

TPO 41 – 1 Navajo Art 纳瓦霍艺术

The Navajo, a Native American people living in the southwestern United States, live in small scattered **settlements**. In many **respects**, such as education, **occupation**, and leisure activities, their life is like that of other groups that contribute to the **diverse social fabric** of North American culture in the twenty-first century. At the same time, they have retained some traditional cultural **practices** that are associated with particular art forms. For example, the most important traditional Navajo **rituals** include the production of large **floor paintings**. These are actually made by pouring **thin, finely controlled streams of colored sands or pulverized** vegetable and mineral substances, pollen, and flowers in **precise** patterns on the ground. The largest of these paintings may be up to 5.5 meters in diameter and cover the entire floor of a room. **Working from the inside of the design outward, the Navajo artist and his assistants will sift the black, white, bluish-gray, orange, and red materials through their fingers to create the finely detailed imagery.** The paintings and chants used in the **ceremonies** are directed by well-trained artists and singers **who enlist the aid of spirits who are impersonated by** masked performers. The twenty-four known Navajo chants can be represented by up to 500 sand paintings. These complex paintings **serve as** memory aids to guide the singers during the performance of the ritual songs, which can last up to nine days.★

<p>pulverized 英 美 ['plʌvəraɪzd] adj. 粉状的; 成粉末的 v. 压成细粉 (pulverize 的过去分词)</p>	<p>sift (sift through [sɪft θru:] 通过; 被筛下) 英 [sɪft] 美 [sɪft] vt. 筛选; 撒; 过滤; 详查 vi. 筛; 详查; 撒下; 细究</p>
<p>finely 英 ['faɪnli] 美 ['faɪnli] adv. 非常地; 细微地; 美好地; 雅致地</p>	<p>chant 英 [tʃɑ:nt] 美 [tʃænt] n. 圣歌; 赞美诗 vt. 唱; 诵扬 vi. 唱歌; 反复地唱歌</p>

纳瓦霍人, 在美国西南部生活的土著人, 住在小而分散的**定居点**。在许多**方面**, 如教育, **职业**和休闲活动, 他们的生活就像其他群体, 对二十一世纪的北美文化的**多样化的社会结构**做出了贡献。同时, 他们还保留了一些与特定艺术形式相关联的**传统文化习俗**。例如, 最重要的纳瓦霍的传统**仪式**就包括**大地板画**制作。这些实际上是在地上浇注细小的、控制绝佳的彩色砂或蔬菜和矿物质粉、花粉和花卉, 浇注出精准的图案。这些画的最大直径可以是 5.5 米, 能覆盖整个房间的地板。**从外向内**的设计工作, 纳瓦霍艺术家和他的助手将黑、白、灰蓝色、橙色、红色的材料通过自己的手指来创建非常精致的图像。用于仪式的画和唱的歌都是由训练有素的艺术家和歌手们来指挥, 他们召唤神灵的帮助, 这些神灵由戴面具的表演者扮演。二十四首纳瓦霍圣歌可由 500 个砂画来代表。这些复杂的绘画作为记忆的辅助工具, 以在仪式歌唱中指导歌手, 这样的演唱可以持续 9 天。

The purpose and meaning of the sand paintings can be explained by **examining** one of the most basic **ideals** of Navajo society, **embodied** in their word hozho (beauty or harmony, goodness, and happiness). It coexists with hochxo ("ugliness," or "evil," and "disorder") in a

批注 [1]: 注意: 这里的逗号, 表示并列成分, 故意迷惑人的。

批注 [2]: **precise (=exact)**
英 [pri'saɪs] 美 [pri'saɪs]
adj. 精确的; 明确的; 严格的

批注 [3]: **outward**
英 ['aʊtwəd] 美 ['aʊtwəd]
•adj. 向外的; 外面的; 公开的; 外服的; 肉体的
•adv. 向外 (等于 outwards); 在外; 显而易见地
•n. 外表; 外面; 物质世界

批注 [4]: **enlist = (recruit)**
英 [ɪn'lɪst] 美 [ɪn'lɪst]
•vi. 支持; 从军; 应募; 赞助
•vt. 使入伍; 征募; 谋取...的赞助或帮助

批注 [5]: ★这段在说什么?
首先首句引出人 (没有人哪有艺术呢);
然后, 引出艺术, 进一步解释这个艺术 (形成方法【题】, 内容主题, 作用); 【题: 特点】

world where opposing forces of **dynamism and stability** create constant change. When the world, which was created in beauty, becomes ugly and disorderly, the Navajo gather to perform rituals with songs and make sand paintings to **restore** beauty and harmony to the world. **Some illness is itself regarded as a type of disharmony.** Thus, the restoration of harmony through a ceremony can be part of a **curing** process. ★

通过**研究**纳瓦霍社会中一个最基本的理念，沙画的目的和意义可以被解释，这个理想在纳瓦霍的 **hozho** 这个词中可以**体现**出来(hozho 表示的是美、和谐、善良和幸福)。这个词与 hochxo (丑陋、恶、混乱)共存于一个世界中，在这里，动与静的相反力量不断创造变化。当这个在美中**被创造出来的世界变得丑陋和混乱的时候**，纳瓦霍人聚集在一起举行仪式，唱圣歌并画画，来把美与和谐**重新带回**到这个世界。一些疾病被认为是一种不和谐，所以，通过仪式来恢复和谐就是治病过程的一部分。

Men make sand paintings that are accurate copies of paintings from the past. The songs **sung over the paintings** are also **faithful renditions** of songs from the past. By re-creating these arts, which reflect the original beauty of creation, the Navajo bring beauty to the present world. As **relative** newcomers to the Southwest, a place where their climate, neighbors, and rulers could be equally inhospitable, the Navajo created these art forms to **affect** the world around them, **not just through** the **recounting** of the actions symbolized, **but through** the beauty and harmony of the artworks themselves. The paintings generally **illustrate ideas and events from the life of a mythical hero**, who, after being healed by the gods, **gave gifts of** songs and paintings. **Working from memory**, the artists re-create the traditional form of the image as **accurately** as possible. ★

rendition 英 [ren'dɪʃn] 美 [ren'dɪʃn] n. 译文；演奏；提供；引渡逃奴	relative 英 ['relətɪv] 美 ['relətɪv] adj. 相对的；有关系的；成比例的 n. 亲戚；相关物；[语] 关系词；亲缘植物
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男人制作过去画作精准的沙画副品。**根据画品演唱**的歌曲也是过去歌曲的忠实翻唱。通过再现这些艺术，反映原始创造之美，纳瓦霍人带来当今世界之美。作为西南部新到的移民，这个地方的气候、邻居和统治者可能同样不友好，纳瓦霍人创造了这些艺术形式来影响他们周围的世界，不只是通过叙事的象征性的行动，也通过美与和谐的艺术作品本身。这些画一般反映神话英雄的思想和事件，这些英雄在被神明治愈之后，**被赋予了歌曲和绘画的天赋**。从记忆中工作，艺术家尽可能准确地重新创造了传统形式的图像。

The Navajo are also world-famous for the designs on their **woven** blankets. **Navajo women** own the family flocks, control the shearing of the sheep, the **carding**, the spinning, and **dying of the thread, and the weaving of the fabrics.** While the **men** who make faithful copies of sand paintings from the past represent the principle of **stability** in Navajo thought, women embody **dynamism** and create new designs for every weaving they make. Weaving is a paradigm of the creativity of **a mythic ancestor** named Spider Woman who **wove the universe as a cosmic web** that united earth and sky. It was she who, according to legend, taught Navajo women how to weave. As they prepare their materials and weave, Navajo women imitate the **transformations** that **originally created the world.** **Working on their looms,** Navajo

批注 | 6|: ★这段在说什么?
首句引出艺术的目的和意义；
然后进一步解说为什么要实现这个目的，以及实现的过程；(为什么要执行这个这个艺术，代表了什么，为了应对什么?)
【题】

批注 | 7|: 注意:
Men, man, women, woman
Human beings
各指不同的对象!!!

批注 | 8|: faithful
(=accurate)
英 ['feɪθfl] 美 ['feɪθfl]
•adj. 忠实的，忠诚的；如实的；准确可靠的

批注 | 9|: recount
英 [rɪ'kaʊnt] 美 [rɪ'kaʊnt]
•v. 讲述，叙述；重新计数或计算
•n. 讲述；重新计数

批注 | 10|: ★这段在说什么?
首句说 painting 和 song 艺术创作的主体，表述的对象【题】；
然后进一步解说作用；

批注 | 11|: woven
英 ['wəʊvɪn] 美 ['wəʊvɪn]
•v. 编织；交织 (weave 的过去分词)；编造
adj. 织物的
•n. 机织织物

批注 | 12|: ancestor(=hero)
英 ['ænsɪstə(r)] 美 ['ænsɪstər]
n. 始祖，祖先；被继承人

weavers create images through which they experience harmony with nature. It is their means of creating beauty and **thereby** contributing to the **beauty, harmony, and healing** of the world. Thus, weaving is a way of seeing the world and being part of it. ★

<p>carding 英 ['kɑ:ɪŋ] 美 ['kɑ:ɪŋ] n. [纺] 梳理 v. 为...提供卡片; 记入记分卡 (card 的 ing 形式)</p>	<p>wove 英 [wəʊv] 美 [wəʊv] v. (用手或机器) 编, 织; 把 (线) 编成 (织物); (用织布机) 纺织; 编制 (篮、篓、花环); 编排 (故事或式样); 迂回穿行; (驾机) 绕飞; (马) 不断左右摇晃头部和前身 (weave 的过去式)</p>
<p>fabric 英 ['fæbrɪk] 美 ['fæbrɪk] n. 织物; 布; 组织; 构造; 建筑物</p>	<p>cosmic 英 ['kɒzɪk] 美 ['kɑ:zɪk] adj. 宇宙的 (等于 cosmical)</p>
<p>transformation 英 [,trænsfə'meɪʃn] 美 [,trænsfər'meɪʃn] n. [遗] 转化; 转换; 改革; 变形</p>	<p>loom 英 [lu:m] 美 [lu:m] v. 赫然耸现, 可怕地出现; 显得突出, 逼近; (不祥之事) 似将发生; 在织布机上织 n. 织布机; 若隐若现的景象</p>

纳瓦霍人也以他们编织毛毯的设计而世界闻名。纳瓦霍妇女拥有自己的家养畜群, 管理羊毛的修剪、梳理、纺纱以及线的染色和编制。男人们制作精准的旧画副本代表纳瓦霍人稳定的思想准则, 而女性则代表了活力和并且为每个编织创造新的设计。编织是名叫蜘蛛女的**神话祖先的创新范式**, 她把宇宙作编织成一个联结土地和天空的宇宙网。据传说, 是她教纳瓦霍妇女如何编织。通过准备材料, 开始编织, 纳瓦霍妇女模仿最初创造世界的转变。通过织机上的时候, 纳瓦霍编织者创造她们在自然界感受到的和谐图像。它是创造美的手段, 从而促进了世界的美、和谐和疗愈。因此, 编织是一种看世界的方式, 也是世界的一部分。

批注 [13]: **thereby**

英 [ðeə'baɪ] 美 [ðer'baɪ]
adv. 从而, 因此; 在那附近; 在那方面

批注 [14]: ★**这段在说什么?**

首句引出 woven blanket, 用于引出 weaving. 【题】

然后和 painting 形成统一协调, 指明作用;

最后升华主题:

TPO 41 – 2 Climate of Venus 金星的气候

Earth has abundant water in its oceans but very little carbon dioxide in its relatively thin atmosphere. By contrast, Venus is very dry and its thick atmosphere is mostly carbon dioxide. The original atmospheres of both Venus and Earth were derived at least in part from gases spewed forth, or outgassed, by volcanoes. The gases that emanate from present-day volcanoes on Earth, such as Mount Saint Helens, are predominantly water vapor, carbon dioxide, and sulfur dioxide. These gases should therefore have been important parts of the original atmospheres of both Venus and Earth. Much of the water on both planets is also thought to have come from impacts from comets, icy bodies formed in the outer solar system. 地球在海洋中有丰富的水，但在稀薄的大气中含有极少的二氧化碳。相比之下，金星是非常干燥的，厚的大气层中大部分都是二氧化碳。金星和地球的大气层至少部分是起源于火山喷出或除去的气体。从现今地球上火山散发出来的气体，如圣海伦斯火山，主要是水蒸气、二氧化碳和二氧化硫。因此，这些气体应该是金星和地球原始环境中的重要部分。这两个行星上的大部分水也被认为是来自彗星影响，它是在太阳系外形成的冰体。

In fact, water probably once dominated the Venusian atmosphere. Venus and Earth are similar in size and mass, so Venusian volcanoes may well have outgassed as much water vapor as on Earth, and both planets would have had about the same number of comets strike their surfaces. Studies of how stars evolve suggest that the early Sun was only about 70 percent as luminous as it is now, so the temperature in Venus' early atmosphere must have been quite a bit lower. Thus water vapor would have been able to liquefy and form oceans on Venus. But if water vapor and carbon dioxide were once so common in the atmospheres of both Earth and Venus, what became of Earth's carbon dioxide? And what happened to the water on Venus?

事实上，水可能一度在金星的大气层中大量存在。金星和地球有着相似的大小和质量，所以金星火山很可能和地球火山排出一样多的水蒸汽，大约有相同数量的彗星撞击这两颗行星。恒星演化的研究表明，早期的太阳的亮度只有它现在的 70%，所以早期金星的大气中的温度必定比现在低一点。因此，水蒸气将能够液化并在金星上形成海洋。但是，如果水蒸气和二氧化碳在地球和金星的大气中曾经如此普遍，地球的二氧化碳又变成了什么？金星上的水又发生了什么？

The answer to the first question is that carbon dioxide is still found in abundance on Earth, but now, instead of being in the form of atmospheric carbon dioxide, it is either dissolved in the oceans or chemically bound into carbonate rocks, such as the limestone and marble that formed in the oceans. If Earth became as hot as Venus, much of its carbon dioxide would be boiled out of the oceans and baked out of the crust. Our planet would soon develop a thick, oppressive carbon dioxide atmosphere much like that of Venus.

第一个问题的答案是，在地球上的二氧化碳仍然存在，但现在，并不是以大气中的二氧化碳的形式存在，它不是溶解在海洋，就是化学性地存在于碳酸盐岩，如在海洋中形成的石灰石和大理石。如果地球变得像金星一样热，那么它的大部分二氧化碳就会从海洋中沸腾，并从地壳中烘烤出来。我们的星球很快就会发展出一种厚厚的、沉重的二氧化碳大气层，就像金星一样。

To answer the question about Venus' lack of water, we must return to the early history of the planet. Just as on present-day Earth, the oceans of Venus limited the amount of atmospheric carbon dioxide by dissolving it in the oceans and binding it up in carbonate rocks. But being closer to the Sun than Earth is, enough of the liquid water on Venus would have vaporized to create a thick cover of water vapor clouds. Since water vapor is a greenhouse gas, this humid atmosphere, perhaps denser than Earth's present-day atmosphere, but far less dense than the atmosphere that envelops Venus today would have efficiently trapped heat from the Sun. At first, this would have had little effect on the oceans of Venus. Although the temperature would have climbed above 100° C, the boiling point of water at sea level on Earth, the added atmospheric pressure from water vapor would have kept the water in Venus' oceans in the liquid state.

要回答关于金星缺乏水的问题，我们必须回归到地球的早期历史。正如在现今的地球上，金星的海洋通过将二氧化碳溶解在海洋中或者结合在碳酸盐岩中，限制了二氧化碳的数量。但比起地球，金星更接近太阳，金星上足够的液态水会蒸发创建厚的水蒸气云层。由于水蒸气是一种温室气体，这潮湿的气层（也许密度比现今地球的气层大，但比现在的金星要小得多）将有效地困住自太阳的热量。起初，这对金星的海洋影响不大。尽管温度会上升到 100° C(地球海平面上的水的沸点)，来自增加的水蒸气层的压力使金星的海洋保持液体的状态。

This hot and humid state of affairs may have persisted for several hundred million years. But as the Sun's energy output slowly increased over time, the temperature at the surface would eventually have risen above 374°C. Above this temperature, no matter what the atmospheric pressure, Venus' oceans would have begun to evaporate, and the added water vapor in the atmosphere would have increased the greenhouse effect. This would have made the temperature even higher and caused the oceans to evaporate faster, producing more water vapor. That, in turn, would have further intensified the greenhouse effect and made the temperature climb higher still.

这个炎热潮湿的天气可能已经持续了好几百年的时间了。但随着时间的流逝，太阳的能量输出慢慢地增大，表面上的温度最终会上升到 374° C 以上的温度。在这个温度以上，无论大气压是多少，金星的海洋会开始蒸发，大气中的水蒸气会增加温室效应。这将使温度更高，使海洋蒸发得更快，产生更多的水蒸气。这反过来又会进一步加剧温室效应，使温度上升到更高。

Once Venus' oceans disappeared, so did the mechanism for removing carbon dioxide from the atmosphere. With no oceans to dissolve it, outgassed carbon dioxide began to accumulate in the atmosphere, intensifying the greenhouse effect even more. Temperatures eventually became high enough to "bake out" any carbon dioxide that was trapped in carbonate rocks. This liberated carbon dioxide formed the thick atmosphere of present-day Venus. Over time, the rising temperatures would have leveled off, solar ultraviolet radiation having broken down atmospheric water vapor molecules into hydrogen and oxygen. With all the water vapor gone, the greenhouse effect would no longer have accelerated.

一旦金星的海洋消失了，那么从大气中清除二氧化碳的机制也消失了。没有海洋溶解二氧化碳，排出的二氧化碳开始积聚在大气中，进一步加剧温室效应。最终，温度变得足够高去“烤出”任何被困在碳酸盐岩中的二氧化碳。这释放了构成当今金星浓厚的大气层的二氧化碳。随着时

间的推移,温度升高会呈现平稳状态,太阳紫外线辐射会将大气中的水蒸气分子分解成氢和氧。所有的水蒸气都消失了,温室效应将不再加速。

TPO 41 – 3 Trade and Early State Formation

贸易和早期国家形成

Bartering was a basic trade mechanism for many thousands of years; often sporadic and usually based on notions of reciprocity, it involved the mutual exchange of commodities or objects between individuals or groups. Redistribution of these goods through society lay in the hands of chiefs, religious leaders, or kin groups. Such redistribution was a basic element in chiefdoms. The change from redistribution to formal trade—often based on regulated commerce that perhaps involved fixed prices and even currency—was closely tied to growing political and social complexity and hence to the development of the state in the ancient world. 以货易货是几千年的基本贸易机制；经常不定时发生，它通常基于互惠的概念，涉及个人或团体之间相互交换的商品或物品。这些商品在社会中的分配掌握在首领、宗教领袖或亲属集团中。这种再分配是首领权威的基本元素。从再分配到正式贸易的变化通常基于增加的政治与社会的复杂性，与古代世界中国家的发展有密切联系（正式贸易通常是基于受管制的贸易，也许涉及固定的价格，甚至货币）。

In the 1970s, a number of archaeologists gave trade a primary role in the rise of ancient states. British archaeologist Colin Renfrew attributed the dramatic flowering of the Minoan civilization on Crete and through the Aegean to intensified trading contacts and to the impact of olive and vine cultivation on local communities. As agricultural economies became more diversified and local food supplies could be purchased both locally and over longer distances, a far-reaching economic interdependence resulted. Eventually, this led to redistribution systems for luxuries and basic commodities, systems that were organized and controlled by Minoan rulers from their palaces. As time went on, the self-sufficiency of communities was replaced by mutual dependence. Interest in long-distance trade brought about some cultural homogeneity from trade and gift exchange, and perhaps even led to piracy. Thus, intensified trade and interaction, and the flowering of specialist crafts, in a complex process of positive feedback, led to much more complex societies based on palaces, which were the economic hubs of a new Minoan civilization.

在 20 世纪 70 年代，许多考古学家认为贸易在古代国家的崛起中起了主要作用。英国考古学家柯林 Renfrew，将克里特岛及穿过爱琴海的米诺斯文明的惊人的兴起归功于加剧的贸易来往和当地对于橄榄和葡萄的栽培。随着农业经济变得更加多样化，当地的粮食供应可以在本地购买，也可以在较远的地方购买，一个影响深远的经济相互依赖相应产生。最终，这导致针对奢侈品和基本商品的再分配系统的产生，这种系统由宫殿里的克里特统治者组织并控制。随着时间的推移，社区的自给自足被相互依赖所取代。长距离贸易的利益通过贸易和礼物交换带来了文化的同质化，甚至导致文化的抄袭。因此，在一个复杂的正面反馈过程中，加强的贸易和互动以及兴起的专业手艺，导致了在宫殿基础上更复杂的社会，而宫殿是新的米诺斯文明的经济中心。

Renfrew's model made some assumptions that are now discounted. For example, he argued that the introduction of domesticated vines and olives allowed a substantial expansion of land under cultivation and helped to power the emergence of complex society. Many archaeologists and paleobotanists now question this view, pointing out that the available

evidence for cultivated vines and olives suggests that they were present only in the later Bronze Age. Trade, nevertheless, was probably one of many variables that led to the emergence of palace economies in Minoan Crete.

伦弗鲁模型做出的一些假设在当今受到了质疑。例如，他声称葡萄和橄榄的引进和栽培使得可耕地发生了巨大的扩张，帮助推动了更加复杂社会的出现。现在许多考古学家和古植物学家质疑了这一观点，指出现有证据显示葡萄和橄榄的栽培在铜器时代晚期才出现。无论如何，贸易可能是导致斯克利特宫廷经济出现的众多因素之一。

American archaeologist William Rathje developed a hypothesis that considered an explosion in long-distance exchange a fundamental cause of Mayan civilization in Mesoamerica. He suggested that the lowland Mayan environment was deficient in many vital resources, among them obsidian, salt, stone for grinding maize, and many luxury materials. All these could be obtained from the nearby highlands, from the Valley of Mexico, and from other regions, if the necessary trading networks came into being. Such connections, and the trading expeditions to maintain them, could not be organized by individual villages. The Maya lived in a relatively uniform environment, where every community suffered from the same resource deficiencies. Thus, argued Rathje, long-distance trade networks were organized through local ceremonial centers and their leaders. In time, this organization became a state, and knowledge of its functioning was exportable, as were pottery, tropical bird feathers, specialized stone materials, and other local commodities.

美国考古学家威廉 Rathje 提出了一种假设，认为远距离交易的爆发是中美洲玛雅文明兴起的主要原因。他推测，玛雅的低地环境缺乏很多重要的资源，其中包括黑曜石、盐、磨玉米的石头以及许多奢侈材料。如果必要的贸易网络建立起来，所有这些都可以从附近的高地、从墨西哥的山谷、以及其他地区获得。这样的贸易以及商队是不能由个别村庄组织的。玛雅人生活在一个相对单一的环境中，每个社区都遭受同样的资源缺乏。因此，Rathje 认为，长距离贸易网由当地的仪式中心和他们的领导人来组织。后来，该组织成为一个政府，已确认的功能就是出口贸易，如陶器、热带鸟的羽毛、专业的石材和其他本地的商品。

Rathje's hypothesis probably explains part of the complex process of Mayan state formation, but it suffers from the objection that suitable alternative raw materials can be found in the lowlands. It could be, too, that warfare became a competitive response to population growth and to the increasing scarcity of prime agricultural land, and that it played an important role in the emergence of the Mayan states.

雷斯杰的假设可能部分解释了玛雅国家形成的复杂过程，但它也遭受质疑，因为可替代原料可以在低地获得。对于人口增长和优良农业土地的日益稀缺，战争也有可能成为替代性反应，从而在玛雅国家的出现中发挥了重要作用。

Now that we know much more about ancient exchange and commerce, we know that, because no one aspect of trade was an overriding cause of cultural change or evolution in commercial practices, trade can never be looked on as a unifying factor or as a primary agent of ancient civilization. Many ever-changing variables affected ancient trade, among them the demand for goods. There were also the logistics of transportation, the extent of the trading

network, and the social and political environment. Intricate market networks channeled supplies along well-defined routes. Authorities at both ends might regulate the profits fed back to the source, providing the incentive for further transactions. There may or may not have been a market organization. Extensive long-distance trade was a consequence rather than a cause of complex societies.

现在，我们知道了更多关于古代交换和商业，我们知道，因为没有一个是导致文化变迁和商业实践演变的一个压倒性的因素，所以贸易不能被看作是古代文明的单一原因或主要动力。许多不断变化的变量影响了古代贸易，其中包括对货物的需求。也包括物流运输，贸易网络的程度，以及社会和政治环境因素。错综复杂的市场网络渠道引导供应走向明确的路线。两边的权威机构可能会将利润返回给源头供应者，刺激了更多的交易。一个市场组织有可能存在，也有可能不存在。大量长途贸易是复杂社会的结果而非原因。