

通晓科技英语

文选

南京大学外文系公共英语教研室编



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Contents

1. The Fastest Tongue on Earth
 (世界上速度最快的舌头) 1
2. Microwave Ovens (微波炉) 4
3. Air-cushion People Mover(气垫车) 7
4. Anti-tumour Substance Gets a Boost (抗肿瘤物质
 有了发展)..... 9
5. Memory Improves in the Evening (晚上记忆力增强).....13
6. Intelligence Tests (智力测验)18
7. Miracle Fuzz (奇妙的绒毛)22
8. Journey to the Moon (4) (飞向月球(4))27

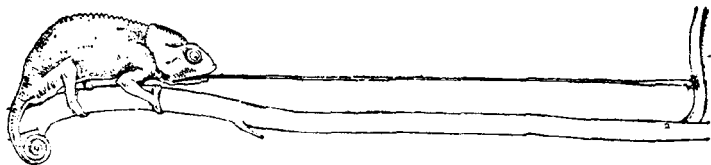
The Fastest Tongue on Earth

You probably know that the chameleon can change its colour to blend with its surroundings. But did you know that it has a tongue that is longer than its whole body①? It is probably the fastest tongue on earth. The chameleon can shoot it out at an incredible speed to capture an insect.

In every other respect the chameleon is a very slow creature. It spends most of its time sitting motionless on branches of bushes or trees, and when it does② change its position, it moves extremely slowly. But it has two very mobile and efficient eyes. These move independently of each other, so that the chameleon can see in every direction without moving its head at all.③ A motionless body is of course very valuable, as it does not frighten away the insects that are its prey.

When an insect settles within range, the chameleon opens its mouth slightly and you can see the pink tongue. The naked eye cannot see what happens next. It happens so rapidly that only a high-speed camera can record the action.④ All that the human watcher sees is the tongue going back into the chameleon's mouth and its jaws snapping shut.⑤ The insect, however, has disappeared and the chameleon is now chewing it.

What has really happened is that the chameleon has shot out its tongue at lightning speed. The sticky tip of the tongue has gone exactly the right distance to pick up the insect and take it back to its mouth, all at a speed that is invisible to the naked human eye.



The chameleon's tongue catching an insect as seen by a high-speed camera.

词 汇

chameleon [kə'mi:ljən] *n.* 变色

龙, 变色蜥蜴

blend [blend] *v.* 混和, (风格, 颜色等) 谐调一致

surrounding [sə'raundɪŋ] *n.* [复] 环境

incredible [in'kredəbl] *a.* 难以置信的

capture ['kæptʃə] *v.* 捕捉

insect ['insekt] *n.* 昆虫

creature ['kri:tʃə] *n.* 动物

motionless ['məʊʃənli:s] *a.* 不动的

bush [bu:] *n.* 灌木

mobile ['məʊbaɪl, 'məʊbi(:)l]

a. 可动的, 灵活的

efficient ['i:fɪənt] *a.* 效率高的

valuable ['væljuəbl] *a.* 有用的

frighten ['fraɪtn] *v.* 使惊恐

prey [preɪ] *n.* 被捕食的动物

settle ['setl] *v.* 停息

range [reɪndʒ] *n.* 视(听)觉范围; (枪炮) 射程

slightly ['slaitli] *ad.* 微微地

pink [pɪŋk] *a.* 粉红色

naked ['neɪkɪd] *a.* 裸露的

camera ['kæməɹə] *n.* 摄影机

record [rɪ'kɔ:d] *v.* 把(景象)记录下来; 记录

human ['hju:mən] *a.* 人类的

watcher ['wɒtʃə] *n.* 观察者

jaw [dʒɔ:] *n.* 颞

snap [snæp] (snapped; snapping)

v. 咯嗒一声(张开, 合上)

chew [tʃu:] *v.* 咀嚼

lightning ['laɪtnɪŋ] *n.* 闪电

sticky ['stɪki] *a.* 粘的

tip [tɪp] *n.* 尖

invisible [ɪn'vɪzəbl] *a.* 看不见的

短 语

on earth 世界上; 地球上

at (a) ... speed 以... 速度(表示

某种具体的速度要加冠词 a)
in every other respect 在任何
 其它方面
(to) spend ... (in) doing sth. 花
 费(时间)做某事
independently of 独立自主, 不
 倚靠别人(物)
so that 因而

in every direction 朝每个方向
(to) frighten away 吓跑
so ... that 这样... 以至于
(to) pick up 拿起, 本文中意为
 “逮住”
(to) take ... back to 把... 带回
 到(某处)

注 释

- ① *that is longer than its whole body*: 这是关系代词 *that* 引导的定语从句, 修饰 *tongue*.
- ② *does*: 在这里作加强语气用, 意为“的确”, “真地”。
- ③ *so that ... at all*: 这是由 *so that* 引导的结果状语从句。其中的 *moving* 是动名词, 作介词 *without* 的宾语。
- ④ *so rapidly that ... the action*: 这是由 *so ... that* 引导的结果状语从句。
- ⑤ *All that ... shut*. 句中的 *All* 是代词, *that ... sees* 是修饰 *All* 的定语从句。 *going back into the chameleon's mouth* 和 *snapping shut* 均为现在分词短语作定语, 分别修饰 *tongue* 和 *jaws*.

参考译文

世界上速度最快的舌头

你或许知道, 变色龙能改变自己的颜色以便和周围的环境混为一体。但是你可曾知道它有一条比自己整个身躯还要长的舌头吗? 那可能是世界上速度最快的舌头了。变色龙能用难以置信的速度将舌头射出去捕食昆虫。

但是就任何其它方面而言, 变色龙则是行动非常缓慢的动物。它大部分时间纹丝不动地栖息在灌木或树木的枝条上。当它确实改换位置时, 动作简直迟缓极了。然而, 它有两只非常灵活和明察秋毫的眼睛。

这两只眼睛互不倚赖地单独活动，因此变色龙根本无须转动头部便能看见四面八方。毫不动弹的身子自然是非常有用的，因为这样就不会吓跑它所捕食的昆虫。

当昆虫停在“射程”之内时，变色龙就微微地把嘴张开，于是你就能看到那条粉红色的舌头。肉眼是看不清下一步究竟发生了什么事情的。动作是如此之神速，只有高速摄影机才能拍下这样的镜头。观察的人所能看到的只是那条正在向变色龙嘴里缩回的舌头和紧接着咯嗒一声闭上了的嘴巴。可是昆虫不见了，变色龙正在咀嚼它。

实际发生的情况是这样的：变色龙以闪电般的速度射出它的舌头。它具有粘性的舌尖喷射的距离，正好能逮住昆虫，把它带回嘴里。所有这一切都是以人的肉眼看不见的速度进行的。

(文良)

Microwave Ovens

Yesterday morning I popped a frozen roast beef, new potatoes, and carrots into the microwave oven in my kitchen. I touched several pads on its electronic control panel and left for the office.

While I was at work, my microwave oven was working, too: First, it waited until 4:35. Then it defrosted the food for 15 minutes. Next, it waited 20 minutes while the food's internal temperature stabilized. Then it cooked the food for 50 minutes at medium power level. Finally, the oven kept the food warm. When I arrived home at 10 after six, dinner was ready. I had only to set the table and open the wine.

What makes it all possible is a microcomputer made by Texas Instruments and other companies specifically for the control of microwave ovens.①

Besides the convenience of hands-off cooking, however, computerization also offers you more precise control of cooking functions than ever before. Even though I've lived with my oven for about a year, I'm still slightly awed as I watch the digital readout when the oven is cooking food to a preset temperature. First, it reads —90 (less than 90 degrees F). When the food's temperature exceeds 90 degrees, the readout shows what's happening, degree by degree.② Finally, when the food reaches the perfect temperature (140 degrees for rare roast beef), a three-second tone tells me that dinner is ready. Cooking by time is equally precise with the oven's digital timer.



词 汇

oven ['ʌvən] *n.* 炉, 灶
 pop [pɒp] *v.* (轻而快地) 放置
 roast [rəʊst] *a.* 待烤的(肉)
 beef [bi:f] *n.* 牛肉
 potato [pə'teɪtəʊ] *n.* 马铃薯, 土豆
 carrot ['kærət] *n.* 胡萝卜
 pad [pæd] *n.* 微调电容
 panel ['pænl] *n.* 仪表板
 defrost [di'frɒst] *v.* 使冰溶解
 stabilize [s'teɪblaɪz] *v.* 稳定, 保持平衡

microcomputer ['maɪkrəʊkəm-
 'pjʊtə] *n.* 微型计算机
 Texas ['teksəs] *n.* 得克萨斯(美国西南部州名)
 specifically [spi'sɪfɪkəli] *ad.* 特别, 专门
 convenience [kən'vi:njəns] *n.* 方便, 便利
 awe [ɔ:] *v.* 敬畏
 digital ['dɪdʒɪtl] *a.* 数字的, 计数的
 readout ['ri:daut] *n.* 示值读数

exceed [ik'si:d] v. 超过

tone [təʊn] n. 调子

timer ['taimə] n. 计时器, 定时

器

短 语

leave for the office 去上班

(to) be at work 在工作

注 释

- ① What ... ovens. 这是句主从复合句。What makes it all possible 为主语从句, 其中 what 是从句中的主语, it 代表上段所述的全部过程。possible 为从句中的宾语补足语。主句中的 made by ... ovens 为分词短语, 作定语修饰 microcomputer.
- ② When the food's temperature ... degree. 这也是句主从复合句。when 引导状语从句。主句中包含一宾语从句 what's happening.

参考译文

微波 炉

昨天早晨, 我把冰冻待烤的牛肉、头茬土豆和胡萝卜轻轻放进厨房的微波炉内。我按了电子控制板上的几个微调电容, 就上班去了。

我在办公的时候, 我的微波炉也没闲着。首先, 到4点35分它开始工作。它用15分钟的时间使食物化冻。接着在使食物内部温度均匀一致的过程中, 停了20分钟。随后又以中等功率烹饪食物50分钟。最后, 微波炉给食物保暖。当我6点10分到家的时候, 晚饭已经好了。我只需摆好餐桌, 打开酒瓶。

使得这一切成为可能的是因为有得克萨斯仪器公司和其它公司专门为调节微波炉所生产的一台微型计算机。

使用微型计算机除了有做饭不用手的方便之外, 还能帮助你掌握比以前更精确的烹调火候。纵然我使用微波炉约有一年之久, 当我观察计数器的读数显示出微波炉正把食物加热到预定的温度时, 仍不免有点肃然起敬。一开始, 读数为-90 (低于华氏90度)。当食物的温度

超过 90 度时, 读数显示出一度一度所发生的变化。最后, 当食物达到最佳温度(嫩烤牛肉为 140 度)时, 一种 3 秒钟的音响通知我饭好了。使用微波炉的数字计时器, 计时做饭也同样精确。

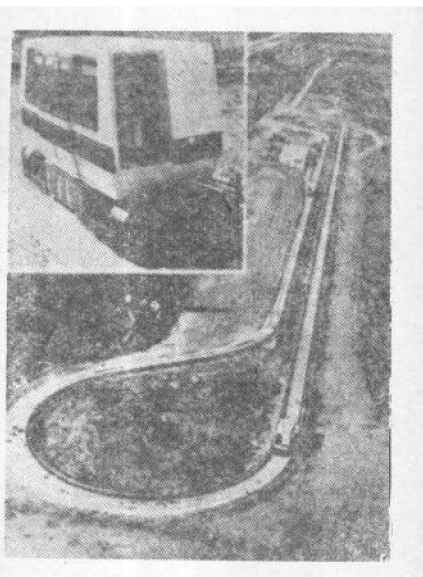
(吴霞)

Air-cushion People Mover

Ever wish you could float on air over congested city streets?① At Duke University Medical Center you can almost. Duke's people-mover system has computer-controlled cabs that ride on a thin cushion of air.

The Duke system consists of three 22-passenger vehicles that transport staff, visitors, and bedridden patients between a parking lot and two medical buildings.②

The system has no rotating parts. Electric power drives compressors that force air through flexible cushion floats. These raise the car above a concrete guideway that resembles a sidewalk. A linear-induction motor propels the cars by generating an electromagnetic force between the cab and metal elements in the guideway.



The cars can move sideways, as well as forward or backward. Braking occurs by reversing the thrust of the motor. For emergency braking, skids engage the guideway.

These people movers are pollution-free, vibrationless, and use little fuel. Since movement does not depend on traction, ice, snow, and rain don't limit performance.

All of this makes the basic system ideal for city-wide application③.

词 汇

cushion ['kʊʃən] *n.* 柔软的垫子

mover ['mu:və] *n.* 运送车

congest [kən'dʒest] *v.* 使(街道, 地方)拥挤

cab [kæb] *n.* 司机室

ride [raid] (rode [roud], ridden ['rɪdn]) *v.* 浮, 骑

vehicle ['vi:kl] *n.* 车辆

staff [stɑ:f] *n.* 工作人员

rotate [rəu'teɪt] *v.* 旋转

compressor [kəm'presə] *n.* 压气机

flexible ['fleksəbl] *a.* 易弯的, 能变形的

concrete ['kɒnkri:t] *n.* 混凝土

sidewalk ['saɪdwɜ:k] *n.* 人行道

linear ['li:nɪə] *a.* 线的, 直线的

induction [ɪn'dʌkʃən] *n.* (电) 感应

propel [prə'pel] *v.* 推进

electromagnetic [i,lekt'rəʊmæg-'netɪk] *a.* 电磁的

sideways ['saɪdweɪz] *ad.* 侧向

brake [breɪk] *v.* 制动

reverse [rɪ'vɜ:s] *v.* 倒退

thrust [θrʌst] *n.* 推力, 牵引力

skid [skɪd] *n.* 滑板, 导轨

emergency [ɪ'mə:dʒənsɪ] *n.* 危急, 紧急关头

vibration [vaɪ'breɪʃən] *n.* 震动, 颤动

traction ['trækʃən] *n.* 牵引力

guideway ['gaɪdweɪ] *n.* 导轨

注 释

- ① Ever wish you could float on air over congested city streets?
本句是省略了助动词 do 和主语 you 的一般疑问句。wish 后跟宾语从句, 谓语动词用的是虚拟语气。

- ② that transport staff ... buildings: 这是定语从句, 修饰 vehicles.
③ ideal for city-wide application: 这是宾语补足语, 说明宾语 the basic system.

参考译文

气 垫 车

你曾想浮在空气上越过拥挤的街道吗? 在杜克大学医疗中心, 你差不多能够实现你的愿望了。杜克的载人设备有用计算机控制的车辆, 这些车辆浮在一层薄薄的气垫上。

杜克的设备包括三辆可载 22 名乘客的车辆, 这些车辆在停车场与两座医疗大楼之间运送工作人员, 来访者和卧床的病人。

这套设备没有转动部件。电力开动压气机, 压气机驱使空气通过有弹性的浮垫。这些浮垫就使车子在象人行便道的混凝土导轨上上升起来了。一台线形感应电动机靠车辆与导轨上的金属成分之间产生电磁力, 推动车辆前进。

车辆不仅能前后行驶, 也能侧向移动。电动机倒转就能刹车。垫板与导轨衔接, 就紧急刹车。

这种车没有污染, 没有震动, 燃料耗量少。因为移动不依赖于牵引力, 行驶时也不受冰、雪、雨水的限制。

所有这些长处, 使得这一套基本设备成为能在市区内广泛使用的理想交通工具。

(吴霞)

Anti-tumour Substance Gets a Boost

Interferon, considered to be the most promising substance in combating virus infections①, will be produced on an in-

dustrial scale in two to three years.

Zurich molecular biologist Charles Weissmann recently succeeded in producing human interferon from bacteria with the help of genetic manipulation. He intends to cultivate interferon bacteria in 3,000-litre tanks, hoping to stimulate them to produce the precious substance②.

A Swedish study suggested that interferon could lead to a cancer breakthrough. But this has not been confirmed by a similar study by the American Cancer Society.

Though the condition of 7 out of 16 breast cancer patients improved after interferon treatment, in the case of a similar test with bone cancer patients the success rate was considerably smaller: Only 3 out of 11 showed an improvement, but there were serious side effects.

Little is known as to what therapy should be applied to which type of cancer and which type of interferon (there are many kinds) could be used in each case③.

Little is also known about the correct dosage because researchers need adequate quantities of the costly substance to carry out the necessary tests.

There were high hopes that the expensive interferon would lead to a breakthrough in the fight against cancer④, but these have proved premature.

However, no one disputes any more that the substance checks the growth of tumours.

According to virologist Professor Holger Kirchner of the German Cancer Research Centre in Heidelberg, interferon is ideal for virus infections. He points out in an article that the substance can be taken over a long period of time without fearing side effects⑤.

But it is difficult to administer interferon in good time^⑥ because virus infections are usually diagnosed rather late while interferon can only protect cells that are still uninfected.

Unlike bacterial infections, which have been successfully combated since the discovery of penicillin, medicine has no universal weapon against virus infections.

词 汇

interferon [ˌɪntə(ɪ)'fiərən] *n.* [生
化]干扰素

promising ['prɒmɪʃɪŋ] *a.* 有希望
的

combat ['kɒmbət] *v.* 跟…斗争

virus ['vaɪərəs] *n.* 病毒

infection [ɪn'fekʃən] *n.* 感染

scale [skeɪl] *n.* 规模

Zurich ['zʊərɪk] 苏黎世(瑞士
城市)

molecular [məu'lekjulə] *a.* [化]
分子的

biologist [baɪ'ɒlədʒɪst] *n.* 生物
学家

Charles Weissmann 查尔斯·魏
斯曼(德国人名)

bacteria [bæk'tɪəriə] [复] *n.*
(bacterium [bæk'tɪəriəm] 的
复数)细菌

genetic [dʒi'netɪk] *a.* 遗传学的
manipulation [mə'nɪpjʊ'leɪʃən] *n.*
处理;控制

intend [ɪn'tend] *v.* 打算

cultivate ['kʌltɪveɪt] *v.* 培养

litre ['lɪtə] *n.* 升(容量单位)

tank [tæŋk] *n.* (盛液体或气体
的)大容器

stimulate ['stɪmjuleɪt] *v.* 促进

precious ['preʃəs] *a.* 珍贵

cancer ['kænsə] *n.* 癌症

breakthrough ['breɪkθru:] *n.* 突
破

confirm [kən'fɔ:m] *v.* 证实

society [sə'saɪəti] *n.* 会社,社会

breast [brest] *n.* 乳房

treatment ['tri:tmənt] *n.* 治疗

case [keɪs] *n.* 实例,病例

rate [reɪt] *n.* 比率

therapy ['θerəpi] *n.* 疗法

dosage ['dɔ:sɪdʒ] *n.* 剂量

researcher [ri'sə:tʃə] *n.* 研究者

adequate ['ædɪkwɪt] *a.* 足够的

costly ['kɒstli] *a.* 昂贵的

premature [ˌpremə'tʃʊə, ˌpri-
mə'tʃʊə] *a.* 不成熟的,过早的

dispute [dɪs'pjʊt] *v.* 对…提出
质疑,争论

check [tʃek] *v.* 制止

tumour ['tju:mə] *n.* 肿瘤
 Holger Kirchner 霍尔格·基
 希纳(德国人名)
 Heidelberg 海德堡(西德城市)
 administer [əd'ministə] *v.* 用(药
 等);管理
 diagnose ['daɪənoʊz] *v.* 诊断
 (疾病)

cell [sel] *n.* 细胞
 uninfected [ˈʌnɪn'fektɪd] *a.* 没感
 染的
 bacterial [bæk'tɪəriəl] *a.* 细菌的
 penicillin [ˌpenɪ'sɪlɪn, pe'nɪsɪlɪn]
n. 青霉素
 universal [ˌjuːni'vɜːsəl] *a.* 普遍
 适用的

短 语

on an industrial scale 以工业
 的规模
 in the case of 就...而言

as to 关于
 (to) apply to 适用于
 in good time 及时

注 释

- ① considered to be ... infections: 过去分词短语作定语, 修饰 interferon。其中的介词短语 in combating virus infections 作定语, 修饰 substance; 动名词 combating 为介词 in 的宾语。
- ② hoping to stimulate them to produce the precious substance: 现在分词短语作状语, 表示伴随情况, 修饰谓语动词 intends。
- ③ what therapy ... case: what ... cancer 和 which ... case 都是 as to 的宾语从句。
- ④ that ... cancer: 这是同位语从句, 解释名词 hopes 的具体内容。
- ⑤ fearing side effects: 动名词短语作介词 without 的宾语。
- ⑥ it is difficult to administer interferon in good time: it 是形式主语, 真正主语为不定式短语 to administer ... time。

参考译文

抗肿瘤物质有了发展

干扰素——被人们认为最有希望的抗病毒感染物质——将在二、

三年后投入工业生产。

苏黎世分子生物学家查尔斯·魏斯曼教授最近用遗传处理的方法成功地从细菌中制出了人类的干扰素。他打算在 3000 升的容器里培养干扰素细菌，希望促使它们产生这种珍贵的物质。

瑞典有篇研究报告提出，干扰素可能导致对癌症的突破。但是这个看法还没有得到美国癌症学会所进行的同类研究的证实。

虽然 16 名乳房癌患者中有 7 名在经过干扰素治疗后病情有了好转，但是对骨癌患者所作的同类试验中，成功率却相当低：11 例中仅仅 3 例有所好转，却有严重的副作用。

关于什么类型的癌症应当用什么疗法，和每种病例应当用哪种干扰素（有许多种干扰素）还了解得很少。关于正确的剂量也了解的不多，因为研究人员需要有足量的这种昂贵物质来进行必要的试验。

有种种认为在和癌症进行斗争中，这种昂贵的干扰素会导致突破性进展的奢望，然而这还都言之过早。不过再也没有人不同意这种物质能抑止肿瘤发展了。

根据海德堡德国癌症研究中心的病毒学家霍尔格·基希纳教授的研究，干扰素是治疗病毒感染的理想药物。他在一篇文章中指出，这种物质可以长期服用，不必担心产生副作用。

但是适时使用干扰素是很难的，因为病毒感染通常都确诊得太晚，而干扰素却只能保护尚未感染的细胞。

青霉素出现以来，人们已经战胜了细菌感染。但是病毒感染不一样，医学上还没有普遍适用的武器。

（拓笔）

Memory Improves in the Evening

Have you ever taken an exam at 9 am and wondered why you can't remember facts you thought, from your evening revision, were familiar^①? It may be that you are the victim of