

Living to 120

活到 120 岁

Efforts to slow human aging are taking wing

延缓人类衰老的努力正在取得进展

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Want to live longer? For centuries the attempt to stop ageing was the preserve of charlatans touting the benefits of mercury and arsenic, or assortments of herbs and pills, often to disastrous effect. Yet after years of false starts, the idea of a genuine elixir of longevity is taking wing. Behind it is a coterie of fascinated and ambitious scientists and enthusiastic and self-interested billionaires. Increasingly, they are being joined by ordinary folk who have come to think that the right behaviour and drugs could add years, maybe decades, to their lives.

想活得更久吗？几个世纪以来，长生不老一直是江湖骗子的专利，他们借此兜售汞和砷的益处，或者各种各样的草药和药丸，但效果往往是灾难性的。然而，在多年的失败后，发明真正的长生不老药的想法正在取得进展。这个想法的背后是一群为此着迷且雄心勃勃的科学家以及兴致勃勃而自私自利的亿万富翁们。越来越多的普通人也加入了他们的行列，他们认为科学的行为和药物可以让他们的生命延长几年，甚至几十年。

【词汇】

1. **preserve** /prɪ'zɜ:v/ n. 四级/雅思/托福/GRE/考研 an activity, a job, an interest, etc. that is thought to be suitable for one particular person or group of people (某人或群体活动、工作等的) 专门领域

例：Higher education is no longer the preserve of the wealthy.

高等教育再也不是富人的专利了。

2. **charlatan** /'ʃɑ:rlətən/ n. GRE a person who claims to have knowledge or skills that they do not really have 假充内行的人；骗子

例：He knows nothing about medicine—he's a complete charlatan.

他对医学一无所知-他是个彻头彻尾的骗子。

<同义替换> fraud

3. **tout** /taʊt/ v. GRE/专八 to try to persuade people that somebody/something is important or valuable by praising them/it 标榜；吹捧；吹嘘

例：heir much-touted expansion plans have come to nothing.

他们备受吹捧的扩张计划落空了。

4. **mercury** /'mɜ:rkjəri/ n. 四级/六级/考研 a chemical element. Mercury is a poisonous silver liquid metal, used in thermometers. 汞；水银

例：Studies show very high levels of mercury in local dolphins.

研究表明，当地海豚中的汞含量很高。

5. **arsenic** /'ɑ:rsnɪk/ n. GRE a chemical element. Arsenic is a grey metalloid (= has properties of both metals and other solid substances) and is very poisonous, especially in its compound forms. 砷

例：chocolates laced with arsenic

含砷的巧克力

6. **elixir** /i'liksər/ n. GRE a magic liquid that is believed to cure illnesses or to make people live forever 圣水；灵丹妙药；长生不老药

例：the elixir of life/youth

长生不老 / 永葆青春药

7. **coterie** /'kəʊtəri/ n. GRE a small group of people who have the same interests and do things together but do not like to include others (志趣相同、合伙做事而排外的) 小圈子，小集团

例：a literary coterie

一帮文人

8. **self-interested** /,self 'ɪntrestɪd/ adj. considering only your own interests and not caring about things that would help other people 自私自利

例：self-interested behaviour

自私行为

<同义替换> self-centered

【短语】

1. **take wing** : (of a bird, insect, etc. 鸟、昆虫等) to fly away 展翅飞翔；飞走

例：Her imagination took wing.

她发挥了海阔天空的想象。

【长难句】

Increasingly, they are being joined by ordinary folk who have come to think that the right behaviour and drugs could

add years, maybe decades, to their lives.

句子的主干部分为：they are being joined by ordinary folk, 意思是：普通人也加入了他们的行列

Increasingly 为状语，意思是：越来越多地

who have come to think that the right behaviour and drugs could add years, maybe decades, to their lives. 为定语从句，修饰 folk；其中 the right behaviour and drugs could add years, maybe decades, to their lives. 为宾语从句。整句话的意思是：他们认为科学的行为和药物可以让他们的生命延长几年，甚至几十年。

Living to 100 today is not unheard of, but is still rare. In America and Britain **centenarians** make up around 0.03% of the population. Should the latest efforts to **prolong** life reach their potential, living to see your 100th birthday could become the **norm**; making it to 120 could become a perfectly reasonable aspiration.

如今，活到 100 岁并非闻所未闻，但仍然很罕见。在美国和英国，百岁老人约占总人口的 0.03%。如果延长寿命的最新成果发挥其效用，那么活到 100 岁可能会成为一种常态。活到 120 岁也可能是一个完全合理的愿望。

【词汇】

1. **centenarian** /ˌsentɪˈneriən/ n. a person who is 100 years old or more 人瑞；百岁人瑞

例：Japan has more than 4,000 centenarians.

日本有 4,000 多位百岁老人。

2. **prolong** /prəˈlɒŋ/ v. to make something last longer 延长

例：The operation could prolong his life by two or three years.

这次手术可使他多活两三年。

<同义替换> extend

3. **norm** /nɔːrm/ n. a situation or a pattern of behaviour that is usual or expected 常态；正常行为

例：The new design is a departure from the norm.

新的设计打破了常规。

More exciting still, those extra years would be healthy. What progress has been made in expanding **lifespans** has so far come by countering the causes of death, especially **infectious** disease. The process of ageing itself, with its **attendant** ills such as **dementia**,

更令人兴奋的是，人们在多活的这几年中，身体仍然是处于健康状态的。迄今为止，在延长寿命方面所取得的进展都是通过应对导致死亡的原因——尤其是通过抵御传染病——来实现的。衰老过程本身及其伴随的疾

has not yet been slowed. This time, that is the intention.

病，如痴呆症，尚未得到减缓。目前，我们的目标就是要减缓以上疾病。

【词汇】

1. **lifespan** /'laɪfspæn/ n. the length of time that something is likely to live, continue or function 寿命；可持续年限；有效期

例：Men have a shorter lifespan than women.

男性的平均寿命比女性短。

2. **infectious** /ɪn'fektjəs/ adj. 六级/雅思/托福/考研/专八 an infectious disease can be passed easily from one person to another, especially through air or water 传染性的，感染的（尤指通过呼吸）

例：Flu is highly infectious.

流感的传染性很高。

3. **attendant** /ə'tendənt/ adj. 六级/雅思/托福/考研/专八 closely connected with something that has just been mentioned 伴随的；随之而来的

例：attendant problems/risks/circumstances

随之而来的问题 / 风险 / 情况

4. **dementia** /dɪ'menʃə/ n. a serious mental disorder caused by brain disease or injury, that affects the ability to think, remember and behave normally 痴呆

例：She was diagnosed with dementia.

她被诊断出患有痴呆症。

The idea, as we set out in our Technology Quarterly, is to manipulate biological processes associated with ageing that, when dampened in laboratory animals, seem to extend their lives. Some of these are familiar, such as severely restricting the number of calories an animal consumes as part of an otherwise balanced diet. Living such a calorie-restricted life is too much to ask of most people; but drugs that affect the relevant biological pathways appear to bring similar results.

正如在《科技季刊》（Technology Quarterly）中所阐述的那样，我们的想法是控制与衰老有关的生物过程，当这些过程在实验室动物身上被控制时，似乎可以延长它们的寿命。其中一些是我们熟悉的，比如严格限制动物摄入的食物热量，将其作为均衡饮食的一部分。对大多数人来说，过着这样一种限制饮食的生活要求太高了。但服用影响相关生物规律的药物似乎也会有类似的效果。

【词汇】

1. **manipulate** /mə'nɪpjuleɪt/ v. 六级/雅思/托福/考研/专八 to control or influence somebody/something, often in a dishonest way so that they do not realize it (暗中) 控制, 操纵, 影响

例: As a politician, he knows how to manipulate public opinion.

身为政客, 他知道如何左右公众舆论。

2. **dampen** /'dæmpən/ v. to make something such as a feeling or a reaction less strong 抑制, 控制, 减弱 (感情、反应等)

例: None of the setbacks could dampen his enthusiasm for the project.

任何挫折都不能减弱他对这个项目的热情。

3. **severely** /sɪ'verɪli/ adv. in an extreme or strict way 严格地: 以极端或严格的方式严格地

例: Anyone breaking the law will be severely punished.

违法者将受到严惩。

<同义替换> harshly

4. **consume** /kən'su:m/ v. to eat or drink something 吃; 喝; 饮

例: Before he died, he had consumed a large quantity of alcohol.

他死亡前喝了大量的酒。

【长难句】

The idea, as we set out in our Technology Quarterly, is to manipulate biological processes associated with ageing that, when dampened in laboratory animals, seem to extend their lives.

句子的主干部分为: The idea is to manipulate biological processes associated with ageing. 意思是: 我们的想法是操纵与衰老有关的生物过程

seem to extend their lives 为定语从句, 修饰 processes, 意思是: (这些生物过程) 似乎可以延长它们的寿命

as we set out in our Technology Quarterly 以及 when dampened in laboratory animals 均为状语, 意思分别是: 正如在《科技季刊》(Technology Quarterly) 中所阐述的那样; 当这些过程在实验室动物身上被控制时

Another path is to develop drugs that kill “senescent” cells for which the body has no further use. The natural means for disposing of these cells, like a number of other repair mechanisms, themselves weaken with age. Giving them a helping hand is not just a matter of tidying up. Senescent

另一种方法是研发药物, 杀死身体里不再需要的“衰老”细胞。自然地清除这些细胞, 就像许多其他修复机制一样, 其效果本身会随着年龄的增长而减弱。借助外力增强其效果, 而不仅

cells cause all sorts of **malfunctions** in their healthy neighbours.

仅是简单地清理体内的细胞。衰老细胞会导致健康细胞的各种功能障碍。

【词汇】

1. **senescent** /sɪˈnesnt/ adj. GRE old and showing the effects of being old 衰老；老年化

例：a senescent industry

衰落的行业

2. **malfunction** /ˌmælˈfʌŋkʃn/ n. GRE/专八 failure of a machine, etc. to work correctly 运转失常；失灵；出现故障

例：The drug caused a malfunction in the brain.

该药物引起大脑功能异常。

<同义替换> dysfunction

【短语】

1. **dispose of** : to get rid of somebody/something that you do not want or cannot keep 去掉；清除；销毁

例：the difficulties of disposing of nuclear waste

处理核废料的困难

For true believers that is just the beginning. Groups of academic and commercial researchers are studying how to **rejuvenate** cells and tissues by changing the “**epigenetic**” markers on **chromosomes**, which tell cells which genes they should activate. These markers accumulate with age; **strip** them back and you might produce the cells of a 20-year-old body inside one that is in fact 65. **Mimicking** calorie restriction and clearing out senescent cells would delay ageing. Boosters claim that epigenetic rejuvenation could **halt** or **reverse** it.

对于真正的沉迷长生不老的人来说，这只是一个开始。学术和商业研究小组正在研究如何通过改变染色体上的“表观遗传”标记来恢复细胞和组织的活力，这些标记告诉细胞它们应该激活哪些基因。这些标记随着年龄的增长而积累；把它们除掉的话，你可能会在一个实际上是 65 岁的身体里产生一个 20 岁的身体的细胞。效仿限制热量摄入和清除衰老细胞的方法可以延缓衰老。支持者声称，利用表观遗传来实现年轻的方法还可以阻止或逆转衰老。

【词汇】

1. **rejuvenate** /rɪˈdʒu:vəneɪt/ v. GRE/专八 to make somebody/something look or feel younger, more lively or more modern 使年轻；使更有活力；使更新潮

例：His new job seemed to rejuvenate him.

他的新工作似乎使他恢复了活力。

<同义替换> revitalize

2. **epigenetic** /ˌepɪdʒɪˈnetɪk/ adj. relating to changes, especially heritable changes, in the characteristics of a cell or organism that result from altered gene expression or other effects not involving changes to the DNA sequence itself.

表观遗传的；后成的

例：The epigenetic changes caused by one single mother rat were passed down to many generations of rats after her.

一个鼠妈妈导致的表观遗传变异会被传递给她后面的好几代老鼠。

3. **chromosome** /ˈkrɒməsəʊm/ n. one of the very small structures like thin strings in the nuclei (= central parts) of animal and plant cells. Chromosomes carry the genes. 染色体

例：Humans have 23 pairs of chromosomes in their cells.

人类的细胞中有 23 对染色体。

4. **strip** /stri:p/ v. to remove a layer from something, especially so that it is completely exposed 除去，剥去（一层）；（尤指）

例：Strip off all the existing paint.

把现有的油漆全部刮掉。

5. **mimic** /ˈmɪmɪk/ v. 雅思/GRE/专八 to copy the way somebody speaks, moves, behaves, etc., especially in order to make other people laugh 模仿（某人的言行举止）；（尤指）做滑稽模仿

例：She's always mimicking the teachers.

她总喜欢模仿老师的言谈举止。

<同义替换> imitate

6. **halt** /hɔ:lt/ v. 四级/雅思/托福/GRE/考研 to stop; to make somebody/something stop（使）停止，停下

例：The trial was halted after the first week.

第一周结束后，审判暂停。

7. **reverse** /rɪˈvɜ:rs/ v. to change something completely so that it is the opposite of what it was before 颠倒；彻底转变；使完全相反

例：The government has failed to reverse the economic decline.

政府未能扭转经济滑坡的趋势。

One cause for concern is people's brains. Slowing bodily

令人担忧的是人们的大脑。延缓身体衰

ageing will not change the fact that the brain has a **finite** capacity, and is **presumably** adapted by **natural selection** to conventional lifespans. This is quite separate from worries about dementia, which is caused by specific diseases. Society will thus have to find ways to adapt to the normal ageing in brains: centenarians may, for instance, find themselves increasingly occupied with asking their AI diary assistants questions for which once they would have remembered the answer.

老并不能改变大脑容量有限的事实，而且大脑可能已经通过自然选择适应了传统寿命。这与对痴呆症的担忧是完全不同的，痴呆症是由特定疾病引起的。因此，社会必须想方设法适应大脑的正常老化：例如，百岁老人可能会发现自己越来越忙于向他们的“人工智能日记助手”提问题，而这些问题的答案是他们曾经记得的。

【词汇】

1. **finite** /'faɪnaɪt/ adj. 六级/雅思/考研/专八 having a definite limit or fixed size 有限的；有限制的

例：The world's resources are finite.

世界的资源是有限的。

2. **presumably** /prɪ'zu:məbli/ adv. 六级/雅思/考研/专八 used to say that you think that something is probably true

很可能；大概；想必是

例：You'll be taking the car, presumably?

想必您是要买这辆汽车了？

【短语】

1. **natural selection** : the process by which plants, animals, etc. that can adapt to their environment survive and produce young, while the others disappear 自然选择；物竞天择

The fact of many people living much longer would have wide **ramifications**. Most obviously, working lives will be extended, as they have already as life expectancies have lengthened, and possibly even more so for women, who will lose less of their careers to having children, perhaps narrowing inequality in the workplace. Over time there could be deeper shifts. People who live longer may care more about threats that are further away, such as the state of the world in 2100. Longevity permits the patient

越来越多的人长寿将产生广泛的影响。最明显的是，人们的工作生涯将得到延长，因为随着预期寿命的延长，工作生涯已经得到了延长，而对于女性来说，工作生涯可能会更长，她们因生孩子而失去的职业生涯将减少，这或许会缓解职场的不平等现象。随着时间的推移，可能会有更深层次的转变。长寿的人可能更担心更遥远的威胁，比如 2100 年

accumulation of capital, a factor in the emergence of a middle class. And times when political power is exercised mainly by young men, such as the Middle Ages in Europe, tend to be more violent than when older, cooler heads prevail.

的全球状况。长寿使得人们可以不慌不忙地积累资本，这就是中产阶级发展的一个因素。政治权力主要由年轻人行使的时代往往比年长、头脑冷静的统治者统治时更暴力，比如欧洲的中世纪。

【词汇】

1. **ramification** /ˌræmɪfɪˈkeɪʃn/ n. GRE/专八 one of a number of complicated and unexpected results that follow an action or a decision (众多复杂而又难以预料的) 结果, 后果

例: These changes are bound to have widespread social ramifications.

这些变化注定会造成许多难以预料的社会后果。

2. **prevail** /prɪˈveɪl/ v. 四级/雅思/托福/GRE/考研 to exist or be very common at a particular time or in a particular place 普遍存在; 盛行; 流行

例: Those beliefs still prevail among certain social groups.

那些信念在某些社会群体中仍很盛行。

People will **seize on** the elixir of life if it becomes available. Natural selection has no interest in **indefinite** longevity **per se**: the traits that spread best are those that make organisms fit in their **prime**; those that help them live on when reproduction is a distant memory must work through children and grandchildren. Yet the **visceral** drive to **cling to** life is the most basic trait of all. Indeed, it is prevailing today—to **tantalising** effect.

一旦有了长生不老药，人们就会牢牢抓住它。自然选择本身对无限期的长寿不感兴趣：传播得最好的是那些能使人类在壮年时就能适应环境的生物特性；而在当繁衍后代成为遥远的回忆时，那些帮助生物延续生命的特性则必须通过子孙后代来实现。然而，执着于生命的内驱力是最基本的特质。的确如此，它如今正盛行于世，令人向往。

【词汇】

1. **indefinite** /ɪnˈdefɪnət/ adj. 四级/六级/雅思/托福/GRE lasting for a period of time that has no fixed end 无限期的; 期限不定的

例: The workers have been on indefinite strike since July. 工人从 7 月起就开始了无限期的罢工。

2. **per se** /ˌpɜːrˈseɪ/ adv. used meaning 'by itself' to show that you are referring to something on its own, rather than

in connection with other things 本身；本质上

例：The drug is not harmful per se, but is dangerous when taken with alcohol.

这种药本身无害，但与酒同服就危险了。

<同义替换> intrinsically

3. **prime** /praɪm/ n. the time in your life when you are strongest or most successful 盛年；年富力强的时期；鼎盛时期

例：He was barely 30 and in the prime of (his) life.

他才 30 岁，正是英姿勃发的年华。

4. **visceral** /'vɪsərəl/ adj. resulting from strong feelings rather than careful thought (未经过认真思考而) 出自内心的，发自内心的

例：She had a visceral dislike of all things foreign.

凡是外国的东西，她都打心眼儿里讨厌。

5. **tantalising** /'tæntəlaɪzɪŋ/ adj. making you want something that you cannot have or do (以可望而不可即之物) 逗引，招惹

例：The tantalizing aroma of fresh coffee wafted towards them.

新鲜咖啡那诱人的香味向他们飘来。

【短语】

1. **seize on** : to suddenly show a lot of interest in something, especially because you can use it to your advantage 利用；抓住（可利用的事物）

例：The rumours were eagerly seized upon by the local press.

当地报章迫不及待地对这些传闻加以炒作。

2. **cling to** : to be unwilling to lose something or stop doing something 不愿放弃；坚持

例：Throughout the trial she had clung to the belief that he was innocent.

在整个审判中，她都坚信他是清白的。

总结

1) 文章架构

- **背景**
 - 几个世纪以来，长生不老一直是江湖骗子的专利
 - 如今，越来越多的人研究长寿的药物和方法
- **方案**
 - 控制与衰老有关的生物过程：控制热量摄入
 - 研发药物，杀死身体里不再需要的“衰老”细胞
 - 通过改变染色体上的“表观遗传”标记来恢复细胞和组织的活力
- **担忧影响**
 - 大脑的正常老化：延缓身体衰老不能改变大脑容量有限的事实
 - 长寿使人们的工作生涯将得到延长；缓解职场的不平等现象
- **思考**
 - 一旦有了长生不老药，人类就会牢牢抓住它
 - 人类对追求生命的执着

2) 同义替换

✓ 延长

prolong

Should the latest efforts to prolong life reach their potential...

如果延长生命的最新成果能够发挥其效用...

extend

Most obviously, working lives will be extended...

最明显的是，人们的工作生涯将得到延长...

lengthen

...as life expectancies have lengthened...

...随着预期寿命的延长...

其他：stretch

例：The future stretched out endlessly in front of me.

未来我前面的路还有很长很长。

✓ 清除

clear out

Mimicking calorie restriction and clearing out senescent cells would delay ageing.

效仿限制热量摄入和清除衰老细胞的方法可以延缓衰老。

dispose of

The natural means for disposing of these cells...

自然地清除这些细胞...

其他：get rid of

例：She wanted to get rid of her parents and their authority.

她想摆脱父母及其权威的束缚。

3) 一词多义

✓ dampen

✓ 文章原句：...when dampened in laboratory animals... ...当这些过程在实验室动物身上被控制时...

✓ 释义：

① to make something such as a feeling or a reaction less strong 抑制，控制，减弱（感情、反应等）

None of the setbacks could ~ his enthusiasm for the project.

任何挫折都不能减弱他对这个项目的热情。

② to make something slightly wet 弄湿；使潮湿

He ~ his hair to make it lie flat.

他把头发弄湿，梳得平平的。

✓ preserve

✓ 文章原句：For centuries the attempt to stop ageing was the preserve of charlatans touting the benefits of mercury and arsenic... 几个世纪以来，长生不老一直是江湖骗子的专利，他们借此兜售汞和砷的益处...

✓ 释义：

① **an activity, a job, an interest, etc. that is thought to be suitable for one particular person or group of people** (某人或群体活动、工作等的) 专门领域

Higher education is no longer the ~ of the wealthy.

高等教育再也不是富人的专利了。

② **a substance made from boiling fruit or vegetables with sugar, salt, or vinegar** 果酱；腌菜
homemade fruit ~

自制果酱

③ **a nature preserve is an area of land or water where animals are protected from hunters**
保护区

Pantanal, one of the world's great wildlife ~.

潘塔纳尔，世界上最大的野生动物保护区之一。

4) 仿写训练

✓ 描述影响的推进

✓ 文章原句：

The fact of many people living much longer would have wide ramifications. Most obviously, working lives will be extended, as they have already as life expectancies have lengthened, and possibly even more so for women, who will lose less of their careers to having children, perhaps narrowing inequality in the workplace. Over time there could be deeper shifts. People who live longer may care more about threats that are further away, such as the state of the world in 2100.

✓ 句型及表达：

The fact of...would have wide ramifications. ...有广泛的影响。

Over time there could be deeper shifts. 随着时间的推移，还会有更深层的转变。

✓ 仿写示例：

The fact of many people depending on artificial intelligence would have wide ramifications. Most obviously, labor markets will be adjusted, as some work has been done by robots. Over time there could be deeper shifts. People who work in service industry may concern about threats of being replaced.

✓ 仿写作业——描述影响的推进

许多大学生依靠 Open AI 来写论文，这将产生广泛的影响。最明显的是，学生完成作业的负担会减轻，因为一些任务可以通过与 Open AI 对话来简单地完成。然而，随着时间的推移，可能会有更深层次的转变。高等教育的发展进程可能面临被人工智能误导的威胁。

5) 主题词总结

今日主题——长寿	
1. longevity	长寿
2. elixir	长生不老药
3. natural selection	自然选择
4. ageing	变老
5. dementia	老年痴呆