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夸克英语笔记

Lesson 43 Are there strangers in space?

宇宙中有外星人吗？ **部分倒装** **双重定语从句**

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📖 单词列表 * 需要重点掌握

Mercury /'mɜ:kjəri/ n. 水星

prevailing /prɪ'veɪlɪŋ/ adj. 普遍的

uniquely /ju:'ni:kli/ adv. 唯一地

radio frequency /'reɪdiəu 'fri:kwənsi/ n. 无线电频率

emission /ɪ'mɪʃ(ə)n/ n. 散发

megacycle /'megə,sɑ:kəl/ n. 兆周

encounter /ɪn'kaʊntə(r)/ n. 相遇

Hydrogen /'haɪdrədʒən/ n. 氢气

radio astronomer /'reɪdiəu ə'strɒnəmə/

n. 射电天文学家

rational /'ræʃ(ə)nəl/ adj. 合理的

cm /,si:'em/ n. 厘米(centimeter)

interstellar /,ɪntə'stelə(r)/ adj. 星际的

rendezvous /'rɒndɪvuː; 'rɒndeɪvuː/ n. 约会地点

现存研究结果 **难度：6级**

※ We **must conclude** from the work of those who have studied the origin of life, that given a planet only approximately like our own, life is almost certain to start.

『 **given + n.** (过去分词短语作条件状语) 如果有, 假如有 』

- **Given the chance**, I'd do it again.
- **Given good health**, I hope to finish the work this year.
- **Given the same treatment again**, he is sure to get well.

『 **given** prep. taking sth. into account 考虑到/鉴于... 』

- **Given** his age, he's a remarkably fast runner.

- **Given** the current economic climate, the company has decided to postpone its expansion plans. 考虑到目前的经济形势，公司决定推迟扩张计划。
- **Given that** she is interested in children, I am sure teaching is the right career for her.
- **Given** the current economic climate, finding a job quickly will be challenging. 考虑到当前的经济环境，快速找到工作将是具有挑战性的。

given (the fact) that

... 考虑到... (后接从句)

Given that he has only been learning English for six months, his progress is truly remarkable. 考虑到他才学了半年英语，他的进步确实非常显著。

『 **start** v. to come into being, activity, or operation 产生，出现，开始 』

- His illness **started** with a slight cough.
- How did the war **start**?
- With the right conditions in place, the reaction is almost certain to **start**. 在具备适当的条件的情况下，反应几乎肯定会开始。

※ Of all the planets in our own solar system, we are now pretty certain the Earth is the only one on which life can survive.

注：现代英语中从句跟在 **sure / certain / afraid / glad / confident ...** 这类形容词后，作用是**补足形容词**的语义内容，让句子完整。

传统语法中 certain = certain of ... / certain that ... 其中 of 遇 that 可以省略，而 that 本身也可以省略。所有会有“介宾宾语从句”与“形容词补足语从句”这 2 种可能性。

『 **of** prep. used when comparing related things (用于比较时) 在...中 』

- I'm surprised that you **of** all people think that.
- A flat tyre today **of** all days what bad luck!
- He's the best looking **of** the three brothers.
- But, **of** the vertebrates, unpredictable Nature selected only snakes (and one lizard).
- **Of** all the candidates interviewed, she was clearly the most qualified. 在所有接受面试的候选人中，她显然是最合格的。

※ Mars **is** too dry and poor in oxygen, Venus far too hot, and so is Mercury, and the outer planets **have** temperatures near absolute zero and hydrogen-dominated atmospheres.

『 **poor in sth.** lacking sth. that is needed 缺乏... 』

- soil **poor** in nutrients
- The country is **poor** in natural resources.

『 **rich in sth.** containing a lot of sth. 富于..., 富含..., 盛产... 』

- a play **rich in** humor
- China is **rich in** minerals.
- Citrus fruits are **rich in** vitamin C.

Mars is too dry and poor in oxygen, Venus (is) far too hot, and so is Mercury, ... 补全课文

『 **outer planet** n. any of the planets Jupiter, Saturn, Uranus, Neptune, and Pluto whose orbits lie beyond the asteroid belt 外行星, 带外行星 』

- They are the first cirrus clouds seen on **an outer planet**. 它们是首次在外行星上发现的卷云。
- The hero of this book is a little prince from **an outer planet**. 本书的主人公是来自外星球的小王子。
- This **outer planet** is a gas giant, like Jupiter or Saturn or Uranus. 像木星、土星或是天王星一样, 这颗带外行星也是一个巨大的气体团。
- Generally, the best time to observe **an outer planet** like Jupiter is when the planet is retrograding. 一般来说, 像观察木星一类外太空行星的最佳时间就是行星在逆行时的时候。

『 **absolute zero** n [U] -273°C or -460°F , the lowest temperature that is possible in theory 绝对零度 』

- Its lower fixed point is **absolute zero**. 其低端固定点温度是绝对零度。
- **Absolute zero** is the lowest possible temperature. 绝对温度是物体的最低可能温度。
- Until then, the term "**absolute zero**" will have no meaning. 在那以前, "绝对零度"一词无任何意义。
- There is **an absolute zero of entropy**, and that's really what we learn. 而熵是有绝对零点的, 这就是我们学到的。

『 **dominate** v. to be the most important person or thing 是最重要的人或事物 』

- The earthquake once again **dominated** the news.
- Don't allow the computer to **dominate** your child's life.
- My weekend **was dominated by** housework.

『 **hydrogen-dominated = atmospheres which are dominated by hydrogen ⇒ hydrogen-dominated atmospheres** 』

- silverware which is made by **hands** ⇒ **hand-made** silverware
- diseases which are related to **stress** ⇒ **stress-related** diseases
- enterprises which are owned by **states** ⇒ **state-owned** enterprises

- The gas giant is characterized by its thick, **helium-dominated atmosphere**. 这个气态巨行星的特点是其厚厚的、以氦气为主的大气层。

※ But other suns, stars as the astronomers call them, are bound to have planets like our own, and as the number of stars in the universe is so vast, this possibility becomes virtual certainty.

『 **be bound to do** certain to do sth. 必然会.../一定会... 』

- The weather **is bound to** get better tomorrow.
- On our road ahead, we **are bound to** meet with difficulties.
- Given the pressure, the system **is bound to** have a major failure soon. 考虑到目前的压力，这个系统很快必然会有一次重大故障。

be / feel bound to do ... 有责任或义务
做某事
(obliged by law or duty to do sth.)

- I **felt bound to** tell him the truth.
- I **am bound to** say I disagree with you on this point.

『 **vast** adj. very large in area, size, quantity or degree (面积、体积、数量或程度) 巨大的 』

- a **vast** area of forest
- a **vast** crowd
- Your help made a **vast** difference.

『 **virtual** adj. [only before noun] almost or very nearly the thing described, so that any slight difference is not important 实际上的, 其实, 几乎, 差不多 』

- The company has a **virtual monopoly** in this area of trade.
- He married a **virtual stranger**.
- When her husband had a stroke, she was given **virtual control** of the business.
- But the chances are against it, and there is a **virtual limit** on how long we can hope to remain alive, however lucky and robust we are.

※ There are 100,000 million stars in our own Milky Way alone, and then there are 3,000 million other Milky Ways, or galaxies, in the universe.

『 **Milky Way** n. the galaxy containing the solar system, visible as a broad band of faint light in the night sky 银河系 』

- Some stars out of **Milky Way** outblaze the sun. 银河系外的有些星体其光度超过太阳。
- Globular clusters once ruled **the Milky Way**. 球状星团曾经统治着银河系。

- Gigolo even not come, **Milky Way** still flicker. 牛郎即使不来，银河依旧闪烁。

『 **alone** adv. without including anything else 单单，仅 』

- These **alone** took sixteen months to build.
- These books **alone** cost me 2,000 yuan.
- Time **alone** will tell.

Persistence and determination **alone** are omnipotent. — Calvin Coolidge

『 **or** 引出同位语 』

- The third, **or main wave**, is the slowest and has travelled round the earth through the surface rocks.
- Cave exploration, **or pot-holing**, as it has come to be known, is a relatively new sport.

※ So the number of stars that **we know exist** is now **estimated at about 300 million million million.**

『 **Embedded Attributive Clause** 嵌入式定语从句 』

这种定语从句的特征是：既修饰先行词又同时做另一个主谓结构的宾语。

- Turning back down the main street, we quickened our pace and made our way rapidly towards the stream where **we hoped the boatman was waiting.**
- There was no trace of fingerprints, but the inspector found a dirty red bundle that contained jewellery **which the old lady said was not hers.**
- In this part of the cave, they could hear an insistent booming sound **which they found was caused** by a small waterspout shooting down into a pool from the roof of the cave.
- I hired a car the day after landing and bought a comprehensive book of maps, which I found most helpful on the cross country journey, but **which I did not think I should need** on the last stage. 不能看着是插入语

嵌入式定语从句与插入语的区别在于其定义，去掉插入语不会影响句子的意思与语法结构。

『 **estimate sth. at sth.** 估计某物（的数量、价值、重量等）为... 』

- Organizers **estimated** the crowd **at** 50,000.
- The insurance company **estimated the damage** to the house **at** \$50,000. 保险公司估计房子的损失为5万美元。

- The total cost of the project is now **estimated at** about ten million dollars. 该项目的总成本现在估计约为一千万美元。

陈述事实 难度：4 级

※ **Although** perhaps only 1% of the life that **has started** somewhere **will develop** into highly complex and intelligent patterns, **so vast is** the number of planets, **that intelligent life is bound** to be a natural part of the universe.

『 **develop into ...** 发展成为...；进化成... 』

- Chicago **developed into** a big city in the late 1800s.
- What started as a small local business has now **developed into** a global corporation. 起初这只是一家本地小企业，现在已经发展成为一家跨国公司。
- The simple single-celled organisms took eons to **develop into** highly complex and intelligent patterns of life. 简单的单细胞生物花费了数亿年才发展成高度复杂和智能的生命模式。

develop from

...
由...发展而来；从...
进化/生长而来

- It's hard to believe that a tree can **develop from** a small seed.
- The modern skyscraper **developed from** much simpler architectural designs of the 19th century. 现代摩天大楼是由19世纪简单得多的建筑设计发展而来的。

『 **So** 位于句首引起部分倒装 』

- **So** far away **does** my mother live that we hardly ever see her.
- **So** great **is** our passion for doing things for ourselves, that we are becoming increasingly less dependent on specialized labour.
- **So** challenging **was** the task, that the team had to work overtime for weeks. 任务如此具有挑战性，以至于团队不得不加班数周。

外星文明的操作方式 难度：4 级

※ **If** then we **are so certain** that other intelligent life **exists** in the universe, why **have** we **had** no visitors from outer space yet?

『 **outer space** n. [U] the area outside the Earth's atmosphere containing the stars and planets 外层空间 』

- After you press the button, the elevator then takes you to **outer space**. 按下按钮后，电梯就会带你去外太空。

- Visiting **outer space** is still a far dream for anyone who isn't an astronaut. 对任何不是宇航员的人来说，参观外太空仍然是一个遥远的梦想。
- The seeds are influenced by the radiation and low gravity in **outer space**. 种子在外太空会受到辐射和低重力的影响。

※ **First of all, they may have come to this planet of ours thousands or millions of years ago, and found our then prevailing primitive state completely uninteresting to their own advanced knowledge.**

『 **prevailing** adj. existing or most common at a particular time (某时期) 普遍的，盛行的，流行的 』

- the attitude towards science **prevailing** at the time
- It takes little experience on Pacific islands to be aware that there are **prevailing** winds. 在太平洋岛屿上不需要什么经验就能知道那里有盛行风。
- This reflects attitudes and values **prevailing** in society. 这反映出社会上普遍流行的态度和价值观。

the prevailing customs 普遍的习俗；盛行的风俗	When doing business abroad, it is important to respect the prevailing customs of the host country. 在国外做生意时，尊重东道国普遍盛行的习俗非常重要。
the prevailing fashions 流行的时尚	Her designs often challenge the prevailing fashions of the season, offering something truly unique. 她的设计经常挑战当季流行的时尚，提供了一些真正独一无二的东西。
the prevailing style 盛行的风格	Minimalism is currently the prevailing style in modern interior design. 极简主义是目前现代室内设计中盛行的风格。

『 **prevail** v. if a belief, custom, situation etc. prevails, it exists among a group of people at a certain time 普遍存在，盛行，流行 』

- the economic conditions which **prevail in** England and Wales
- I admired the creativity which **prevailed among** the young writers.
- The documentary depicted the then **prevailing** medieval customs in great detail. 这部纪录片详细描绘了当时普遍存在的中世纪习俗。

prevail in ... 在...中盛行/流行 (指环境或领域)	This ancient belief still prevails in many remote mountain villages. 这种古老的信仰在许多偏僻的山村里仍然盛行。
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prevail among ... 在...中
普遍存在 (指人群或团体)

A sense of optimism **prevails among** the students after the encouraging news. 在听到令人振奋的消息后, 学生们中间普遍存在着一种乐观情绪。

※ Professor Ronald Bracewell, a leading American radio astronomer, argued in Nature that such a superior civilization, on a visit to our own solar system, may have left an automatic messenger behind to await the possible awakening of an advanced civilization.

『radio astronomer 射电天文学家』

- One **radio astronomer** actually left Paris to go off and to observe an eclipse. 一位射电天文学家离开巴黎, 去观看月食。
- In 10,000 hours you could have learned enough to become a **radio astronomer** or engineer. 一万个小时后, 你学到的知识足以让你成为一名射电天文学家或工程师。

Nature: a British weekly journal which deals with all areas of science. It is a very respected journal, and many important new discoveries are first reported in articles in Nature. 英国《自然》杂志

『await v. (fml.) to wait for sth. 等候』

- Several men are **awaiting** trial for robbery.
- They were **awaiting** the birth of their first child.
- The seed bank was established to **await** the possible need for specific genes in the future. 建立种子库是为了等待未来对特定基因的可能需求。

『awakening n. the moment when you first realize or experience sth. 觉醒; 认识的提高; (某种情感或能力的) 激发』

- The book explores his spiritual **awakening** after his long journey across Asia. 这本书探讨了他在漫长的亚洲之旅后的精神觉醒。
- the **awakening** of public concern about the environment

sexual awakening 性觉醒

Many coming-of-age novels focus on the protagonist's **sexual awakening** during their teenage years. 许多青少年成长小说都聚焦于主角在青少年时期的性觉醒。

※ Such a messenger, receiving our radio and television signals, might well re-transmit them back to its home-planet, although what impression

any other civilization would thus get from us is best left unsaid.

『 **may / might / could well ...** (某事) 可能 (发生或是真的) 』

- Another patient **might** equally **well** complain that her neighbours were combining to slander her and persecute her, and yet one might be cautious about believing this statement.
- Over the years, one **may well** become an authority on one's hobby and will very probably be asked to give informal talks to little gatherings and then, if successful, to larger audiences.
- ... giant hovercraft liners could span the Atlantic; and the railway of the future **may well** be the 'hovertrain', riding on its air cushion over a single rail...

『 **thus** adv. in this way, like this 以此方式, 如此, 这样 』

- calculate the area of the triangle **thus** formed
- Hold the wheel in both hands, **thus**.
- The apparatus **thus** described, however, records only the horizontal component of the wave movement, which is, in fact, much more complicated.

『 **be left unsaid** if sth. is left unsaid, you do not say it although you might be thinking it 不说; 被搁置在一边 (不提) 』

- Some things **are better left** unsaid.
- It's **better to leave** some things **unsaid**.
- He got up slowly **leaving** the lunch unfinished.
- Please excuse me if I have **left** any of your questions **unanswered**.
- It is then **left** completely **undisturbed** with plenty of food and water so that it can absorb the atmosphere of its new home and see that nothing particularly alarming is happening to its companions.
- Though they were both angry, much **was left unsaid** to avoid a permanent rift. 尽管两人都很生气, 但为了避免产生永久的隔阂, 很多话都没有说出口。
- The details of their private disagreement **were best left unsaid** during the public meeting. 他们私人分歧的细节在公开会议期间最好不要说。

be better / best left unsaid 不说为好 / 最好不说

The details of their private argument are **better left unsaid** in a professional environment. 在职场环境下, 他们私下争吵的细节还是不说为好。

外星人是否收到了地球的信号? 难度: 7 级

※ But here we **come up against** the most difficult of all obstacles to contact with people on other planets -- the astronomical distances which **separate** us.

『 **come up against** if you come up against a problem or difficulty, you are faced with it and have to deal with it 遇到/遭遇;面临 (问题、困难) 』

- We may find we **come up against** quite a lot of opposition from local people.
- We **came up against** a great deal of resistance in dealing with the case.
- The construction project suddenly **came up against** unexpected legal issues. 该建设项目突然遭遇了意料之外的法律问题。
- We must be prepared to **come up against** stiff competition in the international market. 我们必须准备好在国际市场上遭遇激烈的竞争。

『 **the most difficult of all obstacles** 所有障碍中最困难的 』

- That is perhaps why sculpture has been described as **the most difficult of all arts**; certainly it is more difficult than the arts which involve appreciation of flat forms, shape in only two dimensions.
- Lack of consistent funding is **the most difficult of all obstacles** facing the research team. 缺乏持续的资金是研究团队面临的所有障碍中最困难的。
- the most difficult **of all arts** ↔ the most difficult **art of all**
- the most difficult **of all obstacles** ↔ the most difficult **obstacle of all**
- **the greatest of all Western stars** ↔ the greatest Western **star of all**
- **the most valuable find of all** ↔ the most **valuable of all finds**
- **the most frightening thing of all** ↔ the most **frightening of all things**
- **the deepest holes of all** ↔ the **deepest of all holes**

『 **obstacle to sth.** ...的障碍; 阻碍...的东西(介词to而非to do不定式) 』

- **obstacles to** world peace
- This decision has removed the last **obstacle to** the hostages' release.
- The agreement removes the last serious **obstacle to** the signing of the arms treaty. 该协议为武器条约的签署去除了最后一个重大障碍。

『 **contact with** n. 联系; 接触(名词需要与 with 搭配) 』

- The children lost **contact with** their families.
 - Please do not hesitate **to contact** me if you have any queries. vt.联系 (动词及物, 无需 with)
 - She has been in regular **contact with** her colleagues via email while working from home. 居家办公期间, 她一直通过电子邮件与同事保持定期联系。
-

※ As a reasonable guess, they might, on an average, be 100 light years away. (A light year is the distance which light travels at 186,000 miles per second in one year, namely 6 million million miles.)

『 on (an) average 平均来说 』

- **On average**, men still earn more than women.
- **On an average**, women live between five and seven years longer than men.
- **On an average**, our employees commute for thirty minutes each way. 平均来说, 我们的员工单程通勤三十分钟。

『 namely adv. that is to say 即/也就是 』

- Only one boy was absent, **namely** Harry.
- We need to concentrate on our target audience, **namely** women aged between 20 and 30.
- The main objective of the mission, **namely** finding extraterrestrial life, is highly ambitious. 这次任务的主要目标, 即寻找地外生命, 雄心勃勃。

※ Radio waves also travel at the speed of light, and assuming such an automatic messenger picked up our first broadcasts of the 1920's, the message to its home planet is barely halfway there.

『 assuming (that) ... conj. 1、假定, 假如 』

- **Assuming** (that) the house is for sale, would you buy it?
- You can stretch your legs on the spacious decks, play games, swim, meet interesting people and enjoy good food—always **assuming**, of course, **that** the sea is calm.
- **Assuming** all goes according to plan, the construction should be finished by next month. 假设一切都按计划进行, 施工应该在下个月完成。

『 assuming (that) ... conj. 2、以为 』

- **Assuming (that)** the man was making a homosexual advance, he stormed out of the house angrily.
- **Assuming that** his family had been killed during an air-raid, Hans settled down in a Village fifty miles away where he had remained ever since.

even assuming (that) ...

即便假设 (让步) ...
(等同于 even if ...)

- **Even assuming (that)** smokers do see the health warnings, I doubt they'll take any notice.
- **Even assuming** that the economy recovers next year, it will take much longer for employment to return to pre-crisis levels. 即便假设明年经济复苏, 就业率要恢复到危机前的水平也需要更长的时间。

『 **pick sth. up** (of a piece of electrical equipment) to receive a signal 接收信号 』

- The equipment **picked up** the signal from the satellite.
- We were able to **pick up** the BBC World Service.
- We can **pick up** Mexican television. 我们可以接收到墨西哥电视。

※ Similarly, our own present primitive chemical rockets, though good enough to orbit men, have no chance of transporting us to the nearest other star, four light years away, let alone distances of tens or hundreds of light years.

『 **similarly** adv. 类似地, 同样地 』

- The cost of food and clothing has come down in recent years. **Similarly**, fuel prices have fallen quite considerably.
- High inflation usually leads to high interest rates. **Similarly**, interest rates decline when inflation is low.
- The first experiment yielded positive results; **similarly**, the second trial showed significant improvement. 第一个实验取得了积极的结果; 同样地, 第二次试验也显示出显著的改善。

likewise adv. 同样地; 也

- Henry always thought his upbringing was too strict. **Likewise**, his daughter now complains about her lack of freedom.
- Just as the parents were excited about the move, the children **likewise** looked forward to the change. 正如父母对搬家感到兴奋一样, 孩子们同样也期待着这一变化。

by the same token 出于同样的原因; 同样地

- Margaret demanded total loyalty from her friends, but **by the same token** she gave total loyalty in return.
- The company must reduce costs; **by the same token**, it needs to increase its investment in R&D to stay competitive. 公司必须降低成本; 同样地, 它也需要增加研发投入以保持竞争力。

『 **orbit** v. 1. to revolve in an orbit around 绕...的轨道运行 』

- The earth takes a year to **orbit** the sun.
- Once the Soyuz began to **orbit** the Earth, the failures began. 当联盟号开始环绕地球的时候，失败随之降临了。
- The Moon's rotation rate, and the time it takes to **orbit** Earth are the same. 月球的自转速度与绕地球公转速度是一样的。

『 **orbit** v. 2. to send up and make revolve in an orbit 把...送入轨道；使绕轨道运行 』

- It takes a massive amount of fuel and precision to **orbit a satellite** around the Earth. 将卫星送入地球轨道并使其运行需要大量的燃料和极高的精度。
- The aerospace company successfully **orbited** several small communications satellites last month. 这家航空航天公司上个月成功地将几颗小型通讯卫星送入了轨道。

『 **chance** n. [C & U] possibility 可能性 』

- She has a **good chance of** a successful recovery.
- Is there **any chance of** getting tickets for tonight's performance?
- Perhaps it is the desire for solitude or **the chance of making an unexpected discovery that lures men down to the depths of the earth.**
- There is a slight **chance** that it will rain this afternoon, so you might want to bring an umbrella. 今天下午有一点点下雨的可能，所以你可能想带把伞。

chance of (doing) sth. 做某事（或某事发生）的可能性

What are the **chances of winning** the lottery? 中彩票的可能性有多大？

『 **let alone = much less / still less** 用在否定句后，表2个都没戏，都不可能 』

- The baby can't talk, **let alone** run.
- He can't run a hundred yards, **let alone** a mile.
- I don't suspect him of theft, **let alone of** robbery.
- Tony can barely boil an egg, **much less** cook dinner.

let alone 更不用说；更别提

- I don't have enough money for a new phone, **let alone** a new laptop. 我没有足够的钱买一部新手机，更不用说一台新笔记本电脑了。
- He can't even drive a car, **let alone** fly a plane. 他连车都不会开，更不用说开飞机了。

much less / still less

更不；更别提
(多用于否定句后)

- I've never seen the man, **much less** spoken to him.
- No living person seemed to notice him, **still less** to like him.
- The baby cannot sit up yet, **much less** walk. 这婴儿连坐都还不会，更别提走路了。

<p>not to mention 肯定句(都有) 更不用说; 且不说</p>	<ul style="list-style-type: none"> • They own two houses, not to mention a yacht. • The dampness is unpleasant, not to mention the cold. • When you think of the innumerable birds that one sees flying about, not to mention the equally numerous small animals like field mice and voles which you do not see, it is very rarely that one comes across a dead body, except, of course, on the roads. • The vacation was expensive, not to mention the fact that the weather was terrible. 那次度假很贵, 更不用说天气还极其糟糕了。
<p>to say nothing of 更不用说; 何况</p>	<ul style="list-style-type: none"> • It would be an enormous amount of work, to say nothing of the cost. • We will need more time, to say nothing of money. • It would be a huge task for an experienced team, to say nothing of a group of beginners. 这对于经验丰富的团队来说都是一项巨大的任务, 更不用说是一群新手了。

星际间的通信方式 难度: 3 级

※ Fortunately, there is a 'uniquely rational way' for us to communicate with other intelligent beings, as Walter Sullivan has put it in his excellent book, We Are not Alone.

Walter Sullivan (January 18, 1918 – March 19, 1996) was considered the "dean" of science writers. Sullivan spent most of his career as a science reporter for the New York Times. Over a 50-year career he covered all aspects of science — Antarctic expeditions, rocket launchings in the late 1950s, physics, chemistry, and geology. He wrote several well-received books, including **We Are not Alone**, a bestseller about the search for extraterrestrial intelligence.

『 **put** v. to say or write sth. using words in a particular way 措辞说 』

- They caught lobster and fish every day, and, as one of them **put** it 'ate like kings'.
- I don't know how to **put** it.
- How shall I **put** it?
- let me **put** it this way

to put it another way 换句话
说

It's fairly risky. Or **to put it another way**, don't try this at home.

※ This **depends** on the precise radio frequency of the 21-cm wavelength, or 1420 megacycles per second.

『 **depend on** 取决于/依赖于 』

- The success of the mission **depends on** flawless execution of the launch sequence. 任务的成功取决于发射序列的完美执行。
- Your ability to access the data **depends on** having the correct security clearance. 您访问数据的能力取决于拥有正确的安全许可。

※ It **is** the natural frequency of emission of the hydrogen atoms in space and **was discovered** by us in 1951; it **must be known** to any kind of radio astronomer in the universe.

『 **hydrogen atoms** 氢原子(由一个质子和一个电子组成的最简单的原子) 』

- Well, we've got to **hydrogen atoms** here. 现在我们这有一个氢原子。
- Now here are these two isolated **hydrogen atoms**. 现在这是两个分别独立的氢原子。
- Essentially it would only allow for us to bond to two **hydrogen atoms**. 本质上, 它只能允许我们,和两个氢原子成键。

与外星生物通信的条件 难度: 5 级

※ **Once** the existence of this wave-length **had been discovered**, it was not long **before** its use as the uniquely recognizable broadcasting frequency for interstellar communication **was suggested**.

『 **Once...** 一旦...; 当...时候 』

- **Once** the ancient map had been discovered, the treasure hunt began in earnest. 一旦这张古老的地图被发现, 寻宝活动就正式开始了。
- **Once** you understand the basic principles of AI, you can start building your own tools. 一旦你理解了 AI 的基本原理, 你就可以开始构建自己的工具了。

Once the existence of this wave-length	had been discovered,	it was not long	before its use (as the uniquely recognizable...)	was suggested.
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从句主语	谓语(过去完成被动)	主句骨架 (It was not long...)	嵌套从句的主语 ^{its use} + 介词短语)	从句谓语(一般过去被动)
Once引导时间状语从句			嵌套在时间主句里的从句时间状语从句 (before引导: 核心事件)	

※ Without something of this kind, searching for intelligences on other planets would be like trying to meet a friend in London without a pre-arranged rendezvous and absurdly wandering the streets in the hope of a chance encounter.

『 **without** 代替if引导原因状语 (从句) 』

- Education, ... what **would** civilization be like **without** its benefits?
- **Without** it we **could** not make a living.
- **Without it**, nothing **could** ever be brought to a conclusion; everything **would** be in a state of chaos.
- **Without** something of this kind to guide us, the research could wander aimlessly for years. 没有这种类型的东西来指导我们, 这项研究可能会漫无目的地进行数年。

『 **intelligence** n. [C] an intelligent being 智慧生物 』

- Yet those forces must be natural; they cannot be attributed to the actions of mysterious creative **intelligences** whose existence, in scientific terms, is unproved.
- It may exceed human intelligence sooner or later. 它迟早会超越人类的智力。

『 **pre-arranged** adj. planned or arranged in advance 提前计划或安排好的 』

- The spy operated without a **pre-arranged** rendezvous, relying solely on cryptic messages. 这名间谍在没有预先安排好的会面地点的情况下行动, 完全依赖于神秘的信息。
- An interview schedule is typically **pre-arranged**, and can involve anywhere between 2-5 persons a day; 面试时间一般是预先确定的, 一天面试人数为2到5人;
- Click to place blocks in a **pre-arranged formation**. Current shapes include Round, Square, and Diamond. 通过点击来以预定义的结构放置方块。结构可以是圆形, 方形和菱形。

『 **rendezvous** n. (pl unchanged 复数不变) (place chosen for a) meeting at an agreed time 约会 (地点) 』

- **arrange** / **make** a **rendezvous** with Bill at the pub at two o'clock
- He failed to keep a **rendezvous** after sensing a police trap. 他觉察到是警察的圈套后, 就未去赴约。

- She is lured to a **rendezvous** near Lao Cai to be drugged. 她被引诱到老街附近的一个约会地点，并被下了药。

『 **wander** vi./vt. 漫无目的的走，闲逛 』

- The dogs have greater freedom, too, for they are allowed to **wander** outside their enclosure.
- He was found **wandering** the streets of New York.
- I've spent two years **wandering** the world.
- After getting lost, we found ourselves absurdly **wandering** the streets in the wrong direction. 迷路后，我们发现自己荒谬地在街上游荡，走错了方向。

『 **in the hope of sth. / that ...** because of the wish for sth. / that ... 怀着...的希望 』

- Should they sell now or hang on **in the hope that** the shares will soon be worth serious money?
- We came to the island **in the hope of** finding a simpler way of life.

『 **in + 抽象名词** 做原因状语（书面语的重要用法） 』

- The men of our family waded down through our flooded meadows with boathooks, **in the hope of being** able to grapple a corner of the raft and pull it out of the current towards our bank.
- Young men who have reason to fear that they will be killed in battle may justifiably feel bitter **in the thought that** they have cheated of the best things that life has to offer.
- In the lift her thoughts were on lunch and a good rest; but when she got out at her own floor, both were forgotten **in her sudden discovery that** her front door was open.
- They leave unwanted objects in drawers, cupboards and attics for years, **in the belief that** they may one day need just those very things.
- The Swedes were the first to recognize that public officials like civil servants, police officers, health inspectors or tax-collectors can make mistakes or act over-zealously **in the belief that** they are serving the public.

『 **chance** adj. [only before noun] not planned or expected = accidental 偶然的 』

- The medicine was a **chance discovery** made by a scientist looking for something else. 这种药物是一位科学家在寻找其他东西时的一个偶然发现。
- A **chance meeting / encounter** at a tech conference led to their successful business partnership. 在一次技术会议上的偶然相遇促成了他们成功的商业合作。
- Whether life began through a **chance event** or a directed process is a major scientific question. 生命是通过偶然事件还是通过有向过程开始的，是一个重大的科学问题。

『 **encounter** n. a meeting, esp. one that is sudden, unexpected or violent 偶遇，遭遇，邂逅 』

- Three of them were killed in the subsequent **encounter** with the police.

- The story describes the extraordinary **encounter** between a man and a dolphin.
- She attended the conference every year in the hope of a chance **encounter** with her mentor. 她每年都参加会议，希望能偶然遇到她的导师。



have a crush on sb.

迷恋某人：对某人产生强烈的喜欢或爱慕之情，通常指初期的暗恋或暗示有意向对方表达爱意。

课后练习题 (解题方法与答案需要在“ncego.com”笔记官网查看)

1. W: You had Prof. Johnson before? How would you describe his lectures? M: let me put it this way: I could never stay awake in one of his classes without first drinking some coffee. (单选)
- A、 He dropped out of Prof. Johnson's class.
 - B、 He'll probably take another class with Professor Johnson.
 - C、 Professor Johnson's lectures were boring.
 - D、 Students weren't allowed to bring drinks into Professor Johnson's class.

请发送邮件至：hibenba@gmail.com 或通过 (ncego.com) 页面底部“举报错误”。

一场孤独的修行，需要相信积累的力量。专注当下、珍惜时间、顶峰相见。