

## TPO 33 – 1 The First Civilizations 最初的文明

Evidence suggests that an important stimulus behind the rise of early civilizations was the development of settled agriculture, which unleashed a series of changes in the organization of human communities that **culminated in** the rise of large ancient empires.

**问题 1:** 询问 phrase 意思 (**culminated in**);

证据显示，早期文明兴起的一个重要刺激因素就是定居农业的发展。它导致了人类群落的组织结构出现一系列变更，在古代大型帝国的兴起时达到了顶峰。

The exact time and place that crops were first cultivated successfully is uncertain. Many prehistorians believe that farming may have emerged independently in several different areas of the world when small communities, driven by increasing population and a decline in available food resources, began to plant seeds in the ground in an effort to guarantee their survival. **The first farmers**, who may have lived as long as 10,000 years ago, **undoubtedly** used simple techniques and still relied primarily on other forms of food production, such as hunting, foraging, or pastoralism. The real breakthrough took place when farmers began to **cultivate** crops **along the floodplains of river systems**. The advantage was that crops grown in such areas were not as dependent on rainfall and therefore produced a more reliable harvest. An additional benefit was that the sediment carried by the river waters deposited nutrients in the soil, thus enabling the farmer to cultivate a single plot of ground for many years without moving to a new location. Thus, the first truly sedentary (that is, nonmigratory) societies were born. As time went on, such communities gradually learned how to direct the flow of water to **enhance** the productive capacity of the land, while the introduction of the iron plow eventually led to the cultivation of heavy soils not previously susceptible to agriculture.

**问题 2:** 询问哪一个 statement is true of (**The first farmers**);

**问题 3:** 询问单词意思 (**undoubtedly**);

**问题 4:** 询问 why farmer 选择靠近 river 的地方 cultivation;

**问题 5:** 询问单词意思 (**enhance**);

庄稼究竟是何时何地首次成功开垦种植还不得而知。很多史前学家认为农业可能是当小型群落迫于不断增长人口和日益减少的食物资源压力而开始在地里种植种子试图维持他们的生计时，进而在世界不同区域独自兴起的。出现在 10,000 年前的最早的农民，毫无疑问地使用着简单的技术，并且仍主要依赖着其他的食物生产方式，比如狩猎，觅食或放牧。当农民开始在河川系统的泛滥平原沿岸种植庄稼的时候，真正的突破发生了。它的优点是，在这些区域种植的庄稼不会过于依赖降水，因此会带来更可靠地收成。它另外一个好处就是由河流带来的沉淀物会把营养物质沉积在土壤里，这就使得农民能够在常年耕作一块土地而不用去开垦新的耕地。这样，第一个真正的定居（即不用迁徙的）社会就形成了。随着时间的推移，这些社群逐渐知道了如何引导水流来加强土地的生产能力，铁犁的引入也终于使之前不受用于农业的重质土壤得以开垦种植。

The spread of this river valley agriculture in various parts of Asia and Africa was the decisive factor in the rise of the first civilizations. The increase in food production in these regions led

to a significant growth in population, while efforts to control the flow of water to maximize the irrigation of cultivated areas and to protect the local inhabitants from hostile forces outside the community **provoked** the first steps toward cooperative activities on a large scale. **The need to oversee the entire process brought about the emergence of an elite that was eventually transformed into a government.**

**问题 6:** 询问单词意思 (**provoked**);

**问题 7:** 询问 NOT a reason that government first arose among 农业社区;

这种河谷农业在亚洲和非洲不同地区的传播是首次文明兴起的决定性因素。 这些地区食物产量的增长导致了人口的激增。 与此同时, 为了努力控制水流来最大化灌溉耕种区域和保护当地居民免受部落外部敌对力量的侵袭, 第一步的大规模合作活动被引发了。 而出于对整个程序步骤监督的需求, 一个上层精英团体出现了。 它也逐渐转变成了政府部门。

The first clear steps **in the rise of the first civilizations** took place in the fourth and third millennia B.C. in Mesopotamia, northern Africa, India, and China. How the first governments took shape in these areas is not certain, but anthropologists studying the evolution of human communities in various parts of the world have discovered that one common stage in the process is the emergence of what are called "big men" within a single village or a collection of villages. By means of their military prowess, dominant personalities, or political talent, these people gradually emerge as the leaders of that community. In time, the "big men" become formal symbols of authority and pass on that authority to others within their own family. As the communities continue to grow in size and material wealth, the "big men" assume hereditary status, and their allies and family members are transformed into a hereditary monarchy.

**问题 8:** 询问 what is not known 关于 **the rise of the first civilizations**;

**问题 9:** 询问本段 P4 和上一段 P3 的关系;

首期文明兴起的第一个明显的阶段发生在公元前三千和四千年的美索不达米亚、北非、印度和中国。 究竟第一个政府在这些地区是如何形成的还无法确定, 但是人类学家在研究世界不同地区人类群体的进化时, 发现在这个过程中有一个共同阶段, 那就是在单个或多个村落中 “big man” 的出现。这些人凭借他们杰出的军事力量、超凡的品性和政治天赋, 逐渐成为了那些群落的领导者。后来, “big man” 成为了权力的正式象征, 并且还会把权力传给他们家族的其他成员。当这些群落的面积和物质财富不断发展壮大时, 这些 “big man” 就开始采取世袭制, 他们的同盟和家族成员便转变成了世袭君主王室。

The appearance of these sedentary societies had a major impact on the social organizations, religious beliefs, and way of life of the peoples living within their boundaries. 【】 With the increase in population and the development of centralized authority **came the emergence of the cities.** 【】 While some of these urban centers were identified with a particular economic function, such as proximity to gold or iron deposits or a strategic location on a major trade route, others served primarily as administrative centers or the site of temples for the official cult or other ritual observances. 【】 Within these cities, new forms of livelihood appeared to satisfy the growing need for social services and consumer goods. 【】 Some people became artisans or merchants, while others became warriors, scholars, or priests. In some cases, the

physical division within the first cities reflected the strict hierarchical character of the society as a whole, with a **royal palace surrounded by an imposing wall** and separate from the remainder of the urban population. In other instances, such as the Indus River Valley, the cities lacked a royal precinct and the ostentatious palaces that marked their contemporaries elsewhere.

**问题 10:** 等价替换语句 (Sentences = which of the CHOICES)

**问题 11:** 询问哪一个是 **the emergence of the cities** 的结果;

**问题 12:** 询问 why (**royal palace surrounded by an imposing wall**);

**问题 13:** 插入语的位置 → 【】;

这些定居社会的出现对社会组织、宗教信仰和住在界定范围内的人们的生活方式都造成了巨大的影响。随着人口的增长和中央集权的发展,城市开始出现。其中一些城市中心被赋上了一个特定的经济功能,像那些靠近金矿或铁矿的,或是在主要贸易路线上占据关键战略位置的;其他地区主要充当行政中心,或是作为用于官方祭礼和其他典礼仪式的寺庙神殿地址。在这些城市里,为满足不断增长的社会服务和消费商品的需求,新的生活形式出现了。一些人变成了工匠或商人,另一些人则成了武士、学者或牧师。在某些情况下,首批城市的物理分割整体上反映了社会严格的等级特征。富丽堂皇的围墙环绕着皇家宫殿,也隔离了城市剩下的人们。但另一方面,如印度河流域,城市就没有像同时期其他地方一样的皇家区域和豪华招摇的宫殿。

## TPO 33 – 2 Railroads and Commercial Agriculture in the Nineteen-Century United States

### 十九世纪美国的铁路和商业农业

By 1850 the United States possessed roughly 9,000 miles of **railroad track**; ten years later it had over 30,000 miles, more than the rest of the world combined. Much of the new construction during the 1850s occurred west of the Appalachian Mountains—over 2,000 miles in the states of Ohio and Illinois alone.

**问题 1:** 询问哪一个陈述是真的 about **railroad track**; 【Except】

到 1850 年，美国拥有大概九千英里的铁路线路，十年之后就拥有了三万英里，比世界上所有其他国家的铁路总和还多。19 世纪 50 年代大部分的新线路是在阿巴拉契亚山脉以西，仅俄亥俄州和伊利诺伊州单独就拥有两千英里。

**The effect of the new railroad** lines rippled outward through the economy. **Farmers** along the tracks began to specialize in crops that they could market in distant locations. With their profits they purchased manufactured goods that earlier they might have made at home. Before the railroad reached Tennessee, the state produced about 25,000 bushels (or 640 tons) of wheat, which sold for less than 50 cents a bushel. Once the railroad came, farmers in the same counties grew 400,000 bushels (over 10,000 tons) and sold their crop at a dollar a bushel.

**问题 2:** 询问 ( **The effect of the new railroad** ) had which **effect** on farm communities; 新的铁路线也影响到了经济。铁路沿线的农民开始专门种植能卖到很远地区的作物。他们用所获利益购买一些之前在家自己做的手工商品。在铁路通到田纳西州之前，这个州生产大约两万五千蒲式耳（相当于 640 吨）小麦，这些小麦的售价低于每蒲式耳 50 分。当铁路到了这里，同样的村庄的农民则种植了四十万蒲式耳的小麦（相当于一万吨），并且以每蒲式耳一美元的价格卖出。

**The new railroad networks shifted the direction of western trade.** 【】 In 1840 most northwestern grain was shipped south down the Mississippi River to the **bustling** port of New Orleans. 【】 But low water made steamboat travel hazardous in summer, and ice shut down traffic in winter. 【】 Products such as lard, tallow, and cheese quickly spoiled if stored in New Orleans' hot and humid warehouses. 【】 Increasingly, traffic from the Midwest flowed west to east, over the new rail lines. Chicago became the region's hub, linking the farms of the upper Midwest to New York and other eastern cities by more than 2,000 miles of track in 1855. Thus while the value of goods shipped by river to New Orleans continued to increase, the South's overall share of western trade dropped dramatically.

**问题 3:** 询问单词意思 ( **bustling** );

**问题 4:** 询问 in what way, ( **The new railroad networks change western trade** )

**问题 5:** 询问一个缺点 ( shipped south down to New Orleans );

**问题 13:** 插入语的位置 → 【】;

新的铁路网转变了西部贸易的方向。1840 年大部分西北部的粮食用船从密西西比河南下到热闹的新奥尔良港口。但是夏天水位低，蒸汽船的航行很有危险，冬天冰又封锁了交通。像

猪油、牛脂和奶酪这样的产品如果存放在新奥尔良闷热潮湿的库房中的话就会很快变质。慢慢地从中西部出发的货物转变成用新的铁路线路从西到东运输。芝加哥成为地区的中心，1855 年它用超过 2000 英里的铁路线将中西部以北的农场和别的东部城市连接了起来。因此尽管通过河流运往新奥尔良的商品价值持续增长，在西部贸易的总体比例中南部份额却下降了。

A sharp rise in demand for grain abroad also encouraged farmers in the Northeast and Midwest to become more commercially oriented. Wheat, which in 1845 commanded \$1.08 a bushel in New York City, fetched \$2.6 in 1855; in similar fashion the price of corn nearly doubled. Farmers responded by specializing in cash crops, borrowing to purchase more land, and investing in equipment to increase productivity.

**问题 6:** 询问 price more than double 的原因;

国外对于谷物需求的急剧增长也鼓励了东北部和中西部的农民开始更加商业化。1845 年纽约城小麦的价格是每蒲式耳 1.08 美元，而 1855 年价格则到了每蒲式耳 2.46 美元，几乎以同样的方式，玉米的价格也近乎翻倍。农民的反应是专门从事经济作物，借钱来购买更多的土地，投资设备以期提高产量。

As railroad lines fanned out from Chicago, farmers began to acquire open prairie land in Illinois and then Iowa, putting the fertile, deep black soil into production. Commercial agriculture transformed this remarkable treeless environment. To settlers accustomed to eastern woodlands, the thousands of square miles of tall grass were an awesome sight. Indian grass, Canada wild rye, and native big bluestem all grew higher than a person. Because eastern plows could not penetrate the densely tangled roots of prairie grass, the earliest settlers erected farms along the boundary separating the forest from the prairie. In 1837, however, John Deere patented a sharp-cutting steel plow that sliced through the sod without soil sticking to the blade. Cyrus McCormick refined a mechanical reaper that harvested fourteen times more wheat with the same amount of labor. By the 1850s McCormick was selling 1,000 reapers a year and could not keep up with demand, while Deere turned out 10,000 plows annually.

**问题 7:** 询问单词意思 (transformed);

**问题 8:** 询问单词意思 (erected);

**问题 9:** 询问 why 作者提 (Indian grass, Canada wild rye...);

**问题 10:** 询问 why first settlers generally did not farm open prairie;

当铁路线路从芝加哥呈扇形延伸开来，农民们开始获得伊利诺伊州的广阔草原地带，然后获得了洛瓦的大片草原，将这肥沃深袤的黑土地用于生产。商业化的农业改变了这些令人瞩目的不生长树木的土地。对于那些习惯了东部树木葱郁的环境的定居者来说，一望无际的高高生长的野草是一种壮观的风景。印度草，加拿大野黑麦，当地的大须芒草都长得比人还高。因为东部的犁进不了浓密的纠结的草原牧草的根须中，最早的定居者就在森林和草原的交界处建立了农场。不过 1837 年，John Deere 申请了专利，是一个有锋利的切割刀片的犁，可以切入草皮而不会有泥土粘在刀片上。Cyrus McCormick 改进了机械收割机，用之前同样的人力能收割十四倍。十九世纪五十年代 McCormick 每年卖 1000 台收割机，还不能满足需求，同时 Deere 每年生产一万台犁。

The new commercial farming fundamentally altered the midwestern landscape and the environment. Native Americans had grown corn in the region for years, but never in such large fields as did later settlers who became farmers, whose **surpluses** were shipped east. Prairie farmers also introduced new crops that were not part of the earlier ecological system, notably wheat, along with fruits and vegetables.

**问题 11:** 询问单词意思 (**surpluses**);

新的商业农业根本性地改变了中西部的地貌和环境。本土美国人在这种植植了多年的玉米，却从没有像后来的定居者这样有这么大产量，后来的定居者还把多余的产量运到了东部。草原的农民也引进了新的作物，这些作物都不是原先生态系统中的一部分，特别是小麦，还有水果和蔬菜。

Native grasses were replaced by a small number of plants cultivated as commodities. Corn had the best yields, but it was primarily used to feed livestock. Because bread played a key role in the American and European diet, wheat became the major cash crop. Tame grasses replaced native grasses in pastures for making hay.

作为商品来种植的几种植物取代了当地的草类。玉米产量最多，主要用于喂养牲畜。因为面包是美国和欧洲饮食中的主食，小麦成了主要的经济作物。为了制作饲料，栽培牧草取代了当地草类。

**Western farmers altered the landscape by reducing the annual fires that had kept the prairie free from trees.** In the absence of these fires, trees reappeared on land not in cultivation and, if undisturbed, eventually formed woodlots. The earlier unbroken landscape gave way to independent farms, each fenced off in a precise checkerboard pattern. It was an artificial ecosystem of animals, woodlots, and crops, whose large, uniform layout made western farms more efficient than the more-irregular farms in the East.

**问题 12:** 询问 **prairie farmers 改变 landscape** 通过干 what?

西部的农民通过降低每年的野火来改变地貌，这些火曾经防止草原长出大树。没有了这些火树木又重新出现在没有耕种的土地上，而且如果没有干预的话最终会长成林子。最早的地貌转变成了独立的农场，每一个都被篱笆隔开成了严格的棋盘模式。这是一种人造的动物、树木和作物的生态系统，统一的布局使得西部农场比无秩序的东部农场更加有效率。

## TPO 33 – 3 Extinction Episodes of the Past 过去的灭绝事件

It was not until the **Cambrian period**, beginning about 600 million years ago, that a great **proliferation** of macroscopic species occurred on Earth and produced a fossil record that allows us to track the rise and fall of biodiversity. Since the Cambrian period, biodiversity has generally risen, but there have been some notable exceptions. Biodiversity collapsed dramatically during at least five periods because of mass extinctions around the globe. The five major mass extinctions receive most of the attention, but they are only one end of a spectrum of extinction events. Collectively, more species went extinct during smaller events that were less dramatic but more frequent. The best known of the five major extinction events, the one that saw the demise of the dinosaurs, is the Cretaceous-Tertiary extinction.

**问题 1:** 询问单词意思 (**proliferation**);

**问题 2:** 询问 P1 支持哪一段 **statement** 关于 **life** 的, **before Cambrian period**;

直到六亿年前的寒武纪,肉眼可见的物种才在地球上兴起。多亏了化石的帮助,我们现在可以了解到物种多样性的沉浮兴衰。自从寒武纪,生物开始变得多样化,但是也有些例外。因为在世界范围内的灭绝事件中,至少五次有物种大规模减少的情况。虽然我们最关注这五次大灭绝,但是它们只是一系列灭绝事件中的冰山一角。总体来说,很多较小的灭绝事件虽然不够引人注目,但是它们更为频繁,大部分物种就是因此而灭绝的。在五次大灭绝中,见证恐龙灭绝的是发生在白垩一第三纪的灭绝。

Starting about 280 million years ago, reptiles were the dominant large animals in terrestrial environments. In popular language this was the era "when dinosaurs ruled Earth," with a wide variety of reptile species occupying many ecological niches. However, no group or species can maintain its dominance indefinitely, and when, after over 200 million years, the age of dinosaurs came to a dramatic end about 65 million years ago, mammals began to flourish, evolving from relatively few types of small terrestrial animals into the myriad of diverse species, including bats and whales, that we know today. Paleontologists label this point in Earth's history as the end of the Cretaceous period and the beginning of the Tertiary period, often abbreviated as the K-T boundary. This time was also marked by changes in many other types of organisms. Overall, about 38 percent of the families of marine animals were lost, with percentages much higher in some groups. Ammonoid mollusks went from being very diverse and abundant to being extinct. An extremely abundant set of planktonic marine animals called foraminifera largely disappeared, although they rebounded later. Among plants, the **K-T boundary saw a sharp but brief rise in the abundance of primitive vascular plants such as ferns**, club mosses, horsetails, and conifers and other gymnosperms. The number of flowering plants (angiosperms) was reduced at this time, but they then began to increase dramatically.

**问题 3:** 等价替换语句 (**Sentences = which of the CHOICES**)

**问题 4:** 询问我什么都说 **during Cretaceous, dinosaurs rule the Earth**;

**问题 5:** 询问哪个 **species** 开始增加在 (**K-T boundary**);

二亿八千万年前,爬行动物成为陆上的主宰。通俗来说这是一个“恐龙统治地球”的时代,

各类爬行动物占据了不同的生态环境。然而，没有哪一类生物可以永久保持主宰地位，在二亿年后，大约是六千五百万年前恐龙时代最终结束，哺乳动物开始繁盛，从最初的少数几种小型陆生动物逐渐发展到无数的各类物种，包括我们现在所知的蝙蝠和鲸鱼。古生物学家把地球历史上这个时间点作为白垩纪的末期和第三纪的初期，简称为 K-T 边界。很多 K-T 边界时期的其他生物也发生了重大变化。总的来说，大约 38% 的海洋生物消失了，其他一些物种的比例更高。菊石软体动物从非常多样大量变为灭绝。曾经尤为繁盛的海洋浮游生物-有孔虫也几乎消失了，尽管后来它们的数量有所回升。对植物来说，短时期突然出现了大量的原始维管植物，比如说蕨类植物，石松类植物，木贼类植物，松柏类植物和其他裸子植物。在此期间，开花植物（被子植物）的数量减少，但是接着又显著增加了。

What caused these changes? For many years scientists assumed that a cooling of the climate was responsible, with dinosaurs being particularly vulnerable because, like modern reptiles, they were ectothermic (dependent on environmental heat, or cold-blooded). It is now widely believed that at least some species of dinosaurs had a metabolic rate high enough for them to be endotherms (animals that maintain a relatively consistent body temperature by generating heat internally). Nevertheless, climatic explanations for the K-T extinction are not really challenged by the idea that dinosaurs may have been endothermic, because even endotherms can be affected by a significant change in the climate.

**问题 6:** 询问作者为什么 Note (even endotherms...);

很多年来，科学家认为气候变冷是罪魁祸首，因为恐龙，和很多现代爬行动物一样是变温动物（依赖于环境温度，或冷血动物），面对气候变化非常脆弱。现在人们普遍相信至少有些恐龙具有足够高的新陈代谢速度，是恒温动物（动物通过在身体内部产生热量来维持相对不变的体温）。尽管如此，恐龙有可能是恒温动物这一论断未真正挑战 K-T 灭绝的气候变化原因，这是因为一些恒温动物仍然会受到气候显著变化的影响。

Explanations for the K-T extinction were revolutionized in 1980 when a group of physical scientists led by Luis Alvarez proposed that 65 million years ago Earth was struck by a 10-kilometer-wide meteorite traveling at 90,000 kilometers per hour. They believed that this impact generated a thick cloud of dust that enveloped Earth, shutting out much of the incoming solar radiation and reducing plant photosynthesis to very low levels. Short-term effects might have included huge tidal waves and extensive fires. In other words, a series of events arising from a single cataclysmic event caused the massive extinctions. 【】 Initially, the meteorite theory was based on a single line of evidence. 【】 At locations around the globe, geologists had found an unusually high concentration of iridium in the layer of sedimentary rocks that was formed about 65 million years ago. 【】 Iridium is an element that is usually uncommon near Earth's surface, but it is abundant in some meteorites. 【】 Therefore, Alvarez and his colleagues concluded that it was likely that the iridium in sedimentary rocks deposited at the K-T boundary had originated in a giant meteorite or asteroid. Most scientists came to accept the meteorite theory after evidence came to light that a circular formation, 180 kilometers in diameter and centered on the north coast of the Yucatán Peninsula, was created by a meteorite impact about 65 million years ago.

**问题 7:** 询问单词意思 (generated);



**问题 8:** 询问单词意思 (**extensive**);

**问题 9:** 询问哪个贡献 massive extinction of K-T period; 【Except】

**问题 10:** 询问解释重要性 of (发现大量的 Iridium rocks);

**问题 11:** 询问关于 **Yucatán Peninsula** 真实的陈述;

**问题 12:** 询问关于 (**meteorite theory**) 的推断;

**问题 13:** 插入语的位置 → 【】;

然而, 在 1980 年, 路易斯·阿尔瓦雷茨带领的一组物理学家提出, 在六千五百万年前, 有一个直径 10 公里的陨星以每小时九万公里的速度撞击了地球, 这使 K-T 灭绝成因发生革命性变化。他们认为: 撞击产生了一层厚厚的灰尘云, 笼罩了地球, 阻断了太阳辐射, 并使光合作用降到最低。短期内还有可能造成了巨大的海啸和广泛的火灾。也就是说, 这次灾难性的撞击引发了一系列连锁反应并最终导致了大灭绝。最初, 陨石理论是在一系列证据上发展起来的。在世界各地的很多地方, 地质学家发现铱元素在六千五百万年前的沉积岩层中含量异常丰富。铱元素在地球表面很不常见, 但在陨石中含量丰富。因此, 阿尔瓦雷茨和同事推测在 K-T 边界沉积岩沉淀的铱元素来自于巨型陨星或小行星。科学家们逐渐接受了陨星理论, 因为他们看到了六千五百万年前陨星撞击产生的圆形构造的证据。该圆形构造直径为 180 公里, 围绕在尤卡坦半岛的西北岸。