



中国科学院大学
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U3 Text A Para10-13 Difficult Points

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The perspective of an English newbie

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- My name is 李敬 (@lixeon) ; lijing.dev / lixeon.com
 - Born in 南通, 江苏 ; Graduate from 扬州大学, Software Engineering
 - Now as Master-Doctor at SKLOIS, IIE, CAS
 - Research focuses on AI-chips Security & Microarchitectural Attack
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- 2019年考研英语一 : 42/100 (require ≥ 39)
 - 2020年考研英语一 : 54/100 (require ≥ 37)
 - CET-4 : 486/710 (Max)
 - CET-6 : 424/710 (**Twice**)

Paragraph 10 : three sentences

10-1

Compared to their efforts based on pure thought, the corresponding efforts of experimentalists who get down on their knees, liberally coat their hands with grease and spend most of their time soldering electronic circuits and fashioning precision machine parts on a lathe sounds **humdrum** and boring.

与理论物理学家们单纯基于思想的努力相比，实验物理学家做出的相应努力则是弯腰屈膝、手上肆意沾满油污，并花费大量时间在车床上焊接电子电路和制造精密机械零件，这听起来乏味又无聊。

Compared to ... & Compare with @Oxford

- When the past participle compared introduces *a subordinate clause or phrase*, the preposition is either *to* or *with*, although here usage is moving in favour of *to*:
 - This was a modest sum compared to what other people spent.*
 - Compared to physics and astronomy, cosmology is a young science.*
 - However, compared with the USA and Japan, Europe contains a group of separate nation states.*
- To compare can be defined broadly as “to estimate the similarity or difference between things”. In this meaning, either preposition (*to/with*) can be used.
- However, when compare is used to say that **one thing resembles another, or to make an analogy between two different things**, **to** is obligatory (must do it because of a law).

Paragraph 10 : three sentences (Cont.)

circuit /'sɜ:kɪt/ ★★ ★ CET4 TEM4 (circuits) @Collins

1. N-COUNT An electrical circuit is a complete route which an electric current can flow around. 电路

2. N-COUNT A circuit is a series of places that are visited regularly by a person or group, especially as a part of their job. 巡回的场所

adj. circuitous 迂曲的；绕行的；迂回线路的

n. circuitry 电路；电路系统；电路学；一环路

fashion /'fæʃən/ ★★ ★ ★ CET4 TEM4 (fashions, fashioning, fashioned) @Collins

1. N-UNCOUNT Fashion is the area of activity that involves styles of clothing and appearance. 时尚界 & N-COUNT A fashion is a style of clothing or a way of behaving that is popular at a particular time. 时尚

2. N-SING If you do something in a particular fashion or after a particular fashion, you do it in that way. 方式

3. V-T If you fashion an object or a work of art, you make it. 塑造

adj. fashionable 流行的；时髦的；上流社会的

adv. fashionably 赶时髦地；按照流行地

n. fashioner 裁缝；创造者 fashionmonger 创流行的人；赶时髦的人

Paragraph 10 : three sentences (Cont.)

humdrum /'hʌm, drʌm/ TEM8 @Collins

1.ADJ If you describe someone or something as **humdrum**, you mean that they are **ordinary, dull, or boring**. 平凡的; 单调乏味的; 刻板的; 令人厌烦的 [表不满]

eg:...her lawyer husband, trapped in a humdrum but well-paid job.

...她整天做着单调乏味的工作但收入颇丰的律师丈夫。

10-2

Yet this **mundane** work is an **essential** step toward the grand **finale** of hard factual discovery.

然而，这项**平凡的**工作是迈向艰难的事实发现的伟大**结局必不可少**的一步。

mundane /'mʌndem/ ★ TEM8 @Collins

1. ADJ Something that is **mundane** is very ordinary and not at all interesting or **unusual**. 世俗的; 单调的

2. N-SING You can refer to mundane things as the **mundane**. 平凡的事物

adv. mundanely 世俗地

n. mundaneness 俗世; 宇宙 *mundanity* 尘俗 *mundane world* 红尘

Paragraph 10 : three sentences (Cont.)

10-3

Even the rare combination of theorist and experimentalist appreciates this; for instance, **in spite of** his **pioneering** contributions to theory, Fermi always said that his first love was experiment and he could often be found performing the most mundane of tasks.

甚至理论物理学家和实验物理学家都罕见的一同对此赞赏。例如，尽管费米在理论上做出了**开创性的**贡献，但他始终说，他的初恋是实验，常常可以发现他执行的是最平凡的任务。

in spite of & despite @Cambridge

- **In spite of and despite have a similar meaning to although or even though. They express a contrast between two things. They are both more common in writing than in speaking. Despite is a little more formal than in spite of.**
- **We usually use in spite of and despite with a noun. We can also use in spite of and despite with -ing (介宾短语作状语)**
- **We don't use a that-clause after in spite of or despite. We use **in spite of the fact that** or **despite the fact that**:**

When they arrived at Malaga it was hot, in spite of the fact that it was only the end of April.

Not: ... in spite of that it was only the end of April

- **In spite of is written as three separate words. We never use of with despite:**

They enjoyed the rides in spite of the long queues. (or ... despite the long queues.)

Not: ... inspite the long queues or ... despite of the long queues.

Paragraph 11 : three sentences

11-1

To be fair though, it's hard not to admire theorists **when** many experimentalists, as **ingenious** as their **contraptions** are, “simply” **validate** things which the theorists have already said.

不过，**公平地讲**，我们很难不崇拜理论物理学家，因为虽然很多实验物理学家像他们的**实验装置**一样富有**创意的**，但也“**仅仅**”是**验证**了理论物理学家们早已说过的东西。

when “当...的时候” 其他表示原因，条件，对比，让步都是属于引申意义用法

- 表示原因，语气较弱，相当于in view of the fact that; considering that ; since 既然；考虑到。（虽然表示原因，但是不能使用表示原因的从属连词because, as）

eg: How can I help them to understand when they won't listen to me ?

既然他们不愿听我的，我又怎么能帮助他们弄明白呢？

eg: I can't tell you anything when you won't listen.

既然你不想听，我就什么也不告诉你。

contraption /kən'træpʃən/ @Collins

1. N-COUNT You can refer to a device or machine as a contraption, especially when it looks strange or you do not know what it is used for. 古怪装置

Paragraph 11 : three sentences (Cont.)

validate /'væli,deɪt/ ★ CET6 TEM8 (validating, validated, validates) @Collins

1. V-T To validate something such as a claim or statement means to prove or confirm that it is true or correct. 证实 [正式]

adj. valid 有效的，有根据的；正当的 validated 经过验证的

adj. validating 确认的；有效的

n. validity [计] 有效性；正确；正确性 validation 确认；批准；生效

n. validating 确认 validness 有效；正确

v. validated 确认（validate的过去式及过去分词形式）；使生效

v. validating 验证（validate的ing形式）；确认

11-2

Anderson might have discovered the **positron**, but Dirac invented it first.

安德森可能发现了**正电子**，但狄拉克首先发明了它。

11-3

Eddington might have observed **deflected** starlight, but Einstein simply **plucked it out of thin air** based on what seemed like magical **speculation**.

爱丁顿本来可以观察到星光**偏转**，但爱因斯坦只是根据看起来像魔术般的**推测随口说出的**。

Paragraph 11 : three sentences (Cont.)

pluck sth out of the air @Cambridge

to say something quickly, usually because a reply is expected, without having thought about it or made certain it is correct. 随口说出

"Where did you get those figures from?" "Oh, I just plucked them out of the air."

“你是从哪里获得这些数字的？”“我只是随口说出来的。”

pluck v. to pull something quickly in order to remove it. 揪, 扯, 拉

拔去；脱颖而出；使...脱离险境；摘；拨弹；寻找收集

n. courage and a strong wish to succeed. 胆识；勇气

pluck at sth 拉，扯，拽

pluck up your courage 鼓起勇气

adj. plucky 有勇气的，大胆的

adv. pluckily 大胆地，有勇气地

Paragraph 12 : six sentences

12-1

Firstly however, it's very important to realize that all the **awe** for Einstein which we rightly feel comes only after the fact, after a thousand increasingly demanding tests of general relativity have established the **veracity** of the theory beyond any doubt.

但重要的是，我们要首先认识到，我们对爱因斯坦的所有**崇敬**之情都来自于广义相对论在经过千百次日益苛刻的测试才毫无疑问地被**证实**了这一事实之后。

veracity /vɛ' ræsɪti/ @Collins

1. N-UNCOUNT Veracity is the quality of being true or the habit of telling the truth.
真实; 诚实 [正式]

adj. veracious 诚实的 ; 真实的

12-2

As Feynman said, no matter how pretty the theory looks and no matter how brilliant its creator sounds, it is no more than a **hypothesis** until it's verified.

正如费曼所说，无论该理论看起来多么漂亮，其创作者听起来多么才华横溢，在经过验证之前，它不过是一种**假设**。

12-3

Einstein unverified would have been a mystic.

爱因斯坦未经验证将是一个神秘主义者。

Paragraph 12 : six sentences (Cont.)

12-4

Fortunately the public seems to have gradually woken up to the **straitjacket** that ugly, grease-and-solder experiment **imposes on** elegant theory.

幸运的是，公众似乎已经逐渐意识到，丑陋的油污和焊料的实验给优雅的理论**强加束缚**。

12-5

This is most apparent in the decline of popular versions of **string theory**; after a period of breathless **ascendancy** by its **proponents**, the public seems to increasingly realize the gaping **chasm** between theory and experiment which the string theoretical framework constantly displays.

这在**弦理论**的流行版本的衰落中最为明显。在其**支持者**经过一段喘不过气来的**优势**之后，公众似乎越来越认识到弦理论框架不断显示的理论_与实验之间的**鸿沟**。

ascendancy /ə'sɛndənsɪ/ (also ascendancy) @Collins

1. N-UNCOUNT If one group has ascendancy over another group, it has more power or influence than the other group. **优势** [正式]

adj. ascendant (also ascendent) 上升的；优越的

n. ascendant 优势；运星；支配力 (also ascendent)

ascendance 优势；权势；支配地位 (also ascendance or ascendancy)

Paragraph 12 : six sentences (Cont.)

proponent /prə'pəʊnənt/ ★ CET6 TEM8 (proponents) @Collins

1. N-COUNT If you are a proponent of a particular idea or course of action, you actively support it. (某观念或行为的) 支持者；拥护者；鼓吹者 [正式]

eg: Halsey was identified as a leading proponent of the values of progressive education.[+ of]

哈尔西被认为是进步教育价值观的首要支持者。

12-6

String theory in fact is the perfect test of the ability of an informed public to distinguish between fact and speculation, and so far the signs seem promising.

实际上，弦理论是对知识渊博的公众区分事实和推测的能力的完美测试，到目前为止，迹象似乎是有希望的。

Paragraph 13 : six sentences (Cont.)

13-1

Secondly, there are also outstanding example of discoveries made by experimenters which really had no theoretical precedent.

其次，还有一个突出的例子表明实验者的发现确实没有理论先例。

precedent /'presɪdənt/ ★★ CET6, TEM4 (precedents) @Collins

1. N-VAR If there is a precedent for an action or event, it has happened before, and this can be regarded as an argument for doing it again. 先例 [正式]

adj. preceding 在前的；前述的 preceded 有先例的
precedential 有先例的；优先的

n. precedence 优先；居先

v. preceding 在...之前 (precede的ing形式)

vi. precede 领先，在前面

vt. precede 领先，在...之前；优于，高于

13-2

That is what makes Rutherford and Faraday the two greatest experimental physicists in history.

这就是使卢瑟福和法拉第成为历史上最伟大的两个实验物理学家的原因。

Paragraph 13 : six sentences (Cont.)

13-3

Rutherford discovered the atomic nucleus in 1908, but it took thirty years for physicists to develop a **concrete** theory of the nucleus.

卢瑟福于1908年发现了原子核，但是物理学家花了三十年时间才发展出**具体的**原子核理论。

concrete /'kɒnkri:t/ ★ ★ ★ CET4 TEM4 (concreting, concreted, concretes) @Collins

1. N-UNCOUNT Concrete is a substance used for building which is made by mixing together cement, sand, small stones, and water. 混凝土
2. V-T When you concrete something such as a path, you cover it with concrete. 给 (道路等) 浇混凝土
3. ADJ You use concrete to indicate that something is definite and specific. 明确具体的
4. ADJ A concrete object is a real, physical object. 实物的
adv. concretely 具体地
n. concreteness 具体；具体性；确实
concretion 结石；凝固；凝固物
vt. concretise (英) 使...具体化 (also concretize)
concretize 使有形化；使具体化

Paragraph 13 : six sentences (Cont.)

13-4

Similarly Faraday discovered the **seamless** relationship between **electricity** and magnetism - one of the very few examples of unification by experiment - but it took until after his death for Maxwell to come up with his **pioneering** theory of electromagnetism.

同样，法拉第发现了电与磁之间的**密切**关系-极少数通过实验实现统一的例子之一-但直到麦克斯韦死后，麦克斯韦才提出了他的电磁学**开创性**理论。

13-5

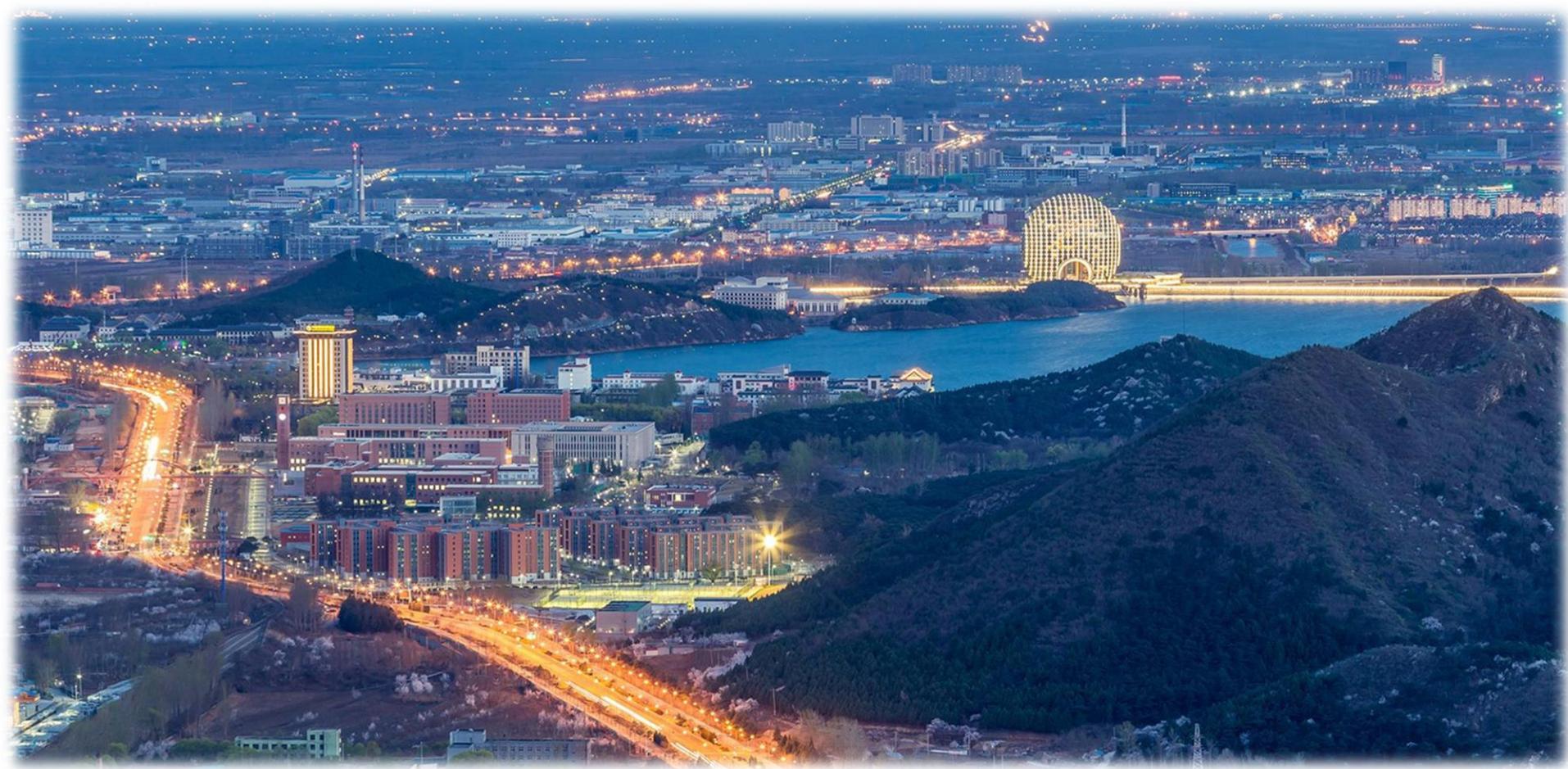
Experimentalists often follow in the steps of theorists, but **the instances in which** they lead the way are as full of creativity and achievement as the work of an Einstein, Bohr or Feynman.

实验物理学家经常跟随理论物理学家的脚步，而有时他们也会引领理论物理学家，其过程就像爱因斯坦、玻尔或者费曼等科学家的工作一样充满了创造力，成就非凡。

13-6

And even when they follow, they are the ones who bridge the gap between idea and hard fact.

甚至当他们遵循时，他们也是架起弥合想法与铁的事实之间的桥梁。



欢迎批评指正
THANKS



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