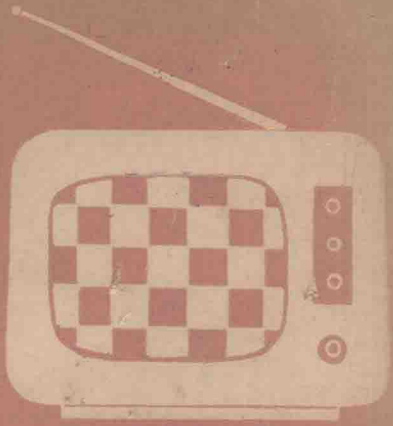
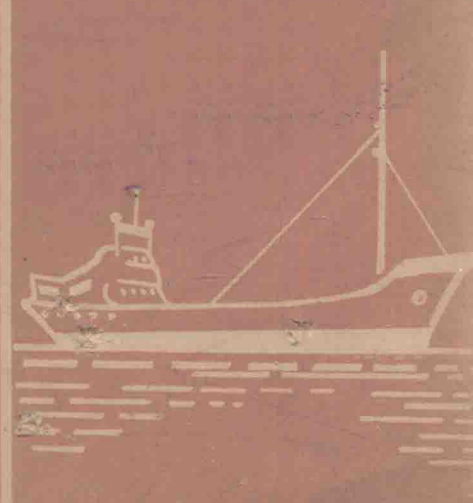


科普英语注释读物

OUTLOOK: SCIENCE AT WORK

科学与生活

John Parry原著



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I. Town and country

There was a time when everybody lived in the country.① At that time everybody was a farmer, growing his own food②—everybody, that is, except the few men who were strong enough to make others grow their food for them and the people who specialized in certain types of work.③ Later, there were more specialists: shoemakers made shoes, tailors made clothes, merchants bought and sold, and men began to find it convenient to live together in towns, where they could trade with each other.④ Farmers brought their food to the towns and traded it for the goods made by the specialist workers.

At first, towns were fairly small, but some of them became important trading centres and so became bigger. Even so, in 1800 there were probably only fifty towns in the whole world with a population bigger than 100,000 people. With the Industrial Revolution, big new manufacturing centres developed and the number of people living in towns increased. There are now

---

① **There was a time when … country:** when 是关系副词，引出定语从句说明 time. ② **…growing his own food:** 现在分词词组作状语，表示附加的动作. ③ **everybody, that is, except the few men who … to make others grow …:** everybody 是对前面 everybody 的进一步说明。make 后接省了 to 的不定式 grow，grow 作 others 的宾补。who were …, who specialized … 系两个定语从句，分别修饰前面的名词 men 和 people。④ **… men began to find it convenient to live in towns, where …:** it 用作 find 的形式宾语以代表后面的实际宾语 to live. where 后引出一个非限定性的定语从句，修饰前面的名词 towns.

more than nine hundred towns with populations bigger than 100,000 people, and some of these are very large indeed, with populations of more than 5,000,000 people. In many countries there are now considerably more people living in towns than in the countryside.

Towns are still growing as the population increases. And the world's population is now growing very fast indeed. The number of people in the world now is approximately 3500 million and, at the present rate of growth, this will increase to 7000 million in the next thirty years. In industrial countries, towns will continue to grow. More land① will be used for houses and factories. Some people foresee a time when the whole of Britain is one great sprawling city.②

1. A CITY AT SEA

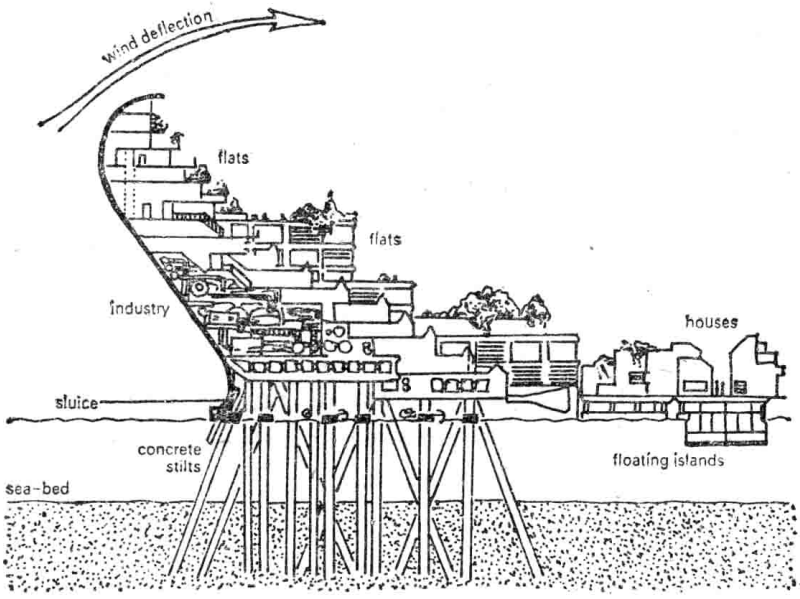
One answer to the question of land shortage was suggested in 1968 by the Pilkington Glass Age Development Committee. The committee put forward③ detailed plans for a complete city, housing 30,000 people, to be built at sea.④ They made a model to show what the city would look like.⑤

The suggestion was to shape the city like a harbour.⑥ The outer wall of the harbour would stand on concrete stilts rest-

---

① **more land:** 较多的土地。land 作"土地"、"陆地" 解时，不用复数。② **Some people foresee a time when ... city:** when 引出定语从句，说明 time. ③ **put forward:** 提出。④ **...,housing 30, 000 people,to be built at sea:** 分词短语 housing ... 及不定式(被动态)短语 to be built... 均作 city 的定语。⑤ **... to show what the city wou'd look like:** 疑问代词 what 在 to show 后的宾语从句中与 like 一起作 would look 的表语。⑥ **like a harbour:** like 是前置词，这个短语修饰 city.

ing on the sea-bed. Naturally this could only be where the water was fairly shallow.① The people would live in flats in the fifty-metre high outer wall. The flats would all face inwards,② and would be made of concrete and glass. The glass would be specially made and coloured to control the heat and glare from the sun.



The water inside this man-made harbour③ — the planners called this water the lagoon④ — would be calm. On it would be floating islands carrying more buildings: a hospital, two the-

---

① ... **where the water was fairly shallow:** where ... 作 could be 的表语从句。 ②**face inwards:** 朝里，向内，面向里。face 是动词。 ③ ... **inside this man-made harbour:** 人造港口内部。inside ... 是前置词短语作 water 的定语。 ④ **lagoon** [ləˈguːn]: 咸水湖。

atres, a museum, an art gallery and a church.① On one of the islands would be a desalination plant, to take the salt out of sea water and turn it into fresh water.②

People living in the city could move around the lagoon on small boats driven by electricity, so there would be no petrol or diesel-oil fumes.③ There would be jetties④ outside the main wall for ships bringing supplies. People could also travel to the mainland by hovercraft⑤ or helicopter.

2. LIVING UNDER COVER

We do not usually think of the cold regions of the Arctic Circle as suitable places for building new towns.⑥ But in Soviet Russia, scientists at the Institute for Northern Architecture are studying the problems of living in the far north. How can architects and town planners overcome the problems of living in a region where night lasts for several months, and where the temperature may be between −40°C and −50°C?⑦

Their answer is to build a town under cover, so that the

---

① **On it would be floating islands carrying more buildings: a hospital, ... and a church:** 这是一个倒装句，正常的语序是：Floating islands ...would be on it. carrying more building 为分词短语作定语修饰 islands, a hospital ... 等作 building 的同位语。② **On one of the islands would be a desalination plant, to take the salt out of sea water...:** 这是一个倒装句，主语是 a desalination plant, 谓语是 would be+ 前置词短语。不定式 to take ... 作状语。③ **petrol or diesel-oil fumes:** 汽油或柴油气息。④ **jetty:** 码头、防波堤。⑤ **hovercraft:** 气垫船。⑥ **... as suitable place for building new towns:** as suitable place 为 cold regions 的宾语补足语。前置词短语 for building ... 作 place 的定语。⑦ **... where night lasts ..., and where ... −50°C?:** 用关系副词 where 引出的两个定语从句，说明前面的region.

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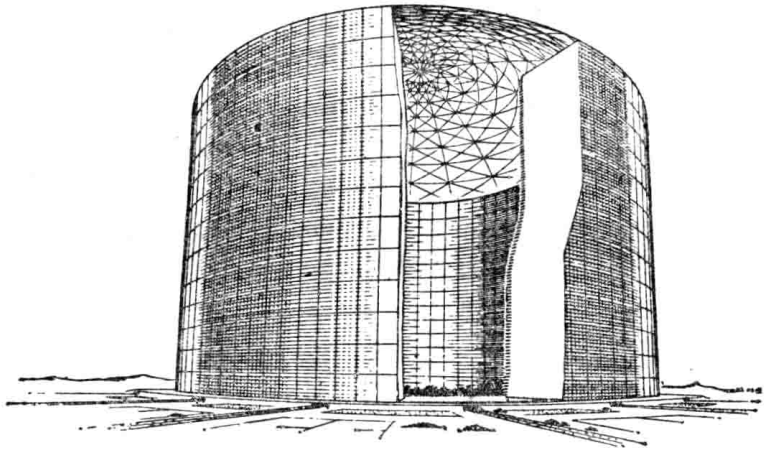
people living there need never go outside into the cold.① One idea suggested by the Institute for Northern Architecture is to cover all paths and roads between buildings.② A town based on this idea would look like any ordinary town,③ except that people would move from one building to another along heated, covered passages. For a walk "out of doors",④ they would go to a park in the centre of the town: it would look like any park in a temperate climate, with the usual trees, grass and flowers, but it would be protected from the arctic weather because it would be covered completely by a large dome.⑤



① ... **need never go outside into the cold:** 不需要到寒冷的外面去了。主语是 people. ② **One idea suggested by the Institute ... is to cover ...buildings:** 分词短语 suggested by ... 作 idea 的定语。谓语是 is to cover. ③ **A town based on ... would look like any ordinary town, ...:** 分词短语 based on this idea 是 town 的定语。前置词短语 like any ordinary town 作 would look 的表语。 ④ **"out of door":** 户外。out of 表示"在…外"之意。(例: Our school is out of town. 我们的学校在城外。) ⑤ ... **it would be protected ... it would be covered ...:** 此处的 it 都是指前面提到的park. 谓语是被动语态,用情态词 would 表示推测可能发生的事情。

Another idea is to build blocks of flats in a circle, so that they form an outside wall for the dome which covers the whole of the centre. The centre would have an artificial climate, controlled by infra-red rays, in which temperate trees and plants could grow.①

3. AN INDOOR TOWN

Winter in Upper Minnesota② is hard. Slowly people are moving away from this region and settling in parts of the United States where the climate is more pleasant.③ There is, however, a plan which should make life in Upper Minnesota much more acceptable.④

The idea is to build a town which will have its own climate. In this town it will always be pleasantly warm, and the air will always be clean.

The planners want to build this town under a series of domes. Each dome would be three kilometres in diameter, and one and a half kilometres high.⑤ In 1967, they estimated that these

① **The centre would have ... controlled by infra-red rays, in which ... could grow:** 这儿的 would 表示按照某种计划设想，可译成“会有”“可有”。分词短语 controlled ... rays 为 climate 的定语，后又带出一个定语从句 in which ..., in which 在定语从句中作状语，这儿也可改用 where. ② **Upper Minnesota:** 明尼苏达的北部（美国）。③ **Slowly people are moving away ... where the climate is more pleasant:** people 后面的谓语用复数。where ... 为限制性的定语从句说明 parts. ④ **There is, however, a plan which should make life in Upper Minnesota much more acceptable:** however 作插入语。定语从句中的 which 作从句中的主语，形容词 acceptable 作 life 的宾语补足语。(例: The news makes us happy.) ⑤ **Each dome would be three kilometres in diameter, and one and a half kilometres high:** would be 与 three kilometres 组成系表谓语，in diameter 作状语。one and a half kilometres 作 high 的状语。（一般说，用来表示距离、重量、长度、价格等的名词可起状语作用），high 为 would be 的另一个表语。

domes would cost about $80 million each to build.① In winter the streets under the dome would be free from② snow. Snow clearance is an expensive item in Minnesota, and it was estimated that the money saved on snow clearance would pay for the domes after ten years.③ A town housing about a quarter of a million people would need six domes.④

There would be no private cars inside the domes.⑤ Instead, people would travel by means of⑥ small electric vehicles running on tracks. The tracks would be laid⑦ along every road. A man would get into a vehicle, drive to his destination, and then leave the vehicle for someone else to use. There would be no parking problems.⑧

4. MOVING ABOUT TOWNS

Engineers are studying new methods of transport, such as the electric cars of the Minnesota plan,⑨ for today's towns and cities, as well as⑩ for the new towns of the future. Everyone knows the problem. Each year there are more cars on the road. Walking through a city now is a matter of squeezing between

---

① **..., they estimated that these domes would cost about $80 million each to build:** that ... 为宾语从句。each 为副词，意为每个。② **free from:** 无…的。③ **... it was estimated that the money ... after ten years:** it 为形式主语：that... ten years 为主语从句。④ **A town housing about a quarter of a million people ...:**housing 是动词 house 的分词，这儿可译成"能容纳"，作 town 的定语。⑤ **There would be no private cars inside the domes:** 这是一个 there be 的句型，主语为 no private cars. ⑥ **by means of:** 藉助于，以，用。⑦ **laid:** 为 lay 的过去分词，意思是"停放"，"放"。⑧ **no parking problems:** 为句中主语，译成"无停车问题。" ⑨ **such as the electric cars ...:** 作 new methods 的同位语。⑩ **as well as:** 和，也。

parked vehicles at the side of the road — often on the pavement itself in some countries — and risking death at every crossing.①

In the centres of most cities, drivers may park their cars only at certain places on the street (often with parking meters controlling how long each car may be left)② or in off-street③ car parks. Parking restrictions help to keep the streets clear for moving traffic,④ and they also stop⑤ many people from bringing their cars into city centres. When parking restrictions are made, it is also necessary to improve public transport,⑥ although in many towns it is hard to see any sign that such an improvement is taking place.⑦ However, in London a new underground line, the Victoria Line, has already been built⑧ to extend the underground railway system. In Germany the expansion is still greater. New underground systems are being built⑨ in Cologne and Munich, and the present systems in Berlin and Hamburg⑩ are being extended: altogether, twelve German towns are im-

---

① **Walking through a city now is a matter of squeezing between ... and risking death at every crossing:** 动名词 walking 为句中主语，a matter of 译成"...的问题"。risking 与 squeezing 为同等成分，作前置词 of 的宾语。 ② **often with parking meters controlling how long each car may be left:** how long ... left 为分词 controlling 引出的宾语从句。 ③ **off-street:** 不靠街。作 car park 的定语。 ④ **... keep the streets clear for moving traffic:** clear 作 street 的宾补，clear 在这里意为"无障碍的"，"安全的"。 ⑤ **stop:** 止住，制止。 ⑥ **... it is also necessary to improve public transport, ...:** 不定式短语 to improve ... 为句中实际主语。 ⑦ **... it is hard to see any sign that ... is taking place:** 不定式短语 to see any sign 作实际主语，that ... place 为同位语从句，说明 any sign。 ⑧ **..., the Victoria Line, has already been built ...:** Victoria [vikˈtɔriə] 为 1837—1901 年在位的英国女皇名，the Victoria line 作前面 a new underground line 的同位语，它的谓语是被动语态的现在完成时态。 ⑨ **... are being built:** 是被动语态的现在进行时态。 ⑩ **Cologne:** [kəˈloun] 科隆（德国莱茵河傍的一个城市）。**Munich:** [ˈmju:nik] 慕尼黑（德国巴伐利亚州的首府）。**Berlin:** [bə:ˈlin] 柏林。 **Hamburg:** [ˈhæmbə:g] 汉堡。

proving their underground systems.

At the same time, the system of roads in cities is being changed. Roads are no longer① on one level only, but cross each other by means of flyovers② and go under buildings by means of tunnels. What of the buses that move along these roads?③ In most countries they still have both a driver and a conductor. But the need for the conductor is slowly disappearing and in the latest one-man London buses④ passengers pay their fares to a machine which controls the entrance.

Will the need for the driver also disappear in time?⑤ Shall we see buses which "lock on"⑥ to an automatic guidance system under the road? Perhaps the need to improve public transport in modern cities will help to make this possible⑦ in the not-too-distant future.

5. TRANSPORT FOR TOMORROW

One thing is certain about the public transport of the future: it must be much more efficient than it is today.⑧ The time is coming when it will be quicker to fly across the Atlantic to New York than (for the London office worker, at least) to travel from

---

① **no longer**: 不再。② **flyover**: 天桥，立体公路。③ **What of the buses that move along these roads?** What of 是惯用语，of 相当于 about. (例: What of it? 那又怎么样呢?) ④ **the latest one-man London buses**:最新的伦敦只有驾驶员的公共汽车。⑤ **in time**: 总有一天，最后，终于。⑥ **"lock on"**: 联到。⑦ **... to make this possible ...**: this 为 make 的宾语，指的这一段中第一句及第二句疑问句所提出的问题，可译成"上述"。possible 为形容词作 make this 的宾补。⑧ **it must be much more efficient than it is today**: more efficient 是形容词比较级作 must be 的表语，连词 than 带出一个比较状语从句。

home to the office.① The two main problems are: what vehicle shall we use and how can we plan our use of it?②

There are already a number of modern vehicles which are not yet in common use, but which may become a usual means of transport in the future. One of these is the small electric car: we go out into the street, find an empty car, get into it, drive to our destination (either freely on a road as in a present-day car, or along rails),③ get out and leave the car for the next person who comes along. In fact, there may be no need to drive these cars. With an automatic guidance system, it will be possible for us to select our destination just as today we select a telephone number, and our car will move automatically to the address we want.④ Payment for the journey could be made either indirectly through taxes (in other words, the journey would be "free"), or directly by means of a credit card.

Long journeys in private cars could also use automatic guidance systems. We can imagine a time when laying down⑤ the necessary equipment for a guidance system will be part of the normal motorway construction work, just as railway tracks have been laid down in the past. Arriving on the motorway, a driver will select the lane he wishes to use, switch over to automatic driving, and then relax — dream, read the newspaper,

---

① **The time is coming when it will be quicker to fly ... than ... to the office:** 这儿用 be＋现在分词表示将来时态。when 带出的是一个定语从句说明 time. 定语从句中的实际主语是 to fly. **Atlantic** [ətˈlæntik] 大西洋。② **What vehicle shall we use and how can we plan our use of it?:** 这是一个表语从句。句末 it 指的是 vehicle. ③ **either freely on a road as in a present-day car, or along rails:** either ... or 或者...或者，on a road 与 along rails 为并列状语。④ **... we want:** 是一个定语从句，省略了作宾语的连词 that. ⑤ **laying down:** 设计。

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