通信科技英语文选

南京大学外文系公共英语教研室编

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第四辑

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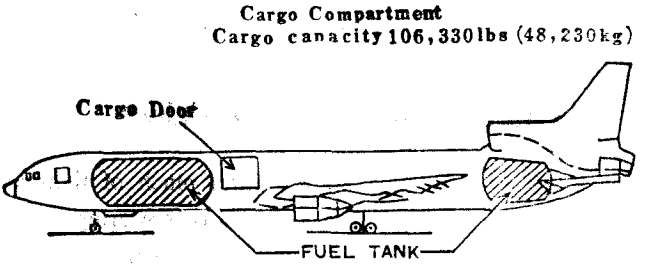
Contents

Hydrogen-powered Air Freighter

As airlines feel the ever more painful pinch of tight and expensive petroleum fuel supplies, the goal of powering aircraft with liquid-hydrogen fuel becomes ever more attractive. Now Lockheed Aircraft Co. has put forward a plan for a four-country fleet of modified L-1011 freighters to begin hauling cargo in 1987. The new craft, shown here in the picture, would be 35 feet longer than present L-1011's①. A large liquid-hydrogen (LH) fuel tank would be installed forward of the cargo hold, and a second, smaller LH tank aft, with a combined fuel capacity of 50,000 pounds. The plane could carry 106,000 pounds of cargo over a range of 3,500 nautical miles.

Where would these large quantities of liquid hydrogen come from? Under the Lockheed plan, four nations — the United States, Great Britain, West Germany, and Saudi Arabia — would each build its own LH plant near a major airport. The fuel would be stored in underground reservoirs at the airfields.

Development, production, and delivery of four aircraft, according to Lockheed, would cost about $650 million. Throw in the LH plants and the special airport facilities, and the total cost to be shared among the four participating governments is about $1.38 billion. If the project began in 1980, the planes could be flying, Lockheed says, by 1987.



词　汇

hydrogen-powered ['haidridʒən 'pauəd] *a.* 以氢为动力的
freighter ['freitə] *n.* 运输机
airline ['ɛəlain] *n.* 航空公司
pinch [pintʃ] *n.* 困难
tight [tait] *a.* 紧的
expensive [iks'pensiv] *a.* (价格)昂贵的
petroleum [pi'trəuljəm] *n.* 石油
goal [gəul] *n.* 目的,目标
aircraft ['ɛəkrɑ:ft] *n.* (单复数相同)飞机
liquid-hydrogen ['likwid 'haidridʒən] *n.* 液态氢
Lockheed Aircraft Co. ['lɔkhi:d 'ɛəkrɑ:ft 'kʌmpəni] 洛克希德航空公司
fleet [fli:t] *n.* 机群
modified ['mɔdifaid] *a.* 改进(良)后的
haul [hɔ:l] *v.* 运输
cargo ['kɑ:gəu] (pl. cargoes) *n.* 货物
fuel tank ['fjuəl 'tæŋk] *n.* 油箱
install [in'stɔ:l] *v.* 安装
hold [həuld] *n.* (货)舱
aft [ɑ:ft] *ad.* & *n.* 尾部(的)
combined [kəm'baind] *a.* 混合的
capacity [kə'pæsiti] *n.* (负)载量
nautical mile ['nɔ:tikəl mail] *n.* 海里,浬 (= 1853.2 米)
quantity ['kwɔntiti] *n.*(数)量
Saudi Arabia ['saudi ə'reibjə] *n.* 沙特阿拉伯
major ['meidʒə] *a.* 主要的
airport ['ɛəpɔ:t] *n.* (民用)飞机场
underground ['ʌndəgraund] *a.* 地下的

reservoir ['rezəvwɑ:] *n.* 蓄油池
airfield ['ɛəfi ld] *n.* (飞)机场
development [di'veləpmənt] *n.* 研制
production [prə'dʌkʃən] *n.* 生产
delivery [di'livəri] *n.* 交(付)货
cost [kɔst] *v.* & *n.* 价值
million ['miljən] *n.* 百万
throw [θrəu] *n.* 投资;投入
facility [fə'siliti] *n.* 设备(常用复数)
share [ʃɛə] *v.* 分摊,共同负担
participate [pɑ:'tisipeit] *v.* 参加(与)
government ['gʌvənmənt] *n.* 政府
billion ['biljən] *n.* 十亿
project ['prɔdʒekt] *n.* 工程
fly [flai] (flew, flown) *v.* 飞行,航行

短　语

(to) power... with... 给…(以动力)
(to) put forward 提出
large quantities of 大量的,大批的
according to 根据

注　释

① The new craft, ... than present L-1011's. 本句为虚拟语气,表示一种设想。此篇文章有很多这种句子，谓语部分都用“would＋动词”来表示。因为此种飞机当时尚未开始制造。

参考译文

氢动力航空运输机

航空公司由于石油价格上涨、供应不足而越来越感到苦恼时，以液氢作为飞机燃油这个目标便变得越来越具有吸引力。洛克希德航空公司已制订计划，要使经过改进的 L-1011 型四国联合运输机群于 1987 年开始载运货物。这种新型飞机（如图所示），要比目前的 L-1011 型飞机长 35 英尺。一个大的液氢油箱安装在货仓前面，另一个较小的液氢油箱安装在机尾。全部装油量为 50,000 磅。这种飞机能够装载 105,000 磅货物，最大航程 3,500 海里。

从哪里取得如此大量的液氢呢？洛克希德公司计划，美国、英国、西德和沙特阿拉伯这四个国家将在各自的一个主要机场附近建造自己的液氢工厂。液氢将储存在机场的地下燃料库里。

据洛克希德公司的计划，研制、生产、交付四架飞机将花费6亿5,000万美元左右。建造液氢工厂和专门的机场设备的投资，以及四个参加国政府分担的总费用约为10亿3,800万美元。洛克希德公司预料：如果这个工程在1980年开始，那末，到1987年这种飞机就能开始航行。

（钱兴荣 注译）

An Unsolved Mystery

Did you know that mystery of the sailing ship, the Mary Celeste, has never been solved?①

The Dei Gratia set sail from New York harbour in November 1872 on a voyage to Gibraltar. The sea was calm, and for a whole month the voyage was completely uneventful. Then in mid-Atlantic the crew sighted a lonely ship. The skipper, Captain Morehouse, at once recognized it as the Mary Celeste, because she had set sail only a couple of days before the Dei Gratia. He knew that her captain, Benjamin Briggs, had taken his wife and two-year-old daughter Sophia with him. He had a crew of seven and his cargo was oil and alcohol.

The Mary Celeste was taking a very unsteady course. She seemed to be drifting with the wind and tide. Captain Morehouse looked through his telescope in surprise. Whatever was Captain Briggs doing? Then he looked again and saw that the decks of the Mary Celeste were deserted. There was no

one at the wheel and not a soul could be seen.

Captain Morehouse signalled to the Mary Celeste, but no signal came back. Then he sent three of his crew in a small boat to investigate. They went on board, but found no sign of life. They found no sign of Captain Briggs or his wife or his daughter. They found no sign of the crew. More surprising still, they found no sign of fire or violence or death.② There was nothing wrong with the ship. Her cargo was intact. The captain's cabin was undisturbed. No one's belongings had been touched. The only things missing were the ship's papers and her only boat.③

Clearly, the Captain and his family and the seven crew had left the ship at a moments' notice. But why? Captain Morehouse ordered the three men to man the Mary Celeste and follow him to Gibraltar. There she was examined again by the authoritities. But they found nothing to explain why she had been deserted. Inquiries went on for a long time, but no one could offer an explanation. There was no storm at that time and yet the Mary Celeste's small boat never landed anywhere. The boat and its occupants disappeared as mysteriously, as they left the ship.

The Mary Celeste was manned by a new crew and continued to sail the seas for another 12 years. Yet not another word was ever heard of Captain Briggs and his wife and child, or of the seven members of his crew.④

词　汇

unsolved ['ʌn'sɔlvd] *a.* 未解决的
mystery ['mistəri] *n.* 秘密，神秘
sailing ['seiliŋ] *a.* 航行的
sailing ship *n.* 帆船
Mary Celeste *n.* 玛丽·塞莱斯

特号(船名)

Dei Gratia *n.* 德·格雷希尔号(船名)

harbour ['hɑ:bə] *n.* 港口,港湾

voyage ['vɔiidʒ] *n.* 航海,航行

Gibraltar [dʒi'brɔ:ltə] *n.* 直布罗陀(地名)

uneventful ['ʌni'ventful] *a.* 无事故的

mid-Atlantic [ət'læntik] *n.* 大西洋中部

crew [kru:] *n.* 水手,全体船员

sight [sait] *v.* 看见

skipper ['skipə] *n.* 船长,机长

captain ['kæptin] *n.* 船长,舰长

Morehouse *n.* 莫尔豪斯(人名)

recognize ['rekəgnaiz] *v.* 认识,认出

Benjamin Briggs *n.* 本杰明·布里格斯(人名)

Sophia *n.* 索菲娅(人名)

cargo ['kɑ:gəu] *n.* 货物

alcohol ['ælkəhɔl] *n.* 酒精

unsteady ['ʌn'stedi] *a.* 不平稳的,不稳定的

course [kɔ:s] *n.* 航线

drift [drift] *v.* 漂流

tide [taid] *n.* 潮水,潮

telescope ['teliskəup] *n.* 望远镜

deck [dek] *n.* 甲板

deserted [di'zə:tid] *a.* 无人的,荒废的

wheel [wi:l] *n.* 驾驶盘,舵轮

soul [səul] *n.* 人

signal ['signəl] *v.* 发信号,打信号

investigate [in'vesti,geit] *v.* 调查研究

board [bɔ:d] *n.* 船舷

violence ['vaiələns] *n.* 暴力行为

intact [in'tækt] *a.* 未受损的,完整的

cabin ['kæbin] *n.* 船舱

captain's cabin 船长室

undisturbed ['ʌndis'tə:bd] *a.* 没有受到干扰的,宁静的

belonging [bi'lɔŋiŋ] *n.* 所有物,行李

missing ['misiŋ] *a.* 丢失的

man [mæn] *v.* 在…就位,操纵

authority [ɔ:'θɔriti] *n.* 权威人士

inquiry [in'kwaiəri] *n.* 调查,询问

offer ['ɔfə] *v.* 提出,给予

occupant ['ɔkjupənt] *n.* 占用者,居住者

mysteriously [mis'tiəriəsli] *ad.* 神秘地,不可思议地

短　语

to set sail 起帆,开航

on a voyage 航行

a couple of days 三两天
in surprise 惊异地
(to) go on board 上船
at a moment's notice 一接到通知(警告)

注　释

① Did you know that mystery of the sailing ship, the Mary Celeste, has never been solved? 这是主从复合句，Did you know 是主句，that 引导的是宾语从句，其中 the Mary Celeste 是 the sailing ship 的同位语，谓语 has never been solved 是现在完成式的被动语态。

② More surprising still, they found no sign of fire or violence or death. 句首的 more surprising still 是插入语，表示说话人对说的话所持的态度。

③ The only things missing were the ship's papers and her only boat. 句中 missing 是后置定语，修饰 things.

④ Yet not another word was ever heard of Captain Briggs and his wife and child, or of the seven members of his crew. 句中 not another word 是主语，was ever heard 是谓语，后面由 or 连接的两个 of 引导的介词短语则是修饰 word 的定语，本来是紧接 word 后面的，为了避免主语部分过长，句子失去平衡，就把它们移至谓语之后。

参考译文

一个未解的谜

"玛丽·塞莱斯特"号帆船这个谜至今还未揭开，你知道吗？

1872 年 11 月，"德·格雷希尔"号从纽约港启航去直布罗陀。海上风平浪静，整整一个月，一直平安无事。后来，在大西洋中部，水手们看到了一叶孤舟。莫尔豪斯船长立即认出这只船就是"玛丽·塞莱斯特"号，因为它是在"德·格雷希尔"号启航前两、三天出发的。他知道本杰明·布里格斯船长带了他的妻子和两岁的女儿索菲娅同行。他还有七

名水手。船上的货物是油和酒精。

"玛丽·塞莱斯特"号航向很不稳定。这条船似乎在随着风和潮水漂流。莫尔豪斯船长在望远镜里看得惊呆了。本杰明船长究竟在干什么呢？然后，他再次查看，发现"玛丽·塞莱斯特"号的甲板上没有人。既没有人掌舵，甲板上也不见人影。

莫尔豪斯船长向"玛丽·塞莱斯特"号发出信号，但没有收到发回的信号。后来，他派出三名水手乘一条小艇去调查。他们上了甲板，但是没有发现有生命的迹象。他们没有发现本杰明船长、他的妻子、女儿和水手的踪迹。更加使人惊奇的是：他们没有发现火灾、暴力或死亡的迹象。船也没有受到损坏。船上的货物完整无损。船长室也没有乱动过。大家的东西都原封未动。丢失的东西只有船照和船上唯一的救生艇。

显而易见，船长、他的家属和七位水手一得到通知就立即离开了船。究竟发生了什么事情呢？莫尔豪斯船长命令三名水手去驾驶"玛丽·塞莱斯特"号，紧跟着他的船，向直布罗陀驶去。在直布罗陀，权威人士又检查了这艘船，但是，还没有发现什么可以解释这条船上没有人。调查继续进行了很久，但没有人能够作出解释。那时没有风暴，"玛丽·塞莱斯特"号的救生艇也未在什么地方登陆。他们离开大船时，救生艇及其乘客却神秘地消失了。

"玛丽·塞莱斯特"号由一些新水手驾驶着，在海上继续航行了12年之久。然而，再也没有听到过布里格斯船长及其妻子女儿的消息。也没有听到他船上七名船员的消息。

（何钟文 注译）

Air Cushion Transport

A hovercraft is a kind of boat, but it does not float on the

water. It floats on a cushion of air, and it can travel on water or land. The new hovercraft in the Channel can carry two hundred and fifty passengers and thirty cars at sixty m.p.h., a fast speed for a boat. It can travel from England to France in forty minutes (the ferryboats take almost three hours) and it is more comfortable because it does not go up and down with the waves.

But how does a hovercraft work? Air cushion vehicles are not a new idea. But there was a problem. For a vehicle with a large base a great volume of air was necessary to lift it up, and of course a large power unit was necessary too. This was not economical. Then in 1953 Christopher Cockerell, a British electronics engineer, had a new idea about the air cushion. Why not have the air cushion only round the edge of the vehicle bottom? In an experiment he took a coffee tin and cut the bottom out. Inside the tin he fixed a small coffee tin with a bottom. Then he connected the apparatus to a small fan. The air passed through the gap between the inside of the large tin and the outside of the small one. The pressure of air round the edge of the tins was strong; the power to weight ratio was right.

Cockerell made a model hovercraft and a company began to experiment with large ones. But there was another problem. They made a prototype hovercraft and it travelled well over smooth surfaces. But over rough surfaces and small waves it travelled very badly. It went up and down, or turned over. It was necessary to find a way to lift the vehicle high off the surface.①

The answer was the flexible rubber skirt. Usually this is inflatable. The jet of air from the fan comes out just inside

it. With this the hovercraft can "fly" over waves or small obstacles and it does not go up and down or turn over. But the skirt must be extremely strong or it breaks and tears on hard obstacles.

Who uses the hovercraft? Naturally, they are very useful as sea and river ferries. They are fast and comfortable. Some rivers are difficult for boats to use because of sandbanks or rapids. But the hovercraft can travel over these easily.

The principle of the air cushion has many other possibilities. There is the "hovertrain", for example. With an air cushion under it there is no friction to slow the train down. It can travel very fast — 300 m.p.h. to be exact.② A British company built a prototype some time ago. It runs on an elevated concrete track with a linear induction motor. The train has no driver and picks up power from a rail beside the track.

Engineers can also use the air cushion principle for transporting very heavy loads over not very strong bridges or roads. For example, electrical transformers are very heavy, but an air cushion under the vehicle transporting one spreads the load. Then the weight under each wheel of the vehicle is small and it is not necessary to strengthen the bridges — a very expensive job.

Farmers can use the hovercraft principle, too. Sometimes they must spray their crops with insecticide. This is difficult without an aeroplane when the plants are growing because a tractor damages the plants under its big, heavy wheels. But with an air cushion tractor it is different. The air cushion does not damage the young plants and the wheels are very light.

In some hospitals doctors use the air cushion bed for pa-

tients with bad burns. The patient floats on a cushion of air and there is little pressure on his burns. He is comfortable and his burns heal quickly.

There are other applications, too. People have air cushion machines to cut the grass in their gardens. There are hovercars and hoverbuses. There is hoverhome, too; a caravan on an air cushion. It is not necessary for people to always live in the same place now.③ They can hover to a new place after a few weeks.

And it all began with two old coffee tins.④

词　汇

cushion ['kuʃən] *n.* 垫子
transport [træns'pɔ:t] *n.* 运输；运输船
air cushion transport 气垫船
hovercraft ['hɔvə'krɑ:ft] *n.* 气垫船
float [fləut] *v.* 浮，漂浮
channel ['tʃænl] *n.* 海峡，水道
passenger ['pæsindʒə] *n.* 乘客，旅客
m. p. h. =mile per hour 每小时英里
ferryboat ['feribəut] *n.* 摆渡船
wave [weiv] *n.* 波，波浪
vehicles ['vi:ikl] *n.* 运载工具(车辆，船只，飞机等)，此处指气垫船
base [beis] *n.* 底部
volume ['vɔlju(:)m] *n.* 容量，体积
power unit 动力组
economical [,ikə'nɔmikəl] *a.* 节约的，节俭的
edge [edʒ] *n.* 边，边缘
fix [fiks] *v.* 安装
connect [kə'nekt] *v.* 连接，连结
apparatus [,æpə'reitəs] *n.* 仪器，设备，装置
fan [fæn] *n.* 风扇，鼓风机
gap [gæp] *n.* 间隔，隙，缺口
pressure ['preʃə] *n.* 压力
ratio ['reiʃiəu] *n.* 比率
company ['kʌmpəni] *n.* 公司，商号
prototype ['prəutətaip] *n.* 原型，样板
smooth [smu:ð] *a.* 平滑的，光滑的
rough [rʌf] *a.* 粗糙的，毛糙的
surface ['sə:fis] *n.* 表面

flexible ['fleksəbl] *a.* 柔韧的，易弯的
rubber ['rʌbə] *n.* 橡胶，橡皮
skirt [skə:t] *n.* 套筒
inflatable [in'fleitəbl] *a.* 可膨胀的
jet [dʒet] *n.* 喷射，气流
obstacle ['ɔbstekl] *n.* 障碍
extremely [iks'tri:mli] *a.* 极端，极其，非常
sandbank ['sænd'bæŋk] *n.* 沙坝，沙洲，沙滩
rapids ['ræpid] *n.* （常用复数）急流，湍滩
possibility [ˌpɔsə'biliti] *n.* 可能性；（常用复数）可能发生的事，前景
friction ['frikʃən] *n.* 摩擦，阻力
elevated ['eliveitid] *a.* 升高的，提高的
concrete ['kɔnkri:t] *n.* 混凝土，水泥
track [træk] *n.* 轨道
linear ['liniə] *a.* 线的，直线的
induction [in'dʌkʃən] *n.* 感应现象
induction motor 感应电动机
rail [reil] *n.* 轨（条），栏杆，扶手
principle ['prinsəpl] *n.* 原则，原理
load [ləud] *n.* 负载，载荷
transformer [træns'fɔ:mə] *n.* 变压器
wheel [hwi:l] *n.* 车轮
strengthen ['streŋθən] *v.* 加强，使强有力
expensive [iks'pensiv] *a.* 昂贵的
spray [sprei] *v.* 喷射
insecticide [in'sektisaid] *n.* 杀虫剂
damage ['dæmidʒ] *v.* 损害，毁坏
patient ['peiʃənt] *n.* 病人
burn [bə:n] *n.* 烧伤，灼伤
heal [hi:l] *v.* 治愈，使恢复健康
application [ˌæpli'keiʃən] *n.* 应用，适用
caravan ['kærəvæn] *n.* 商队，旅行队，车队
hover ['hɔvə] *v.* 盘旋，滑翔

短　语

the Channel 英吉利海峡
(to) lift up 举起，抬高
a great volume of 大量的
(to) go up and down 上上下下，颠簸
(to) turn over 翻转，倾倒，打翻
(to) pick up 得到

注　释

① It was necessary to find a way to lift the vehicle high off the surface. 句中 it 是先行词作形式主语，真正主语是 to find a way. to lift the vehicle high off the surface 是不定式短语作定语，修饰 way.

② It can travel very fast — 300 m.p.h. to be exact. 句中 to be exact 不定式作状语。

③ It is not necessary for people to always live in the same place now. 句中 always 放在 to 和 live 之间，使 to live 成为分裂不定式，现已常见。

④ And it all began with two old coffee tins. 此处 it 指气垫船的产生和发展。

参考译文

气垫运输

气垫船是一种船，但它并不浮在水上，而是浮在气垫上。它在水上、陆地上都能行驶。新型的气垫船能装载250位旅客、30辆汽车驶过海峡。时速可达60英里。对于船只来说，这个速度是很快的。从英国到法国只要航行40分钟（摆渡船几乎要3小时）。气垫船并不逐浪颠簸，因此，比乘别的船更舒服。

气垫船是怎样运转工作的呢？发明气垫船并不是什么新的主意。但是，在过去是有难题要解决的。要把一个底部很大的气垫船举起来需要大量的空气，当然，也需要强大的动力。这样做不经济。1953年一位英国电子工程师克里斯多夫·考克雷尔对气垫有了新的想法。为什么不使气垫只围绕在船底的边缘呢？有一次实验，他拿出一只装过咖啡的马口铁罐，把它的底弄掉，再把一只有底的小罐子放在这只割掉了底的咖啡罐里，然后，把它与一只小鼓风机连接起来。空气通过两只罐子之间的空隙。在罐子边缘周围的空气压力强，力与重量之比恰当。

考克雷尔作了一只气垫船的模型，有一家公司开始用大的气垫船