November 12, 1973 TIME-LIFE BOOKS THE DRAMA OF THE OCEANS

ENVELOPE

The Editors of TIME-LIFE BOOKS

INVITE YOU

TO BECOME

AN ARMCHAIR AQUANAUT

... And To Explore The

Most Fascinating, Most Mysterious Realm

On Earth

- For 10 Days FREE!

LETTER

Elisabeth Mann Borgese (daughter of Thomas Mann and Chairman of the Planning Council of the International Ocean Institute) has written and edited a series of amazing books about the oceans of the world. Because you are a patron of TIME-LIFE BOOKS, the Editors are anxious for you to preview this remarkable series. Accordingly, the Editors would like to send you Volume I to read as their guest for 10 days, without any obligation.

Dear Reader:

Perhaps you have never thought of yourself as an Aquanaut -- a denizen of the seas.

And yet, like all human beings, you live in a world which is covered with -- water.

Seventy-one percent of the earth's surface is covered

by its oceans. And in those oceans, most of man's hope for

ultimate survival are now concentrated!

November 12, 1973 TIME-LIFE BOOKS THE DRAMA OF THE OCEANS Letter- Page 2

Most of the world's oil -- enough to solve man's energy needs for the next two hundred years -- lies buried in those oceans. Already 10,000 off-shore wells have been sunk. And yet, oil men say, "till now, we have just been piddling! We have hardly gotten our feet wet!" Whether you and your children and grandchildren go cold in years to come depends in large part on man's ability to mine the oil of the oceans.

Enough food to feed all the starving millions of the

world is still unharvested in the oceans. From a few

million tons at the beginning of the century, the world fish

catch increased to 15 million tons by 1938; 27 tons in 1958;

56 tons in 1969. By 1985, it will reach 107 million tons.

But the potential -- without scientific cultivation -- is

at least 200 million tons a year. And with intensive cultiva
tion, this could reach 200 billion tons a year!

The very survival of mankind could turn on man's ability to reap the oceans' bountiful harvests.

Seventy percent of the world's minerals lie under the oceans: diamonds, zircons, feldspar, ilmenite, gold, tin, zinc, iron, aluminum -- and the remarkable manganese nodule.

The floors of the Atlantic, the Pacific, and the Indian Ocean are literally pebbled with these nodules. On the average, they are about the size of a potato. Some are bigger. The chemistry of the oceans keeps reproducing them in a continuous process. Manganese ions, suspended in the water, react with oxygen, precipitate as molecules of manganese dioxide, and sink to the bottom. On their way down they attract other minerals -- nickel, cobalt, copper. The abundance of nodules is such that the world's annual requirement of cobalt would be met by harvesting only 236 square miles of the Pacific: less than a ten thousandth of one percent of the total ocean area.

A Japanese group has developed a mechanical system to mine the nodules.

A vast mineral wealth held in solution in the earth's 300 million cubic miles of seawater is awaiting extraction. The total quantity of salts in all the oceans is 54 x 10¹⁴ tons. About three-fourths of this is common salt. The rest contains large quantities of metal, e.g., 16,000 million tons of aluminum, 1,500 million tons of titanium, 5,000 million tons of uranium, 2,000 million tons of magnesium, and

November 12, 1973 TIME-LIFE BOOKS THE DRAMA OF THE OCEANS Letter - Page 4

10 x 10 14 tons of bromine. Alt, bromine and magnesium are already being mined commercially.

So, as the minerals that can be mined on land rapidly run out, man's metallurgical and hence his technological future -- his cities, his planes, his cars, his factories, offices, and homes -- ultimately must come from the sea.

But the seas are filled with wonders and splendors, besides their wealth -- marvels that you and your family will enjoy knowing about!

The <u>largest</u> animal that ever lived -- fifteen times the size of an elephant, and bigger even than the extinct dinosaur Tyrannosaurus Rex -- is alive today in the oceans of the world. Its name is the Blue Whale. <u>Fewer than 500</u> still exist ... and they are probably doomed to extinction by man's rapacity.

The <u>smallest</u> animal that ever lived is alive and thriving in the seas today -- the single-celled protozoa that form the basis of all life in the sea -- from which all life originally sprang.

November 12, 1973 TIME-LIFE BOOKS THE DRAMA OF THE OCEANS Letter - Page 5

The highest mountains in the world -- from base to peak -- are in the oceans. Ridges and craggy peaks on the sea-bed, that dwarf the Himalayas; abysses that could swallow Mount Everest and Mont Blanc piled upon one another.

Volcanoes in the oceans spew forth red-hot lava through the blue. And in the ocean depths are deserts greater than the Sahara.

But most fascinating of all are the <u>creatures</u> that inhabit the oceans' depths.

We know about the echo-sounding capacity of dolphins, enabling them to identify distance, shape, substance and consistence of things in the sea. We have learned their technique of freezing sound into holographic images; or, rather, we discovered their natural sonar holographic technique after inventing clumsy machines, thus attaining in cultural evolution what natural evolution had achieved far back in the past.

Telephone: 203 329-0931 NYC (212) 586-6730 November 12, 1973 TIME-LIFE BOOKS

THE DRAMA OF THE OCEANS Letter - Page 6

In a way, the dolphin "sees" and "describes",

perceives and communicates through the same process.

Is there a cue, perhaps, to the decoding of his "language?"

Break-throughs in the analysis of animal communication, like von Frisch's epoch-making discovery of the "dance of the bees," have not yet occurred in the behavioral sciences of the oceans. It is safe to predict that they are in the offing. For the wide open spaces of the sea are a dense network of communications on which the survival of all life depends.

Simple marine bacteria, those tiny organisms which are responsible for the recycling of organic matter in the oceans, communicate with each other by chemical signals.

Octopuses speak to one another by changing the color of their skin: a color code awaiting to be deciphered. Salmon and herring -- so it happens -- are guided on their long journeys by distinct smells, agressiveness and cooperation, lust and acquiescence in lobster and catfish, in goby and crab, harken to chemical signals which blend into "white smell," the briny tang sensible to our own olfaction.

November 12, 1973 TIME-LIFE BOOKS THE DRAMA OF THE OCEANS Letter - Page 7

We hope that this brief over view of Volume I has given you just a hint of the enjoyment in store for you and your family, and we hope that you will want to examine the book under our 10-day no-obligation offer.

Volume I of THE DRAMA OF THE OCEANS is a big, magnificent, volume, 8½" x 11", 240-pages, containing 40,000 words and more than 250 full-color illustrations of sharks and octopi, whales and coral, underwater mountains, and breathtaking vistas.

Volume I -- which you can look over now without cost -for 10 days is the first volume of THE DRAMA OF THE OCEANS.

Future volumes will be issued - one every three months.

To receive your copy of Volume I, initial and mail back the enclosed postage paid Card. When your copy arrives, look it over, show it to your family and friends. Then, if you don't find yourself fascinated and delighted, as well as informed, just return the book within 10 days and that ends the matter.

If you decide you want to keep this introductory volume the price is just \$7.95, plus shipping and handling, which

for a book of this high quality and content is indeed exceptionally low.

If you keep Volume I, the forthcoming Volumes in THE DRAMA OF THE OCEANS will be sent to you as they are published, one at a time, every three months, on approval. Each volume will be made available on the same 10-day free examination basis and at the same price of \$7.95, plus shipping and handling. Each volume will stand on its own merits: you may reject any book within 10 days simply by returning it and you are never under any obligation to purchase any minimum number of books. You may cancel this free examination privilege simply by writing us, and no further books will be sent thereafter.

I do hope that you will take this opportunity to become "an armchair aquanaut" and become acquainted with the 71% of the world's surface which lies beneath its oceans. It is an adventure which I am sure you and your whole family will enjoy. So, do mail the enclosed postage paid Card today. Send no money. You take no risk, and

November 12, 1973 TIME-LIFE BOOKS THE DRAMA OF THE OCEANS Letter - Page 9

you will have an opportunity to enjoy one of the most impressive volumes that it has ever been the privilege of TIME-LIFE BOOKS to offer to its readers.

Sincerely yours,

Joan D. Manley Publisher

CIRCULAR

Headline:

YOURS FOR A 10-DAY FREE TRIAL

THE FIRST VOLUME OF

THE DRAMA OF THE OCEANS

BY ELISABETH MANN BORGESE

ONE OF THE MOST IMPORTANT SERIES OF BOOKS

ABOUT THE WORLD WE LIVE IN

EVER PUBLISHED BY

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THE EDITORS OF TIME-LIFE BOOKS INVITE YOU TO ENTER

FORBIDDEN PALACES ... TO EXPLORE AND CONQUER NEW

WORLDS NO HUMAN FOOT HAS EVER TROD ... AND TO VIEW

SUCH BEAUTIES AS NEVER BEFORE WERE SEEN BY THE EYES

OF MAN ... TO LOOK UPON LIVING DRAGONS ... TO

DISCOVER RICHES BEYOND THE WILDEST DREAMS OF AVARICE,

THAT LIE WAITING FOR HARVEST ... TO EXPERIENCE

ADVENTURE ... TO EXAMINE THE RIDDLE OF THE UNIVERSE ...

TO TRACE THE ORIGINS OF LIFE ... AND PERHAPS ... TO

PREVIEW THE END OF ALL LIFE ON EARTH

November 13, 1973 TIME-LIFE BOOKS THE DRAMA OF THE OCEANS Circular - Page 1 (#2)

Body Copy:

THE DRAMA OF THE OCEANS is a series of books about the mother of all life -- THE SEA: This is a predigious master work of text and magnificent full-color pictures that reveals the splendors of the seas from the mysterious beauties of the abyssal depths to the thrilling spectacle of surf and open water. The books are written and edited by Elisabeth Mann Borgese, Chairman of the Planning Council of the International Ocean Institute, the distinguished daughter of the late Thomas Mann. The group of editorial advisors is equally distinguished, and will include the following experts: Marine Geology: Dr. Roger Revelle. Oceanography: Dr. Paul Fye, Cartography: Dr. Warren Wooster. Marine Biology: Dr. Sidney Holt. Marine Biology: Dr. William Murdoch. Fisheries: Dr. Jean Carroz (FAO). Ships: Dr. Thomas Busha (IMCO). Offshore oil developments: Dr. Gilbert Blake. Mining: Dr. Frank LaQue, and Marine Architecture: Dr. John Craven.

PAGE 2

Headline:

BEGIN

THE DRAMA OF THE OCEANS

ON A

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Body Copy:

PARTIAL TABLE OF CONTENTS, VOLUME I

PART I -- THE SCENE

Chapter One: Marine geology and oceanography. Illustrated with unique underwater photographs showing the world of the depths, its valleys, plains, and mountains. Also included are dramatic views of the surface of the oceans, with rolling billows and crashing surf.

Chapter Two: Marine Biology. Marvelous photographs of the varied creatures that live in and on the sea: from microscopic plankton and protozoa, to corals, fishes, whales and seabirds.

CIRCULAR, Page 2 continued

Chapter Three: Marine Cartography. Here are reproduced maps of the seas, from the earliest charts of Antiquity to the most up-to-date maps of the ocean floor. Also included are breathtaking photographs of the oceans as seen from satellites in outer space.

PART II -- DRAMATIS PERSONAE

Chapter Four: The Fisherman. This covers all aspects of fishing, from prehistory to the present as seen in paintings, drawings, and photographs. Also included will be illustrations of fishing gear from all ages, as well as shots of fisheries afloat and ashore, and plans for the harvesting of the oceans' resources.

Chapter Five: The Sailors. The history of navigation from the papyrus rafts of the Egyptians to the ships and tankers of today, as seen in a stunning group of photographs, paintings, drawings, and plans.

Chapter Six: Oil Drills and Mines. Here will be seen the industrialization of the oceans, from off-shore wells to desalination plants, brine reclamation, and the mining of the waters themselves.

CIRCULAR, Page 2 continued

Chapter Seven: The Architects. This deals with man's dwellings on or in the water. We begin with houses built on pilings, from the prehistoric lake-dwellings to the city of Venice. Plans are also shown for floating airports and factories, as well as for entire underwater cities built within geodistic domes.

Chapter Eight: Coastal Developments for Industry and Recreation. This investigates the movement of industry to the seashore, as well as the exploitation of the coastal areas for hotels, resorts, marinas, and public beaches.

PART III -- THE DRAMA. TWO SCENARIOS

Chapter Nine. <u>Collision Course</u>. This discusses the various conflicts between fishing and industry, industry and recreation, and between various world powers over fishing rights and territorial waters. Here, too, will be discussed the various aspects of the pollution of the oceans resulting in an imbalance of the life of the sea.

November 13, 1973 TIME-LIFE BOOKS THE DRAMA OF THE OCEANS Circular - Page 6

CIRCULAR, Page 2 continued

New Man From a New Ocean Environment. In 1967 Ambassador Pardo of Malta made his historic speech in the General Assembly of the United Nations, proposing that the oceans be declared the common heritage of mankind and that ocean environment and resources be managed by a new type of international organization for the benefit of all peoples. Brief history of the Sea-Bed Committee and the Law of the Seas Conference. The main issues of the debate. The new international ocean regime as a model for international organization in the 21st Century.

PAGE 3

Body Copy:

A PAGE FROM THE INTRODUCTION TO VOLUME I

Homme libre, toujours tu chériras la mer!

La mer est ton miroir, tu contemples ton âme

dans le déroulement infini de sa lame, et ton
esprit n'est pas un gouffre moins amer.

Why? Why is the ocean the mirror of our soul, more than mountains, in their frozen gesture of challenge to the fleeting fury of billows that can never match their majesty?

More than deserts whose rippling sands vie with the sea's eddies on a calm summer day?

More than forests with their cycles and layers of life?

Or the firmament in its rhythms and eternal recessions?

The oceans contain them all. Mountains: those that
the surfer experiences, more whelming than the skier's
mountains; and those which science is but beginning to fathom:

CIRCULAR, Page 3 continued

ridges and craggy peaks on the sea-bed, that dwarf the Himalayas; abysses that could swallow Mount Everest and Mont Blanc piled upon one another; volcanoes spewing forth red-hot lava through the blue; deserts of red clay, deep down and stretching farther than the Saharas; beds of sand; and submarine meadows and forests, with a wealth of species of flora and fauna, ageless and endless, that makes life on earth appear as a fleeting episode ...

The well of the past is deep, and the past stays alive in its deepness. Food recovered from shipwrecks of years ago is still fresh and edible, conserved by the coolness and the pressure of the deep ocean; and Cambrian's creatures, half a billion years old, are still with us on the abyssal plains.

Every woman's womb is a micro-ocean, the salinity of its fluid resembling that of primeval waters; and every micro-ocean re-stages the drama of the origin of life in the gestation of every embryo: from one-cell protozoan through all the phases of gill-breeding and amphibian, to mammalian evolution.

CIRCULAR, Page 3 continued

And every human, in turn, is a planet ocean, for

71 percent of his substance consists of salty water, just
as 71 percent of the earth is covered by the oceans. (That
there are analogies of structure and basic identity between
man as microcosmos and the macrocosmos itself, had already
been intuited by ancient Indian wisdom.)

Now imagine that every day of the gestation of man grew into eternity, and every embryonic moment were a species giving rise to an evolution of its own, and that all these species were still with us.

The world's oceans contain a good many of them: the protozoa, the Porifera, the coelenterates and the madrepores, antipatharians and gorgonians, echinoders, holothuroids and mollusks, cephalopodes, fish, and amphibians. And just as the past lives in their timelessness, so does the future, and marine life embraces the return of the avian as of the mammal to the world womb; and wings, legs and arms become fins again, of cartilage and skin, or of rubber and plastic.

November 13, 1973 TIME-LIFE BOOKS THE DRAMA OF THE OCEANS Circular - Page 10

CIRCULAR, Page 3 continued

Future things swim before me, as in empty outlines and skeletons; all the past is somehow grown dim and I seem to see but they eyes gorwn wondrous blue.

Herman Muller wrote: "Through billions of years of blind mutation, microbes finally emerged as man. We are no longer blind; at last we are beginning to be conscious of what has happened and of what may happen. From now on, evolution is what we make it."

Rene Dubos wrote: "Man is remaking himself as he is remaking his environment."

We are still in time to scrape the soot from our countenance, and the poisons that eat into our skin. Still in time to dry the pus and tears from our red-rimmed eyes, and the infected snot under our noses. Still in time to smooth our tangled hair and the contortions of avarice in our cramped fingers, in the sore grooves on our grimaced faces. Still in time, and look into the mirror again.

November 13, 1973 TIME-LIFE BOOKS THE DRAMA OF THE OCEANS Circular - Page 11

CIRCULAR, Page 3 continued

It is not a clean-up job out there that is awaiting us. The change must come in ourselves, in our social and economic order or, rather, disorder, in our international system, pitifully left behind, where it was in the nineteenth century, by the macro-technologies of the twenty-first which no nation can control alone.

The delegates of all nations are at work, right now, at Santiago and Vienna, to remake the law of the seas, to remake the ocean environment, and to remake ourselves in it.

A new international order is arising from the oceans, based on the principle that the oceans are common heritage of mankind and must be managed for the benefit of all peoples. A new international order, to harmonize the conflicting uses of the ocean, to minimize the destructive side effects of the marine evolution, to bring the political order into line with the scientific order, to provide international controls for transmational technologies, and to help bridge the gap between developed and developing people.

November 13, 1973 TIME-LIFE BOOKS THE DRAMA OF THE OCEANS Circular - Page 12

CIRCULAR, Page 3 continued

What is being decided in the chambers of Santiago and Vienna is of burning and imminent concern to all of us who love the oceans as we love ourselves.

November 13, 1973 TIME-LIFE BOOKS THE DRAMA OF THE OCEANS Circular - Page 13

PAGE 4

Headline:

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CIRCULAR, Page 4 continued

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