石小瑗 编

英汉海洋科学对话1000句

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A 1000 KEYS
FOR COMMUNICATION ON OCEAN SCIENCES
(ENGLISH-CHINESE)

石小瑗 编著
Shi Xiaoyuan
里查德·斯·斯达尔
Richard C. starr
格特鲁德·魏弗尔 校
Gertrude S. Weaver
俞户明
Yu Huming

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内 容 简 介

本书作者用1000句英语对话的形式，全面，系统地介绍了海洋科学各个领域的知识，并附有中译文。

本书是一本英汉小型海洋百科工具书，也是知识性极强的科学普及读物。适合广大海洋科技工作者用于练习英语口语，也可供海洋科学爱好者阅读。

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中 译 文

PREFACE

Scientific meetings provide us with many opportunities for free interchange of ideas and information. The presentation of research papers provides an excellent means of informing others of research in progress or completed, but by far the greatest value to the participants in such meetings is the opportunity for personal interchange of ideas with others who have similar interests. At international meetings language may prove to be a barrier of varying degrees to such personal interchange. Since World War II the international language of science has become English, and at more and more international scientific meetings papers are presented only in this language. Those participants whose background does not include much opportunity to practice English may find themselves at some disadvantage in listening to the papers, but to an even greater disadvantage in carrying on individual conversations with participants speaking English.

I have just attended the XI International Seaweed Symposium held in Qingdao on June 18—25 where over 300 foreign scientists and 200 Chinese scientists were in attendance at this first large international scientific meeting ever held in the People's Republic of China. The great success of this meeting will no doubt lead to more international meetings being held in China, and thereby provide the Chinese scientists with many more opportunities to have personal interchange of ideas with foreign scientists who, for

the most part, will be speaking English.

To take full advantage of these opportunities the Chinese scientists will, in many instances, have to improve their ability to speak English. This collection of questions and answers on Oceanography which has been organized by Ms. Shi Xiaoyuan is a step in the right direction in providing the Chinese scientists with English sentences and phrases related to Oceanography that they will find useful in their discussions of scientific research with other scientists. The level of English speech among Chinese scientists has improved greatly since my first trip to China in 1978, and with the utilization of such devices as presented by Ms. Shi, one can expect to see the Chinese scientists becoming more at ease in their conversations with others at international meetings relating to oceanography and thereby achieve the greatest possible benefit from their attendance. The friendship among scientists from countries around the world will flower through the development of a common language for communication.

Richard C. Starr
Ashbel Smith Professor of Botany
The University of Texas at Austin
Austin, Texas U.S.A.
July 6, 1983

BASIC TEXT

1. How do you do? How do you do? May I know your name (What is your name)? My name is_____.
2. Glad to meet you! (Pleased to meet you!)
3. I have read your papers, your works before.
4. Where are you from? Are you an American? (British? Canadian? Australian? Japanese? German? French? Russian? Swiss? Swede?) I am a Chinese.
5. What is your nationality? The Netherland? (Spain? Brazil? the United States? Britain? the Philippines? etc.) I am from the People's Republic of China. I was born in Shanghai (Guangzhou, Beijing, Qingdao, Shandong Province, Guangdong Province, Hunan Province, etc.).
6. Where do you work? (at what institution are you working?)
7. I graduated from Shandong College of Oceanography in Qingdao (from Beijing University, Dalian College of Navigation, Shanghai College of Fisheries, etc.). Now I am working with the South China Sea Institute of Oceanology, Academia Sinica, in Guangzhou (with the 2nd Institute of Oceanography, the China National Bureau of Oceanography, in Hangzhou, the Department of Oceanography of Xiamen University, etc.).
8. How about your institution? Is it a multi-disciplinary one?
9. Yes. My institute is a multi-disciplinary one. We

have many laboratories, such as tectonics, sedimentation, coastal and estuarine studies, marine biology, physical oceanography and meteorology, marine physics, marine chemistry, new technology, technical analysis centre, etc. We also have a computer room and a marine information research division.

10. How many people are there at your institution ? How many of them are research workers ? (Scientists)
11. Our institute has a staff of 700 or so. (The staff of my institute numbers about 700). About 300 are research workers. (Of the staff scientists account for forty percent).
12. Does your institution have any research vessels (ships) ?Y es, we have two research vessels: the bigger one for multi-disciplinary investigations, the smaller one for geophysical surveys.
13. Do you go to the sea very often ? On an average, I go to the sea a couple of times each year.
14. Do you get sea sick ? Sometimes. I am not much of a sailor, but I still like to go to the sea, as it is my work and I like my work.
15. May I ask what your major research interest is ? I work in tectonics. (My research is in marine biology, geophysics, geomorphology, marine information, etc.) (Originally, I studied radio, but now I'm doing research in remote sensing.)
16. I am very happy that I have the same interest (research field) as you, since we then have a common language.
17. I am very interested in your paper entitled " Physical Oceanography of the Southeast Asian Waters " (" Development of the Coastal Zones of Thailand ", ...

etc.). Would you please give me a reprint ?

18. I am sorry. I think I have run out of the reprints, but I can give you a xerox copy. Would that be all right ?

19. Fine. Thank you in advance. Shall I write down my address, so that you can mail the copy to me ? By the way, may I have your name card ?

20. Gladly, here you are. Well, I'd like to have yours, too. Ah, time is up. Shall we meet again this evening at dinner time ? I'd like to know more about your work. So long! (See you later).

21. Hello, how are you ? Just fine, thanks, and you ? Very well, thank you. Let's go on with our talk, O.K. ? Well, Please tell me what oceanography is.

22. The study of the world ocean is called oceanography, or oceanology.

23. What do you mean by the "world ocean" ?

24. About 71 percent of the earth's surface is covered by a film of water that fills a system of ocean basins that we call the world ocean.

25. It seems to me your concept of the world ocean is different from mine. I learned at middle school that the oceans are separated geographically.

26. Right. But from an oceanographer's point of view, the emphasis should be on a world ocean that is completely intercommunicating. This body of water extends from the Arctic to the Antarctic; although it is forced to twist its way around the continental masses and forms distinct basins; all of the basins are interconnected.

27. Is the world ocean very important to mankind ?

28. That goes without saying! The world ocean influences almost every aspect of our lives; it affects our weather, our food and water, our recreation, international travel and commerce. The world ocean is also an important part of the global environment; because of its size and shape, it interacts with the earth's atmosphere and land masses so that it is vital to our existence.
29. With the advance of sciences, the study of the sea must also have advanced, I gather?
30. Yes, indeed. Oceanography has changed in its emphasis, scope, and complexity throughout history.
31. I wonder how people studied the sea in the past.
32. The ancient mariners traversed the sea in search of new lands or to transport goods from one port to another.
33. What was their knowledge of the sea at that time?
34. Their knowledge of the sea was oriented toward winds, currents, sailing conditions, and other elements of navigation that determined the success of their voyages.
35. In the late 19th century, a great step forward took place in many disciplinary fields of sciences. How about oceanography?
36. At that time, oceanographers began to seek knowledge of the world ocean for its own sake.
37. What did the scientists do with the world ocean?
38. The early scientists accomplished the first oceanwide survey of the marine environment. Probably the most famous expedition, which opened the era of ocean exploration, was made between 1872 and 1876 by " H.M.S. Challenger ".

39. Oh, the famous research vessel "Challenger", I have heard of it.

40. Right. The Challenger, with its crew and seven scientists, crossed the Atlantic, Pacific, and Antarctic oceans, travelling over 125,000 km. or 68,900 nautical miles.

41. What did the expedition observe?

42. The expedition observed weather, currents, water chemistry at all depths, temperature, bottom topography, sediments, and marine life on a global scale.

43. I can see these measurements provided the factual foundation for the science of oceanography. Well, how about oceanographic study in the present?

44. Nowadays, an oceanographer is often a specialist whose research effort is concentrated in a specific area of study, such as biological oceanography, chemical oceanography, geological oceanography, physical oceanography, or oceanographic engineering.

45. Earlier you spoke about research vessels; what are they like?

46. Oceanographical research vessels may be as small as rowboats or as large as ships 150 metres long.

47. With sophisticated oceanographic research facilities mankind today must understand the world ocean thoroughly.

48. Far from that! Even with this total effort, our knowledge of the world ocean is still inadequate to solve many of the practical problems that exist.

49. What kind of practical problems?

50. For example, the prediction of weather, tsunamis, and typhoons, or the biological and geochemical effects of

waste disposal.

51. I have seen a photograph of the Earth taken from the lunar space mission, which shows it as a beautiful blue and white ball. I wonder what the blue and white are.

52. The blue is the ocean and the white swirls are the clouds. The Earth appears mainly blue because water covers more of its surface than do the continents—seventy-one percent or almost three quarters.

53. But the blue is not distributed evenly over the Earth's surface.

54. That's right. It isn't. Most of the land lies in the northern hemisphere, while most of the southern hemisphere is ocean, with a continuous belt of water linking the three major oceans.

55. I know the Earth's three major oceans are the Pacific, the Atlantic, and the Indian Ocean. Please tell me something detailed about these three major oceans.

56. The Pacific, the largest ocean, covers 170 million square km—about the same size as the Atlantic and the Indian Oceans combined. It covers more than a third of the surface of the Earth and stretches almost half way around it from east to west. It is so large that all the land on the Earth's surface could fit within its limits.

57. The Atlantic Ocean is next in size and although it stretches as far north and south as the Pacific, it is narrower and irregular in shape, about 7,200 kilometres across at its widest point, compared with 20,000 kilometres at that of the Pacific.

58. The Indian Ocean is the smallest of the major oceans and roughly triangular in shape.

59. Is there a small ocean in the North Pole area ?

60. Yes. It is the Arctic Ocean, that is much smaller than the major three and is covered almost entirely with ice.

61. I've often heard of people talking about South China Sea, North Sea, Arabian Sea, etc. Are they also oceans ?

62. Well, seas are smaller water-covered areas on the Earth. They may be part of an ocean—the Caribbean, for example, is part of the Atlantic—or seas may be separate, like the Mediterranean.

63. Where and how deep is the deepest part of the oceans ?

64. The deepest part is in the western Pacific, which descends eleven kilometres.

65. Oh my! I guess it must penetrate nearly to the opposite side of the Globe.

66. By no means. Compared with the diameter of the Earth, the depth of its oceans is minute. The Earth's diameter is about 12,740 kilometres. On a model of the Earth about the size of an orange, the depth of the oceans would be about the thickness of a thin layer of paper.

67. Good heavens! Then, what's the use of this "thin layer of paper" ?

68. Don't you look down upon it! Earth is the only planet in the solar system to have oceans; and, this thin watery covering is what made life possible on Earth. The earliest forms of life developed in the ocean and evolved there before moving to the land.

69. That's already "past tense"!

70. Today, the oceans provide food, water, chemicals, and even power. They moderate our climate by absorbing

heat in tropical areas, thereby cooling them, and carrying it to the freezing polar areas, which would otherwise become even colder. We use them as highways between the continents and, unfortunately, as a dumping-ground for waste. We could not exist without them, believe it or not!

71. Whenever I go to the sea, fresh water on board ship is always limited. Perhaps, the salty seawater once was fresh.

72. What an idea! As far as we can tell, seas and oceans never had fresh water.

73. I wonder where the salt came from.

74. The salt comes from gases and other substances dissolved in the water, and its concentration we call salinity. The highest salinity can reach 37‰ or so.

75. Why not more?

76. Good question! You know, just as substances are being added to seawater, so also are they being removed. If they were not, the concentration would go on building up. However, the salinity of seawater remains at the same level, because some of the solids sink to the bottom or are thrown into the air in sea spray.

77. When I go to the sea, I notice that waves always cause ships at sea to rise and fall. Can you tell me something about waves?

78. All right. Physical oceanographers describe waves by measuring their wave length, which is the distance between two crests, and their wave height, which is the distance between the bottom of the wave trough and the top of the crest.

79. Do you know anything about the highest wave ?
80. The highest open sea wave ever measured had a wave height of thirty-four metres. It was in the Pacific Ocean.
81. What do waves do to the land ?
82. They help to shape our shoreline by forming and re-forming beaches, cliffs, and sand dunes. In storms, they can even destroy everything in their path.
83. How terrible! Can people control them ?
84. Yes, today people have invented new machines which can harness their energy and use it to generate electricity.
85. What is the cause of waves ?
86. The main cause of waves is wind blowing across the surface of the ocean.
87. And what determines the height of the wave ?
88. The speed of the wind, the length of the time it has been blowing, and the distance it has travelled across the open ocean determine the height of the wave.
89. Do waves flow with the wind ?
90. No. Though waves do indicate that there is movement in the water, this does not mean that water moves along with the waves. Waves are the result of water changing shape, not of water flowing with the wind.
91. Then, do waves travel along ?
92. Yes, they do. Oceanographers once tracked waves produced by a storm in the Antarctic across the Pacific and finally, two weeks later, to the shores of Alaska after a journey of 18,000 kilometres. The waves had travelled half way round the Earth!
93. Well, are storm waves the most terrible ?

94. No, no. The most spectacular and destructive waves in the ocean, commonly called tidal waves, have nothing to do with tides, as the name implies, or with wind as do most other waves.

95. Ah, I remember some Japanese talked about a horrifying tsunami.

96. That's right. Oceanographers prefer to call them by their Japanese name, tsunami. They are due to earthquakes and undersea volcanic activities.

97. Please tell me something more about tsunamis.

98. O.K. During an earthquake the seabed can move suddenly, displacing a large mass of water, disturbing the sea's surface, and setting up a train of tsunamis that travels away from the centre of earthquake. And undersea volcanoes can set up the same series of movements.

99. What is the length of a tsunami, and what is its speed ?

100. The crests of tsunamis are often 150 kilometres or more apart. They travel at speeds of up to 750 kilometres per hour, that is, one will pass a given point about every fifteen minutes.

101. How about their heights ?

102. In the open sea they are only about a metre high causing little damage. Ships can ride over them unawares. When the waves reach shallow water, however, they change, the racing waters of the tsunamis are slowed down abruptly. Instead of racing forwards, they push up, swelling to ten metres or more in height.

103. It sounds harmless.

104. Yes, many are harmless, but in some places the shape of the sea floor concentrates their energy in such a way

that they grow to terrifying heights of up to thirty metres, causing devastation where their water thunders on to the shore.

105. Now I can see why people talk about these catastrophic waves in horror. And just now, you mentioned about tides, would you please tell me something about tides?

106. The gravitational pull of the Moon and the Sun on Earth and the rotation of the Earth cause the level of the water in the oceans to change. This pull causes the sometimes dramatic rise of water level in the oceans, called the tide.

107. Oceanographers often talk about high tide, what does it mean?

108. The pull is greatest on the side of the Earth facing the Moon, where water level rises, causing a high tide; while on the side away from the Moon, where its pull is weakest, the water bulges away from the Moon, causing a corresponding high tide as well.

109. Well, since it takes twenty-four hours and fifty minutes for the Earth to rotate in relation to the Moon, during this period, a place on Earth faces the Moon once and faces away from the Moon once, I think, it should have two high tides.

110. Right. Most but not all parts of the Earth have two high and two low tides every twenty-four hours, a few areas have only one high and one low and some have a mixture of the two, with one high tide much higher than the other.

111. Why so? Can you tell me the reason?

112. These differences are due to latitude, the effect of different depths in the ocean, the shape of a coastline,