



Landing a Giant Tuna in Nova Scotia.

Prepared by National Geographic Society, Washington, D. C.—WNU Service.

AS ONE stands on the seashore at the full of the tide and looks out over the swelling floods surging in from the distant horizon, his feet are on the threshold of an enormous empire, so vast in extent and population that the achievements of the haughtiest rulers of mankind are dwarfed by comparison.

Though fleets sail over its depth, they make no significant impression upon this immense realm.

The subjects of this empire swarm through the waters in myriads totaling far greater numbers than all the life of the continental world. In fact, scientific investigations indicate that the oceans were the original abode of life on the globe, and that the continents were peopled from that inexhaustible reservoir.

Geologists believe that the depressions now occupied by the oceans have been located in approximately their present positions during the entire history of the earth, and that the foundations of the land masses likewise have been situated nearly as they are at the present time.

But during the great geological periods, the ocean has repeatedly invaded their edges and even their interior basins, sometimes to an enormous extent, forming shallow epicontinental seas.

Thus, all the continents of the world are bordered by a strip of shallow sea, the continental shelf, which slopes gradually from the coast to depths varying from 100 to 1,000 fathoms at its outer edge. Beyond this limit there is usually a more rapid gradient to the main floor of the ocean—the continental slope.

This world-wide shallow strip is of major importance to the life of the seas.

North Atlantic Shelf.

This article deals especially with the mollusks and other small creatures inhabiting the continental shelf which borders the Atlantic coast of North America from Nova Scotia to New York, and includes the extensive New England fisheries.

A most remarkable stretch of shore this is. Its southern half is of comparatively even contour, but, beginning with the region of Cape Hatteras, the coast to the northward has subsided and is indented with deep bays and irregularities, finally terminating in the long curving and tapering indentation of the Gulf of Maine.

The latter is the most noteworthy feature of the coast, its wide mouth being guarded on either hand by Cape Cod and Cape Sable, and its inner reaches narrowing to a double apex in the Bay of Fundy.

All this northern half of the Atlantic seaboard is a succession of drowned valleys, and its topography and geological history indicate that it has subsided beneath the waves of the sea during relatively recent times. On the other hand, the even outline of the coast from Hatteras south to Florida shows no evidence of such sinking.

The oceanic shelf to the 100-fathom line widens rapidly to the northward, reaching its greatest extent off the Gulf of Maine, where it is approximately 400 miles wide.

The central floor of the Gulf of Maine is an ancient river valley to which the river systems, represented by those now existent, contributed their drainage, to be emptied into the prehistoric sea by a single channel and mouth still traceable on the sea floor at the edge of the continental shelf.

Throughout this extensive and comparatively shallow oceanic margin, well illuminated by the sun's rays, conditions are favorable for an enormous development of the marine plants on which sea animals feed: namely, the microscopic diatoms, one-celled algae, and the larger seaweeds.

Nursery for Food Fishes.

Here numerous streams empty their loads of silt, rich in nitrates, phosphates, and other chemicals needed for plant food. The strong tides rushing into the narrowing channel from the open sea keep the water stirred with upwelling currents plentifully supplied with oxygen.

Hordes of small crustaceans, the copepods, feed upon this plant life. At certain seasons they swarm in these waters in numbers so vast that they give the sea a reddish color for miles.

These tiny creatures are rich in oils and are greedily devoured by large schools of mackerel, herring, alewives, and shad. Bluefish, cod, hake, and haddock pursue and devour the smaller fishes, and even the huge flunk and humpback

whales do not disdain to feed upon the herring.

Thus the shallow banks off New England, especially Georges and Browns Banks, at the entrance to the Gulf of Maine, as well as the Grand Banks of Newfoundland, farther away, form a veritable nursery for the important food fishes of our coasts, and thus connect mankind by an interlocking food chain with the microscopic plant life of these shallow waters.

The evolution of the animal world, as we know it, would have been impossible had these primitive plants not come into existence. From such forms, also, all the higher land plants of the world originate.

The Intertidal Zone.

As the open seas were peopled from the oceanic shelf, so the freshwater streams and swamps received parts of the overflow. Countless species found food and a measure of safety from enemies by creeping into the area between the tides, where they acquired resistance to exposure to the open air at the intervals of low water. Here a rapid evolution took place, so that the intertidal zone became densely populated with life.

Finally, from fresh-water swamps on the one hand and from the upper parts of the marine tidal zone on the other, first plants and then animals invaded the land itself and produced the highly specialized types that now reign over it.

North of Cape Cod, the coast of New England is predominantly high and rocky. Beginning with the headlands of Nahant, Marblehead, and Cape Ann, north of Boston, the cliffs are at first isolated to local regions, with intervening stretches of sandy beaches and flats. But from Portland, in Casco Bay, northward, the coast is an almost unbroken succession of granite cliffs, sloping rock-ribbed promontories, and reentrant bays and harbors, with occasional beaches.

The tidal waters flowing from the open sea are gradually confined by the narrowing outline of the Gulf of Maine, which forces them to a progressively increasing height, and reach a climax in the Bay of Fundy. From Massachusetts Bay north to Portland, the tide rises nine feet. It continues to increase northward, until it becomes 18 feet at Eastport and 37 to 48 feet at the ends of the two tapering horns which terminate the Bay of Fundy.

Here, too, there are interpolated stretches of beaches, flat points, and swampy meadows, and these are entirely covered at high tide. Naturally the width of the tidal zone on the side of a vertical cliff is measured exactly by the vertical rise and fall of the water. For example, the cliffs that surround Bliss Island, at the entrance of Passamaquoddy bay, are exposed for 22 feet from the top of the barnacle frieze that marks the high-tide limit to the water level at low tide.

Crowded With Life.

This region between the tides is teeming with life, both plant and animal, in crowded array. On the vertical granite walls of Bliss Island, the various species are arranged in overlapping zones, with the conspicuous white band of rock barnacles. Below this, the rockweeds hang in thick, gracefully festooned clusters down to the low-water mark.

Concealed beneath the rockweed, and succeeding the base of the barnacle zone, the rocks are covered with a dense layer of young black mussels.

Among them are closely crowded groups of the common dog whelk, feeding upon the mussels, and laying their graceful vase-shaped egg cases, tinted rose and yellow, in mosaiclike patches in the crevices.

The latter mollusks secrete a purple dye, formerly used by the Indians for coloring their deerskin garments. They are related to the murex of the Phoenicians, from which that people derived the famous royal purple, later arrogated by the Roman emperors for their personal use.

The dog whelk has a thick shell with a characteristic spindle-shaped opening. It is extremely variable in color, size, and sculpture along the New England shore.

The common periwinkle creeps everywhere over the rockweed from the low-water mark to the highest part of the barnacle zone and even upon the bare rocks far above it. This remarkable sea snail can stand exposure to the open air longer than any other marine creature of the northern coast.

It is in a transitional state of evolution toward terrestrial life, for its gill seems to be on the point of being replaced by a lung. It has a very wide range, being found on both sides of the Atlantic. In England it is the common "winkle" sold in markets.

what **Irvin S. Cobb** thinks about:

Poor Lo's Revival.

SANTA MONICA, CALIF.— Despite the blessings of civilization which we have bestowed upon them, including diseases, whisky, soda pop, and \$2 overalls, the American Indians are increasing.

This should give our red brothers cause for worry. Suppose they got so numerous that we gave this country back to them?

Already we are indebted to these original inhabitants for quinine, cocaine, cotton, chocolate, tobacco, corn, beans, squashes, pumpkins, grapefruit, huckleberries and hundreds of other remedial drugs or foodstuffs. Moreover, an eminent authority says the curative methods of the old medicine man had values which in many respects excelled what the white man has produced and suggests our scientists might well adopt certain aspects of the aborigine's plan.



Irvin Cobb

What if we did that very thing and then, by the way of exchange, invited the tribesmen to take over such trifling problems as an unbalanced budget, our European debts, sit-down strikes and the younger generation?

Cleaning up the Stage.

HAVING lost their licenses, fourteen burlesque houses in New York won't ever get them back if the officials keep their word about it.

With this example to go by, authorities might next try the idea of cleaning up the legitimate stage there—the spawning place and breeding ground of shows which filthy lines and filthier scenes are freely offered to pop-eyed audiences recruited from what we call our best families. Poisoning the moral atmosphere of the theater appears to be the favorite sport of a new school of dramatists who, when they were little boys, had their mouths washed out with soap for using dirty words, yet never got over the habit.

The Fate of Beauty Queens.

JUST as the weather gets warm so the contestants won't catch anything worse than sunburn, that outbreak of annual monotony known as the beauty contest will stir the populace to heights of the utmost indifference. There will be no dress rehearsals beforehand. With beauty contests, it's the other way around.

And then when Miss Cherokee Stripp or Miss Clear View has been hailed as America's prize package of loveliness, she will, if she runs true to form, put her clothes back on and catch the next train for California with the intention of starring in the movies.

On arrival, she will be pained to note that none of the studio heads is waiting at the station to sign her up; also that practically all the starring jobs are being held by young ladies who, in addition to good looks, have that desirable little thing called personality. And next fall she'll be dealing 'em off the arm in a Hollywood hashery.

International Slickers.

RUMORS persist that the United States, Great Britain and France are preparing for eventual agreements on monetary stabilization, tariff and trade adjustments, price-fixing of essential commodities—and, believe it or not, brethren and sistren—a settlement of the defaulted foreign debts owed to us.

Maybe it's significant—or, if you want to be broadminded and charitable about it, merely a coincidence—that every dispatch from European sources on this matter lists the debts last. And, verily I say unto you, that's exactly when and where they will come—last.

I seem to see the big three gathered at the council table for the final session and La Belle France moving that, everything else having been arranged to the satisfaction of the majority present and the hour being late, the detail of those debts be put over to some future date. John Bull seconds the motion. Motion carried by a vote of 2 to 1, Uncle Sam being feebly recorded in the negative.

A Sense of Humor.

DAMON RUNYON, who, being wise, should know better, reopens the issue of whether many people have a sense of humor. This provokes somebody to inquire what is humor, anyhow?

I stand by this definition: Humor is tragedy standing on its head with its pants torn.

Lots of folks think a sense of humor is predicated on the ability to laugh at other folks, which is wrong. A real sense of humor is based on our ability to laugh at ourselves. You have to say, not as Puck did, "What fools these mortals be," but, "What fools we mortals be."

That's why few women have a true sense of humor. Usually a woman, even a witty woman, takes herself so seriously, she can never regard herself unseriously.

IRVIN S. COBB.
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UNCOMMON AMERICANS

By Elmo Scott Watson

© Western Newspaper Union

Earliest Rebel

IN FRONT of the statehouse in Boston stands the statue of a woman, with a Bible in her hand and a child smuggled against her. The inscription on the monument tells you that this woman was a "Courageous Exponent of Civil Liberty and Religious Tolerance." But 300 years ago Massachusetts wasn't calling her by any such complimentary names. In the year 1637 she was "that proud dame, that Athaliah," a "notorious Imposter," a "dayngrous Instrument of the Devel rayged up by Satan" and a "Breeder of Heresies." For she was Anne Hutchinson, the earliest rebel in this country.

She became a leader of a group of people who fell under the displeasure of the stern Puritans of Massachusetts Bay colony. Because these people held meetings in her house to discuss and criticize the sermons of the Puritan ministers, they finally placed her on trial for heresy, a trial that has been compared to that of Joan of Arc at Rouen.

Under their questioning, she proved herself more than a match for her prosecutors. But just at the moment when it seemed that she had defeated her accusers, she burst forth into a long speech describing God's revelations to her. Thus she convicted herself and her penalty was banishment from the colony.

But Anne Hutchinson was more than the first defender of religious freedom in America. She was our earliest feminist. The meetings held in her house, although primarily for religious discussion, were the forerunners of thousands of meetings since her day, wherever women gather together to improve themselves or the rest of the world. So her house became the "birthplace of the women's clubs of America."

After her banishment from Massachusetts Bay colony she went to that haven of religious freedom, the colony of Rhode Island, founded by Roger Williams. There she lived until 1642 when, left a widow, she took her brood of children (she had borne 14) to the Dutch colony of New York where later she and all of her children were killed. But she had not lived in vain for "civil liberty and religious toleration, the principles for which she suffered exile and death are written into the Constitution of the United States."

The Nation's Jester

HE WAS baptized as Charles Farrar Browne but the whole nation once loved him and laughed with him under the name of Artemus Ward. Born in Maine in 1834, Browne served an apprenticeship in a print shop and then became a journeyman printer. Finally he wandered to Cleveland, Ohio, where he became a local reporter for the Cleveland Plain Dealer and invented the character of "Artemus Ward," supposed to be a traveling showman, writing to the paper to give information and to ask for it. Readers of that paper roared over "Artemus Ward's" bad spelling and humorous descriptions of his adventures and it was not long until Browne got a call from New York to become editor of Vanity Fair, a comic paper.

But this editorship did not last long for the wandering foot of the former journeyman printer soon began to assert itself. He published "Artemus Ward, His Book" which had a phenomenal sale. Then he took to the lecture platform and "Artemus Ward," until now a fictitious character, became a living reality to thousands of Americans.

One of Ward's devoted readers was President Lincoln and his book played a role in an historic scene at the White House during the Civil war. In September, 1862, Lincoln called a meeting of his cabinet members whom he astonished by reading excerpts from Ward's book. When they failed to join in his laughter, Lincoln threw down the book and said "Gentlemen, why don't you laugh? With the fearful strain that is upon me night and day, if I didn't laugh, I should die and you need the medicine as much as I do."

He then told them the real purpose of the meeting which was to read to them a paper he had prepared and which he proposed to issue when the time was ripe. That paper was the Emancipation Proclamation. When he had finished reading it, Secretary Stanton exclaimed "Mr. President, if reading chapters of Artemus Ward is a prelude to such a deed as this, the book should be filed among the archives of the nation, and the author canonized."

The author was never canonized but before he died in 1887, Artemus Ward had not only become America's favorite jester but he had won fame as a humorist in England such as no other American before him had ever known.

Dressed for the Occasion



"HI THERE, Mrs. Astorbilt, where are you going in that lovely summer gown?"

"Not very far, Miss Junior Deb, just down to the store to buy material for a play suit like yours."

"Well, Ma-mah, if you must copy my style, you couldn't find a better model because these shorts really fit, and the whole thing is a tailored job."

A Stylist Speaks.

"May I as Susie Sew-Your-Own interrupt you two with the latest word from my class in dress design? You, Sis, are a pre-vee of Miss America in proper sports wear while Ma-mah is modern to the minute with her raised waistline and filled bodice. I, in this morning frock, have what the book calls classic simplicity. Be that as it may, I couldn't get along without it, because it's so cool and comfortable."

Everybody's Happy.

"Thanks for the approval, Susie. Your clever dress would be a bright spot in anybody's kitchen, and now that you've got the swing of this sewing business there will be no stopping you. But even so, I must admit I'm a proud mother. You can go just as far as you like with this new hobby."

"Gee, Ma-mah, isn't it swell to be on such friendly terms with Fashion? I think good old Sew-Your-Own deserves most of the credit for arranging the introduction. Spring means so much more

when one's clothes look the part." "You're quite right, dear, but now let's run along. We have work to do."

The Patterns.

Pattern 1270 comes in sizes 14 to 20 (32 to 42 bust.) Size 16 requires 5 1/2 yards of 39 inch material.

Pattern 1272 is designed for sizes 14 to 20 (32 to 42 bust.) Size 16 requires 4 1/2 yards of 39 inch material. 2 1/2 yards of ribbon are required for the tie belt.

Pattern 1304 is for sizes 34 to 46. Size 36 requires 3 3/4 yards of 35 inch material plus 1/2 yard contrasting.

Send your order to The Sewing Circle Pattern Dept., 247 W. Forty-third street, New York, N. Y. Price of patterns, 15 cents (in coins) each.

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Giving Properly

There is a gift that is almost a blow, and there is a kind word that is munificence, so much is there in the way of doing things.—A. Helps.



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Kills Chewing Insects such as the Mexican Bean Beetle, Cucumber Beetle, Potato Beetle

Does Not Contain Lead, Arsenic or Fluorine

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Empty Victory Nothing except a battle lost can be half so melancholy as a battle won.—Duke of Wellington.

Pleasure of Life Take away affection and goodwill and all the pleasure is taken away from life.—Cicero.

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LIFE'S LIKE THAT By Fred Neher



"Mom said to run up and see how old Mrs. Krutz was, and she said it was none of Mom's business how old she is!"