

## TPO 21 – 1 Geothermal Energy 地热能

Earth's internal heat, fueled by **radioactivity**, provides the energy for plate tectonics and continental drift, mountain building, and earthquakes. It can also be harnessed to drive electric generators and heat homes. Geothermal energy becomes available in a **practical** form when underground heat is transferred by water that is heated as it passes through a subsurface region of hot rocks (a heat reservoir) that may be hundreds or thousands of feet deep. 【】 The water is usually naturally occurring groundwater that seeps down along fractures in the rock; less typically, the water is artificially introduced by being pumped down from the surface. 【】 The water is brought to the surface, as a liquid or **steam**, through holes drilled for the purpose. 【】

**问题 1:** 询问关系 (**radioactivity & steam**);

答题思路: 先读题目, 针对关键词找到对应的位置;

**问题 2:** 询问单词意思 (**practical**);

**问题 13:** 插入语的位置 → 【】; **in either case**, 前面需要有两个选择;

地球内部因放射产生的热量为板块运动、大陆漂移、造山运动和地震提供了能量。这种热量还可以用来驱动发电机发电以及为家庭供暖。水历经地表下可能几百甚至几千英尺深的热岩区域(一种热储)被加热,当被加热的水将热量传递出来时,地热能就可以实际形式加以利用了。这些水通常是沿着岩石的断面下渗的天然地下水;少数情况下是人为从地表泵入的水。通过为了采集地热能所钻的孔,这些水会以液体或蒸汽的形式被带到地表。

### 整段【多选题】

By far the most **abundant** form of geothermal energy occurs at the relatively low temperatures of **80° to 180° centigrade**. 【】 Water circulated through **heat reservoirs in this temperature range** is able to extract enough heat to warm residential, commercial, and industrial spaces. More than 20,000 apartments in France are now heated by warm underground water drawn from a heat reservoir in a geologic structure near Paris called the Paris Basin. Iceland sits on a volcanic structure known as the Mid-Atlantic Ridge. Reykjavik, the capital of Iceland, is entirely heated by geothermal energy derived from volcanic heat.

**问题 3:** 询问单词意思 (**abundant**);

**问题 4:** 询问下列陈述语句的正确性 (which of the following is true 关于 **heat reservoirs in this temperature range**)

到目前为止,最丰富的地热能形式介于相对较低的 80 到 180 摄氏度的温度。在此温度范围内的热储内循环的水可以提取出足够的热量供居住区、商业区和工业区取暖。目前在法国有 20 000 间以上的公寓是由温暖的地下水供暖的,这些地下水来自位于巴黎附近叫做巴黎盆地的地质构造的热储。冰岛位于一个被称为是大西洋中脊的火山构造之上。冰岛的首都雷克雅维克完全是用火山热产生的地热能供暖的。

### 首句【多选题】(涉及 2 道)

**Geothermal reservoirs** with temperatures **above 180° centigrade** are useful for generating electricity. They occur primarily in regions of recent volcanic activity as hot, dry rock; natural

hot water; or **natural steam**. The latter two sources are limited to those few areas where surface water seeps down through **underground faults** or fractures to reach deep rocks heated by the recent activity of molten rock material. The world's largest supply of natural steam occurs at The Geysers, 120 kilometers north of San Francisco, California. In the 1990s enough electricity to meet about half the needs of San Francisco was being generated there. This facility was then in **its third decade** of production and was beginning to show signs of decline, perhaps because of over development. By the late 1990s some 70 geothermal electric-generating plants were in operation in California, Utah, Nevada, and Hawaii, generating enough power to supply about a million people. Eighteen countries now generate electricity using geothermal heat.

**问题 5:** 询问联系 (**natural steam & underground faults**); 【文章关键词&选项关键词一起看】

**问题 6:** 询问 why 提到 (**its third decade**);

**问题 7:** 询问关于 (**geothermal reservoirs**) 的**推断**;

温度高于 180 摄氏度的地热储集层可用来发电。这类地热储集层主要位于有近期火山活动的区域,以干热的岩石、天然热水或天然蒸汽的形式存在。后两种形式的储集层局限于少数区域,在这些区域,地表水通过地下断层或断裂渗入到被近期的熔岩活动加热的深层岩石。世界上最大的天然蒸汽供应位于加州旧金山以北 120 公里处的盖沙斯。二十世纪九十年代,那里产出的电能足够满足旧金山半数的需求。当时该电厂已经有三十个年头了,开始显示出发电量下降的迹象,这可能是由于过度的开发所致。到二十世纪九十年代末,加州、犹他州、内华达州和夏威夷约有 70 个地热发电厂在运转,产生的电能足够满足一百万人的需求。目前有 18 个国家在利用地热能发电。

**Extracting heat from very hot, dry rocks presents a more difficult problem:** the rocks must be fractured to permit the circulation of water, and the water must be provided artificially. The rocks are fractured by water pumped down at very high pressures. Experiments are under way to develop technologies for **exploiting** this resource.

**问题 8:** 为什么困难 (**difficult**);

**问题 9:** 询问单词意思 (**exploiting**);

要从极干热的岩石中提取热量存在一个更大的难题:岩石需要有裂缝才能让水流通,而且水必须是人工提供的。通过泵入高压水可以将岩石断裂。开发利用此能源的技术的实验正在进行之中。

**【多选题】** 细节, **The sink...**

Like most other energy sources, geothermal energy presents some environmental problems. The surface of the **ground can sink** if hot groundwater is withdrawn without being replaced. In addition, water heated geothermally can contain **salts and toxic materials** dissolved from the hot rock. These waters present a disposal problem if they are not returned to the ground from which they were removed.

**问题 10:** 两个问题之间的相关性 (**ground can sink & salts and toxic materials**)

就像大多数其它能源一样,地热能也具有一些环境问题。如果抽取地下热水而又不泵回,地表就会下沉。此外,地热加热的水含有从热岩中溶出的盐分和有毒物质。这些水如果不能被

输送回抽取的地方，将会产生处理方面的问题。

**【多选题】整段**

The contribution of geothermal energy to the world's energy future is difficult to estimate. Geothermal energy is in a sense not renewable, because in most cases the heat would be drawn out of a reservoir much more rapidly than it would be replaced by the very slow geological processes by which heat flows through solid rock into a heat reservoir. However, in many places (for example, California, Hawaii, the Philippines, Japan, Mexico, the rift valleys of Africa) **the resource is potentially so large** that its future will depend on the economics of production. At present, we can make efficient use of only naturally occurring hot water or steam deposits. Although the potential is enormous, it is likely that in the near future geothermal energy can make important local contributions only where the resource is close to the user and the economics are favorable, as they are in California, New Zealand, and Iceland. Geothermal energy probably will not make large-scale contributions to the world energy budget until well into the twenty-first century, **if ever**.

**问题 11:** 等价替换语句 (Sentences = which of the CHOICES)

**问题 12:** 问暗示 (**the resource is potentially so large**): might be worth

难于估计地热能对世界能源未来的贡献。地热能某种意义上讲是不可再生的，因为多数情况下，与热量流经坚硬的岩石到达热储这个极为缓慢的地质作用的更新速度相比，从热储提取热量的速度要快得多。不过，在很多地区（例如加州、夏威夷、菲律宾、日本、墨西哥、非洲的裂谷），这种能源可能非常可观，它的前景将取决于经济的生产。目前，我们只能有效地利用天然形成的热水或蒸汽形式的地热能。尽管潜能巨大，近期之内地热能可能只能对毗邻用户以及经济状况良好的地区做出重要的局部贡献，就像在加州、新西兰和冰岛地区的情况一样。如果可能的话，地热能估计要到二十一世纪才能对世界的能源预算做出大的贡献。

**if ever** 如果(曾经)有的话(指次数); 如果曾经有的话

When, **if ever**, is it morally justifiable to allow a patient to die?

假如可以的话，什么情况下允许病人放弃生命在道德上是正当的？

**if possible** 如果可能的话

**if not** 如果不这样的话

**if so** 如果那样的话

## TPO 21 – 2 The Origins of Agriculture 农业的起源

How did it come about that farming developed independently in a number of world centers (the Southeast Asian mainland, Southwest Asia, Central America, lowland and highland South America, and equatorial Africa) at more or less the same time? Agriculture developed slowly among populations that had an extensive knowledge of plants and animals. 【】 Changing from hunting and gathering to agriculture had no immediate advantages. 【】 To start with, it forced the population to abandon the nomad's life and become sedentary, to develop methods of storage and, often, systems of irrigation. 【】 While hunter-gatherers always had the "option" of moving elsewhere when the resources were exhausted, this became more difficult with farming. 【】 Furthermore, as the archaeological record shows, the state of health of agriculturalists was worse than that of their contemporary hunter-gatherers. 【多选题】

问题 1(15): 询问单词意思 (option);

问题 2(16): 询问 (hunting) 相比 (agriculture) 的优势; extensive knowledge not less

问题 13(27): 插入语的位置 → 【】;

农业是如何独立的在多个世界中心（东南亚大陆、西南亚、中美洲、南美的高地与低地以及赤道非洲地区）几乎同时发展起来的呢？在那些熟知动植物的人中农业发展得相当缓慢。从狩猎和采集转变为农耕并没有显而易见的好处。首先，它会迫使人们放弃游牧生活并定居下来，去开发贮存方法和通常所需的灌溉系统。采集狩猎者往往可以选择在资源耗尽的时候迁到别处，对于耕作者来说就没这么容易。而且，考古学记录显示，农民的健康状况要比同时代的采集狩猎者更差。

Traditionally, it was believed that the transition to agriculture was the result of a worldwide population crisis. It was argued that once hunter-gatherers had occupied the whole world, the population started to grow everywhere and food became scarce; agriculture would have been a solution to this problem. We know, however, that contemporary hunter-gatherer societies control their population in a variety of ways. The idea of a world population crisis is "therefore" unlikely, although population pressure might have arisen in some areas. 【多选题】

问题 3(17): 询问单词意思 (therefore);

问题 4(18): 整个段落的组织 (best describes);

传统上认为向农业转变是世界性人口危机带来的结果。有人认为一旦采集狩猎者遍及全世界，人口开始增长，食物变得匮乏。农业便是解决这个问题的一种方法。但是，众所周知，当代的采集狩猎者具有很多种控制人口的方法。因此世界性人口危机的想法就不太可能成立了，虽然在某些地区可能会存在人口压力。

Climatic changes at the end of the glacial period 13,000 years ago have been proposed to account for the emergence of farming. "The temperature increased dramatically in a short period of time (years rather than centuries), allowing for a growth of the hunting-gathering population due to the abundance of resources." There were, however, fluctuations in the climatic conditions, with the consequences that **wet** conditions were followed by **dry** ones,

so that the availability of plants and animals **oscillated brusquely**.

**问题 5(19)**: 等价替换语句 (Sentences = which of the CHOICES)

**问题 6(20)**: 询问 (**abundance of resources**) 的原因;

**oscillate**

英 ['ɒsɪleɪt] 美 ['ɑ:sɪleɪt]

vt. 使振荡; 使振动; 使动摇

vi. 振荡; 摆动; 犹豫

**brusquely**

英 ['bru:skli; 'brʊskli] 美 ['brʌskli]

adv. 唐突地; 直率地

有人提出冰河时代末期, 也就是 13000 年前的气候变化是农业起源的原因。 短时期内 (以年而不是以世纪为单位) 温度急剧上升使得食物资源丰富, 采集狩猎者人口增加。 但是, 气候条件存在波动, 造成干湿交替, 以致可以获取的动植物数量忽高忽低。

It would appear that the instability of the climatic conditions led populations that had originally been nomadic to settle down and develop a sedentary style of life, which led in turn to population growth and to the need to increase the amount of food available. Farming originated in these conditions. Later on, **it became very difficult to change** because of the significant expansion of these populations. It could be argued, however, that these conditions are not sufficient to explain the origins of agriculture. **"Earth had experienced previous periods of climatic change, and yet agriculture had not been developed."** 【多选题】

**问题 7(21)**: 询问 (**it became very difficult to change**) 的原因;

**问题 8(22)**: 询问为什么 **state** 这句话 ("**Earth had experienced...**")

似乎是气候条件的不稳定性使得那些原本放牧的人安定下来, 逐渐发展出了定居的生活方式, 这也反过来造成人口增长以及所需食物量的增加。 在这些条件下, 农业诞生了。 后来, 由于人口的急剧膨胀, 这种生活方式就难以改变了。 但是, 我们可以说这些条件并不足以解释农业的起源。 先前地球经历了多个气候变化的时期, 但是也没有发展出农业。

【整段】【多选题】

It is archaeologist Steven Mithen's thesis, brilliantly developed in his book *The Prehistory of the Mind* (1996), that approximately 40,000 years ago the human mind developed cognitive fluidity, that is, the integration of the specializations of the mind: technical, natural history (geared to understanding the behavior and distribution of natural resources), social intelligence, and the linguistic capacity. Cognitive fluidity explains the appearance of art, religion, and sophisticated speech. Once humans possessed such a mind, they were able to find an **"imaginative"** solution to a situation of severe economic crisis such as the farming dilemma described earlier. Mithen proposes the existence of **four mental elements to account for the emergence of farming**: (1) the ability to develop tools that could be used intensively to harvest and process plant resources; (2) the tendency to use plants and animals as the medium to acquire social prestige and power; (3) the tendency to develop "social relationships" with animals structurally similar to those developed with people—specifically, the ability to think of animals as people (anthropomorphism) and of people as animals (totemism); and (4) the tendency to manipulate plants and animals.

**问题 9(23)**: 询问单词意思 (**imaginative**);

**问题 10(24)**: 询问选项中哪一个不是 (emergence of farming) ;

考古学家斯蒂文·米森有一个观点，这在他的《思维的史前史》一书中有精彩的阐述，该观点认为约在 40000 年前，人类的思维形成了认知流动性，即对各种特化的思维加以整合：技术史、博物学（以理解自然资源的行为和分布）、社交智能以及语言能力。认识流动性解释了艺术、宗教以及复杂演讲的出现。一旦人类拥有了这样的思维，他们就可以找到创造性方法来解决严重的经济危机，例如先前所述的农业困境。米森提出存在四种可以解释农业起源的心理因素：（1）打造集中用于收割以及加工植物资源的工具的能力；（2）将动植物作为获取社会声望和权力的手段的趋势；（3）与动物发展出与人类结构相似的“社会关系”的趋势——具体说就把动物当做人（神人同形同性论）以及把人当做动物（图腾崇拜）；（4）驯化动植物的趋势。

**【首句】【多选题】**

~~The fact that some societies domesticated animals and plants, discovered the use of metal tools, became literate, and developed a state~~ should not make us forget that others developed pastoralism or horticulture (vegetable gardening) but remained illiterate and at low levels of productivity; a few entered the modern period as hunting and gathering societies. It is anthropologically important to inquire into the conditions that made some societies adopt agriculture while others remained hunter-gatherers or horticulturalists. However, it should be kept in mind that many societies that knew of agriculture more or less consciously avoided it. Whether Mithen's explanation is satisfactory is open to "contention", and some authors have recently emphasized the importance of other factors.

**问题 11(25)**: 询问单词意思 (contention);

**问题 12(26)**: 询问 weakness of Mithen;

一些社会驯化动植物、发现金属工具的使用、开始识字并且形成国家，这些事实不应使我们忘记其他社会虽发展出了畜牧或园艺（蔬菜园艺）但是仍停留在文盲状态，并且生产力较低；只有少数以狩猎采集社会的方式进入了现代时期。探究使某些社会选择农业而其他社会停留在狩猎采集或园艺的条件具有重要的**人类学**意义。但是，我们应该记住有很多知晓农业的社会几乎是有意不选择它。米森的解释是否恰当还有待**讨论**，而且近来有些作者已经强调其它因素的重要性了。

## TPO 21 – 3 Autobiographical Memory 自传式回忆

### 【多选题】整段

Think back to your childhood and try to identify your earliest memory. How old were you? 【】 Most people are not able to recount memories for experiences prior to the age of three years, a phenomenon called infantile amnesia. 【】 The question of why infantile amnesia occurs has intrigued psychologists for decades, especially in light of ample evidence that infants and young children can display impressive memory capabilities. 【】 Many find that understanding the general nature of autobiographical memory, that is, memory for events that have occurred in one's own life, can provide some important clues to this mystery. 【】 Between ages three and four, children begin to give fairly lengthy and cohesive descriptions of events in their past. What factors are responsible for this developmental turning point?

问题 1(29): 询问单词意思 (ample);

问题 2(30): 询问原因 (why infantile amnesia intrigued psychologists);

问题 3(31): 询问 evidence (child has developed auto-mem);

问题 13(41): 插入语的位置 → 【】;

回忆你的童年并尝试找出你最早的记忆。那时你多大？大多数人无法描述出有关三岁前经历的记忆，这种现象就叫做婴儿期遗忘。为什么会发生婴儿期遗忘这个问题已经引发了心理学家们数十年的兴趣，尤其是有大量的证据说明婴幼儿表现出具有令人惊讶的记忆能力。不少人发现理解自传式记忆，即对在某人自己的生活中发生的事件的记忆的一般特性可以为这个不解之谜提供一些重要的线索。3到4岁的儿童开始可以对自己过去经历过的事情给出相当长的具有连贯性的描述。是什么因素导致了这个发育的转折点？

### 【多选题】

Perhaps the explanation goes back to some ideas raised by influential Swiss psychologist Jean Piaget-namely, that children under age two years represent events in a qualitatively different form than older children do. According to this line of thought, the verbal abilities that blossom in the two year old allow events to be coded in a form radically different from the action-based codes of the infant. Verbal abilities of one year olds are, in fact, related to their memories for events one year later. When researchers had one year olds imitate an action sequence one year after they first saw it, there was correlation between the children's verbal skills at the time they first saw the event and their success on the later memory task. However, even children with low verbal skills showed evidence of remembering the event; thus, memories may be facilitated by but are not dependent on those verbal skills.

问题 4(32): 询问 why 作者提供信息关于 (low verbal skills 能记得事情);

也许对这个问题的解释可以追溯到具有影响力的瑞士心理学家让·皮亚杰，他认为两岁以下的儿童与大于两岁的儿童回忆事件的方式有质的不同。根据这个思路，两岁的儿童发展出的语言能力可以使他们对事件的组织方式与婴儿基于动作的组织方式有根本的差异。事实上，一岁儿童的语言能力与他们一年后对事件的记忆有关。当研究人员让一岁的儿童们在第一次见到一个动作顺序后的一年模仿这个动作顺序，他们能否成功完成这个记忆任务与他们第一次看到这个事件时的语言能力相关。但是，即使是语言能力很差的儿童也显示出了记得该事件

的证据，因此，语言能力可以促进记忆，但是记忆并不依赖于语言能力。

**整段【多选题】**

Another suggestion is that before children can talk about past events in their lives, they need to have a **reasonable** understanding of the self as a psychological entity. **The development of an understanding of the self** becomes evident between the first and second years of life and shows rapid **elaboration** in subsequent years. The realization that the physical self has continuity in time, according to this hypothesis, lays the foundation for the emergence of **autobiographical memory**.

**问题 5(33)**: 询问单词意思 (**reasonable**);

**问题 6(34)**: 询问单词意思 (**elaboration**);

**问题 7(35)**: 询问 relationship (**The development of an understanding of the self & autobiographical memory**)

另有人提出在儿童能够讲述他们过去经历的事情之前，儿童需要对把自我当做一个心理实体有合理的认识。对自我的认识的发展在 1 到 2 岁之前非常明显，并在随后的几年中显示出迅速的细致化。根据这个假说，身体自我在时间上的连续性是出现自传式记忆的基础。

**【多选题】细节，而且最高级没说，earliest**

A third possibility is that children will not be able to tell their own "life story" until they understand something about the general form stories take, that is, **the structure of narratives**. Knowledge about narratives arises from social interactions, particularly the storytelling that children **experience from parents** and the attempts parents make to talk with children about past events in their lives. When parents talk with children about "what we did today" or "last week" or "last year," they guide the children's formation of a framework for talking about the past. They also provide children with reminders about the memory and relay the message that memories are valued as part of the cultural experience. It is interesting to note that some **studies show** Caucasian American children have earlier childhood memories than Korean children do. Furthermore, other studies show that Caucasian American mother-child pairs talk about past events three times more often than do Korean mother-child pairs. Thus, the types of social experiences children have do factor into the development of autobiographical memories.

**问题 8(36)**: 询问 (方式: **the structure of narratives** **experience from parents**)

**问题 9(37)**: 这个 (**studies show**) 表明了什么;

第三种可能是儿童在他们理解故事发生的一般形式，即叙述的结构以前无法描述他们自己的“生活故事”。有关叙述的知识来源于社会互动，尤其是父母给儿童讲故事以及父母尝试跟孩子聊聊孩子们过去经历的事情。当父母跟孩子们说起“昨天我们做了什么”或者“上周”或者“去年”时，他们就会引导儿童形成讲述往事的框架。他们还能提醒孩子，并且向孩子传达记忆是文化体验宝贵的一部分的信息。值得一提的是有些研究显示白种美国儿童比韩国儿童的童年记忆更早。此外，其它研究显示白种美国母亲与孩子交流往事的次数是韩国母亲与孩子的三倍。因此，儿童具有的社会经验的类型是发展出自传式记忆的一个因素。

A final suggestion is that children must begin to develop a **"theory of mind"**-an awareness of



the concept of mental states (feelings, desires, beliefs, and thoughts), their own and those of others-before they can talk about their own past memories. Once children become capable of answering such questions as "What does it mean to remember?" and "What does it mean to know something?" improvements in memory seem to occur.

**问题 10(38):** 什么证据表明 (theory of mind) 是一个因素 (in the develop auto-mem);

最后一种解释是儿童必须在他们能够讲述自己对过去的记忆前开始发展出一种“心理理论”——对他们自己或别人的心理状态（感觉、欲望、信仰和思想）概念的认识。一旦儿童能够回答诸如“记得是什么意思？”以及“知道某事或某物是什么意思？”等问题的时候，这就会促进他们可能发生的记忆。

It may be that the developments just described are intertwined with and influence one another. Talking with parents about the past may enhance the development of the self-concept, for example, as well as help the child understand what it means to "remember." No doubt the ability to talk about one's past represents memory of a different level of complexity than simple recognition or recall.

可能上面描述的各种发育之间会相互交织并且相互影响。与父母聊聊往事可以加强自我认知的发展，举例来说，就像帮助儿童理解什么是“记得”一样。讲述自己的往事无疑代表了比简单的认出或回忆更为复杂的记忆。

**问题 11(39):** 询问文章的 **organization**;

**问题 12(40):** 询问文章 supports 哪一个关于发展 auto-mem 的 statement;