

TPO 23 – 1 Urban Climates

城市气候

The city is an extraordinary processor of mass and energy and has its own metabolism. A daily input of water, food, and energy of various kinds is matched by an output of sewage, solid waste, air pollutants, energy, and materials that have been transformed in some way. The quantities involved are **enormous**. Many aspects of this energy use affect the atmosphere of a city, particularly in the production of heat.

问题 1: 询问单词意思 (**enormous**);

城市是一个物质和能量的巨大处理器，拥有自己的新陈代谢。每天输入水、食物和各种各样的能量，相应的输出废水、废气、固体垃圾、废能和某种方式上已经变形的材料。这个过程物质转移量异常的大。这种能源的消耗在很多方面影响城市的大气，尤其是产生热量方面。

In winter the heat produced by a city can equal or **surpass** the amount of heat available from the Sun. All the **heat** that **warms** a building **eventually transfers to the surrounding air**, a process that is quickest where houses are poorly insulated. But an automobile produces enough heat to warm an average house in winter; and if a house were perfectly insulated, one adult could also produce more than enough heat to warm it. Therefore, even without any industrial production of heat, an urban area tends to be warmer than the countryside that surrounds it.

问题 2: 询问单词意思 (**surpass**);

问题 3: 询问 how soon (**heat warms eventually transfers to the surrounding air**);

冬天城市所产生的热量可以达到或超过其从太阳那里接收的热量。所有用来供暖的热量最后都扩散至周围的空气中，这个过程在那些隔热效果差的房屋里进行得最快。一辆汽车所产生的热量足以为一个普通的房屋供暖，如果房屋隔热效果好，一个成年人产生的热量就足以让其保暖了。因此，即使没有任何工业产热，城市地区也会比它周围的乡村地区更暖和。

整段&第二句【多选题】

The burning of fuel, such as by cars, is not the only source of this **increased heat**. Two other factors contribute to the **higher overall temperature in cities**. The first is the heat capacity of the materials that constitute the city, which is typically dominated by concrete and asphalt. During the day, heat from the Sun can be conducted into these materials and stored-to be released at night. But in the **countryside materials have a significantly lower heat capacity** because a vegetative blanket prevents heat from easily flowing into and out of the ground. The second factor is that radiant heat coming into the city from the Sun is trapped in two ways: (1) by a continuing series of reflections among the numerous vertical surfaces that buildings present and (2) by the dust dome, the cloudlike layer of polluted air that most cities produce. Shortwave radiation from the Sun passes through the pollution dome more easily than outgoing longwave radiation does; the latter is absorbed by the gaseous pollutants of the dome and reradiated back to the urban surface.

问题 4: 询问 city warmer than countryside 的 **contribution**; 【except】

问题 5: 询问 **countryside materials have a significantly lower heat capacity**;

问题 6: 询问段落的 organization;

燃料的燃烧, 比如汽车燃料, 并不是这种热量增加的唯一来源。另外两个因素导致了城市较高的整体温度。第一个是建造城市的材料的热容, 主要典型材料是沥青和混凝土。白天, 来自太阳的热量传入到这些物质当中并储存起来, 在晚上被释放。但是在乡村储存能量的物质热容更低, 因为植被会阻止热量轻易流入和流出地面。第二个因素是从太阳到城市的辐射热以两种形式被拦截了: (1) 通过大量建筑的垂直表面的不断反射 (2) 通过尘埃, 即大多数城市中受污染空气组成的云状物质。来自太阳的短波辐射比长波辐射要更容易穿过污染层; 后者被这层物质中的气体污染物所吸收, 然后重新辐射到城市的表层。

首句【多选题】

Cities, then, are warmer than the surrounding rural areas, and together they produce a phenomenon known as the urban heat island. Heat islands develop best under particular conditions associated with light winds, but they can form almost any time. 【】 The precise "**configuration**" of a heat island depends on several factors. 【】 For example, the wind can make a heat island stretch in the direction it blows. 【】 **When a heat island is well developed,** variations can be extreme; in winter, busy streets in cities can be 1.7°C warmer than the side streets. 【】 Areas near traffic lights can be similarly warmer than the areas between them because of the effect of cars standing in traffic instead of moving. The maximum **differences in temperature between neighboring urban and rural environments is** called the heat-island intensity for that region. In general, the larger the city, the greater its heat-island intensity. The actual level of intensity depends on such factors as the physical layout, population density, and productive activities of a metropolis.

问题 7: 询问单词意思 (**configuration**); 结构, 外形; (同 shape)

问题 8: 询问 **what** 能够解释本质上的不同 (one area) & (heat island is well developed);

【疑惑】

问题 9: 询问 if 怎样可以 increase intensity;

问题 13: 插入语的位置 → 【】;

城市因此要比它周围的乡村地区热, 所有这些因素共同产生了被称为城市热岛的现象。热岛效应在特殊条件下尤其是风力微小时最明显, 但是却几乎在任何时候都能形成。热岛的准确形态决定于好几个因素。比如风能在它吹的方向形成一个延展性的热岛。当一个热岛完全形成时, 温度变化可能会非常极端; 在冬天, 繁忙的街道可能要比旁边的街道温度高 1.7°C。那些红绿灯附近的地区同样要比红绿灯之间的地区要暖和, 因为汽车停止时候的热效应要比运动时明显。城市周边和乡村环境的最大温差被称为该地区热岛效应强度。一般来讲, 城市越大, 热岛效应强度就越高。实际上热岛效应的强度取决于实际布局、人口密度、和城市的生产活动等诸多因素。

整段【多选题】

The surface-atmosphere relationships inside metropolitan areas produce a number of climatic peculiarities. For one thing, the presence or absence of moisture is affected by the special qualities of the urban surface. With much of the built-up landscape impenetrable by water, even gentle rain runs off almost immediately from rooftops, streets, and parking lots. **Thus, city surfaces, as well as the air above them, tend to be drier between episodes of rain;**

with little water available for the cooling process of evaporation, relative humidities are usually lower. Wind movements are also **modified** in cities because buildings increase the friction on air flowing around them. This friction tends to slow the speed of winds, making them far less efficient at dispersing pollutants. On the other hand, **air turbulence increases** because of the effect of skyscrapers on airflow. Rainfall is also increased in cities. The cause appears to be in part greater turbulence in the urban atmosphere as hot air rises from the built-up surface.

问题 10: 询问降雨期，城市表面比乡村表面干燥的原因；

问题 11: 询问单词意思 (**modified**)；

问题 12: 询问什么因素导致 **air turbulence increases** 城市环境中；

在大都市里表面大气之间的关系产生了一系列特殊的气候特征。首先，湿气的存在与否受到了城市表层特殊性质的影响。由于水无法穿过大多数城市建筑，即使是很小的雨也会立即从屋顶、街道和停车场汇流走。这样城市表层包括其上面的空气在雨季的间歇期就会比较干燥；由于蒸发的冷却过程缺少水分，相对湿度通常也很低。城市风的运动也被改变，因为建筑增加了其间风流的摩擦力。这种摩擦会降低风速，使得气体扩散污染物的效率降低。另一方面，湍流也会因为摩天大楼的影响而增加。城市降雨也增加了。其原因部分在于从地表上升的热空气所造成的城市大气中的更大湍流。

TPO 23 – 2 Seventeenth-Century Dutch Agriculture 十七世纪的荷兰农业

细节【多选题】

Agriculture and fishing formed the primary sector of the economy in the Netherlands in the seventeenth century. Dutch agriculture was modernized and commercialized: new crops and agricultural techniques raised levels of production so that they were **in line with market demands**, and cheap grain was imported annually from the Baltic region in large quantities. According to estimates, about 120,000 tons of imported grain fed about 600,000 people; that is, about a third of the Dutch population. **Importing the grain, which would have been expensive and time consuming for the Dutch to have produced themselves, kept the price of grain low and thus stimulated individual demand for other foodstuffs and consumer goods.**

问题 1: 询问 **in line with market demands** 暗示作者想表达农民能够...do what;

问题 2: 等价替换语句 (Sentences = which of the CHOICES)

农业和渔业是十七世纪荷兰经济的主要部分。荷兰农业实现了现代化和商业化，新型的农作物和农业技术提高了农产量，以适应市场的需要，而且每年都会从波罗的海地区进口大量便宜的粮食。据估计，进口的 12 万吨粮食养活着大约 60 万人：大概相当于荷兰人口的三分之一。荷兰人自己生产这些粮食昂贵又费时，进口粮食使得现在粮食的价格保持在低位，因而刺激了个人对其他食物和消费品的需求。

Apart from this, being able to give up labor-intensive grain production freed both the land and the workforce for more productive agricultural divisions. The peasants specialized in livestock husbandry and dairy farming as well as in cultivating industrial crops and fodder crops; flax, madder, and rape were grown, as were tobacco, hops, and turnips. These products were bought mostly by urban businesses. There was also a demand among urban consumers for dairy products such as butter and cheese, which, in the sixteenth century, had become more expensive than grain. The high prices encouraged the peasants to improve their animal husbandry techniques; for example, they began feeding their animals indoors in order to raise the milk yield of their cows.

问题 3: 询问单词意思 (**Apart from**);

问题 4: 询问城市消费者的 **increase demand** 有什么结果;

除了这些，放弃这种劳动密集型的粮食生产解放了土地和劳动力使之能够参与到更高效的农业生产中。农民在家畜养殖业、乳品业与栽培经济作物和饲料作物（亚麻，茜草，油菜和烟草，啤酒花，芜菁）方面已经专业化。这些产品大多是由城市企业购买。城镇消费者对黄油和奶酪一类的乳制品同样有需求，这些东西在十六世纪就比粮食要贵了。高价格促使农民提高他们的畜牧技术，比如他们开始圈养这些动物以提高奶牛的奶产量。

提及【多选题】

In addition to dairy farming and cultivating industrial crops, a third sector of the Dutch economy reflected the way in which agriculture was being modernized-horticulture. 【】 In the sixteenth century, fruit and vegetables were to be found only in gardens belonging to wealthy people. 【】 This changed in the early part of the seventeenth century when

horticulture became accepted as an agricultural sector. 【】 Whole villages began to cultivate fruit and vegetables. 【】 The produce was then transported by water to markets in the cities, where the **consumption** of fruit and vegetables was no longer restricted to the wealthy.

问题 5: 询问单词意思 (**consumption**);

问题 6: 询问农业现代化很明显表现在哪些方面; 【**except**】

问题 13: 插入语的位置 → 【】;

除了乳品业和工业作物的种植，园艺是荷兰农业经济现代化的第三个部分。在十六世纪，水果和蔬菜只属于有钱人的花园。直到十七世纪早期这一情况才发生变化，园艺成为农业的一部分。整个村庄开始种植蔬菜和水果。产品通过水路运送到城市的市场中，在那里水果和蔬菜的消费也不再只是有钱人的专利。

首句【多选题】

As the demand for agricultural produce from both consumers and industry increased, agricultural land became more valuable and people tried to work the available land more intensively and to reclaim more land from wetlands and lakes. In order to increase production on existing land, the peasants made more use of crop rotation and, in particular, began to apply animal waste to the soil regularly, rather than leaving the fertilization process up to the grazing livestock. For the first time industrial waste, such as ash from the soap-boilers, was collected in the cities and sold in the country as artificial fertilizer. The increased yield and price of land justified reclaiming and draining even more land.

问题 7: 询问农民增加产量的方法; 【4 选 2】

随着消费者和工业对农产品的需求增加，耕地变得越来越珍贵，人们对可耕地的利用强度越来越大，并且从湿地和湖泊中开垦了更多的耕地。为了增加已有土地的产量，农民们更多利用农作物轮作，特别是用动物粪便来给土地定期施肥而不是随意让吃草的牲畜来进行施肥。城市首次收集工业废料，比如煮皂的灰料和城市废料，并作为人工肥料售给乡下。产量的增加和土地价格的上涨使得开垦和灌溉更多的土地变得有利可图。

整段【多选题】

The Dutch battle against the sea is **legendary**. Noorderkwartier in Holland, with its numerous lakes and stretches of water, was particularly suitable for land reclamation and one of the biggest projects undertaken there was the draining of the Beemster lake, which began in 1608. The richest merchants in Amsterdam contributed money to reclaim a good 7,100 hectares of land. Forty-three windmills powered the drainage pumps so that **they** were able to lease the reclamation to farmers as early as 1612, with the investors receiving annual leasing payments at an interest rate of 17 percent. Land reclamation continued, and between 1590 and 1665 almost 100,000 hectares were reclaimed from the wetland areas of Holland, Zeeland, and Friesland. However, land reclamation decreased significantly after the middle of the seventeenth century because the price of agricultural products began to **fall**, making land reclamation far less profitable in the second part of the century.

问题 8: 询问 **they** 指代什么;

问题 9: 询问 why **land-reclamation project first half proceeded** rapidly; 【定位关键词，直观理解】

问题 10: 询问单词意思 (**legendary**); 传说的, 传奇的, 著名的;

荷兰与海的斗争是传奇式的。北荷兰有许多湖泊和临海区, 特别适合开垦土地, 其中完成的最大的一个工程是 1608 年贝母斯特湖的排水。阿姆斯特丹最富有的商人们投入资金来开垦这片 7 100 公顷的土地。四十三台风车推动着抽水泵以便能在 1612 年把开垦土地租给农民, 而投资者每年从租金中获得 17% 的利息。土地开垦一直在继续, 在 1590 到 1665 年之间, 将近十万公顷的土地从荷兰、泽兰和弗里斯兰的湿地中开垦出来。然而, 土地开垦在十七世纪中叶大幅减少, 因为农产品的价格开始回落, 使得土地开垦的利润在十七世纪下半叶不是那么丰厚了。

首句&倒数第二句【多选题】

Dutch agriculture was finally affected by the general agricultural crisis in Europe during the last two decades of the seventeenth century. However, what is **astonishing** about this is not that Dutch agriculture was affected by critical phenomena such as a decrease in sales and production, but the fact that the crisis appeared only relatively late in Dutch agriculture. In Europe as a whole, the exceptional reduction in the population and the related fall in demand for grain since the beginning of the seventeenth century had caused the price of agricultural products to fall. Dutch peasants were able to remain unaffected by this crisis for a long time because they had specialized in dairy farming, industrial crops, and horticulture. However, toward the end of the seventeenth century, they too were **overtaken** by the general agricultural crisis.

问题 11: 询问单词意思 (**astonishing**);

问题 12: 询问 organization;

荷兰农业最后受到十七世纪最后的二十年欧洲主要农业危机的影响。不过, 令人惊讶的不是荷兰农业受到这些危机现象的影响而导致产量和销售量的降低, 而是这些危机在荷兰农业中发生得相当晚。欧洲总体来讲, 异常的人口减少和相应的对粮食需求的下降从十七世纪早期就开始了, 导致农产品价格的下跌。荷兰农民能够在这种危机中长期不受影响是因为他们在乳制品、经济作物以及园艺上的专门化。然而, 在十七世纪晚期, 他们还是没有逃脱普遍的农业危机。

TPO 23 – 3 Rock Art of the Australian Aborigines 澳大利亚土著的岩石艺术

倒数第二句【多选题】

Ever since Europeans first explored Australia, people have been trying to understand the ancient rock drawings and carvings created by the Aborigines, the original inhabitants of the continent. Early in the nineteenth century, encounters with Aboriginal rock art tended to be **infrequent** and open to speculative interpretation, but since the late nineteenth century, awareness of the extent and variety of **Australian rock art has been growing**. In the latter decades of the twentieth century there were **intensified efforts** to understand and record the abundance of Australian rock art.

问题 1: 询问单词意思 (**infrequent**);

问题 2: 询问 rock art 在 earlier and latter approach 不同的**原因**;

自从欧洲人第一次探索澳大利亚，人们就一直试图了解那些远古的岩画和洞穴，它们由土著居民也就是这片大陆的原始居民创造。在十九世纪早期，遇到的岩石艺术品还比较少，大多是猜测性的解释，但是到了十九世纪晚期，对这些岩石艺术的范围和多样性的认识提高了。在随后二十世纪的几十年里，更多的努力放到了理解和记录澳大利亚岩画的丰富性上。

The systematic study of this art is a **relatively** new discipline in Australia. Over the past four decades new discoveries have steadily added to the body of knowledge. The most significant data have come from a concentration on three major questions. First, what is the age of Australian rock art? Second, what is its stylistic organization and is it possible to **discern** a sequence or a pattern of development between styles? Third, is it possible to interpret accurately the subject matter of ancient rock art, bringing to bear all available archaeological techniques and the knowledge of present-day Aboriginal informants? 【】

问题 3: 询问单词意思 (**relatively**);

问题 4: 询问单词意思 (**discern**);

系统地研究这些岩石艺术是澳大利亚一门相当新的学科。在过去四十年里新的发现不断添加到这门知识体系中。最重要的数据集中在三个主要问题上。首先，澳大利亚岩石艺术处于哪个时代？第二，它的组织风格是什么样的以及有没有可能从风格中辨别出一个发展序列和模式？第三，有没有可能在利用所有可能的考古技术和对现有土著居民中博学者的了解，准确地了解这些岩石艺术所要表达的主题？

The age of Australia's rock art is constantly being **revised**, and earlier datings have been proposed as the result of new discoveries. 【】 Currently, reliable scientific evidence dates the earliest creation of art on rock surfaces in Australia to somewhere between 30,000 and 50,000 years ago. 【】 This in itself is an almost incomprehensible span of generations, and one that makes Australia's rock art the oldest continuous art tradition in the world. 【】

问题 5: 询问单词意思 (**revised**);

问题 13: 插入语的位置 → 【】;

关于澳大利亚岩石艺术的年代一直在修正，因为新发现的结果年代判定被不断提前。现在，可靠的科学证据证明澳大利亚最早的岩石艺术创作大约在 3 万到 5 万年前。这本身是一个几

乎不可思议的跨代，也使得澳大利亚的岩石艺术成为世界上传承最久的艺术。

整段&首句&第四句【多选题】

Although the remarkable antiquity of Australia's rock art is now established, the sequences and meanings of its images have been widely debated. Since the mid-1970s a reasonably stable picture has formed of the organization of Australian rock art. **In order to create a sense of structure to this picture, researchers have relied on a distinction that still underlies the forms of much indigenous visual culture—a distinction between geometric and figurative elements.** Simple geometric repeated patterns—circles, concentric circles, and lines—constitute the iconography (characteristic images) of the earliest rock-art sites found across Australia. The frequency with which certain simple motifs appear in these oldest sites has led rock-art researchers to adopt a descriptive term—the Panaramitee style—a label which takes its name from the extensive rock pavements at Panaramitee North in desert South Australia, which are covered with motifs pecked into the surface. **Certain features of these engravings lead to the conclusion that they are of great age—geological changes had clearly happened after the designs had been made and local Aboriginal informants, when first questioned about them, seemed to know nothing of their origins.** Furthermore, the designs were covered with "desert varnish," a glaze that develops on rock surfaces over thousands of years of exposure to the elements. The simple motifs found at Panaramitee are common to many rock-art sites across Australia. Indeed, sites with engravings of geometric shapes are also to be found on the island of Tasmania, which was separated from the mainland of the continent some 10,000 years ago.

问题 6: 等价替换语句 (Sentences = which of the CHOICES)

问题 7: 询问 researcher 组织构建岩石艺术通过区分 what between what;

问题 8: 询问 sign of great age; 【except】

问题 9: 询问作者为什么提关于 Tasmania 的信息;

尽管澳大利亚岩石艺术的非凡古老性现在已经被确立，它们的年代顺序和图案的意义却有着广泛的争论。1970年代中期以来，澳大利亚岩画艺术组织已经形成一个相当稳定的图像。为了给这幅画创造一种结构感，研究者们依赖仍然根基于本土视觉文化形式的不同——这种不同是几何元素和修饰元素的不同。简单的几何重复图案——圆，同心圆，以及线条——组成了全澳大利亚最早的岩石艺术的肖像图谱（有特色的图案）。一些简单图案在这些最古老的遗址上出现的频率使得岩石艺术研究人员采用了一种描述性的术语——Panaramitee 风格——取名自澳大利亚南部沙漠 Panaramitee North 广袤的岩石丘，这些岩石丘表面都刻有这些图案。这些图案的特点让人们得出一个结论：它们是来自于一个久远的时代——地质变化明显发生在这些图案的设计之后，当土著信息提供者第一次被问到关于这些图案的问题时，好像对它们的来源一无所知。此外，这些设计被“沙漠漆”所覆盖，这种沙漠漆是岩石表面上的颜料经过数千年的暴露形成的。在 Panaramitee 发现的简单图案在澳大利亚境内很多岩石画中都很常见。确实，那些拥有几何形图案的遗址在塔斯马尼亚岛也发现了，这个岛在 1 万年前就从澳大利亚大陆分离了出去。

【本段需要精析】

结尾&第二句【多选题】

In the 1970s, when the study of Australian archaeology was in an exciting phase of development, with the great antiquity of rock art becoming clear, **Lesley Maynard**, the archaeologist who coined the phrase "Panaramitee style," suggested that a sequence could be determined for Australian rock art in which a geometric style gave way to a simple figurative style (outlines of figures and animals), **followed by** a range of complex figurative styles that, **unlike the pan-Australian geometric tradition**, tended to much greater regional diversity. While accepting that this sequence fits the archaeological profile of those sites, which were occupied continuously over many thousands of years, a number of writers have warned that the underlying assumption of such a sequence—a development from the simple and the geometric to the complex and naturalistic—obscures the cultural continuities in Aboriginal Australia in which geometric symbolism remains fundamentally important. In this context the simplicity of a geometric motif may be more apparent than real. Motifs of seeming simplicity can encode complex meanings in Aboriginal Australia. And has not twentieth-century art shown that naturalism does not necessarily follow abstraction in some kind of predetermined sequence?

问题 10: 询问 **complex figurative style** differs from geometric style **in what aspect**;

问题 11: 询问 **Lesley Maynard** make what suggestion about the rock art;

问题 12: 询问作者 indicate that naturalism does not 为了什么?

二十世纪七十年代,澳大利亚考古正处在蓬勃发展阶段,随之古老的岩石艺术画变得日益清晰。考古学家莱斯利·梅纳德杜撰了新词“Panaramitee 风格”,认为可以为澳大利亚岩石画确定一个顺序,在这个顺序中一种几何风格让步于简单肖像风格(人物和动物的轮廓),之后是一系列的复杂肖像风格,这种风格与泛澳大利亚的几何传统不一样,它们有更大的区域多样性。尽管赞同该顺序适合这些地区的考古图案,这些地区几千年来一直不断出现考古图案,然而许多作者警告说,这种顺序的潜在结论——从简单图案到几何图案再到复杂和自然主义的图案,模糊了仍然非常重要的几何象征主义在澳大利亚土著的文化连续性。在这种背景下简单的几何图案可能比真实的东西更明显。对于澳大利亚土著来说简单图案也能包含复杂的含义。20世纪的艺术难道没有表明自然主义并没有必然地按照某种预先设定的顺序跟随抽象主义吗?