4-29 The hovercraft气垫船

Many strange new means方法;手段;工具 of transport have been developed in our century 独立主格the strangest of them being perhaps the hovercraft气垫船.

In 1953, a former electronics engineer （in his fifties）, 同位语Christopher Cockerell, who had turned to转而致力于 boat-building [on the Norfolk Broads], suggested an idea （on which he had been working for many years） to the British Government and industrial circles工业界.

→on which 引导「定语从句」,work与介词on连用,表示“研究”

It was the idea of supporting a craft船;飞行器 on a 'pad', or cushion垫子, of low-pressure air, ringed with用…围绕 a curtain幕状物;遮蔽物;防护物 of higher pressure air.

（他的设想是：用一个低压气垫或软垫来支撑船体,软垫周围用高压空气环绕。）

Ever since从那时到现在,自…以后, people have had difficulty in deciding whether the craft should be ranged排列 among ships, planes, or land vehicles车辆;交通工具——原因状从for it is something （**in between**介于…之间 a boat **and** an aircraft）.

As a shipbuilder, Cockerell was trying to find a solution （to the problem of the wave resistance抵抗;阻力;抗力 which wastes a good deal of **a surface ship**'s水面船只 power / and limits its speed）.

His answer was to lift the vessel out of the water 方式状by making it ride on a cushion垫子 of air （**no more than** one or two feet thick）. This is done by a great number of ring-shaped air jets喷嘴 [on the bottom of the craft].

（船底装上大量环状喷气嘴,以实现这一目的。）

It 'flies', therefore, but it cannot fly higher —— its action depends on the surface, water or ground, （over which it rides）.

（它的飞行限决于它所悬浮的水面还是地面。）

The first tests （on the Solent海峡名 in 1959） caused a sensation轰动. The hovercraft travelled first over the water, then mounted the beach海滩,海滨, climbed up the dunes沙丘, and sat down on a road.

Later it crossed the Channel, 伴随状riding smoothly over the waves, （which presented引起;导致 no problem）. Since that time, various types of hovercraft have appeared / and taken up开始从事,开始干（工作） regular service.

（后来气垫船跨越英吉利海峡,平衡地在波浪上方行驶,波浪不再产生阻力。从那以后,各种各样的气垫船出现了,并开始了定期航行服务。）

The hovercraft is particularly useful in large areas with poor communications such as Africa or Australia; it can become a 'flying fruit-bowl', （carrying bananas from the plantations种植园 to the ports）;

giant hovercraft liners could span横跨,跨越 **the Atlantic**大西洋; / and the railway of the future may well be the 'hovertrain气垫列车', （riding on its air cushion over a single rail, which it never（adv.） touches, at speeds up to 300 m.p.h. ） ——the possibilities 系appear unlimited.

1. ring…with/by…：用…围绕…,如：

·The harbour is dangerous ——it’s ringed with rocks and reefs.那个港口非常危险——它被岩石和暗礁所环绕。

1. range v.

→使（人或物）排成行或列

·More than 1,500 police and troops are ranged against them. 1,500多名警察和士兵列队与他们对峙。

·Some 300 trees have been ranged along the perimeter hedge... 沿着绿篱栽种着大约300棵树。

→a piece of writing or speech ranges over a group of topics（文章或讲话）涉及,包括（一系列论点）

·The conversation ranged over the desirability of such restaurants, the shortcomings of men, and why it had only taken 15 minutes to cross a continent. 谈话涉及了这类餐馆的吸引人之处、男人的弱点,还有为什么只用15分钟就跨越了一个大洲。

→（n.）A range of things（同类事物的）一系列,一连串

·The two men discussed a range of issues... 那两个人讨论了一系列问题。

→（n.）幅度;等级;范围

·The average age range is between 35 and 55. 平均年龄的范围在35岁到55岁之间。

·properties （available in the price range they are looking for）. 在他们寻求的价格范围内的房产

1. in between介于…之间。这是一种组合介词,常用的还有from among（从中）、from under （来自下面）、in front of （在…前面）、up to （达到）等。
2. m.p.h.相当于miles per hour（英里/小时）。

4-30 Exploring the sea-floor 海底勘探

Our knowledge of the oceans （a hundred years ago） was confined to the two-dimensional shape of the sea surface / and the hazards危险 of navigation航海 （presented引起,导致 by the irregularities无规律;不整齐,不平整 in depth深度上的 of the shallow浅的 water close to the land）.

（100年前,我们只知道海洋是二维平面形的,以及靠近陆地浅水区的深浅不一,能给航行带来危险。）

→of the shallow water为介词短语,作“定语”,修饰depth,意即“浅水区的深浅不一”。

**The open sea**无边际的大海 was deep and mysterious, and anyone （who gave more than a passing thought稍稍想过 to the bottom confines边界;界限 of the oceans） probably assumed that the sea bad was flat.

Sir爵士 James Clark Ross had obtained a sounding水深度,水深测量 of over 2,400 fathoms英寻 [in 1839], but it was not until 1869, When H.M.S. Porcupine豪猪 was put **at the disposal交由…支配 of** the Royal Society皇家学会 for several cruises巡游;巡航, that a series of deep soundings（n.）发声,鸣响 was obtained in the Atlantic / and the first samples were collected by dredging挖掘 the bottom.

（但直到1869年,皇家学会用英国“豪猪”号舰艇进行了几次巡航后,才在大西洋测得一个海水深度,同时能过挖掘海底,取得了研究海底的首批样品。

→it was……that是强调句。被强调的部分是not until……cruises,即直到1869年…才…。

→文中的 H. M. S.是Her Majesty’s Ship （英国船舰）的缩略形式。）

[Shortly after this] the famous H. M. S. Challenger expeditiony远征探险队 **established** the study of the sea-floor **as**把…确立为,确认…为 a subject （worthy（adj.） of the most qualified（adj.）有资格的,胜任的 physicists物理学家 and geologists）.

（此后不久,英国著名的“挑战者”号舰艇对海底的那次考察,把对海床的研究,确立为一个值得一流物理学家和地质学家从事的研究课题,）

A burst of一阵 activity （associated with the laying放置,铺设 of submarine海底的 cables海底电缆） soon confirmed the challenger's observation观察所得;观测数据 同位从that many parts of the ocean were two to three miles deep, and the existence of underwater features特征 of considerable magnitude巨大. （还证实了相当多水下特征的存在.）

（铺设海底电缆的热潮,很快证实了“挑战者”号的观察结果：海洋中很多地方可深达两三英里,水下特征差异极大。）

Today, enough soundings are available 目的状to enable a **relief**（n.）浮雕 **map**地形图,立体地图 of the Atlantic 宾补to be drawn / and we know something of the great variety（n.）品种;种类,变化;多样化 of the sea bed's topography地形;地貌.

（现在已有足够的水深测量数据,来绘制一张大西洋洋底地形图,而且我们对海底地形的千变万化,也有了一定的了解。）

Since the sea covers the greater part of the earth's surface, it is quite reasonable 主to regard the sea floor as the basic form形状,形式 of the crust地壳 of the earth, with, superimposed叠映 upon it, the continents, together with the islands / and other features of the oceans.

（既然海洋覆盖着地球的大部分表面,因此完全有理由把海床看作地壳的基本模壳,上面附加着大陆、以及岛屿和海洋的其他形态。

→with,superimposed upon it,the continents,together with... oceans 是由介词with引导的过去分词「独立主格结构」。其逻辑主语是the ontinents,together with…oceans,由于该逻辑主语太长,所以将逻辑谓语部分superimposed upon it提前,构成「倒装语序」,意即“上面附加着大陆以及岛屿和海洋的其他形态”。）

The continents form rugged崎岖不平的 tablelands高地,高原,台地 （which stand nearly three miles above the floor of the open ocean）.

From the shore line海岸线, out a distance （which may 系be anywhere from a few miles to a few hundred miles）, runs the gentle slope斜坡;斜面 of the continental shelf大陆架, 同位geologically从地质上来说 part of the continents.

（大陆是崎岖不平的高地,高出辽阔的海洋海底近三英里。从海岸线向大海延伸几英里到几百英里的区域,是大陆架慢坡,从地质学上来说,它是大陆的一部分。

→gentle slope 平缓的坡度,缓坡

→该句为「倒装结构」,按正常语序应该是：The gentle slope of the continental shelf,geologically part of the continents,runs from the shore line,out to a distance which... miles.）

The real dividing（adj.） line分界线 between continents and oceans occurs at the foot of a steeper陡峭的 slope斜坡. This continental slope usually starts at a place （somewhere near the 100-fatheom英寻 mark刻度） / and [in the course of在…期间,在…过程中 a few hundred miles] reaches the true ocean floor （at 2,500-3,500 fathoms）.

（大陆和海洋的真正分界线,是在陡破脚下。大陆架慢坡一般是从差不多100英寻水深的地方开始的,一直延伸到几百英里远,深达2,500至3,500的地方,那里才是真正的海底。

→in the course of…… 这是倒装句,主语是the true ocean floor,相当于：The true ocean floor reaches at 2,500-3,500 fathoms [in the course of a few hundred miles] .

→in the course of的意思的确是“在...的过程中”,课文的翻译是意译,可以直译为：真正的海洋在延绵几百英里的过程中,深达2,500至3,500噚。

→in the course of a few hundred miles 为介词短语,作“状语”,修饰动词reaches,意思是“延伸几百英里”。

→动词reaches与动词starts为并列谓语动词,共同的主语是the continental slope。

at 2,500-3,500 fathoms 作定语,修饰 the true ocean floor,意即“2,500英寻到3,500英寻深处的真正洋底”。）

The slope averages about 1 in 30. but contains steep陡峭的,险峻的, probably vertical垂直的,竖立的 cliffs, and gentle sediment沉淀物-covered terraces台阶, and [near its lower reaches区域] there is a long tailing-off尾沙带,曳沙带 （which is almost certainly the result of material材料,原料;素材 （transported out to **deep water** after being eroded侵蚀,腐蚀from **the continental masses**））.

（坡度平均约为1/30,但其中包括陡峭的、乃至垂直的峭壁,和沉积物覆盖的缓和的阶梯地带,在这个地带的低处,是很长的一段尾沙地段。基本上可以断定,这个地段是大陆块体上侵蚀下来的物质,被水冲到深水处形成的。

→1 in 30,意思是1/30。

→reach是名词,意思是：区[领]域;区域, 河段, 流域。书上把lower reaches 翻译成“低处”,也可以说“低洼地带”。

→句子中which is certainly the result of.... 是句子理解的关键,意思是“....几乎可以确定是由....形成的结果”,即：这个很长的尾沙地带,几乎可以确定是由那些物质形成的结果。

→after being eroded from the continental masses作「时间状语」,意即“从大陆块体上侵蚀下来后”。

→本句子另一个关键是material 有两个后置定语,一个是过去分词短语transported out to deep water,另一个就是after being eroded from the continental masses,是介词短语做后置定语,由于有after,这个介词短语应该翻译在transported......之前,即：“这些物质在被从大陆块上侵蚀之后,又被运输到深水处”）

1. ha-zard ['hæ-zəd] vt. n 冒险,危险;危害。赌运气;使遭受危险。

→you hazard someone or something使冒风险;使处于危险中

·he would have hazarded his grandson. 他还会让自己的孙子去冒这个险。（would have done是虚拟语气）

→you hazard / or if you hazard a guess斗胆提出;作无把握猜测

·I would hazard a guess that they'll do fairly well in the next election... 我斗胆猜测,他们在下一轮竞选中会有不错的表现。

1. give a thought to 想,如：

·She doesn’t give any thought to her appearance.她对自己的外表毫不在意。

1. passing adj.短暂的;一时的;转瞬即逝的

·He had never taken more than a passing interest in the girl. 他对那个女孩只有三分钟热情。

1. a passing thought稍稍想过。
2. at the disposal of 交由…支配,如：

·[If you want some help （preparing for the party）] I can be at your disposal all day.如果你需要人帮忙准备聚会的话,我一整天都可以由你支配。

1. dis-posal [dɪˈs-pəʊ-zl] n.（事情的）处置;（自由）处置权;清理;排列。adj.处理（或置放）废品的。

→you have something at your disposal , or you are at someone's disposal 任…处理;供…任意使用;由…自由支配

·Do you have this information at your disposal?... 你对这个情况有所了解吗？

·He has said {he will use all the weapons at his disposal}... 他放出话说他将使出十八般武艺。

·If I can be 表of service, I am at your disposal. 如果我可以效劳的话,敬请吩咐。

→n.(废物等的)丢掉,清理,销毁,处理

...waste disposal sites. 废物处理场

1. establish …… as 把…确立为,确认…为

·He established himself as the most popular minister （in the new cabinet）.他已经成为新内阁中最受欢迎的部长。

→you establish yourself, your reputation, or a good quality that you have使立足;使被认可;确立（地位）

·He has established himself as a pivotal figure in US politics...他已经确立了自己在美国政界的核心地位。

1. worthy of值得……的,如：

·Two points （in this report）are especially worthy of notice.这个报告中有两点值得特别注意。

1. a burst of 一阵,又如：a burst of applause —阵掌声。

·A burst of activity 一阵行动,活动热潮。

1. mag-nit-ude [ 'mæg-ni-tju:d] n.

→the magnitude of something巨大;庞大;重要（性）

·An operation of this magnitude is going to be difficult... 这么大的手术,实施起来十分困难。

·These are issues of great magnitude... 这些问题极为重要。

→星等(指星的亮度);震级;(爆炸的)强度

·The San Francisco earthquake of 1906 had a magnitude of 8.3. 1906年旧金山地震的震级为8.3级。

→order of magnitude程度;重要性

America and Russia do not face a problem of the same order of magnitude as Japan. （相同程度的重要性）美俄两国所面临问题的重要性,与日本的不可同日而语。

→In mathematics, if one amount is an order of magnitude larger than another, it is ten times larger than the other. If it is two orders of magnitude larger, it is a hundred times larger. 数量级

·The time delay would 系be smaller 方式状by eight orders of magnitude. 如果按8个数量级来看,延时量会显得小一些。

1. super-im-pose [ˌsu:pər-ɪm-'pəʊz] vt. 添加;附加

→（v.）one image is superimposed on another使（一图像）叠映在（另一图像）上;使（图像）叠加

·His picture was superimposed on a muscular body... 他的照片被移花接木,放在了一个肌肉发达的身体上。

·You can superimpose the lettering directly onto one of your pictures. 你可以把这些文字,直接叠印在你的一张照片上。

→（v.）features or characteristics from one situation are superimposed onto or on another使同样适用于;将…强加于

·Patterns of public administration and government are superimposed on traditional societies. 公共管理和执政模式,移用于传统社会。

1. divi-ding [dɪ-'vaɪ-dɪŋ] adj. 区分的,分划的
2. di-vide [dɪ-'vaɪd] vt.& vi. 分;划分;分离;（使）产生分歧。n. 分水岭,分界线;分配
3. mark n.（煤气炉上表示温度的）刻度,挡

·Set the oven at gas mark 4. 将煤气炉开至4挡。