by the geo-environment in northern and southern China, the process of change, and its implications for societal development, as well as the actuality of cultural exchange practices. The study of the geography of northern and southern China serves as a theoretical tool.

## 2. THE FOLLOWING SECTION WILL PRESENT THE FORMULATION OF THE PROBLEM.

The process of generating a particular culture in human society follows a specific logic. In a given natural environment with distinctive

characteristics, people form a way of obtaining the resources necessary for their survival and development from that environment. This occurs through long-term interaction with the environment and is shaped by the individuals' production skills and the overall productivity of the social group in which they live. Over time, this process leads to the formation of a set of technologies, consciousness, language, institutions, norms, taboos, and other elements that constitute a culture. These are contingent upon such methods and experiences, and are reinforced and consolidated into a system over the course of continuous production and life. Subsequently, a set of technologies, consciousness, language, institutions, norms, taboos, and so forth, which are associated with such ways and experiences, are formed and are continuously reinforced and integrated into a system as a result of continuous production and life. Consequently, the fundamental prerequisite for the genesis of culture is the manner in which individuals procure the resources indispensable for survival, through their adaptation to a specific environment. This process is referred to as the formation of economic or livelihood culture. Lin Yaohua posits the existence of two distinct types: economic and cultural. "Economic and cultural types refer to the synthesis of common economic and cultural characteristics formed historically by peoples living in similar ecological environments and practicing the same way of livelihood" (Frenkel, 1992). From this, it can be seen that the way of livelihood is the manner in which humans adapt and transform nature, and the means by which they acquire the material resources necessary for survival and development. It is a reflection of the gradual ability of humans to alter and shape their natural environment, and it provides the foundation for the formation and evolution of ethnic groups with a shared economic way of life. The configuration of livelihood patterns exhibits variability over time and space. The formation of livelihood styles is generally considered to be a process of accommodation, whereby the dynamic balance between the needs of the population and the environment is established. This is because human beings, like any organism, must have the potential to adapt to or become part of an ecological environment. Anthropologists have frequently been able to comprehend the concept of culture in terms of an ecological-mechanistic view of culture, which has two principal manifestations. Initially, numerous anthropologists perceive culture as the conduit through which human beings interact with their environment. They posit that culture is an indispensable component of human survival, as without it, human beings would be unable to derive the requisite material and social resources from the environment for their survival. Secondly, another group of

anthropologists posits that culture serves as a conduit through which humans adapt to their environment, rather than merely a medium of interaction with the environment. The distinction between these two perspectives hinges on the degree to which human agency shapes the environment during the formation of human societies. The initial perspective views the environment as the foundation for human well-being, whereas the latter suggests that by altering the condition of the environment, people and the environment simultaneously influence the development of human societies. In fact, there is no fundamental contradiction between the aforementioned perspectives. Culture can be conceptualized as the comprehensive mode of existence of a group, encompassing a worldview and a framework for navigating and interacting with the environment. Alternatively, culture can be viewed as the conduit through which cultural bearers engage with or adapt to their surroundings. Environmental determinism is a philosophical trend that has a long history and is currently popular in a number of academic disciplines, including anthropology, history, human geography, and political science. The most widely known tenet of this theory is the assertion that the physical environment serves as the primary driver of human affairs. The first to establish a connection between climate and politics were Plato and Aristotle. It was thought that the temperate climate of Greece was conducive to the establishment and maintenance of a democratic polity, and that the Greek people were suited to the role of rulers. In contrast, authoritarian regimes were more conducive to the tropics, as the populations therein exhibited a paucity of ambition and aspiration for freedom, coupled with a proclivity for fanaticism. In contrast, the frigid zone lacks a well-developed political system due to the absence of the requisite skills, qualities, and inclinations among its people, who tend to prioritize individual freedom. It is evident that the thinkers of the Enlightenment era inherited the concept of environmental determinism and subsequently integrated it into their anthropological research. For example, in *The Spirit of the Laws*, Montesquieu describes the relationship between climate and civilization. "In regions with a hot climate, individuals tend to be shorter in stature and weaker in physique, yet possess highly acute senses. In this context, individuals tend to either engage in sexual gratification or experience the joy of romantic attachment. In regions with cold climates, individuals tend to be taller and more physically robust, yet less sensitive. Such individuals derive pleasure from activities that invigorate the spirit, including hunting, fighting, and drinking. In countries located in the northern hemisphere, individuals tend to exhibit simple,

frank, and virtuous characteristics. In contemporary times, when one ventures into a southern nation, one may perceive a sense of transgression from the conventional boundaries of morality. In the temperate zones situated between the northern and southern hemispheres, the characteristics and moral standards of individuals are subject to a state of flux, largely attributed to the climatic conditions” (Koh, 2002). Gertz has observed that geoenvironmental determinism is limited in its ability to address complex questions, such as the extent to which environmental factors can influence culture. In his analysis of the role of geography in social development, Marx observed that those who espoused his theory tended to prioritize the absolute nature of developmental processes, while overlooking their relative character. Those who are determinist in their view of geography tend to regard geography as a determinant of social development. They often exaggerate the role of geography in the development of society. This view is contrary to the historical facts of social development, as it fails to take into account the influence of other factors. While the theory of geography and the environment has been the subject of debate in the academic community, it is nevertheless evident that Montesquieu's concept of "determinism of geography and environment" has played a pivotal and progressive role in the evolution of human thought. Following Montesquieu, Hegel, the preeminent figure in Western classical philosophy, undertook a more comprehensive examination of the interconnection between human society and the geographic environment. This contributed to a notable advancement in the "geographic environment determinism" of modern Western scholars. Marx and Engels' perspective on the relationship between geographic environment and human social life can be considered a form of "geographic environment determinism." However, it is a distinct form of "geographic environment determinism" that differs from Montesquieu's materialistic interpretation of history. They postulate that the geographic environment played a pivotal role in the development of ancient human civilization. They posit that the geographic environment exerted a pivotal influence on the material production activities and social life of human beings during the formation of ancient human civilization. This influence is primarily manifested through the geographic environment factor, which serves as a crucial element in the production of human material. As a labor object, the geographic environment factor determines the type and mode of material production activities. Furthermore, it indirectly affects the socio-political and spiritual life of this human civilization through its influence on material production activities. Consequently, the disparate geographic

environments of the various regions of the world gave rise to a multitude of differences among the ancient human civilizations that emerged within them, manifesting in a variety of forms and resulting in the emergence of distinct types. For example, it is unlikely that the Inuit in the Arctic Circle would have relinquished their traditional livelihoods of fishing and hunting in favour of farming and herding. Similarly, it is implausible that the Yukagir in Siberia would have abandoned their role as hunters and become fishermen. For instance, a substantial corpus of ecological literature exists on the subject of forest conservation in the basins of the Qingshuijiang and Nanbeiwangjiang rivers in China. However, there is a paucity of literature on the subject in the Gobi Desert and other deserts. The study of China's north-south divide has consistently been a significant area of academic inquiry in China. Those residing in the northern and southern regions, respectively, have historically prioritized survival in order to adapt to the natural environment. This has resulted in the formation of the rain-rich agricultural areas in the south, interspersed with pastoral areas in the northern oases and the Gobi. This illustrates how the concept of "geographic environment determinism," which is currently a topic of considerable debate in academic circles, posits that the fundamental causes of social phenomena can be attributed to the objective material environment. This represents a significant advance in our collective understanding of social and historical problems, as it moves us away from the limitations of idealism. The application of contemporary geoenvironmental theory to the genesis and evolution of traditional Chinese livelihoods facilitates an examination of the formation of the Chinese national community and enhances its cohesion. Concurrently, it offers a trajectory and fundamental structure for the continued development of the Chinese national community.

### 3. THE SUBSISTENCE STRATEGIES OF FISHING AND FRUIT GATHERING REPRESENT PRIMITIVE FORMS OF LIVELIHOOD BASED ON THE UTILIZATION OF LOCAL RESOURCES.

In discussing the relationship between the environment and livelihoods, Luo Yi posited that simple cultures are more directly constrained by the environment than advanced cultures (Luo, 2021). It is beyond question that activities such as gathering wild plant fruits, hunting wild animals, and fishing were regarded by ancient peoples as direct means of obtaining food.

Furthermore, these activities constituted a significant source of income, the availability of which was subject to the constraints imposed by the geographical environment. The provisioning environment can be viewed as one in which it was always possible to satisfy human needs for survival by gathering and hunting wild plants and animals. This was the primary common form of human subsistence, and its importance in the development of human societies was only surpassed by that of agricultural production. Gathering is a form of subsistence that has accompanied the physical evolution of *Homo sapiens*. Wild plants occur naturally, but only regularly in certain seasons. In the early stages of human activity, when the ability to domesticate plant seeds and systematically reap the rewards of cultivation was not yet in place, humans were forced to survive by gathering wild plants. The limitations imposed by the natural environment on human beings are absolute. This is evident from the manner in which livelihoods are collected, as well as the existence of wild plants that are suitable for human consumption. The occurrence of wild plants that are suitable for the human diet is a fortuitous phenomenon. Consequently, the limitations of the geographical area and growth cycle of wild plants have determined the selectivity of early human activities in terms of geographic scope. Furthermore, these limitations have also constrained the rate of increase in the number of populations. The areas in which early humans survived are often characterised by a high level of biodiversity, which is determined by the subjective selectivity shown by humans and their geographical location. As evidenced by the cultural relics unearthed during archaeological excavations, such as those belonging to the Longshan and Dadiwan cultures in the Yellow River Basin and the Hemudu and Daxi cultures in the Yangtze River Basin, early humans selected locations that were easily accessible and provided an abundance of natural resources, including areas surrounded by mountains and water. Fishing and hunting are distinct livelihoods adopted by communities situated in disparate natural resource environments. However, due to their shared reliance on wild animal resources, they are often grouped together in academic studies under the umbrella term "fishing and hunting livelihoods." From the perspective of economic and cultural typology theory, fishing and hunting livelihoods are roughly at the same stage of historical development as gathering livelihoods. However, in actual social development, the existence of the combination of gathering and fishing and hunting livelihoods may have encompassed all stages of human development. In the years following the founding of the People's Republic of China, a number of ethnic groups have continued to rely on a combined gathering-fishing-hunting livelihood

as their primary economic mode, to varying degrees. This includes the Oroqen and Ewenki in the northeast, the Mongols in parts of the north, some of the ethnic groups in the northwest, and the Wa and the Bitter Spring in the southwest. The object of fishing and hunting is wild animals, which gives rise to a fundamental contradiction between these activities and the survival and migration of animal populations. It is not the case that wild animals are born for the benefit of human beings; thus, the principal focus of the cognitive and practical abilities of communities engaged in fishing and hunting livelihoods is on identifying the value of animals and on catching them. The migratory patterns of wild animals imply that fish and game communities are unlikely to exhibit the same degree of sedentary behavior as those engaged in farming. Consequently, mobility represents a fundamental survival strategy for fish and game communities. Moreover, they require a specific area of forests, river basins, or marine environments to sustain a sufficient population of wildlife to meet their needs. Consequently, geography remains a significant factor in the sustenance of fishing and hunting communities. In the contemporary era, the practice of gathering plants or hunting animals for sustenance is a rare livelihood option. According to recent demographic data, there are fewer than 250,000 individuals globally who identify as hunters and gatherers, representing a mere 0.001% of the global population.s (Giddens, 2003). A renowned 18th-century account of an expedition similarly notes the presence of these creatures in small groups along the coastline and in the vicinity of lakes, rivers, and bays. It would appear that they have no fixed abode and wander about in search of food, behaving in a manner similar to wild beasts. It seems reasonable to conclude that they subsist entirely on food obtained on the day in question. It can be argued that primitive human beings had little agency in determining their livelihood. Their options were largely constrained by the resources available to them in their natural environment. During this period, geographic determinism exerted significant influence over the development of human societies. In his analysis of the division of labor and exchange of products in the early stages of human civilization, Marx observed that: "Different communes identify and implement disparate means of production and means of subsistence in accordance with the characteristics of their natural environments. "As a result, the modes of production, ways of life, and products of these communities vary considerably" (Engels, 1964). This is precisely what occurs in reality. Human beings engage in material production activities to survive and develop. However, people do not engage in material production activities as they wish. This is particularly evident in the



formation of ancient human civilization. At this stage of human development, people are constrained by the geographic environment in which they live. This environment provides the conditions for the formation of a specific type of material production. It also determines the specific content and mode of this production. For instance, inhabitants of river basins frequently engage in agricultural activities due to the natural conditions present in these areas. This has resulted in the formation of agricultural communities, as evidenced by the examples of ancient China, ancient India, ancient Egypt, and ancient Babylon. Those residing in the steppe and plateau areas, due to the natural conditions of the region, primarily engaged in animal husbandry. Consequently, the majority of these individuals became nomadic, as evidenced by the Mongolian and Tibetan Plateau nomadic populations. Similarly, the Mediterranean coast of ancient Greece and Phoenicia, due to its natural conditions, was primarily inhabited by nomadic communities engaged in animal husbandry. This is exemplified by the Mongolian and Tibetan Plateau nomadic populations. The ancient Greeks and Phoenicians who inhabited the Mediterranean coast were primarily engaged in agricultural activities. However, their natural conditions also facilitated the development of handicrafts and commerce. The gathering-hunting economy is contingent upon environmental conditions, which serve to maintain the subsistence level of its constituent groups at a relatively low level. The practice of gathering and hunting, when pursued as discrete livelihoods, is subject to a greater number of limitations and restrictions, both in terms of the quality of life and the accessibility of resources. It was therefore a prudent decision on the part of our ancestors to combine the respective strengths of these activities in order to form a complementary system of the two. It is through this mutual complementation of collection, fishing, and hunting livelihoods that the absolute dominance of the geographic environment over the development of human society began to be challenged, and human initiative began to emerge. The development of traditional livelihoods did not impede the growth of human society; rather, it was only when traditional livelihoods reached a certain level that more advanced forms of sustenance could emerge. As population growth and changes in people's material needs prompted continuous improvement in human ability to interact with the natural environment, coupled with changes in climatic and environmental conditions, it is evident that human beings were on the cusp of a higher stage of development, namely the emergence of early farming and animal husbandry in the gatherer-hunter economy. Farming and animal husbandry differed from gathering and hunting in that they involved the production

of food through labor, rather than the mere acquisition of naturally occurring plants and animals. The advent of early agriculture and animal husbandry also precipitated an expansion in the number and variety of plants and animals in the natural world, the reclamation of land, the management of rivers, and the emergence of metal tools, which collectively contributed to a significant increase in productivity. It is important to note, however, that early agriculture and animal husbandry were not a complete abandonment of gathering and hunting, but rather a process of developing new methods, expanding the scope of activities, and enhancing the value of labor within the context of gathering and hunting. Marx and Engels dedicated a section of their critique of Montesquieu's geo-environmental determinism to identifying its shortcomings. They argued that it failed to consider the role of human agency and excluded the relationship between humans and nature from historical analysis. This, they asserted, created an inherent conflict between nature and history. If human development is linked to social progress, it will be evident that all lines of human development can be traced, such as the transition from gatherer-fisherman livelihoods to agro-pastoral livelihoods, which will be discussed in greater detail below.

#### 4. THE REARING OF PIGS AND SHEEP REPRESENTS AN AGRO-PASTORAL LIVELIHOOD STRATEGY THAT IS ADAPTED TO THE SPECIFIC CONDITIONS OF THE LOCAL ENVIRONMENT.

Approximately 20,000 years ago, some hunter-gatherer groups initiated the domestication of wild animals, leading to the practice of raising domestic animals in diverse environments. This segment of the population continued to adhere to the hunter-gatherer way of life. In the broader context of cultural evolution, the advent of agriculture is often considered to have commenced only after humans had attained a certain level of control over their environment. This enabled them to sustain their livelihoods and even pursue the objective of material accumulation.<sup>[Error! Bookmark not defined.]149</sup> The advent of this distinctive branching pattern gave rise to the emergence of nomadic and agrarian societies. In contemporary Chinese culture, the practice of chatting after tea is a common pastime. However, the suggestion that pigs are a symbol of agricultural wisdom is a misguided assumption. The advent of the pig marked a pivotal transition from a subsistence lifestyle based on fishing and hunting to one centered

on agriculture. This significant shift is often regarded as the dawn of civilization. In other words, the pig played a pivotal role in the advent of agricultural civilization. The pig is an ancient omnivorous mammal and is one of the earliest domesticated livestock of humanity. The rationale behind the decision of farming nations to domesticate the pig rather than other mammals is a complex phenomenon that can be attributed to a multitude of factors. Firstly, the settlement of humans in a particular area is a prerequisite for the domestication of pigs. Pigs are not a good migratory trekking species; therefore, a large number of pig rearing may mark the gradual departure from the primitive gatherer-hunter subsistence lifestyle of constant wandering and the beginning of a semi-settled life. Secondly, there is the matter of sustenance. The pig's diet is analogous to that of humans, and humans can readily provide for the pig's growth requirements, provided that there is surplus food. The second factor is domestication. Pigs exhibit a number of characteristics that make them amenable to domestication, including a relatively short generation interval, the capacity for multiple litters, and a generally docile temperament. In the context of primitive technical conditions, it is evident that the ancestors rapidly acquired the advantages of wild boars in their hunting practices, thereby gaining control and ultimately domesticating the more docile wild boars. A total of 340 pig bones were unearthed from 46 burials at the Yongjing Qinweijia site in Gansu, as part of the China Archaeological Project. This demonstrates the significant role that pigs played in human life (Liu et al., 2017). The coexistence of pig rearing with early agriculture and their simultaneous development affords the status of pig remains, including the number, manner of utilization, and other pertinent details, a unique degree of judgment value in the field of archaeology. If the pig was the archetype that accompanied the development of agrarian cultures, then the sheep must have been one of the most important species in the development of the gatherer-hunter culture, another important human subsistence culture, and then, after entering the nomadic culture, to become the iconic symbol of the nomadic culture. Sheep are grass-feeding, ruminant mammals that are migratory, which may explain why some of the early gatherer-hunter tribes chose to domesticate sheep. A review of published excavation reports from cultural sites in northern China spanning the Neolithic to the Pre-Qin period reveals the presence of over one hundred ritual sites, with sheep representing the sacrificial animal in over 90% of cases. For example, at the Dahozhuang site in Yongjing, Gansu Province, and in the Qijia culture burials in the Qin Weijia Cemetery, the Dahozhuang site was found to be buried with sheep mandibles, bone cones made of sheep bone,

animal-shaped vessel cover buttons, and ceramic figurines shaped like sheep heads. The pig and the sheep, with the secrets of ancient man's ability to adapt to and master his environment in the course of reproduction, have played a pivotal role in advancing the livelihood culture of human societies, and continue to represent the development of two distinct livelihoods in the northern and southern regions of China, respectively. In general, China can be considered a traditional agricultural country. The farming way of life has been in existence for a considerable length of time, encompassing a vast geographical area and a diverse range of natural environments, a large population, and a profound influence on Chinese culture. The foundation for the emergence of agricultural livelihoods was laid by gathering livelihoods, which are older and more stable than fishing and hunting. The various types of nomadic livelihoods in China can be classified into the following categories: Tibetan Plateau, Mongolian Plateau, Loess Plateau, Mountain Valley, Oasis Edge, and Semi-Agricultural and Semi-Animal Husbandry. These categorizations are based on the natural ecological environment and regional characteristics. In contrast to the present era, during which it is necessary to exercise caution when referring to a group as "nomadic," historically, all ethnic groups engaged in nomadic livelihoods could be designated as "nomads." At its most fundamental level, nomadic pastoralism represents a form of economic production in which human beings exploit marginal environments characterized by scarce agricultural resources. The nomadic pastoralist exploits the herbivorous nature of animals and their exceptional mobility to transform plant resources that cannot be directly digested and utilized by humans over a vast area into foodstuffs such as meat, milk, and other essentials for human sustenance. The primary economic contradiction inherent to a nomadic way of life is the inherent tension between human and animal interests. In comparison to other forms of livelihood, such as fishing and hunting, those who pursue a nomadic existence must also navigate the inherent contradictions between livestock and pasture. This is largely due to the fact that a nomadic way of life represents a higher level of subsistence. The two primary characteristics of nomadic livelihoods, namely "nomadic" and "pastoral," are the result of a long-term process of adaptation to the aforementioned conflicts. From the perspective of the livestock and pasture contradiction, when livestock are in a particular pasture for a period of time to recuperate, they migrate to another piece of pasture for foraging. This results in the temporary closure of the pasture, which is necessary to ensure that it has sufficient time to restore its ecological vitality. In light of the aforementioned characteristics, it can be argued that the most significant

attribute of a nomadic economy is its inherent mobility. Mobility has undergone a series of evolutionary stages, from irregular movement to more structured, periodic movements. Irrespective of the stage in question, nomadic livelihoods, which are defined by their characteristic mobility, have proven effective in addressing the inherent contradictions between human, livestock and pasture interests in regions characterised by scarce resources. The movement of nomadic populations in response to the migration of livestock represents the fundamental model for the sustainability of nomadism. It should be noted that the selection of animals for domestication and reproduction is not based on the need for nomadic pastoralism, but rather on the mobility of the animals in their search for food, which ultimately determines the nomadic way of life. The traditional nomadic culture of the Mongolian people provides an illustrative case study. A substantial corpus of historical documentation attests to the fact that the nomadic livelihood of the northern nomadic people, including the Mongolian people, is characterised by a migratory pattern that encompasses both aquatic and pastoral elements. The nomadic migration process is also closely related to the natural environment, including the quality of the grass and the water quality of the blue waves, as well as the size of the pasture and the size of the water source. These factors typically serve as the primary determinants in the decision-making process of nomads regarding their migratory patterns. In the case of abundant natural resources, such as those found in oases, nomads tend to avoid selecting barren deserts as their long-term habitats. This decision-making process can be largely attributed to the nomads' intuitive understanding of the geographical environment and its influence on their livelihood. This is the most intuitive conclusion that can be drawn from the geographical determinism that is inherent in the nomadic people's migratory patterns. As the two primary sources of livelihood for humans throughout history, agriculture and pastoralism have both been present in China for millennia. They symbolize the southern and northern regions of the country, respectively, and have collectively accumulated a vast reservoir of knowledge and experience in understanding and adapting to the diverse natural environments in which humans live. To illustrate, with regard to the most immediate source of resources and objects of sustenance, pastoralists engaged in nomadic livelihoods primarily interact with animals, encompassing the practices of those involved in the domestication of various species, from wild pigs, goats, and cows to dogs and chickens, to name a few. In contrast, farmers engaged in agrarian livelihoods primarily interact with plants. The regulation of time is invariably informed by a

specific cultural context, and the conceptualization and connotation of time may vary considerably across different cultural traditions. The practice of farming is predicated on the principles of "timing, location, and harmony." These three concepts are inextricably linked with the geographic environment and are subject to the subtle influence of geographic determinism. The fundamental contradiction in agricultural livelihoods is primarily between humans and crops, as well as between humans and the seasons and climate of planting activities. Therefore, to fully comprehend the nuances of agricultural livelihoods, it is essential to delve into this intrinsic contradiction. Over time, farmers have amassed a wealth of experience and knowledge, enabling them to enhance the profitability of their crops through continuous experimentation and adaptation. For those engaged in agrarian livelihoods. In addition to recognizing the temporal aspects of agricultural production, it is also necessary to possess knowledge of the geographical and soil-related aspects of cultivation. Land is a crucial production object for agricultural livelihoods. Therefore, it is essential for agricultural producers to possess comprehensive knowledge about the overall condition of the land. This not only ensures optimal agricultural production but also serves as a gauge for the depth of their knowledge base. It is challenging for agricultural producers to meet their needs if they are unable to recognize the time of day and the advantages of the land. This complex and dynamic relationship between humans and the land has compelled ethnic groups engaged in farming to attain a level of land and soil knowledge that is unparalleled by other subsistence culture groups. Chinese agricultural producers possess a comprehensive and nuanced understanding of agriculture-related geography. They are aware not only of the varying impacts of terrain elevation on crop distribution but also of the pivotal role played by soil fertility in crop growth. The diverse nature of soil, the varying crop outputs, and the numerous advantages and disadvantages inherent to different soil types have a profound impact on farmers engaged in agricultural livelihoods. This is exemplified by the adage "each soil has a constant, and things have second," which underscores the importance of understanding the unique characteristics of different soil types and their implications for crop production. The advantages and disadvantages of soil and crop output are closely ecologically related, necessitating that farming production meet the fundamental conditions of "adapting to local conditions." The history of the development of farmyard fertilizer is, in essence, a history of "adapting to local conditions" in the context of farming livelihoods. In the three-dimensional structure of "heaven-earth-people," agricultural production is contingent upon two key

factors: "timing" and "location." However, the producer's production skills, knowledge, and attitude towards crops and land are the primary determinants of success. In the three-dimensional structure of "heaven-earth-human" agricultural production, "timing" and "location" are the two prerequisites for production. The producers' production skills, knowledge, learning, and attitudes towards crops and land are the decisive factors, which we can call "human harmony." The concept of "human harmony" is primarily comprised of two elements: "human power" and "human knowledge." Collectively, these elements establish the dominant position of human beings in all natural phenomena, both in terms of practical action and cognitive understanding. They also serve to reinforce the fundamental role of humans in agricultural production. In his work, Montesquieu proposed that the natural environment is distinct in different parts of the world, which he believed gives rise to differences in national character and mentality. These differences have resulted in the emergence of disparate political and legal systems across various societies. He postulated that individuals residing in cold climates possess greater energy, stronger self-confidence, and greater courage, whereas those inhabiting hotter regions exhibit diminished vigor and fortitude. He further observed that the people of hot countries are as cowardly as old men, and that hot climates depress the mind. Hegel regarded geography as a fundamental link in the formation of the national spirit, underscoring that the concept of "land occupied by the peoples" should not be conceived as a distinct external entity, but rather as a dynamic continuum shaped by the intrinsic characteristics of the surrounding natural environment and the collective experiences of the inhabitants (Hegel, 2001). In contrast to Montesquieu, Hegel's analysis of the relationship between geography and social relations and national character is more focused on the impact of geography on the lived reality of people's lives. In particular, he links geography to the ways in which people engage in their livelihoods. Marx and Engels similarly posit a correlation between geographical environment and the evolution of human character. They argue that individuals residing in mountainous regions tend to espouse democratic political ideals, whereas those inhabiting plains advocate for a system of governance led by a select few upper-class individuals. In contrast, those situated near the sea tend to gravitate towards a hybrid system combining elements of both. Additionally, they cite instances where island dwellers exhibit a heightened proclivity for liberty compared to their continental counterparts. The inhabitants of islands are more inclined to espouse the values of freedom than their counterparts on the mainland (Marx, 1979). In his historical writings, the

ancient Greek historian Xenophon observed the distinctive attitudes of peasants towards land ownership. "The cultivation of crops in the open air encourages the peasantry to arm themselves in defense of the country, as the crops are susceptible to being despoiled by those with superior strength" (Xenophon, 1961). Furthermore, Xenophon compares and contrasts the disparate attitudes of agrarian populations and artisanal producers in the context of aggression. "In the event of an invasion, peasants and artisans are asked whether they would prefer to defend the country or evacuate to a safer location. In this scenario, the majority of those with a connection to the land would be inclined to defend it, whereas the craftsmen would likely be reluctant to engage in combat against a formidable adversary. The artisans in this region exhibit a nomadic nature that is comparable to that of a nomadic group. This character of the peasants, nurtured by the agrarian way of livelihood, contrasts sharply with the character nurtured by the nomadic way of livelihood. When these two groups come into contact with each other, the resulting conflicts are violent and contradictory. These conflicts are an important element in the history of China. Both agriculture and pastoralism represent the most direct means of subsistence for human groups in their interaction with the natural environment. The traditional agricultural and pastoral livelihood cultures' perceptions of nature together constitute a comprehensive system of natural ecological concepts for the Chinese people. The Chinese people's traditional agricultural and pastoral livelihood cultures have developed a comprehensive system of natural ecological concepts that guides their understanding of and interactions with the natural world. This system encompasses a range of practices, including the management of time, the categorization and utilization of land, and the establishment of regulations and laws for the protection of natural ecosystems. These practices demonstrate a profound alignment with the wisdom of these two livelihood cultures, reflecting their capacity to adapt to and engage with the natural environment in a harmonious and respectful manner.

##### 5. THE PROCESSES OF DIVISION AND INTEGRATION ARE EVIDENT IN THE AGRO-PASTORAL ZONE, WHERE CONFRONTATIONS AND INTEGRATIONS OCCUR SIMULTANEOUSLY.

In his analysis of the rise and fall of ancient nomadic and agrarian societies in China, the British environmental historian Mark Elvin



elucidated the complex relationship between these two forms of social organization. "In response to the climatic conditions in northern China, which are characterised by cold and dry weather, coupled with a scarcity of grassland, nomadic populations attempt to migrate southwards or invade the agrarian communities that inhabit the region. As the climate became warmer and wetter, the farming Han people resumed their expansion towards the northwest. A decline in agricultural production among the Han people, coupled with a reduction in forage availability due to drier, colder weather in the north of the border, compelled the nomads to relocate southward. It seems reasonable to conclude that climate change was an essential factor in these changes. If the nomads had not previously been in good physical condition, they would not have had the conditions to successfully invade. This illustrates that the underlying cause of the enduring conflict between nomadic and agrarian societies in mainland China over millennia is a consequence of environmental conditions". Indeed, this also demonstrates the influence of the ecological environment and socio-cultural characteristics on the formation of these patterns. The concept of the agro-pastoral zone was first proposed by the American ecologist F.E. Clements in 1905. Subsequently, the American ecologist Odum provided a preliminary definition of the agro-pastoral zone in "The Basics of Ecology" in 1971. Odum defined the agro-pastoral zone as "the transition zone between two or more different communities." In 1981, Anderson designated the transition zone between two distinct ecosystems, agriculture and pastoralism, as an agro-pastoral zone. In the course of his economic and geographic investigation of Chabei, Chameng, and Ximeng, among other regions, Zhao Songqiao, a Chinese scholar, first proposed the concept of China's agro-pastoral intertwined zone (Zhao et al., 1953). Subsequently, China's agro-pastoral intertwined zone has been acknowledged as a transitional zone. Since that time, the connotation and geographic scope of China's agro-pastoral zones have been subject to continual revision and improvement. By comparing the natural, economic, and institutional factors of the northern and southern regions of the agro-pastoral zone, Huang Jianying posits that the agro-pastoral zone is not only a transition zone of disparate natural ecological environments, but also a demarcation line and intersection zone of two distinct modes of production (Huang & Xue, 2008). The formation of the agro-pastoral zone is, therefore, firstly a result of human economic activities adapting to the natural environment. He Weiguang, in examining the factors that have shaped the evolution of farming and nomadic economic zones in China, as well as the characteristics of "southern agriculture and northern herding"

from ancient times to the present, and the cultural factors that have influenced the formation of nomadic and farming cultural zones, concludes that the nomadic and farming peoples of China's history have not fully realized the "combination of agriculture and animal husbandry" (He, 2002). The conclusion that the combination of farming and herding was not fully realized by the nomadic and farming peoples in Chinese history is attributed to the disparate geographic environments between the northern and southern regions of China. It is evident that the livelihoods of those engaged in agriculture and animal husbandry continue to be significantly influenced by the geographic environment. This has led to the emergence of an agricultural and pastoral cross-border zone. The vast grassland located to the north of the aforementioned zone is characterised by a continental arid and semi-arid climate, with cold temperatures and minimal precipitation. This climate presents a challenge to the development of agriculture. In contrast, the precipitation levels gradually increase towards the south, creating a climate more conducive to agricultural development. The agricultural and pastoral cross-border zone represents a transitional zone between the northern and southern regions, marking a shift from animal husbandry to agriculture. The agro-pastoral zone, extending from the northern to the southern regions, represents a transitional zone between animal husbandry and agricultural development. Its distribution is characterized by a gradual shift from animal husbandry to agriculture, with the proportion of agriculture increasing as the zone extends towards the south. As the concept of the agricultural and pastoral intertwined zone evolves, so too does the geographical scope of this zone in China. Currently, the country's significant agricultural and pastoral intertwined zones include the Northeast, Inner Mongolia, Shanxi, Shaanxi, Qinghai, Tibet, and other regions. The spatial separation between the northern and southern geographies has been breached as a direct result of the convergence of agricultural and pastoral livelihoods. In the vast areas of the upper and middle reaches of the Yellow River in the river valleys between the Tibetan Plateau and the Loess Plateau, the western Sichuan and Hetao Plains between southern Gansu and Sichuan-Qinghai, southern Inner Mongolia, and the mountainous areas of Shanxi and northern Shaanxi, farming livelihoods and traditional pastoralist production have developed in parallel and in close proximity to each other. These two forms of production have shown different forms of reciprocity and integration in the different natural environmental conditions. The two groups engage in frequent, daily interactions and engage in technological reciprocity, which may appear inconsequential but serve to firmly link the two groups

together. Farmers adhere to specific temporal rhythms, including spring planting and fall harvesting. They engage in year-round agricultural production, followed by periods of idleness on the farm. This includes activities such as slaughtering pigs and goats, observing weddings and funerals, and allowing harvested fields to become empty and scattered with remaining stalks. As the grass turns yellow, shepherds are preoccupied with their livestock, unable to relax during the lush green and golden period. Despite the absence of expansive herds in these regions, the necessity to endure the winter months persists. In arid and barren mountainous regions, a year's worth of pastoral production is insufficient to support a family of four or five without access to grass for cattle and sheep. It is therefore evident that a form of reciprocity between farmers and herdsmen is common in similar areas. This is known as borrowed herding, whereby in their free time, shepherds in the mountains drive their animals to the fields in the valleys that have already been harvested. There, they nibble on the crop stubble, stalks, and even some of the missing crop fruits that have been left behind on the farmland. Typically, a farmer's field, augmented by a modest quantity of purchased forage, is sufficient to meet the needs of a small flock during the winter months. For the farmer, the process of cleaning up the field after harvesting also requires the expenditure of labor, whereas sheep and cows graze through it in order to conserve energy. The key benefit of this practice is that the manure left behind by cattle and sheep as they graze is returned to the soil as a natural fertilizer, enhancing its quality and fertility. This approach aligns with the traditional practice of careful budgeting in agricultural production, while also offering a cost-effective solution. A straightforward reciprocal relationship is thus established and maintained between the two livelihoods. Lattimer made the following observation: "The social principles of a nomadic economy, including the concept of mobility, also served to prevent farming, metallurgy, and industry from breaking away from their original subordinate status." It can be posited that the determining factor in the acceptance of a new technology by a community is its compatibility with the fundamental tenets of that culture. For example, the Eurasian steppe nomadic society did not rely exclusively on nomadic herding for its sustenance, rendering this livelihood inherently non-autonomous from an economic standpoint. The Eurasian steppe nomads obtained food through exchanges with farming areas or by cultivating their own food sources. The proximity of agricultural areas or markets was a significant factor influencing the decision of Eurasian steppe nomads to engage in agricultural activities. As distance from these resources increased, the

importance of agriculture also increased. However, the foodstuffs cultivated by nomadic peoples were invariably of a basic and unadorned nature, exemplified by the Mongolian "mansai" and the Kazakh "spring horseback seeding and autumn harvesting with the sickle." In order to establish a more robust bond between two groups of individuals, a non-kinship system designated as "bolgan kinship" has historically persisted in regions where agriculture and pastoralism coexist. As the name indicates, this is a form of "dry kinship," whereby kinship is primarily recognized and established between two families engaged in agricultural and pastoral livelihoods. Once the two families recognized each other as "dry relatives," they engaged in a range of reciprocal interactions, including providing assistance and support to one another, engaging in friendship exchanges, and, most crucially, establishing a stable framework for pastoral borrowing relations. Furthermore, the "dry relatives" relationship entails that the farmer's family provides meat and dairy products to the herdsman's in-laws on New Year's Day, while the herdsman's family supplies grain, oil, poultry, eggs, fruits, and vegetables to the farmer's in-laws. In the local context, it is crucial to recognize the significant impact of the social ties established in the name of "bolgan kinship" on economic life. These ties support the healthy growth of children and facilitate the resolution of many daily life challenges. They also reflect the interdependence of the two subsistence culture groups. Traditionally, China has been characterized as an "ancient agricultural power", but China has traditionally been regarded as an "ancient agricultural power." However, this characterization, when viewed from another perspective, can be seen as a disguised denial of China's traditional nomadic subsistence culture and a questioning of the diverse and complex development of livelihoods that have existed throughout Chinese history. These include the "combination of agriculture and pastoralism" and the "conversion of agriculture and pastoralism." Furthermore, it calls into question the diverse and complex development of livelihoods that have existed throughout China's history, including the "combination of farming and herding" and the "conversion of farming and herding." In the 1980s, Mr. Ma Xiaocui highlighted that as early as the Spring and Autumn and Warring States Periods, China had established a system of agriculture and animal husbandry based on the principle of adaptation to local conditions (Ma, 1983). This system saw agriculture as the primary focus in agricultural regions, while in pastoral areas, animal husbandry and agriculture were combined. The term "animal husbandry" is a broad concept that encompasses a multitude of practices and techniques. These can be further classified into two main categories:

grassland animal husbandry and agricultural area animal husbandry. This includes a diverse range of activities, such as pastoral production, which involves raising cattle and sheep, and farming, which encompasses the rearing of pigs and chickens. Both of these practices fall within the scope of animal husbandry. It is therefore imperative that the concept of "combined agriculture and animal husbandry" is not viewed in a narrow manner, but rather in accordance with the actual circumstances prevailing in China. Given the considerable diversity in China's natural environment and human history across its vast territory, the Yellow River Basin and the Qilian Mountains represent a unique and complex habitat system. This region offers a vast and systematic research basis in itself. The formation of the agricultural and pastoral intertwining zone meant that groups with two different livelihoods frequently exchanged and collided in production and life. As a result, this region was also the optimal area for the interaction between farming and nomadic peoples. In the mid-Qing dynasty, the Qing government implemented two policies to address the issue of rapid population growth. The first was land borrowing to support the population, and the second was migration to the border, which resulted in a significant influx of Han Chinese into the Mongolian region. While some small-scale agricultural activities were present in the Mongolian steppe, they were largely supplementary to the primary nomadic livelihoods and constituted a minor component of the region's economic landscape. Following the influx of a considerable number of Han Chinese into Mongolia, a considerable proportion of the pastureland was converted into farmland. This ultimately led to the emergence of a diverse range of semi-agricultural and semi-pastoral livelihoods during the late Qing Dynasty. Even Mongolians who were fully engaged in agricultural activities began to emerge. Over the course of hundreds of years, the Mongolian way of life has undergone a gradual transition from a relatively simple livelihood based on animal husbandry and supplemented by farming to a modern multiple production method that utilizes both agricultural and livestock resources. As evidenced by the evolution of Mongolian livelihoods, they have consistently engaged in interactions and exchanges with farming ethnic groups, particularly the Han Chinese. This has led to the emergence of a hybridized livelihood system that combines farming and herding practices. This system is characterized by a sense of shared identity and a coexistence of diverse economic, cultural, and social systems with neighboring ethnic groups. The two primary livelihoods, farming and nomadic herding, have developed distinctive knowledge systems through their awareness of and adaptation to the natural environment, as well as their persistent efforts to

comprehend and master the underlying principles. Furthermore, the conjunction of geography and bloodline has resulted in a transformation of the antagonistic relationship between farming and nomadic herding into a complementary one, which has persisted until the present. In the context of human development, the transition from a nomadic to a farming lifestyle, or the transformation of an original nomadic group into one whose primary source of income is agriculture, represents a typical historical trajectory. This process is contingent upon the breaking down of geographic isolation, which allows for interaction and exchange between the two groups until they become intermingled.

### 5.1 A Decision must be Reached.

As posited by Kai Milton, the evolution of culture occurs in a gradual manner within a particular context (Milton, 2007). A comprehensive examination of the interrelationship between a specific cultural system and the attributes of the surrounding environment will elucidate the genesis of the cultural system and the factors that have sustained its evolution. Julian Steward postulated that the disparities between cultures were attributable to a distinctive adaptation process between technology and the environment, which serves as the foundation for cultural development (Steward, 1989). It can be stated that Steward's cultural ecology is not a theory of geographical or environmental determinism. Rather, it is a method of examining the relationship between culture and the ecological environment. The concept of geoenvironmental determinism represents a field of inquiry that anthropologists can engage with both as a subject of investigation and as a means of advancing their own understanding. It is accurate to conclude that the concept of geoenvironmental determinism is a subject of contention in both Chinese and Western academic circles. However, these challenges pertain solely to the absoluteness of the term "determinism," rather than to the impact of environmental differences on cultural systems. As no definitions in the social sciences can reveal the core essence, it is similarly impossible to require that they detail the full scope of a concept or category. Indeed, no controversial academic concept or category can serve as a universal explanation, and their connotations may change or even become invalid in different cultural contexts. The test of the validity of such concepts is not to examine their completeness, but rather to assess their viability in defining research and comparative phenomena. The article employs geographic environment determinism as a theoretical tool to objectively examine its absolute and relative roles in the formation and change of livelihoods in North and South China. The

findings indicate that the geographic environment factor plays a pivotal role in the formation of China's traditional livelihoods, and the geographic environment can be considered a decisive and crucial factor at this stage. However, with the rapid development of human society, the subjective initiative of human beings began to emerge, and the decisive influence of the geographic environment on the way of life of human beings was challenged. The geographic environment was no longer the sole factor affecting the development of human society; production structure, social relations, and social organization of human beings also came into play. As human beings began to migrate, they further produced multi-ethnic interaction and exchange, and the influence of geographic environmental factors diminished. As a result of the accelerated pace of human scientific research, humans have even attained the capacity to move mountains and reclaim oceans. Consequently, the influence of geography on human beings has become even more minimal at this juncture. A clarification of the emergence and change of livelihoods in northern and southern China through the theory of geographic determinism is of great significance and value in grasping the development of China's history. This would then allow for a full recognition and treatment of the relationship between different economic and cultural types in China today.

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