科技珍闻

READINGS IN MODERN SCIENCE

英汉对照读物

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魏树德　译注

内容简介

本书可供具有初级英语基础的大中学生及其他英语爱好者阅读之用。全书共有课文12篇，均选自原文书刊。内容广泛新颖，语言精练，反映了工业、农业、科学、技术以及医学等领域一部分最新成就或发展趋势，因而本书有助于提高英语阅读能力和增长科技知识。本书各篇文章之后有生词表、注释和形式多样的练习；书末附有参考译文、练习答案和总词汇表及常用词组，极便于自学之用。

前　言

　　本书是供具有初级英语基础的大中学生及其他英语爱好者阅读的科技英语读物。全书共有课文十二篇，均选自原文书刊。内容广泛新颖，文字精练，反映了现代科技中一部分最新成就。其中主要包括对自然界——从海洋到宇宙空间秘密的探索，未来海洋城市的前景，新生儿生理的特点及其护理，农业上的新发展——水栽法，新的工艺和先进的技术设备等等。学习本书的读者，不仅可以提高英语阅读能力，而且可以增长科技知识，对科学技术的发展前景会得到新的启示。

　　为了使不同水平的读者都能顺利地阅读本书，每篇课文后都有生词表（包括常用词组）、注释和形式多样的练习；书中有插图多幅，书末附有参考译文、练习答案、总词汇表和常用词组。

　　由于译注者的水平、经验有限，本书可能存在一些缺点和错误，敬希读者批评指正。

　　本书译文承北京工业学院电子工程系教授李卫同志校阅，在此深表谢意。

<div style="text-align: right">

译注者

一九八七年六月十日

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Contents　　（目　录）

CHAPTER ONE

Text

FUTURE CITY IN THE SEA

Dr. Athelstan Spilhaus, a prominent American meteorologist and oceanographer, feels that the solution to many of today's problems of energy ecology, and population may be an ocean-based industrial community, surrounded by undersea farms and oilfields.[1] The farms would provide raw material for the community's factories and the oilfields would supply the fuel.[2]

The community development as envisioned by Dr. Spilhaus would have an airport, nuclear power plant, deep water harbor for giant oil tankers, and an oil refinery.[3] It would provide new space for those industries that are necessary but which are "ecologically dirty."[4] The ocean-based industrial community would be close enough to the crowded centers of world commerce for convenience but distant enough to reduce the hazards of air, noise, and water pollution. On this economic base a city should prosper with benefits such as housing for workers, service industries, hotels, recreational facilities, etc.

The artificial industrial island would be self-sufficient and through a system of conduits could easily provide power, products, and even garbage disposal for the main-

land. Organic waste would be converted to nurients for fish farms. Sea water heated in the process of cooling nuclear power plants would provide a greenhouse effect for aquaculture, such as hydroponics. [5]

Is Dr. Spilhaus's idea only a dream? Perhaps. But off-shore oil drilling rigs are now common; oil tankers are being loaded far from port at buoys connected to land by pipelines, [6] a floating nuclear plant is planned for construc-
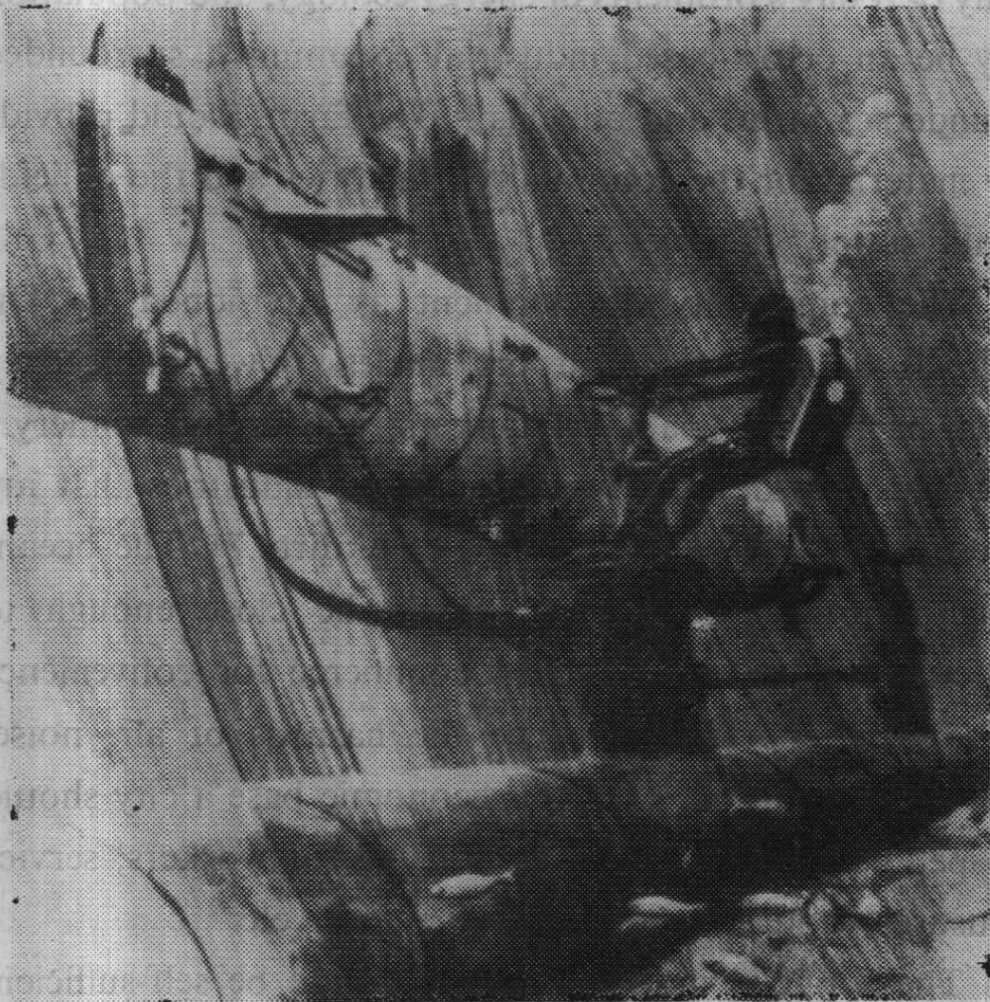

Figure 1: Drawing of submerged pipelines and submarine tanker which are connected to load oil produced from wells near ocean-based industrial community.

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tion off the coast of New Jersey; Hawaii is increasing the size of an airport by building a runway on a coral reef; and a sea port off the coast of Texas has been proposed.

In Figure 1 we see an artistic projection of things to come.[7] A frogman is completing a hookup between submerged pipelines and a submarine tanker in order to load oil produced from wells near the floating city. In Figure 2 divers are shown on their way to work at their jobs in seaweed and fish farms or undersea laboratories.[8] In the background is an underwater hotel, built inside buge pylons and insulated from the noise of the airport above the surface by the sea water itself.[9]
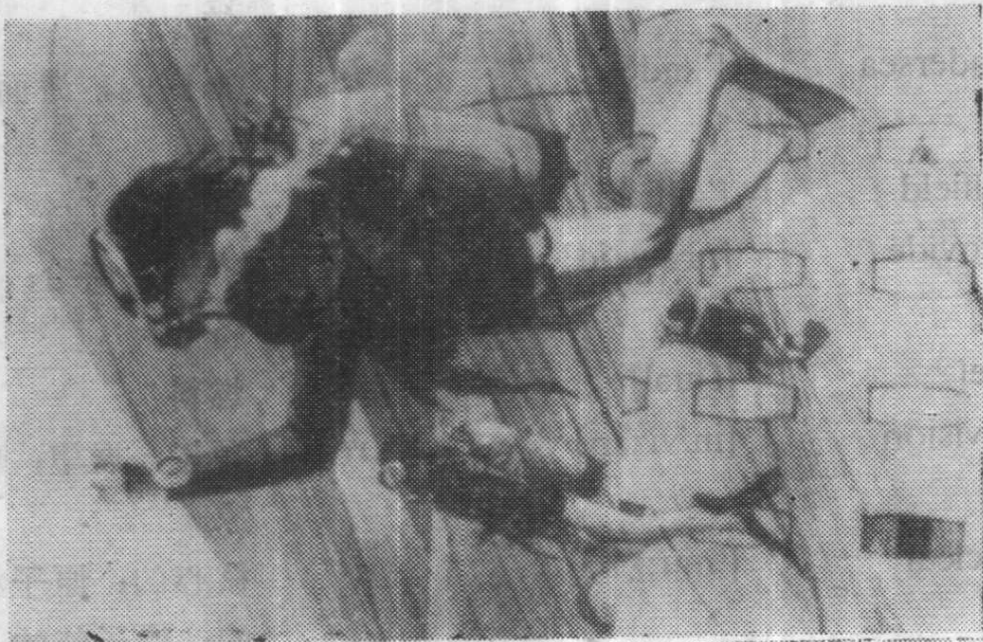
Figure 2: Drawing of divers passing underwater hotel complex.

New Words

prominent	[ˌprɔminənt]	a.	杰出的；显著的；突起的
meteorologist	[ˌmi:tjə'rɔlədʒist]	n.	气象学家
oceanographer	[ˌəuʃjə'nɔgrəfə]	n.	海洋学专家
solution	[sə'lju:ʃən]	n.	解决（办法）；解答；溶解（作用）；溶液
ecology	[i(:)'kɔlədʒi]	n.	生态学
community	[kə'mju:niti]	n.	社团，社区，村镇
undersea	['ʌndəsi:]	a.	海底的，海面下的
oilfield	['ɔilfi:ld]	n.	油田
provide	[prə'vaid]	vt.	提供，供给，装备
fuel	[fjuəl]	n.	燃料
envision	[in'viʒən]	vt.	预想，展望，想象
nuclear	['nju:kliə]	a.	核心的；原子核的；原子能的；核动力的；
harbor	['ha:bə]	n.	海港，港口，港湾
giant	['dʒaiənt]	a.	巨大的，大的
tanker	['tæŋkə]	n.	油船；坦克手

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refinery	[ri'fainəri]	*n.*	精炼厂；提炼厂
ecologically	[,ek'lɔdʒikəli]	*ad.*	生态上，生态学上
crowded	['kraudid]	*a.*	拥挤的，密集的
commerce	['kɔmə(:)s]	*n.*	商业，贸易；社交
convenience	[kən'vi:njəns]	*n.*	便利，方便；适当的机会
hazard	['hæzəd]	*n.*	危害；公害（废气、废水的危害）
economic	[,i:kə'nɔmik]	*a.*	经济（上）的；经济学的
prosper	['prɔspə]	*vi.*	繁荣；昌盛
benefit	['benifit]	*n.*	利益，好处；津贴；救济金
housing	['hauziŋ]	*n.*	住房供给〔建筑〕，（总称）房屋，住房
recreational	[rekri'eiʃənl]	*a.*	消遣的，娱乐的
facility	[fə'siliti]	*n.*	（常用复）设施；工具；方便
artificial	[ɑ:ti'fiʃəl]	*a.*	人工的，人造的
sufficient	[sə'fiʃənt]	*a.*	充足的，充分的，足够的
conduit	['kɔndit]	*n.*	管道，导管；水道
product	['prɔdəkt]	*n.*	产品，产物；结果，成果；作品

garbage	['gɑ:bidʒ]	*n.*	废料；垃圾，污物
disposal	[dis'pəuzəl]	*n.*	处理,配置,布置
mainland	['meinlənd, 'meinlænd]	*n.*	大陆
organic	[ə:'gænik]	*a.*	器官的，有机体〔物〕的，有机的
convert	[kən'və:t]	*vt.*	转变〔换〕
nutrient	['nju:triənt]	*a.*	营〔滋〕养的
		n.	营养品〔物〕
process	['prəuses]	*n.*	过程，进程
greenhouse	['gri:nhaus]	*n.*	玻璃暖房，温室
effect	[i'fekt]	*n.*	结果，效果；作用，影响
aquaculture	['ækwəkʌltʃə]	*n.*	水产养殖，（植物的）液培养
hydroponics	[haidrəu'pɔniks]	*n.*	（用作单或复）（植物的）溶液培养（学），水栽法
rig	[rig]	*n.*	成套器械，用具
load	[ləud]	*v.*	装，装载，装货
buoy	[bɔi]	*n.*	浮标；救生圈
pipeline	['paiplain]	*n.*	管道；管子，导管
floating	[fləutiŋ]	*a.*	浮动的,漂浮的，浮置的
New Jersey	[nju: 'dʒə:zi]	*n.*	新泽西（美国州

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			名）
runway	['rʌnwei]	*n.*	（机场的）跑道；河道；通道
coral	['kɔrəl]	*n.*	珊瑚
		a.	珊瑚的，珊瑚制的，珊瑚色的
reef	[ri:f]	*n.*	礁，暗礁
Texas	['teksəs]	*n.*	得克萨斯（美国州名）
propose	[prə'pəuz]	*vt.*	提出；建议，提议；打算，计划
artistic	[ɑ:'tistik]	*a.*	艺术的,美术的，艺〔美〕术家的
projection	[prə'dʒekʃən]	*n.*	设计，规划；放映；投影（图）
frogman	['frɔgmæn]	*n.*	蛙人（穿戴蛙式潜水配备的人）
hookup	['hukʌp]	*n.*	挂钩，悬挂〔联结〕装置，联结器；试验电路，电路耦合；转播
submerge	[səb'mə:dʒ]	*vt.*	浸没，淹没
submarine	['sʌbməri:n,sʌbmə'ri:n]	*a.*	水下的；水底的，海底的
		n.	潜水艇
diver	['daivə]	*n.*	潜水员；跳水者
seaweed	['s:iwi:d]	*n.*	海草；海藻

background	['bækɡraund]	*n.*	背景，后景；背景情况
pylon	['pailən]	*n.*	（飞机场的）路标塔，标杆；（架高压电缆的）铁塔，钢塔
insulate	['insjuleit]	*vt.*	隔离，使绝缘

Phrases and Expressions

provide...for...	为…提供…，供给…以…
nuclear power plant	核动力设备，核发电厂
oil refinery	炼油厂
on...base	在…基础上，在…基地上
garbage disposal	垃圾〔废料〕处理
fish farm	鱼塘
oil drilling rig	油井钻机；打井机
work at...	研究；从事；用功读，致力于

Notes

(1) Dr. Athelstan Spilhaus, a prominent American meteorologist and oceanographer, feels that the solution to many of today's problems of ... may be ... in dustrial community, surrounded by undersea farms and oilfields.

句中 a prominent American meteorologist and oceanographer 作 Dr. Athelstan Spilhaus 的同位语，翻译时可按系表结构处理； solution to ...是一种较常

见的搭配，如 solution to the problem, solution to exercises等，有时介词 to 还可用 of 或 for 来替换；feels that the solution to many of today's problems of... may be 可译为 "认为解决现在许多…问题的办法可能是..."; surrounded by undersea farms and oilfields 为过去分词短语，在这里修饰 industrial community; community 有 "村社、乡镇" 之意，从本文标题及上下文来看，可译为 "城镇"。

(2) The farms would provide raw material for the community's factories and oilfields would supply the fuel.

这是一个并列句，两个分句中的谓语动词 would provide 和 would supply 都是虚拟语气，表示作者的一种估计或推测；supply 的意思与搭配和 provide 相同，可以与介词 for 连用，因为前面已经出现了 for the community's factories，所以 the fuel 后面省略了 for the community's factories, 以避免累赘。

(3) The community development as envisioned by Dr. Spilhaus would have ... deep water harbor for giant oil tankers, and an oil refinery.

句中 as envisioned by Dr. Spilhaus (as + 过去分词短语) 作定语，或视为是省略了 is 的定语从句，修饰 community development; 根据上下文，have 在此有 "建立" 的意思，介词短语 for giant oil tankers 作定语，修饰 deep water harbor, 表示其用途。

(4) It would provide new space for those industries that are necessary but which are "ecologically dirty."

句中 it 代替上一句中的 the Community develop-

ment, 翻译时可译为"这"或"它"。关系代词 that 和 which 引导两个并列的定语从句，修饰 those indus- tries; ecologically dirty 可译为"从生态上来说会造成污染的"。

(5) Sea water heated in the process of cooling nuclear power plants would provide a greenhouse effect for aquaculture such as hydroponics.

过去分词短语 heated in the process of cooling nuclear power plants 作定语，修饰 sea water, 其中介词短语 in the process of ... 为时间状语，说明 heated; provide a greenhouse effect for ... 的确切含义是"对 …起着温室的作用"，复合连词 such as 引导的 hydro-ponics, 作 aquaculture 的同位语。

(6) ...; oil tankers are being loaded far from port at buoys connected to land by pipelines ...

句中 far from port 和 at buoys ... 均为地点状语，说明谓语 are being loaded; 过去分词短语 conne'ted to land by pipelines 作定语，修饰 buoys; far from port at buoys connected to land by pipelines 的意思是 "在远离港口的、用管道与陆地相连的浮标处"。

(7) In Figure 1 we see an artistic projection of things to come.

句中不定式 to come 作定语，修饰 things。

(8) In Figure 2 divers are shown on their way to work at their jobs in seaweed and fish farms or undersea laboratories.

on their way to work at their jobs ...为主语

divers 的补足语，其含义是 "在去…工作的途中"。介词短语 in seaweed and fish farms or undersea laboratories 为地点状语，说明 work at; seaweed and fish farms 指 "海藻养殖场和鱼塘"。

(9) In the background is an underwater hotel, built inside huge pylons and insulated from the noise of the airport above the surface by the sea water itself.

句中 built inside huge pylons and insulated from the noise 这两个过去分词短语均为定语，修饰 underwater hotel; 介词短语 above the surface 作定语，修饰 airport; 介词短语 by the sea water itself 作状语，说明 insulated; 本句为倒装句，因主语 an underwater hotel 后面带有很长的修饰语，所以置于谓语动词 is 之后，否则，在结构上就显得头重脚轻。

Exercises

I. FACTUAL QUESTIONS: Answer the following questions based on information found in the reading or the captions to the figures.

1. Who is Dr. Athelstan Spilhaus? What does he feel may be the answer to many modern problems regarding energy, ecology, and population?

2. What is the purpose of farms in an ocean-based community? of oilfields?

3. What are some of the industries that Dr. Spilhaus's ocean-based community would contain?

4. How would the dangers of pollution be reduced in an