WIDE WATERS

by CAPTAIN A.E.DINGLE

BEGIN HERE TODAY

Alden Drake, formerly a sailor, grown soft and flabby through a life of idle ease, ships aboard the clipper Orontes as "boy," under the command of Jake Stevens, whose enmity he incurs because of a mutual love for Mary Manning, daughter of the owner, who is a passenger. At Cape Town, Stevens is superseded as captain by Drake, whose lawyers have seen to the purchase of the Orontes during its cruise. Stevens is reduced to the rank of chief mate. Answering Mary's plea, Jake starts the Orontes through the Straits off Java, where the ship runs aground. Mary persuades Ike, the steward, to take her ashore.

NOW GO ON WITH THE STORY

The clacking pawls ceased. The men streamed sweat. Even fat little Joe Bunting wheezed horrible profanity as soon as his vocal powers were relieved of the necessity of bawling encouraging chanteys. Strain as they might, they only made the nine-inch coir hawser twang and stretch.

"Even th' bleedin' manchor don't drag 'ome to give us a rest!" he whceze'. Some of the men were less considerate of the ship. They agreed with Tubbs and Sams. All this back-breaking, heart-sinking labor was futile. Some, those who most loyally backed the mates and little Joe Bunting, glanced darkly at the pacing figure of Jake Stevens in the waist.

By ten o'clock the tide was full. All the movable weight forward, except the deck water tanks, had been shifted aft.

"Try her now, Mister Twining!" cried Drake eagerly.

Sullenly the men shipped their capstan bars again. Every man in the ship except Drake, Stevens and 'Erb Oats put his weight to the bars.

"Heave!" wheezed Joe Bunting. "Oh, heave an' bust 'er!" It was useless starting a song. The ship must be moved before she would begin to

HE STEALTHILY LOWERED HIMSELF INTO THE WATER BY A ROPE END.

slide fast enough to call for a song. But to move her was a terrific task. With muscles cracking, the veins swelling on the foreheads of the few real workers, only the "Clack, clack, cla-a-ack!" of three reluctant pawls resulted. Mr. Twining straightened his agonized back. Mr. Adams almost fell forward at the expiration of his heroic effort.

"Bli'me! I'm done!" panted Joe Bunting. Nick Coombs, silent hitherto, but heaving with every atom of his tremendous arm and shoulder power, glared with glassy eyes from beneath lowering, dripping brows, shaking his head, beaten.

"Ought to make everybody give 'is pound," he grumbled. And young Adams, knowing the man spoke the truth, glanced along the deck at Stevens and at the sail locker door. He knew how useless all this labor was. He thought he knew, anyhow. And the coffee had been pretty bad. Adams was ready to back his skipper to the limit, as was Twining; but he was young, and with the proneness of youth was likely to overlook a few things in the heat of annoyance. He watched Drake, pacing the poop, apparently only thinking up ways to further be-devil and bully-damn the mates and the men. What Aldon Drake was really thinking about was how he could get his ship afloat and on her way to her port with least delay.

"Mister Twining!" he called out. Twining responded briskly. Here was word to quit breaking the men's hearts. Drake leisurely packed his old black briar pipe, and as leisurely lit the tobacco. The smoke was jetting freely when Twining appeared at the head of the ladder.

"Mister Twining, you may 'vast heaving for this tide." Twining's face brightened. "Let the men get their dinners, give 'em a spell for a smoke, then go to work and shift the water tanks aft." Twining's jaw dropped. His eyes clouded. Drake puffed placidly at his pipe, and went on in the same voice as he might have used to Ike to put buttons in

"Tomorrow, if

for the saloon dinner were in the open oven. The Doctor was preparing the table. There were six lumps of boiled salt beef, steaming greasily in a great dishpan. They were extra rations, cooked ready for certain cold meals to come. There was a full bread locker. Jake dumped out the beef, and selected the best piece. This, with two cobs of bread wrapped up in his jacket, he replaced in the dishpan. He felt in his pockets, made sure he had his pocket knife, and then with a swift glance along the decks he darted to the ship's side nearest the shore. The island lay a cable length distant.

High voices could be heard from the forecastle, where tired and surly men argued loudly and rebelliously. Stevens grinned, but without any pleasure or amusement. It was the grim grin of an upright man about to do something not quite so upstanding. It was the grin of the outcast. Jake Stevens felt his position intensely. He knew he was neither master nor man, neither welcome passenger nor useful crew. He had no doubts whatever that reaching port to him meant nothing at all but loss of his certificate, and starting all over again. With every sinew of his powerful frame at tension, he stealthily lowered himself into the water by a rope-end, clutching the dishpan in one encircling arm until he could set it afloat. Then he pushed off from the ship and swam swiftly towards the shore, floating the pan ahead of him.

He turned when he had almost reached the rocks. The Doctor had not appeared yet. He grinned again; and now there was a trace of satisfaction in the grin. Jake had formed a splendid plan. If he could only win out of sight from the ship before the Doctor discovered the loss of the beef and bread, he would soon be sitting on top of the world. He scrambled out of the water, and carried his stores hurriedly out of sight beyond the waterside, and crouched expectantly. The Doctor's untidy head bobbed along above the rail of the Orontes, going to the galley. Jake listened and watched. The Doctor reappeared and passed back to the cabin. Apparently he had been so intent upon cabin dishes that he had not noticed the loss of beef and bread.

(To be continued.)

When Greenland Was Tropical

Changes of Climate in the World's History

By Professor A. C. SEWARD

Is there good reason to suppose that the climate of the world was in former times different from what it is now? How do we set about trying to find out what sort of climates there were at different periods of the world's history? In order to obtain facts likely to throw light on what has happened in the course of hundreds of millions of years before man came into the world, and therefore long before there was any written history, we have to search among the rocks which form the surface of the earth and can be examined in quarries, in cliffs, in ravines and in mines and other places. Rocks are of many different kinds and of many different ages; they are the documents from which it is possible to follow in some measure the successive events which make up the history of the earth. Geologists have classified the rocks into several groups or systems, each of which represents, as it were, a chapter of earth-history: these chapters are known as geological periods and are called by various names. We gather information from the nature of the rocks themselves as well as from the remains of animals and plants which they contain.

Deserts in the Heart of England.

Near the centre of England in the Charnwood Forest district of Leicestershire, there are low hills made of hard rocks like granite, which belong to a very remote epoch when there was little or no life. Some of the granitic hills of Leicestershire were once covered by softer material belonging to a later period and consisting of sandy mud which was originally spread out in layers as sediment from muddy water which had covered the country that is now Charnwood Forest. In course of time these newer layers of rock were removed by the action of air and water, by rain and frost, and parts of the buried granite were gradually exposed to view. In the hills thus exposed we have a glimpse of a very old landscape, a piece of the earth's surface as it was before the days when the mud and sand levelled the uneven floor of the older rocks. We can therefore form some idea of the state of the country which for long ages had been hidden. It was found that the exposed surface of the older rocks was smoothed and polished and in some places had been worn into broad grooves and rounded ridges: surface features which remind us very strongly of those seen on hard rocks in deserts of the present day, and produced by storm-driven blasts of sand. This comparison suggests that at one period there may have been a desert in the region that is now Leicestershire.

But is there any other evedence, are there any other kind of evidence, are there any other facts which we can quote in support of the existence of desert condition? In Cheshire, Worcestershire, and in some other districts there are beds of salt and other substances, such as gypsum, reminding us very strongly of deposits being formed now in the Dead Sea and in other very salt waters in dry countries. It is important to note that these salt beds of Cheshire and Worcestershire belong to the same period of the earth's history as that which is recalled by the old grooved and storm-lashed granites of Leicestershire Some sandy rocks in various parts of England, which also belong to the same geological period, are made of small particles which remind us by their shape of the well-rounded grains in present-day deserts. Here, then, we have an example of the way in which it is possible, by piecing together different sets of facts, to reconstruct the past: we feel sure that during a certain stage in the past history of this country there were desert conditions where now there is a typical English scene.

Fossils as Thermometers

Let us next look at the fossil plants which have been found in rocks, especially in such rocks as sandstones and shales, which are simply beds of sand and mud or clay hardened by pressure in the course of a long succession of ages. It is common knowledge that in our climate it is impossible to grow out of doors many of the plants sent to us from warmer countries; they must be grown in hothouses. Can we then make use of fossil plants as tests of climate, as thermometers to enable us to follow changes in temperature in the past? We can to some extent, but only partially. In the first place, the plants obtained from rocks belonging to one of the more ancient periods, such as the Coal Age, are very different from any that are now living; and though we can learn something of the conditions in which they grew by examining their structure, we cannot say much, with any great confidence, about the climate which they required; they are too unlike any living plants with which they can be compared. But when we look at collections of fossil plants from rocks which were formed during periods of the earth's history nearer to the present, we find a much closer resemblance to plants which are living now, and it is therefore safer to make comparisons with regard to climate.

When Greenland Was a Tropical Country

Let me take as an illustration plants collected in Greenland: the rocks which furnished them belong approximately to the stage of geological history when our chalk was being formed on the ocean floor; this period is known as the Chalk or Cretaceous period, from the Latin word Creta, which means chalk. Halfway along the west coast of Greenland in Disko Island and in the cliffs and valleys of the neighboring mainland are sandstones and shales, which were no doubt formed at a time when what is now high ground on the western part of Greenland was the estuary of a large river. The river gradually built up a delta of sand and mud and, as we see in our rivers of to-day leaves and branches of trees being swept along in streams, so in former times samples of the vegetation growing on the banks were carried by streams and buried as fossils in sand and mud. The Greenland fossils are many of them broken pieces of fern leaves, and some of them are well enough preserved to enable us to recognize what sort of ferns they are. The commonest agree very closely with ferns, known as different kinds of Gleichenia which are members of a family now widely spread in tropical countries south of the equator. There are no Gleichenias in Europe at the present day. What does this mean? It means that at one time—some millions of years ago—there lived in Greenland ferns which were members of a family that in the course of ages wandered far to the south from Arctic regions, and eventually settled in Central and South America, Africa, the Malay Archipelago, and farther to the East, several thousand miles away from its original home in the far north. If most of the living members of this family of ferns are now tropical, are we to conclude that, when very nearly related ferns lived in Greenland, that country enjoyed a tropical climate? It would be going too far to answer the question by a simple 'Yes.' We can only say that the facts lead us to suppose that Greenland in the Cretaceous period was much warmer than it is now.

With the fossil ferns are leaves and twigs of many other kinds of plants. Some of the fossil twigs and cones are very like those of one of the big trees in California, a tree which is often grown in our parks; it is known as Sequoia and is sometimes called by gardeners Wellingtonia. This tree now grows wild only in California; but it is certain that trees very nearly related to it once flourished in Greenland. There are also many leaves preserved in the same rocks which can be closely matched with those of the living plane trees; there are leaves of Magnolia, and many other flowering plants. Without going into detail, it may be said that the majority of the trees which agree most nearly in their foliage with those which have left traces of their existence in the rocks of Greenland are now living either in the south of Europe, in the Southern United States, or in tropical countries.

Greenland To-day

Let us next look at Greenland as it is: by far the greater part of it is deeply buried under perpetual ice and is practically destitute of life. During the short summer, in June, July and August, there is a comparatively narrow strip around the coast with little or no snow, where flowers are abundant. In that part of Greenland where the fossils occur there are now no trees, only stunted willows and the dwarf birch growing close to the ground and rarely reaching a height of more than two or three feet. The hill slopes are in places covered with a vegetation reminding us of our own moorland, but there are no trees, and the familiar heather of the British Isles is replaced by another member of the heather family; there are many small flowering plants on the hills and in the valleys which are free from snow in the summer, and some of them are well known friends at home, especially on the Scottish mountains and in the English Lake district. In the Chalk period there was a rich vegetation made up of many different kinds of trees and shrubs instead of the low-growing plants of to-day; there were many ferns differing widely from the few which now grow in Greenland. In a word, the contrast betwen the forests which ave left their scattered fragments in the rocks and the vegetation which now produces attractive flowers in the short summer and lies dormant during the long, dark winter period, is about as great as it could be.

What Makes Climate Change?

There have been very many and great changes in climate in the course of the earth's history since the days when life first became abundant, and there is no good reason for believing that the world, as a whole, received much more heat from the sun millions of years ago than it does no. How, then, can we explain differences in climate between the past and the present? It is impossible to discuss this difficult question briefly: we know that from time to time the land has both risen and sank, places where there is now dry land were once under water, and regions now below the sea were at one time above it. Alterations in the position and size of continents change the flow and direction of ocean currents which, like the warm gulf stream and colder currents flowing from the polar seas, have a great deal to do with raising or lowering the temperature of continents and islands. The gradual lifting up of land by some gigantic force acting on the crust of the earth to form mountain-ranges also makes a considerable difference in the climate, and we know that there have been many such uplifts in the course of geological history.

It is, however, hard to believe that changes in the position of land and sea and in the height of land above sea-level would make enough difference in climate to account for the contrast between the present and the past.

Sharpers Reap Big Harvest in London

Oxford Accent and Stylish Clothes Help Swindlers Win Victims

OLD GAMES SUCCEED

London.—The gold brick salesmen of this city, finding that their wares and modus operandi are, perhaps, becoming rather too well known, have forsaken the old rackets and produced some brand new schemes.

The performers retain the appearance of well bred, educated men about town. Their accent is of Oxford, they sport the ties of famous schools or crack regiments, and even the most astute Cockney would not think them anything but real "toffs."

In the bar of a good hotel a well-dressed man gets into conversation with some wealthy youths. When the party has progressed amicably for some time, and one or two rounds of drinks have been consumed, he offers to show his new friends a little trick. Rolling a piece of white paper into a pellet, he places it upon a table, covers it with a briar pipe bowl downward and states that he will change the color of the pellet from white to red.

A crowd is soon pressing round the table, and the conjurer carelessly drops his handkerchief on the floor. As he stops to pick it up another man—who is, in reality, a confederate—removes the pellet from under the pipe, winks at the bystanders, and bets $20 that the trick cannot be done. Many of the onlookers make the same bet.

"That's all right," says the trickster nonchalantly. "Wouldn't take your money." He then picks up the pipe—and there is a red pellet.

PELLET HIDDEN IN PIPE

It was secreted in the bowl, and a slight tap in picking up the pipe dislodged it. The show of refusing to take any money is quite safe, for the confederate insists on paying, and the others follow suit—care is taken that the victims are that class of men.

What may be called the three-finger trick is almost as remunerative as the foregoing.

The practictioner frequents a bar for a few weeks, until he is recognized as a regular and reliable habitue. One day he tells the girl who dispenses the drinks that he has left his pocket-book at home, and suggests that she lend him three pounds until the next day.

SIGNS MISLEAD GIRL

The girl replies that the manager's consent must be obtained. He then goes over to the latter, and asks if he may have three drinks on credit, at the same time gesticulating with three fingers for the benefit of the barmaid.

The barmaid sees her employer signal approval, as she thinks, of the loan of three pounds. The trickster gets the money, and is never seen in that "pub" again.

A presentable individual at a night club discovers that he is short of money and from a more or less casual acquaintance borrows $20, giving a diamond stickpin as security.

Not seeing the owner of the pin for some time the lender visits a jeweller, has the pin valued, and discovers that it is worth $200. His fears are thus allayed.

OBTAINS LARGER LOANS

The trickster later redeems the pin and repeats the performance with the same victim on several occasions. Then he borrows a larger sum, say $150, giving apparently the same security. This time, however, he does not liquidate the debt and a considerable period elapses before the lender finds that the security he holds is a cheap imitation.

Although these new catches are proving very profitable many of the old ones are still successfully worked. This is no doubt due to the reticence of the smart, worldly-wise citizen, who does not publish the news when he is duped but prefers to lose his money rather than earn a reputation of being simple.

It is remarkable that year in year out, the mock auctioneers wax fatter and fatter. In spite of the fact that it must have caught thousands of Londoners and visiting firemen their old standby, the simple operation of selling a man his own money still renders yeoman service.

VICTIM BUYS TWO WATCES

The mock auctioneer, after much redundant verbosity, offers an alleged gold watch for the modest price of ten shillings, and entices an onlooker to hand up the amount. While he has the money, and the purchaser has the watch, he proceeds in a leisurely fashion, safe in the knowledge that the victim will not leave.

"Show you what I'll do," he outs. "Here's the gold watch. I'll put a solid gold, guaranteed lady's fistlet watch with it, and this ten shillings on top, and the lot's yours for guld."

In almost every case the purchaser passes up the 20 shillings (if for no other reason than that he was to get away.) It is not until he gets his purchases home, and thinks the matter over carefully in the long watches of the night, that he realizes that instead of getting the two watches, as he thought, for 10 shillings, he has paid 10 shillings each for them.

When people read they but to reason, and when they reason they progress.

Flies Head-Down In "Pea-Soup" Fog

Flying upside-down in a dense fog; cutting figure eights with a light plane without touching the rudder-bar; shattering a propeller by running into a flock of crows, and setting fire to an old ship as part of a Fourth of July celebration and watching the pyrotechnical display from a parachute, are among the thrilling and unusual experiences of Randy Enslow, noted cross-country flier and Lindbergh's former barnstorming partner, who has flown more than 4,000 hours in a 13-year aerial career.

"I have heard pilots tell of battling up 2,000 or 2,500 feet through fog without using their instruments," writes the aviator in the December issue of Popular Science Monthly. "I'm from Missouri. They will have to show me. When my senses tell me one thing and the little dials on the instrument board tells me another, usually the dials are right. I've never doubted that after one experience I had flying in California.

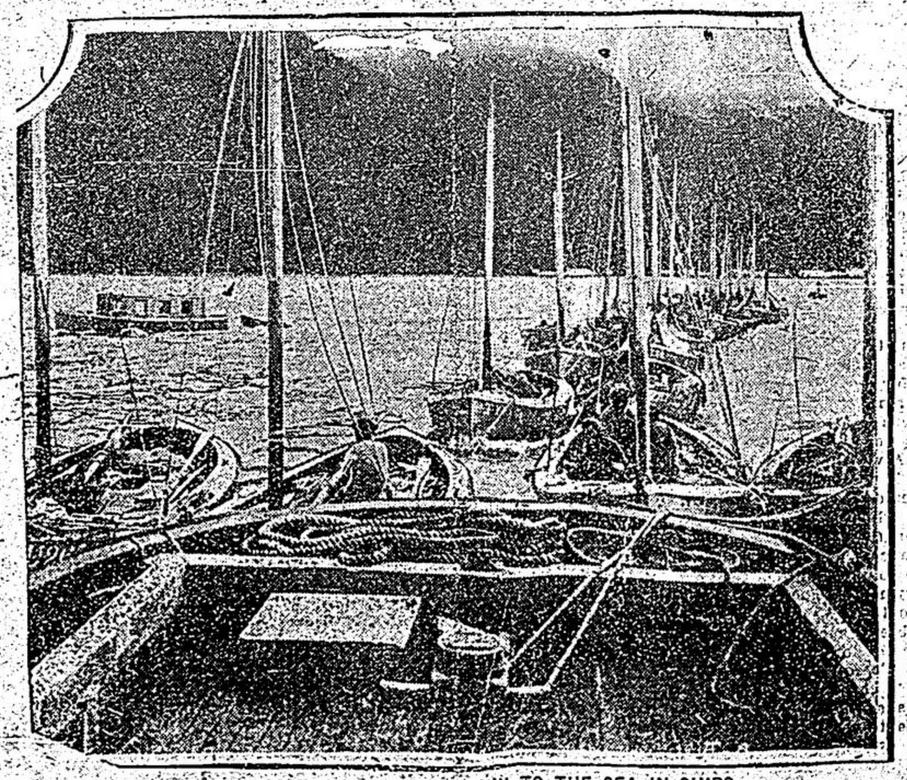
"The ship nosed into a big cloud at about 7,000 feet. The fog was so thick I could hardly see the propeller. The wings disappeared. The tail seemed to drop off. Sitting in the cockpit was like riding in a little bathtub a mile above the earth. When I dropped out of the cloud I looked over the side of the ship to get my bearings from the ground below. What I saw was blue sky and clouds. I had been flying upside down without knowing it.

"Not long ago I tested a little plane about the size of a mosquito for a man in the South. The tiny ship got off the ground in the length of two telephone poles. It was so light that, when I stuck my hand out one side of the cockpit, the plane turned, just as a boat turns when an oar is held in the water on one side. By holding out a hand first on one side and then on the other I made a figure eight without touching the rudder-bar.

"Once, while flying cross-country between two towns, I lost my way; I set the ship down in a field about the size of a handkerchief. But in barnstorming, a pilot gets used to landing on a postal card and taking off from a stamp, so I wasn't worried. But just before I tipped the trees a flock of crows that had settled there was scared up by the roar of the plane's motor. The air became black. A dozen struck the propeller. It went to pieces, exploding like a firecracker. A black blizzard of crow feathers blinded me. The motor choked dead. I shoved ahead on the stick and down we came in a pasture beyond the trees. In landing we almost milked a cow and sat down straddling a barbed-wire fence. But after I dug pieces of crow out of the motor's air intake and put on a new 'prop' the ship was ready to go.

"The craziest stunt I ever pulled in the air was when I was barnstorming with 'Nick' Almgrim in Ohio. We had tagged along an old 'Jenny' biplane that was born before the war. At last we got tired of having the flying tumbleweed around. So, at a Fourth of July celebration at a little town near Columbus, we gave everybody—including myself—the thrill of their lives. We packed the old bus with excelsior dipped in kerosene. I took it up a couple of thousand feet, touched a match to it, and crawled out with a parachute. Floating down, I had a grandstand seat to watch the flying bonfire."

Ships That Pass and Those That Trail Behind



FOR THOSE WHO GO DOWN TO THE SEA IN SHIPS.

The photograph here shows a portion of the salmon fishing fleet at Skeena, B.C., being towed out of harbor by power boat.