

通信科技英语

文选

南京大学大学外语部 主编



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通俗科技英语文选

第二十八辑

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Fish Oil Prevents Coronary Ills

Fish oil can prevent coronary disease in pigs — and probably in humans, according to a new study at the University of Massachusetts Medical Center.

Scientists knew Eskimos^① and others whose diet consists mainly of fish have fewer heart attacks and strokes. But they were not sure why.

So researchers closely tracked what happened when various kinds of food were fed to pigs, whose hearts are remarkably similar to humans and who develop coronary problems in a fraction of the time.^②

They gave 18 pigs high-cholesterol diets likely to produce coronary disease. Seven of them also received high doses of cod liver oil mixed in their mash.

Eight months later the animals fed cod liver oil showed significantly less disease than the others. All 11 animals who got no oil developed worrisome levels of atherosclerosis, a hardening of the arteries accompanied by other coronary problems; six developed severe cases.

This is the first evidence that fish oil really prevents or inhibits coronary disease in pigs — and it could be equally helpful to humans, said Dr. Bonnie H. Weiner.

But she cautioned people against taking large doses of cod liver oil. It contains vitamin A, which in large doses can cause liver and brain damage, along with other toxic chemicals fish take in from water.

Instead, people should eat more fish. It can be of significant benefit.

Someone said, they provided further evidence of the importance of dietary controls to prevent coronary problems.

Cardiovascular disease is the No. 1 cause of death in the United States — heart attacks and strokes cause most cardiovascular disease — and atherosclerosis is the major cause of heart attacks and strokes.

In the past, scientists believed fish oil minimized coronary problems by lowering the level of fats in the blood. In this case, however, the animals continued to receive a high-fat diet.

The fish oil helped through its effect on platelets and other blood cells. It kept platelets from being quite so sticky so they didn't make small clots and cause atherosclerosis to progress.

It also affected the way platelets and other cells made compounds that in themselves can promote clotting and spasms of the arteries.

One question left unanswered by the study, however, is whether fish oil can help people who already have coronary problems or those who increase their risk by smoking and drinking.

"It is very possible it could have a big benefit from them, too,"^⑧ Weiner said, adding that she hopes to test the theory in future studies on animals and humans.

词 汇

coronary ['kɒrənəri] a 冠状的

in a fraction of the time 一眨

眼工夫,很快	cardiovascular	[,kɑ:diəv'væs-
cod liver oil 鱼肝油	cardiology	[,kɑ:di'ɒlədʒi]
atherosclerosis	脏病学	
['reusis] <i>n</i> 动脉粥样硬化	platelet	['pleitlit] <i>n</i> 血小板
artery	clot	[klot] <i>a</i> (血等的)凝块
inhibit	spasm	['spæzəm] <i>n</i> 痉挛
[in'hɪbit] <i>vt</i> 禁止,抑制		
toxic		
['tɒksɪk] <i>a</i> 有毒的,有毒		
性		

注 释

- ① Eskimo (['eskiməu]): 爱斯基摩人,生活在北美洲及亚洲北部的北极地区,这些人身材矮小壮实,黑头发,黄皮肤。
- ② So researchers closely tracked what happened when various..., whose hearts ... and who develop ... the time. 该句为主从复合句,主句为: researchers closely tracked ..., 其中, what happened ... 为其宾语从句在宾语从句中又有 when 引导的一个状语从句;在这状语从句中又有两个并列的定语从句,修饰 pigs, 它们分别是: whose hearts ... 和 who develop ...。
- ③ It is possible it could have a big benefit from them, too. 句中,第一个 "it" 是形式主语,而真正的主语是主语从句: it could have a big benefit from; 而第二个 "it" 则是这个主语从句中的主语,指鱼油。

参考译文

鱼油能防止冠心病

马萨诸塞大学医疗中心的最新研究成果表明:鱼油对猪,甚至也可能对人的冠心病都有预防作用。

科学家们过去就知道爱斯基摩人以及那些以鱼类为主食的人心脏病发作和中风的较少,但科学家们却无法确定其原因何在。

为此,研究人员用多种饲料喂猪,以便进行详细观察,因为猪的心脏与人的心脏非常相似,且极易患冠心病。

他们给十八头猪喂了含有高胆固醇的饲料，这些饲料很容易引起冠心病，其中的七头猪加喂掺有大量鱼肝油的谷糠饲料。

引人注目的是：八个月后，喂有鱼肝油饲料的猪显然比其他的猪患病率要低。那十一头没有喂鱼肝油的猪患有不同程度的动脉粥样硬化症，即动脉变硬并伴有其他冠状血管的疾病。其中有六头猪的病情十分严重。

鲍尼·H·魏纳博士说：这一发现首先证明了鱼肝油的确能防止或抑制猪的冠心病，这可能同样适合于人。

但是，她又警告人们不要食用过量的鱼肝油，因为鱼肝油中含有维生素A，以及含有鱼在水中食入的其他有毒化学物质，这些对人的肝脏和大脑都有损害作用。

相反，人们应该多吃鱼，这对人体将会极为有利。

有人说，他们有证据进一步证明了控制饮食对防止冠心病的重要性。

心血管疾病是美国人的头号死敌——因为心血管疾病大多由心力衰竭和中风引起的——而动脉粥样硬化则是引起心力衰竭和中风的主要原因。

过去，科学家们以为鱼油是通过降低血脂来将冠心病减少到最低限度的。然而，在这项试验中人们仍继续给动物喂食含高脂肪的饲料。

鱼油是通过作用于血小板和别的血细胞而奏效的。它使血小板不致变得十分粘滞，从而阻止血液凝成小块和造成动脉粥样硬化。

鱼油还影响到血小板与其他细胞的结合，而在这结合的过程中会导致血液凝块，引起动脉痉挛。

不过，还有一个尚待研究解决的问题，那就是：鱼油对那些已患有冠心病的患者和那些因抽烟、酗酒而有可能患这种疾病的人是否都有所帮助。

魏纳说：“鱼油很可能对这些人也大有益处。”她还补充说，她希望能在今后对动物和人体的研究中检验这一理论。

祁拯平 译注 侯宁海 校

How a Fish Protein May Help Preserve Ice Cream?

Ice cream makers are still looking for a way to get rid of the large ice crystals that form when slightly melted ice cream is refrozen.① It's a big problem for the industry because it's hard to keep ice cream at the right temperature during storage and shipping.

They may soon take a tip from a perchlike fish that lives in the Antarctic. To keep it from freezing to death in the icy polar waters, the fish has a protein in its blood that acts as a biological "antifreeze".② Researchers aren't sure why the protein works. But physiologists suspect that unlike conventional antifreezes such as salt, which inhibit the formation of ice crystals, the fish antifreeze interferes with the growth of crystals once they've begun to form. So it should prevent ice cream from getting icy on refreezing.③ Scientists believe it should be possible to produce the protein in the laboratory, and several ice cream companies are interested in testing it.

词 汇

protein ['preʊtɪn] *n* 蛋白质

get rid of 去掉,摆脱

keep ... from 阻止;使免于

polar ['pəʊlə] *a* 地极的(南极的,北极的)

biological [ˌbaɪə'lɒdʒɪkəl] *a* 生物学的

antifreeze [ˌæntɪ'friːz] *n* 防冻

液,防冻剂

physiologist [ˌfɪzi'ɒlədʒɪst] *n* 生理学家

suspect [sə'spekt] *vt* 猜想,怀疑

conventional [kən'venʃənəl] *a* 常规的

interfere with 妨碍,干涉

注 释

- ① Ice cream ... looking for a way to get rid of ... crystals that form when ... refrozen. 句中, 动词不定式短语 to get rid of ... 作定语, 修饰 a way; that form ... 为定语从句, 修饰前面的 ice crystals; 在这定语从句中, when ... 是状语从句, 修饰定语从句中的谓语动词 form。
- ② To keep ..., ... a protein in its blood that ... that “anti-freeze”. 句中, To keep ... 为动词不定式短语, 作目的状语; that acts as ... 为分定语从句, 修饰 a protein。
- ③ So it ... on refreezing. 句中, 介词“on”相当于 at soon as (即: ... as soon as it refreezes.)

又如: On arriving there, we all set to work enthusiastically. (我们一到那里, 就劲头十足地干了起来。)

参考译文

鱼蛋白怎样会有助于保存冰淇淋?

冰淇淋制造商仍一直在寻求一种避免形成大块冰晶的方法。这些冰晶是在轻微融化的冰淇淋重新被冷冻时所形成的。对冰淇淋制造业而言, 这是个大难题, 因为在贮藏和运输过程中, 很难把冰淇淋维持在适当的温度中。

冰淇淋制造商不久就可以从一种生长在南极的类似鲈鱼的鱼类中得到启发。为了不致于在极地冰冻的水域中冻死, 该鱼的血液有一种起着生物“防冻”作用的蛋白质。研究人员无法确知这种蛋白质为什么会有这样的作用。但是, 生理学家们却怀疑, 该鱼中的防冻物质与一般的防冻剂, 比如盐, 就有所不同; 盐一类的防冻剂会阻止冰晶的形成。至于该鱼中的防冻物质, 则是一旦冰晶开始形成时, 它就能干扰冰晶的继续增长。所以, 该鱼中的防冻物质应能阻止冰淇淋在重新冷冻时形成冰晶。科学家们相信可以在实验室中制造这种蛋白质。并且, 已有几家冰淇淋公司对试用这种蛋白质发生了兴趣。

刘 生 译注 以 唯 校

Unwise to Refreeze Fish That Has Thawed

Question: Am I able to refreeze frozen fish? I know they have it packaged by individual slices, but I find these slices too thin for flavor so I buy the large hunk. After I've thawed it and cut off what I can use for one meal, is it all right to refreeze the rest? I've done this, but do not know if it is wise. What do you think?

Answer: I don't think it is wise. If the fish is kept under refrigeration during the thawing process, cut it while it is still frosty. Then when refrozen, there is little likelihood that there has been any tremendous bacteria build-up.⁽¹⁾ It is very unlikely that fish handled in that manner would cause any illness, though you would certainly lose quality.

Thawing and refreezing can break down muscle tissues. In a delicate fish muscle, the end result could be somewhat mushy. A better solution would be to ask somebody to cut the frozen piece of fish into serving-sized portions on his electric saw. Then wrap each piece separately and store in the freezer.

词 汇

thaw [θɔ:] *vt* 使解冻; 融化
package ['pækɪdʒ] *vt* 打包
hunk [hʌŋk] *n* 大块, 大片
cut off 切掉, 割掉

refrigeration [riˌfrɪdʒə'reɪʃən] *n*
冷冻
bacteria [bæk'tɪəriə] *n* 细菌
break down 损坏

注 释

- ① Then when refrozen, there ... build-up. 句中, when refrozen 是省略 the fish is 的条件状语从句; when 相当于 if; 假设的情况若是肯定的话, 往往用 when 而不用 if。

参考译文

化冻的鱼不宜再冷冻

问: 我能否把冻过的鱼再冷冻起来? 我知道人们把冻过的鱼一片一片地包起来。然而, 我发现这些鱼片太薄而没有味道。因此, 我便购买大块的冻鱼。在把鱼化冻并切下一顿饭所需要的用量之后, 将剩下的再冷冻起来, 这样做好吗? 我已这样做了, 不过, 并不知道这样做是否妥当。您以为如何?

答: 我以为这样做是不妥的。假如鱼是冷藏的, 在其化冻时, 趁它还挂霜就切。那么, 倘再次把鱼冷冻起来, 是不太可能产生大量细菌的。用这种方法处理冻鱼, 虽无疑会影响鱼的质量, 但也极不可能导致疾病。

化冻后再冷冻会破坏鱼的肌肉组织, 结果, 鲜美的鱼肉最后可能变得有点软糊糊的。较好的解决办法是请人用电锯把冻鱼锯成便于食用的份额, 然后, 将它们分别包起来贮藏在冰箱里。

刘 生 译注 以 唯 校

All Sweat Is Not the Same

Question: Is there a distinction between perspiration resulting from physical condition, such as temperature or exertion, and perspiration resulting from fear or nervousness?

Answer: Yes, there is. The skin has two types of sweat glands. The apocrine glands, which produce sweat in response to emotional stimuli, and the eccrine, which produce sweat both to regulate body heat and in response to emotional stimuli.

The apocrine glands are cloistered in certain parts of the body such as the armpits, the areola region of the breast, and the anus. The eccrine glands occur uniformly over the body. According to scientists, both glands are stimulated by the sympathetic nervous system which is activated by compounds such as adrenaine.

Eccrine glands produce clear watery sweat directly on the skin to cool it. The apocrine glands produce sweat containing part of the secreting cell, which is deposited on nearby hair follicles, where it mixes with bacteria and other body fluids such as oils and to produce a sweaty odor.①

词 汇

perspiration [ˌpɜːspə'reɪʃən] *n*

汗, 排汗

result from 因...而引起的

exertion [ɪg'zɜːʃən] *n* 尽力; 行使

gland [glænd] *n* 腺

apocrine [æpəkrɪn] *n* 大汗腺

in response to (响)应...而

eccrine ['ekrɪn] *n* 小汗腺

cloister ['kloɪstə] *vt* 使隔绝

areola [æ'reɪlə] *n* 乳头晕

uniform ['juːnɪfɔːm] *a* 均匀的

adrenaine [ə'drenəlɪn] *n* 肾上腺素

secreting cell [si'kriːtɪŋ sel] 分泌细胞

deposit [dɪ'pɒzɪt] *vt* 使淤积

follicle ['fɒlɪkl] *n* (小)囊

odor ['əʊdə] *n* (臭或香的)气味

注 释

① The apocrine ... sweat containing part of ... secreting cell,

which is deposited on it, where it mixes with ... 这是一个主从复合句。句中, containing... cell 是现在分词短语作定语, 修饰 sweat; which 引导的是非限定性定语从句, 修饰 the secreting cell; 而 where 引导的也是一个非限定性定语从句, 修饰 hair follicles.

参考译文

汗并不都一样

问: 由于发烧、运动等引起的身体出汗, 与由于害怕、紧张而引起的出汗有区别吗?

答: 是有区别的。人的皮肤有两种汗腺, 一种叫做大汗腺, 它主要分泌因情绪激动而出的汗; 另一种叫做小汗腺, 除了分泌因情绪激动而出的汗以外, 还分泌汗液以调节体温。

大汗腺分布在人体的某些特殊部位, 如腋下、乳头、肛门等。小汗腺则均匀地遍布人体全身。科学家们说, 这两种汗腺都受到交感神经的影响, 而交感神经又受到诸如肾上腺素之类的化合物的影响。

小汗腺直接在皮肤表面分泌清澈的汗液以降低其温度, 而大汗腺的汗液中则含有部分分泌细胞, 这些分泌细胞淤积在附近的毛囊中, 与其他体液中如油之类的有机物相结合, 在细菌的作用下, 发出汗臭味。

祁拯平 译注 一石 校

New Uses of Cottonwaste

Cotton is a non-perishable high value cash crop. Textile mills should aim at utilising the wastes and by products of cotton. Most of textile mills use coal, gas or oil as fuel at exorbitant prices. Cottonwaste can be utilised as alternative source of energy. Scientists have developed an experi-

mental plant for producing biogas from cottonwaste. The plant produces biogas and the digested slurry has also been found to be **rich** in nitrogen to be used as a manure.

Scientists have discovered the edible possibilities of cotton seeds. They have created a high protein cotton seed flour which, combined with other flours,^① is widely used in cakes, biscuits and breads. Cottonseed cake is also widely used as a protein rich meal for milch cattle. It increases the milk yield and fat content considerably.

The stems, leaves, boll glumes and roots have always been regarded as a waste. But this waste is now used to extract over 100 organic chemicals of various classes. Huge quantities of cotton plant stalk are available after harvesting cotton bolls. Scientists have demonstrated that it can be effectively used for growing mushrooms — a protein-rich vegetable — yielding about 0.5 kg of mushrooms per kg of cotton plant stalks.^② The production cost of mushrooms produced on cotton plant stalks is less than that on rice straw. At present, it is used for burning only.

Cotton plant leaves contain 17 organic acids, including citric and malic acids in large quantities. Citric acid accounts five to eight per cent of the dry weight of the leaves, and malic acid for three to four per cent. In addition to use in food, these acids find application in the medical, chemical, mining, textile and other industries.

Scientists have produced a growth agent out of cotton plant leaves. It is of unique chemical composition. The growth stimulator has been used in feeding pigs, sheep and cattle. It is being regularly used in livestock farming.

The cotton seed oil contains a chemical — gossypol—

which lowered the food value of cotton oil. It has been found now that gossypol is a valuable product. Some oil mills have altered the production process to make not only cotton seed oil but also gossypol. It has been discovered that gossypol and some of its derivatives are active inhibitors of oxidation of various organic compounds. They are highly useful for preservation of food and rubber products.

Scientists have found that gossypol and its derivatives are characterised by physiological activity of a broad spectrum. They have developed various potent medicines on the basis of gossypol. They are producing a gossypol liniment for treating prolonged virus infections.

An extract from cotton leaf is being used as a plasticiser to speed up the process of hardening of ferroconcrete. It has helped to improve the quality of product and lower the consumption of cement by five to eight per cent. The same extract decreases the hydraulic resistance of clay and cement mortar used in drilling oil wells. This makes it possible to use pumps of lower power output.

Scientists have discovered about 1200 useful substances in cotton plant "wastes". These discoveries have increased the value of this ancient and annually renewable crop many times over.

词 汇

perishable ['perɪʃəbl] *a* 容易腐烂的
exorbitant [ɪg'zɔːbɪtənt] *a* 昂贵的, 过高的
slurry ['slɔːri] *n* 淤浆, 淤渣

digest [dɪ'dʒest] *vt* 蒸煮; 蒸解
edible ['edɪbl] *a* 可以食用的
milch [mɪltʃ] *a* 生乳的
boll [bəʊl] *n* 棉桃, 棉铃
glume [glu:m] *n* 颖片