Lesson 39
Waves
海浪

First listen and then answer the following question.
听录音，然后回答以下问题。

What false impression does an ocean were convey to the observer?

Waves are the children of the struggle between ocean and atmosphere, the ongoing signatures of infinity. Rays from the sun excite and energize the atmosphere of the earth, awakening it to flow, to movement, to rhythm, to life. The wind then speaks the message of the sun to the sea and the sea transmits it on through waves -- an ancient, exquisite, powerful message.

These ocean waves are among the earth's most complicated natural phenomena. The basic features include a crest (the highest point of the wave), a trough (the lowest point), a height (the vertical distance from the trough to the crest), a wave length (the horizontal distance between two wave crests), and a period (which is the time it takes a wave crest to travel one wave length).

Although an ocean wave gives the impression of a wall of water moving in your direction, in actuality waves move through the water leaving the water about where it was. If the water was moving with the wave, the ocean and everything on it would be racing in to the shore with obviously catastrophic results.

An ocean wave passing through deep water causes a particle on the surface to move in a roughly circular orbit, drawing the particle first towards the advancing wave, then up into the wave, then forward with it and then -- as the wave leaves the particles behind -- back to its starting point again.

From both maturity to death, a wave is subject to the same laws as any other 'living' thing. For a time it assumes a miraculous individuality that, in the end, is reabsorbed into the great ocean of life.

The undulating waves of the open sea are generated by three natural causes: wind, earth movements or tremors, and the gravitational pull of the moon and the sun. Once waves have been generated, gravity is the force that drives them in a continual attempt to restore the ocean surface to a flat plain.

from World Magazine (BBC Enterprises)

New words and expressions 生词和短语

signature
n. 签名，标记
infinity
n. 无穷
ray
n. 光线
energize
v. 给与...能量
rhythm
n. 节奏
transmit
v. 传送
exquisite
adj. 高雅的

phenomena
n. 现象
crest
n. 浪峰
trough
n. 波谷
vertical
adj. 垂直的
horizontal
adj. 水平的
actuality
n. 现实
catastrophic
adj. 大灾难的
particle
n. 微粒
maturity
n. 成熟
undulate
v. 波动，形成波浪
tremor
n. 震颤
gravitational
adj. 地心吸力的

参考译文

海浪是大海和空气相斗的产物，无限的一种不间断的标志。太阳光刺激了地球的大气层，并给予它能量；阳光使空气开始流动，产生节奏，获得生命。然后，风把太阳的住处带给了大海，海洋用波浪的形式传递这个信息 -- 一个源过流长、高雅而有力的信息。

这些海浪属于地球上最复杂的自然现象。它们的基本特征包括浪峰（波浪的最高点）、波谷（最低点）、浪高（从波谷到浪峰的垂直距离）、波长（两个浪峰间的水平距离）和周期（海峰走过一个波长所需的时间）。虽然，海浪给人的印象是一堵由水组成的墙向你压过来，而实际上，浪从水中移过，而水则留在原处。如果水和浪一起移动的话，那么大海和海里所有的东西就会向岸边疾涌过来，带来明显的灾难性后果。

穿过深水的海浪使水面上的一个微粒按照一种近乎圆形的轨道移动，先把微粒拉向前移动的海浪，然后推上波浪，随着波浪移动，然后 -- 当波浪把微粒留在身后时 -- 又回到出发点。

从成熟到消亡，波浪和其他任何“活动中”的东西一样，都受制于共同的法则。一度它获得非凡的个性，但最终又被重新融进生命的大洋。

公海上起伏的波浪是由 3 个自然因素构成的：风、地球的运动或震颤和月亮、太阳的引力。一旦波浪形成，地球引力是持续不断企图使海面复原为平面的力量。