

The summer of 1901 we climbed the summit of the  
Coast mountains, <sup>OF OREGON</sup> crossed through the heavy timbered belt for  
fifty miles, and followed down the long winding trails to the  
broad expanse of the Pacific. On the evening of June 20th,  
\* we rounded into the port at Netart's Bay. It was at this

Three miles north of this place the coast is rocky and broken.  
The mountain juts straight down to the sea. There are a number  
of smaller inshore rocks from fifty to seventy-five feet high.  
Still further to the north about four miles is Cape Mears  
light house at the top of a high cliff. This is about forty  
miles south of the mouth of the Columbia river.

\* (3) The two adjacent rocks off the cape, the Table and  
the Lion's Head, are of the smaller size rocks that are scat-  
tered up and down the Oregon Coast every few miles apart. Each  
contains its regular are the homes of large numbers of sea  
birds.

4 \* Four miles south of this point and a mile out at  
sea are Three Arch Rocks, so called because each one has a  
large arch worn clear through its base. These are the lar-  
gest rocks along the Oregon coast.

4 \* Lion's Head) are of the smaller size that may be seen, scat-  
tered up and down the Oregon Coast a few miles apart. Each  
contains its regular quota of sea fowl.

From Cape Mears we are now looking South, showing



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1 \* we rounded into the port at Netart's Bay. [It was at this  
point that we first got a glimpse of the Three Arch Rocks,  
OUT standing like sentinels, several miles to the north.]

Following up the coast line for about three miles  
we reached a point where the first full view of the <sup>Three Arch</sup> rocks  
broke upon us. (It was here we got our first crude conception  
of the rocks; here we received our first incomplete ideas of  
just what they contained.)

At the outset, let us glance for a moment at the  
topography of the coast line at this place. Just in shore  
from the Three Arch Rocks, is a smaller broken group, some  
of which we have visited at extremely low tide. The center  
jutting point, <sup>for instance,</sup> was the home of a pair of young gulls, about  
which I shall have something to say later. We are looking  
to the North, straight toward the mouth of the Columbia river  
forty miles away. Four miles up the coast and just visible  
in the picture is Cape Mears Light House, and its two adja-  
cent rocks. The rocks just off the Cape (the Table and the  
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*gwh.* Cape Lookout in the dim distance, 25 miles away. The shore line curves in to form Netart's Bay but swings out again to a jutting cliff, where we again see the small in-shore group, beyond which are the Three Arch Rocks. From this point the arches may be seen in two of the rocks.



Our plan was to ~~make a careful study~~<sup>and photograph</sup> of the sea birds that lived on Three Arch Rocks, ~~and picture them with our cameras, as they exist on the lonely islands of the sea.~~ This could not be done in a day, nor in several hurried trips, so we intended to hazard a camp on the ledges of one of the rocks, where, with the least possible disturbance to the birds, we could watch them carefully for several days in succession and collect a good series of photographs.

*OUT*

How could we carry out these plans? The only way the rocks could be reached was by a small boat. ~~We found no one along the beach, who cared to take the risk of helping us.~~ <sup>We found</sup> But, we did find a small fourteen-foot, double-ended dory at Netarts, ~~(the only available craft along the coast.)~~ In point of necessity, if we camped on the rocks, we had to have a supply of fresh water, tenting and clothing for stormy weather, some fuel for cooking and provisions enough for emergency. Besides this, we had a heavy camera equipment of two 5 x 7 long-focus cameras and about 150 plates.

*Begin P  
we pitched our  
5-7 etc  
7 \**

We were in a dilemma either way. This boat was too light to carry such a load, to say nothing of passing the barrier of big breakers, that never ceased to pound in along the beach in rapid succession. Granting we could reach the smooth water behind the high-rolling surf, the

*out*

OUT

boat was then too heavy to hoist to a ledge high enough above tide line to protect it from the lashing waves.

The first difficulty, we met, finally, by making two trips in succession with our equipment wrapped in water tight bags. The second difficulty, we overcame by taking a block and tackle and raising the boat to a ledge twelve feet above the water.

PI

Insert  
1 page  
5

Our enterprise involved the landing upon a rocky shelf at the foot of a precipitious cliff in mid-ocean. It was necessary to wait until conditions were favorably to have a reasonable possibility of success. We expected to get on the rocks, when we caught a calm spell. We hoped to get off before our provisions were all gone.

8 \*

No P

We pitched out a 4 x 7 tent on the beach <sup>among</sup> on the drift, opposite the big rocks. Although it was the latter part of June, the sea winds were cold and the rain continuous. (Occasionally, the sun would break from the clouds for a day and raise our hopes by diminishing the size of the rollers, but this was sure to be followed by a sou'wester that brought a steady pour of drizzling rain and lashed the white-caps as high as ever.) We were wet half the time but didn't seem to catch cold. We soon got into a sort of amphibian state, where a condition of water-soaked seemed part of our normal environment. When it rained all day, we some-

OUT



*Insert PP 1*

*OUT*  
times went to bed and slept our cloths dry. It rains a good nine months of the year and <sup>one of</sup> the natives said "it was a little apt to be showery the other three." But <sup>there</sup> way out where Oregon holds back the Pacific, this is the price paid for the magnificent covering of green, the grand forests of fir, that spread from the surf-beaten slope back over the summits of the Coast\$ range.

*OUT*  
The Pacific ocean, it seems, is what the French calls "an extremely difficult old lady." Not that she can be described as fickle, on the contrary she is presistently and far too consistently unkind. In spite of her bright blue smile and the velvet curves of her land-lips, from an carsman's standpoint, she is about the most utterly useless and unmanagable old baggage in the shape of salt water, that lies out of doors. In the first place, she has a steady surface pulse-wave with reach enough to get up a good swing in a space that extends clear to Japan. Then, local winds will often change the sea-surface in a remarkable short time. Sometimes, when you push through a four-foot surf and get out in the ocean, the advance ripples of a sea raised by some storm half way to Honolulu, will slip in under and past you; and a surf-wall will grow up like Jonah's gourd, six or eight feet in as many hours."

*back*  
For sixteen days, we lay in camp, while the waves throbbed incessantly night and day like the pulse of a liv-

For sixteen days we lay in camp, waiting for a chance to drive our boat through the barrier of big breakers to the smooth water beyond. Three times we tried the surf <sup>boat</sup> in the small <sup>with our <sup>photographic</sup> equipment wrapped in water tight bags,</sup> ~~we could~~ But each time the big rollers piled over us and we were driven back shoreward. Then at last there came a day when the surf dropped lower and we reached the smooth water beyond, somewhat to our satisfaction.

*OUT*

but they tossed her like a tooth-pick. She shot at the third like a hunter at a fence, but failed to reach the top before it combed. Crash! came half a ton of green, foaming water rolling down my back. We swerved a little to the right, and another monster grew up like magic. Bliff! came ten tons of the next wave piling over us, and the third tossed us shoreward like an empty cracker-box. We dried out the rest of the day, and went at it again the following morning with about the same success. The fourth day, the surf dropped lower and we reached the smooth water beyond, somewhat to our satisfaction.



ing world. Often, we lay awake at night feeling the rain beat on the canvas and listening to the wind, trying to imagine the growl of the surf was growing fainter. In the grey light of every morning, we crawled out to see if we could detect a sufficient <sup>GAP</sup> in the on-coming line of combers. [We lay on the sand by the hour, looking at the world beyond the breakers with our field-glass; the longer we looked, the more aluring the rocks became.]

9\* Then, one morning, when we were impatient of waiting, we made a trial of driving our boat through the lowest place in the surf-barrier. We waded in with our little dory until she floated. Watching our chance, when the waves seemed smallest, we jumped to our oars. The nose of the boat plowed through the foam of the first and second breaker but they tossed her like a tooth-pick. She shot at the third like a hunter at a fence, but failed to reach the top before it combed. Crash! came half a ton of green, foaming water rolling down my back. We swerved a little to the right, and another monster grew up like magic. Bliff! came ten tons of the next wave piling over us, and the third tossed us shoreward like an empty cracker-box. We dried out the rest of the day, and went at it again the following morning with about the same success. The fourth day, the surf dropped lower and we reached the smooth water beyond, somewhat to our satisfaction.



10X

A view of the Three Arch Rocks from shore, <sup>is quite deceptive,</sup> ~~we have~~  
~~found to be something of a picture puzzle.~~ They seem a few  
hundred yards away, whereas the distance is a mile. They  
seem to be fifty or seventy-five feet high, whereas they are  
six times as large. There are several smaller rocks from  
twenty to forty feet high that are invisible in the picture.  
The three rocks are known to us as, the Inner Rock, which is  
304 feet high on the government chart; the Middle or Saddle  
rock, with two high jutting peaks joined by a narrow rock  
bridge; and the Outer Rock, on which we camped for five days  
and nights, which is 296 feet high.

OUT  
\*\*\*

As we pulled out beyond the surf and came nearer  
the rocks, the air-laden guano-smell struck our nostrils.  
The <sup>b</sup>able of distant sound, punctuated by the scream of a  
near by gull or the ponderous roar of a sea lion, was born  
on the westerly breeze. As we approached the near low-lying  
rocks, the huge hulks of sea lions stretched about like logs  
of drift wood thrown up by the tide. The ranks grew thinner  
as they receded from the water's edge, till the topmost  
ledges of the rock-reef were occupied by two or three mag-  
nificent bulls, the self-constituted defenders of the herd.  
When they saw us, they were all alert, they dragged them-  
selves along the ledges on their elbows about as a person  
would, whose hands and feet were tied. The bellowing grew

~~14A~~  
OUT  
louder and louder, till one would have thought the fog horns of a fleet of war-ships had suddenly broken loose. Mingled with the roaring of the bulls, was the blating of a hundred bawling calves, and the cries of thousands of sea-fowl, that scurried and sailed about overhead, like swarms about an arc-lamp in May-fly time. We couldn't talk above the din. When we got nearer many of the lions wobbled to the edge of the ledges and rolled off in the water, about like huge sausages would, if they were suddenly endowed with life. Those nearer the top came down the slope in a tobegan-slide of little jumps that ended in a splash that sent the spray for twenty feet. The old bull on top left slowly and defiantly like a captain reluctant to leave his sinking ship. Two mothers and a crowd of the babies stayed.

~~13A~~  
OUT  
As we approached nearer the great stacks of basalt jutting from the surface of the sea, we could see flocks of murren whirling and flashing in sweeping circles far up under the eaves of the rock. Hundreds of others sat in shoals in long, white, waist-coated lines on every available ledge, as if on dress-parade. Squads splattered over the water and dove about our boat. Squadrons of impudent, pug-nosed puffins, with their short wings and roll-shaped bodies, buzzed about like feathered bumble-bees. A fleet of white-winged gulls, curious and cackling sailed above us and followed in our wake. Gaunt and ungainly cormorants flapped solemnly away from the rock-top to the fishing ground and ~~ands of~~

X



( This shows a nearer view of the Middle rock, with its great arch, but it gives no idea of what it really contains.)

and peeped against the sky we could see their black regiments standing at rigid "attention" beside their nests and eggs. It was kinesthetic picture I can

get. I can close my eyes and see it yet.

*This shows the middle rock.*  
15 \* It was not an easy task to land on the <sup>outer</sup> rock itself. The steady ground-swell of four or five feet would not let the boat touch the rock. We found a place on the ~~on the~~ ~~at the~~ south side where the rock shelved down to tide-level. As the wave receded, we backed the boat in and one of us landed in a flying leap from the stern while the other pulled away to keep from being dashed against the jagged rock by the next breaker. Provisions had to be pitched out and some of our bulkier belongings barely escaped a watery grave. It was a much more difficult task "ledging" our boat as it weighed over five hundred pounds. We had to swing her well in on the crest of a big wave (and spring in <sup>to</sup> the water) and hold her as the wave receded, then work her up with block and tackle to a twelve-foot table away from the lash of the waves.

( A picture of the North side of the Outer rock upon which we landed shows the arch and the long grassy slope on the top. We landed on the opposite, the south side of the rock.)

*OUT*  
*14*

away from the rock-top to the fishing ground and bands of others strung out in Indian-file as they returned. Far up the sides and penciled against the blue sky we could see their black regiments standing at rigid "tention" beside their nests and eggs. It was kinetoscope picture I can never forget. I can close my eyes and see it yet.

*This shows the middle rock etc.*  
*15\**

It was not an easy task to land on the <sup>outer</sup> rock itself. The steady ground-swell of four or five feet would not let the boat touch the rock. We found a place on the ~~on the~~ ~~at the~~ south side where the rock shelved down to tide-level. As the wave receded, we backed the boat in and one of us landed in a flying leap from the stern while the other pulled away to keep from being dashed against the jagged rock by the next breaker. Provisions had to be pitched out and some of our bulkier belongings barely escaped a watery grave. It was a much more difficult task "ledging" our boat as it weighed over five hundred pounds. We had to swing her well in on the crest of a big wave (~~and spring in the water~~ <sup>to</sup>) and hold her as the wave receded, then work her up with block and tackle to a twelve-foot table away from the lash of the waves.

*41. Landing  
gulls in  
grassy slope*



When we began looking for the best camping spot on the rough jagged side of that cliff it was a good deal like hunting for a lodging on a winding stair-case. <sup>We couldn't carry our provisions to the top of the rock so</sup> There wasn't much choice. There was only one landing that was wide enough to stretch out, and that looked as couch-like and as comfortable as the top of a broken picket fence. It was a good deal more dangerous in case one took to perambulating in his sleep, as the edge broke abruptly off to a reef forty feet below.

167  
It took us in all, about a day's work with a small rock-drill and axe to level off a space wide enough for a bed. For all our attempts at breaking the boulders fine enough to make them as soft as possible, the jagged points annoyed us somewhat during the first night, and occasionally, we had to reach under and shift the larger ones. This bed worked a trifle on our nerves, and the second day, we took the pains to pull a couple of sacks of the watery weed that grew on the roof of the rock, and spread it for a mattress. This native bedding was soft, but brimful of wetness. We dropped to sleep readily, but always <sup>a</sup>woke about mid-night, when the mattress began steaming, and there wasn't a night, when I didn't feel the sensation of getting a third-class ~~it~~ turkish bath. [For my part, the water trickling over my body, pleased me more than the cobble-stones grating against my ribs and backbone.]

OUT

OUT  
\* 17  
To give you a clearer idea of the south side of the rock where we were camped, I can show you two views of the lower portion of it, each looking toward the arch in the center. ~~The first picture is from the sea-end looking shoreward.~~ The face of the rock on <sup>the</sup> ~~this~~ side <sup>where we camped</sup> is a bold cliff, rising direct from the water to a height of over 200 feet. While it is perpendicular and inaccessible at this point, the side is worn out in short narrow ledges and innumerable crannies, every one of which is crammed to the limit with white-breasted murre, <sup>or guillemots.</sup>

18\*  
At the lower end of this picture opens the great arch, that is worn completely through the rock. One glance in at the end of this will show what it is all the way through on both sides. The walls of the cave are straight up and ~~down~~ down but ragged, and every inch of sticking space is filled with <sup>white-breasted</sup> murre.

19\*  
OUT  
We are now back to the land-ward end of the south side of the rock and looking sea-ward. (Way out around the bend of the rock is the arch and beyond is the other view that was just shown.) <sup>P</sup> This shows the place where we camped. At this point, besides the place we cleared for our bed, we had a front yard six feet in width. But just below our tent the ledge slid off into a deep crevice <sup>so</sup> that we had to jump across to reach the nitche in the wall where we built a fire to get our meals.



*P* This shows a general view of the side of the rock where we camped, with our tent in the lower corner.

*19*  
*not P* Just on the next two flats above our roof were two large "chicken yards" of murre. Although everything was open about our camp, the ventilation was vile. Sleeping next that "chicken yard" on the floor above was worse than a room with the doors and windows opening into a pig pen. But what could we do? The whole island was rancid, ~~from the~~ <sup>lion</sup> sea-lying bath-tub at the bottom to the cormorant collection at the very tip, in spite of the airing it got from every wind of heaven.

*Good*  
After breakfast, we started out Robinson Crusoe-like to explore the island. We found the only path to the top was working along and passing from ledge to ledge. This was ~~not~~ <sup>rather</sup> very difficult except in three places. Just above the tent was a wall twelve feet high, that had to be scaled with a rope or long pole. Crawling along through the two murre rookeries under the overhanging rocks, one had to ascend a slippery place to the next colony. At that point, there was a projecting knob, where one could look straight over the drop for a hundred and fifty feet, and around which, one had to edge his way. A piece above that ~~is~~ <sup>was</sup> a portion of the rock, that ~~is~~ <sup>was</sup> broken and crumbling, up which we had to scramble, climbing from the nest of one cormorant to another, till we reached the slope, and then clambered on up to the pinnacle of the rock, ~~(where we could get our first conception~~

*20\**

of what the island really was.

2  
OUT  
Of all the sights, that ever broke into my vision of bird experience, that was surely a few notches above the limit of my ideas; it was New York to the sleepest little town west of any place east. When I first climbed along those murre-jambled ledges, through cormorant's nests and stepping over sea gulls and reached the top of the rock, I was so excited, I didn't know which way to turn. The birds were so thick about my feet and over head, it looked like I had run right into the biggest nest of feathered hornets, and the place was so precipitous that I felt like stooping down and crawling out of the disputed territory. I had to stand and gaze for half an hour, till the sight penetrated into thinking tissue. I didn't know which way to point my camera first. If the world was ever in turmoil and ruled by the careless deity called <sup>CHAOS</sup> chaos, then she was no harder to describe than what I saw.

Here  
Near the top, on the south side of the rock, the surface is crumbly, the ledges are half rotten and worn. At this place, the photographer faced one of the most difficult problems. The descent is steep and rapid from the top for about forty feet, and then slides over the belly of the rock. The **FIRST** time I looked over the edge down the jagged fangs of the bluff to the surf-cauldron 200 feet below, it



gave me a few sensations that make me shiver yet. My first impulse, and I followed it up, was to crawl back to a six foot level patch, spread out and grasped the blessed ground firmly with both hands.

21\* Up and down the ridge of the rock is the great colony of Brandt's cormorants, <sup>the only "Shag" found on the outer rock.</sup> Their nests are scattered for over a hundred yards only a few feet apart. I counted over 400 nests in this one colony. They were built up in funeral pyre fashion, a foot or more above the surface, by the debris of successive generations; grass and sea-weeds, fish-bones and the disgorged remains of past banquets. In every nest were four or five eggs of a skim-milk, bluish tint, over which it looks <sup>as if</sup> as if some amateur white-washer had smeared a chalky surface.

22\* The different nests that we found on these rocks may be divided into three classes. The grass nests, burrow nests and nests that were no nests at all. Under the first group would come the Western Herring Gull and three kinds of cormorants, Brandt's, Baird's and the Farallane. In the second class, would come the Tufted Puffin, Leach's Petrel and the Grey Forked-tail Petrel. Those having no nest at all would be the California Murre and the Pigeon Guillemot.

OUT  
Of the last bird, we only found a few pair nesting on the rock. The Grey Petrels were rather rare on the rock, where we camped, but a little more common on the Middle rock, where they nested right in among the Leach's Petrel, but not so common. There were also a few pair of Black Oyster-catchers nesting about the ledges. There were no Ashy Petrels or Cassin's Auklets as on the Farallones.

24  
One of the prettiest sights about the rock, were the gulls that filled the air like so many feathered snowflakes. Their immaculate, white bodies and soft, pearl-gray wings, tipped with black, are as catching as music strains wafted over the river. I like to watch them, because they were masters of the air. There was a constant adjustment of the wings to meet every air current that swept the rock, but in a steady breeze the movement was too slight to see, and they hung as motionless as if painted in the blue. They tacked straight into the teeth of the wind. I saw one retain a perfect equilibrium and, at the same time, reach forward with his foot and scratch his ear.

25\*  
But what is beauty, if it is only skin deep? ~~A gull is not the white-winged angel that the poet sees.~~ A gull, in his own country, will steal like a politician and murder like a pirate. They swarmed about us like vultures

26\*  
↓



26 \* after a battle. The minute ~~hour~~<sup>as</sup> approach drove a murre or cormorant from it's nest, the saintly-looking scalawags swooped down to eat the eggs and young. The gulls are free booters and robbers on the island, but it is only when the other birds are frightened from their nests that the gulls have a chance to carry on their nefarious trade. Eternal vigilance is the price the cormorants and murre pay for their eggs and young. Their possessions are never left for an instant without a guard unless on account of the presence of a person. But the fittest managed to survive on the rocks, and these gulls are the most useful birds to man in the bays and rivers about the water-fronts ~~about~~<sup>of</sup> our cities. They are valuable as scavengers and should be protected in every possible way. Three of them are equal to a buzzard. 28 \* Ten of these gulls are equal to a pig.

30 \* The gull\$ picks out a comfortable spot and builds a respectable looking nest, and that is about the only creditable thing they do on the rock. The grass-covered roof of the island is their favorite nesting place, although many select the niches in the bare rock on the face of the cliff. The gull's eggs lie right out in the open and never seem to be bothered by other birds; they, themselves, do not ravish the homes of their own kindred. The eggs are of dull earthy 31 \* and chocolate-brown tints, with darker blotches, matching

2  
1  
33 \*  
Ouch  
their surroundings so perfectly, that we had to be constantly on the lookout to keep from stepping on them. When the eggs were hatched, we found the nestlings were protected by equally deceptive clothes of a mottled-gray color. They freeze so closely among the gray-colored rocks that only an observant eye detects them. (There are seven youngsters in this picture.) If they can't crawl into a crevice to hide, they squat close and shove their heads in out of sight. In the green grass on the northern slope, the gray color does not match so well. Here it is very amusing to watch the little brats try to hide ostrich-like by thrusting their heads into a tuft of grass and leaving the rest of their bodies in plain view.

34 \*  
35 \*  
The old gulls are very sollicitious<sup>i</sup> for their young. The minute you go about their homes, they hover over you with loud warning calls, watching every move you make. They teach their young to keep hidden and to lie close. I have seen more than one gull impress this upon her children. One day, I was walking along a ledge and came abruptly to a place where I could look down the top slope. Below me a few yards, I saw two half-grown gulls; one crouched beside a rock, but the other started to run down the ridge. He hadn't gone two yards before the mother dove at him with a blow that knocked him rolling. He got up dazed, and struck



off in a new direction, but she swooped again and rapped him on the head, till he seemed glad enough to crawl in under the nearest weed.

Occasionally, we found the gulls very pugnacious.

36\* There was one mother, that had a nest of three young birds on a narrow ledge, and every time the photographer approached her nest, she would dart at him. She swooped at his head with a loud bark, something like a watch-dog, at six or eight feet distant, she dropped her legs and took him a sharp clip with her feet. Twice, she knocked the cap from the intruder's head. (We tried several times to catch her picture but were only partially successful, <sup>so this shows</sup> It was not a highly pleasing experiment to try on the edge of a ledge that broke so abruptly off.

OUT

38\* Gulls are gregarious in nature and enjoy each other's society. They are fond of sitting in groups along the shore, bathing and preening their feathers. While in camp on the beach, we watched them come hourly in flocks to a certain place where a fresh water stream ran down over the sands. Here they drank the <sup>fresh</sup> ~~sweet~~ water, sat around for an hour or so, like a lot of working men at noon time, and departed, while others came in to take their places. They acted as if they had prearranged plans, certain hours about the rock and a time for rest.

29\*

*Make Shell*  
~~40~~  
40

I have often seen The Western Herring Gull act in ways that speak well for his sagacity. On several occasions, I watched him open clams and mussels at the seashore. His bill is unfitted for crushing the hard shell. I saw one gull grasp a clam in his bill, rise to a height of thirty feet and drop it to the hard sand and gravel below. He followed it up closely, but it didn't break. He repeated the same performance over fifteen times, before he was successful.

*OUT*

At times, these gulls seem to be hungry enough to eat anything. One day, while working along the ledges, we accidentally dropped a spool of heavy black thread, one end of which was tied to the shutter so it could be released at some distance away. To my chagrin, this fell over the edge unrolling as it went. It struck a ledge about forty feet below. Then, I felt a tugging and jerking as if I had suddenly caught a fish. Out sailed a gull with the thread extending from his mouth. The line drew tight and he almost turned a flip. It took only about a hundredth part of a second for that white thief to get it through his brain that that spool was indigestible. He had grabbed it on the jump and coughed it up on the fly, much to my satisfaction. He looked non-plussed and evidently admitting it was too much for him.



41 \* While we were camped on the beach, patiently waiting for a chance to reach the larger rocks, we succeeded in scaling some of the smaller in-shore rocks at the lowest tide. The top of one of these was the citadel of an old gull. We found two mottled off-springs in the nest. A pair of young sea gulls are interesting chaps, so we kidnapped these and in half an hour their residence was changed, from the lonely top of a rocky isle, to a snug camp half a mile up the beach.

42 \* We soon found we had to materially ~~to~~ increase our clam and fish supply and establish a special store for the youngsters. Each had an appetite like a small thrashing machine. About meal time, which they had an idea occurred every hour in the day, they would begin ~~begin~~ begging in a high-keyed whistle, which clearly meant "we've got to have something to eat."

43 \* Spotski and grabski, for so the adopted children were named, readily "caught on" to the source of food supply, and acquired the habit of following us about or coming when called. Spotski, the larger of the two, was named, not so much for his spotted or mottled appearance, as for his excellent powers of "spotting" everything that was eatable. Grabski, the smaller of the two, had the well-developed traits of his ancestors, and was peculiarly adapted to

"butting in" and grabbing whatever seemed good.

Of course, we took the two youngsters with us when we went to the rocks. When I first pulled myself up on the ledge, we had selected for a tent-site, I found myself kneeling in a gull's nest with three spotted nestlings. I transferred these to another niche and added Spotski and Grabski to the family. This was a pleasing arrangement to us, as the youngsters needed their meals more often than we ate, and when times were busy, we shifted the responsibility of caring for our adopted children upon our hostess. She made no visible objections to having her family enlarged. When she fed the children, she lit on the ledge, vomited up a half digested supply of fish, while the young stood by and gobbled it up as fast as it appeared. The arrangement pleased Spot and Grab immensely, for after partaking of all the rations <sup>a</sup>del<sub>l</sub> out by the parent gulls, they would always come at meal time, sit around our board and whistle for the scraps that were left.

44 \*  
45 \*

2nd  
Best  
Gull

There are many tragedies on the rocks, where untold thousands dwell. The evening of the second day, I caught a large rock-cod. When I tossed the entrails to the young gulls in camp, Spot and Grab both made a dive for their supper. A third chick rushed up and they all began tugging and sitting back on their haunches like a lot of playful

46 \*



2nd II  
pups with a gunny-sack. Suddenly, a piece gave way and backward the third chick went, heels over head. I shuddered as I saw him roll over the edge. Climbing down along the ragged ledge in the dusk, I worked my way above the water's edge to a point thirty feet below. There he lay lifeless.

47  
Camp \*  
Our camp was partly protected from above by the overhanging rock, which we thought would be fortunate in case of a storm. As we discovered later, this ledge was rather a dangerous protection, because disintegration was constantly going on. The movement of the birds on the cliff above often dislodged pieces of the basaltic structure. When we were in the midst of a meal, or sitting enjoying a few minutes of rest, we were often startled by an avalanche of pebbles. Dropping everything, we would jump for the safer retreats under the ledge, until the rain of stones, often as large as a good sized egg, had ceased.

OOT  
The novelty of the situation had a great deal to do with alleviating the hardships and the difficulties we had to encounter in living five days among the sea birds about the verticle<sup>side</sup> of the rock isle.

2  
We had brought two ten-gallon casks of fresh water with us. We reasoned thus: If we were sea-bound on the rock by storm and had enough water to drink, we would not starve

to death. According to the species of birds on the island, we made six different kinds of omelet. When the eggs were all hatched, if neccessity compelled, we could dine on sea gull chicks, even if they were not spiced up in good market-able chicken-tamale form.

48x The ledges were slippery and the rocks crumbly in many places. We could not climb along the shelves an hour without risking our lives in a dozen places. While camped on the rock, we wore rubber-soled shoes so we could hang and cling to the surface with some degree of safety. But even with these, as we hung to the ledges, we often found our toenails instinctively trying to drive through the soles of our shoes to get a better hold. ( We started with a new pair, but after four days of jumping and climbing on the sharp corners of the granite, we didn't have enough shoe left to tie on our feet, so we had to substitute burlap.

OUT If its the tinge for adventure in the Anglo Saxon veins you want to satisfy, you get it here on the rocks. If, the love for Nature, you <sup>FIND</sup> find her as she is; not all beautiful, as the poet might think, but fitness to time and place, adaptability to the needs. Nature is perfect in her economy.

OUT There's not much poetry on the island. The adoration of many of the nature lovers that fall in ecstacies over the sweet singing of the birds and the lovely perfume of the June



flowers, would receive an awful <sup>blow</sup> belt on the solar-plexus the  
minute they got into the midst of a hear-splitting, scream-  
ing murre rookery, or got the faintest sniff of the atmos-  
phere

49\*

The Brandt's Cormorant is the only "shag" that is found on the outer rock, where we were camped. This species holds possession of the entire ridge, and they sit in groups at rigid attention beside their nests, about the top edges of the cliff clear around the rock.

50\* When a young cormorant is born he looks very much as if some-one had covered him with a black, greasy kid glove. The little beasts are not very pleasant to look at when you see them just coming out of a shell, but the gulls think these youngsters are the most palatable thing on the island. A nestful of them never last more than a few seconds if they are left unguarded. ~~After a few days the body is covered with~~ with a soft black fuzz.

51\*

OUT

When I first looked at the motley crowds of half-grown cormorants, that sat about in groups on the top of the rock, I thought Nature had surely done her best to make something ugly and ridiculous. They stand around with their mandibles parted and pant like a lot of dogs after the chase on a hot day. The <sup>skin of the</sup> throat is limp and flabby and hangs like an empty sack, shaken at every breath. Their bodies are propped up by a pair of legs that have a spread of webbed toes as large as a medium pan-cake. The youngsters have no very clear notion of what feet are for, at least on land, for when you go near, they go hobbling off like a boy in a sack

52\*

Outing



race, ~~They go teetering and tumbling along~~, using their short, unfledged wings as if they were a poorly handled pair of crutches.

53 \* However awkward, the young cormorants are on level ground, they are experts at climbing. I put one youngster down three feet below his nest and he scrambled up an almost perpendicular bank. His sharp claws easily caught into the rough surface of the rock, and he used his undeveloped wings like hands to hang on and help him up. When he got up to the edge of the nest, he hooked his bill in parrot-fashion and clambered over the rim.

54 \* The cormorant is a ferocious looking bird, gaunt, two feet in height, with a ~~yellow~~<sup>GREEN</sup> eye, snake-like head and beak, but for all his looks he is timid and hard to approach. I spent all one morning trying to get a near picture of one. A quick motion is sure to make a shag take flight. By moving very slowly and edging up a few inches at a time, I got the camera within a few feet of one of the mothers, as she sat beside her nest of half grown young. The youngsters often look more dead than alive as they lie asleep in the sun with their heads twisted around over their backs.

55 \* Just as I held the camera in position for another picture, a gull sailed within six feet. The black mother instinctively spread her wings to ward off the danger from her nestlings, and I clicked the shutter on her in this characteristic attitude.

From the summit of the Outer rock we could look directly across several hundred yards to the two inner rocks. The ridge of the middle rock is held almost entirely by a colony of Farallone cormorants, while the smallest shelves far up the sides of both the inner rocks are the homes of the Baird's cormorant. The Farallone cormorant, it seems, is not satisfied with a grass nest, but it collects a lot of sticks, that have been worn smooth by the waves and works them in for a foundation. The young of this species are easily distinguished from the others by its <sup>pink throat patch.</sup> ~~bright yellow~~ ~~(gular sac.)~~ ~~throat patch.~~

The cormorants seemed to suffer most from the raids of the gulls. The instant a gull lights near a cormorant's nest, the owner of the nest takes the defensive by spreading her wide, black wings in a protecting <sup>canopy</sup> over her eggs or young. She darts her long, hooked bill at the intruder, who calmly composes his feathers and settles down into a statuesque silence. Gradually, the fears are quieted in the black mother's breast, her wings relax to their normal position, as the supposed foe seems to be only a friendly visitor. The gull is soon forgotten, as attention is taken up with others sailing overhead. The cormorant will never leave her nest unguarded, unless frightened away by a person. The instant she does leave, is the opportunity the gull is



waiting for. He walks up, cocks his head on one side and inspects the unguarded nest with the air of a connoisseur. At times, I have seen him jab through the shell and devour the contents on the spot. Again I have seen him pick up an egg, swallow it whole, or make off with it in his bill. On one occasion, I saw a gull pick up a small cormorant nestling by the wing, give it a shake and start to swallow it alive. It wouldn't go down cross-wise, but he grasped the kicking youngster by the head and gulped him down; the downward passage of the little fellow was marked by a bulge in the throat, till he found a temporary resting place in the crop, where he looked to me, quite out of place. Twice after that, I saw gulls swallow young birds, that seemed to me as large as their own heads. I have seen a gull pick up a murre's egg, large as it is, hold it firmly in it's mouth and fly away. I never saw a gull with a bill strong enough to penetrate the shell of a murre's egg, but they know enough to drop the egg to a rock below and devour the contents.

When the young cormorants are too large for the gull to eat, if <sup>he</sup> ~~it~~ finds them unprotected, the white ~~thief~~ will get a meal by making the youngsters disgorge. Often, when you approach a squad of young cormorants or a nestful of gulls, they will begin vomiting in all directions and then take to their heels, as if they knew exactly what you wanted.

2 over

2  
Gull (Buck  
Sull)  
for 8.00  
under 1.00

OK for  
Coulter

OUT

77 B

3 cov. 2  
mark

So far

~~62 X~~

One day, we were climbing along the ledges with our cameras, when a commotion above attracted our attention. A gull was furiously darting downward with an angry scream, evidently in battle with some other bird. The opponent was too far above to be in sight, but at each swoop of the gull, we could see they were drawing nearer the brink. A moment later, we saw a half-grown cormorant scrambling and flapping wildly to hold on the steep, crumbly surface. At the next swoop, the gull flipped him on the neck and the momentum swept him over. The victim was heavier in body than the gull, but undeveloped and helpless on the wing. Down he flopped with a rumble and rattle of shale, bumping on the ragged rocks of the different ledges, catching an instant in a niche only to be knocked off by his remorseful pursuer. I saw him land a hundred feet below with a crash, square in the middle of a crowded ledge of murre. There was the commotion of an explosion in that peaceful community; such a grunting and squawking as a hundred pair of wings were set in motion and the frightened birds swept out over the sea. The poor cormorant, battered and bruised, was still alive. Before he had time to collect his senses, the flight of disturbed murre came rushing back. The gull was forced to abandon his victim, who had dropped plump into a veritable hornet's nest. The unfortunate black youngster was stung

all

OUT



OUT  
right and left, fore and aft, by the sharp bill thrust <sup>of</sup> ~~by~~ the mad murre. He ambled out of there with about as much vigor as he landed, and limped to the top of a boulder, where he was left in peace. We found him still there in the afternoon, too sore and scared to move. As he sat there blinking and shuddering, it seemed to penetrate his inexperienced brain, that he had met with one of the hardest streaks of luck that anything in feathers had struck. Our sympathy went out for him and I bundled him under my arm and carried him back to the top of the rock, where I laid him down in a nest with five more that looked exactly like him.

63 \*  
It's a common occurrence for young birds to fall over the ledges of the cliff, where the population is so crowded. Late one afternoon, while preparing our usual meal, we were suddenly startled by a small avalanche of loose gravel and rubbish rattling down the side of the cliff. We jumped for the cover of the projecting ledge, just as a large cormorant came flopping down and landed in a heap at our door-step with a sickening thud. He must have come from one of <sup>these</sup> ~~the~~ nests that were seventy-five feet above us. Such a fall would have broken every bone in the body of an ordinary creature. The youngster got up a little dazed, twisted his neck in a few grotesque curves as if he were just waking up. Then, he deliberately climbed over our pots and

pans on to the end of our dining table, crept right close  
beside our fire, drew in his long neck and went sound asleep.

64 \*

I have been amazed at the fearful falls some of  
the young murre and cormorants, with little, if any appar-  
ent injury. Their bodies seemed to be built, rubber-boned  
and rubber-jointed with a base-ball skin to stand such bat-  
tering. It is not so with the young sea gulls. A fall half  
the distance seems to kill them instantly. The morning  
after the young cormorant dropped so unceremoniously among  
our dishes, I found two lifeless gulls on the ledge a short  
piece below our camp; they had undoubtedly dropped from some  
of the nests not more than thirty or forty feet above.

OUT



027  
out  
The roof of the rock is covered from one to three feet with a loose coating of soft, friable earth, composed of rotten rock and the guano of countless generations of sea-fowl. [From this sprouts a luxuriant growth of grass and weeds; rich patches of chick-weed, clover and other variety.]

65\*  
out  
The whole surface is so perforated with the burrows of puffins <sup>or sea-petrels</sup> and petrels, that one cannot walk any distance without sinking into a nest. The tufted puffins dig in from two to four feet, and a burrow will often have two or three openings. The old birds may be seen along the side-hill of the rock sitting in the grass at the front doors of their homes. The petrel most always uses the door of a puffin's nest and digs himself a kind of side bedroom off the main corridor. It is not unusual to find one or two puffins along the main hall-way and a couple of petrels lodged in the attic, as it were.

66\*  
The tufted puffin always impressed me with being more of a beast than a bird. Its huge striking-colored bill, long, yellow curls and roll-shaped body give it the queer appearance. One look at that bill shows that according to La Marck's theory this bird has done nothing since creation but sit around on the rocks and bite open mussels.

67\*  
(This picture shows a puffin burrow that has been unearthed from the entrance around to the hollow where the

nest was found, containing one of the fuzzy black nestlings.)

68 X Some of the puffin nestlings we found in the bor-  
rows were as interesting as their parents were vicious. Two  
of the jet-black, fuzzy youngsters, we had taken on the in-  
shore rocks and kept with us for two weeks, soon became do-  
mesticated. They were fearful gluttons, they would eat till  
~~their crops bulged out as big as their bodies and they~~  
couldn't waddle. Then they would sleep off the effects of  
the meal and soon call for more in a peeping whistle.

0.57  
69 X One afternoon, I hauled one of the little brats  
out of a hole hanging to my finger. We lay on the grass on  
the edge of the cliff, played with him for an hour and  
doubled up in laughter at the way he would fight. He would  
jump clear off his feet for a chance to bite your finger.  
If he caught it, he would hang like a parrot; if he missed,  
he went with such energy, that he turned a complete somer-  
sault before he landed in the soft grass below. Time and  
time again, he would hurl himself at the challenging fin-  
ger and go rolling like a ball down the steep incline unable  
to stop. The instant you assisted him to his feet, he was  
ready to fight anything that approached within six inches  
of his nose.

70 X I guess my first experience with the old puffins  
prejudiced me. I wanted a puffin's egg, so I dropped on the



ground, thrust in my arm to take one, but was somewhat taken in myself. The odds are always against you getting the egg, if there is an old setting puffin-hen in the hole. I thought at first I had run my hand into a beaver-trap, and I couldn't get loose till I had dug the beast out and pried ~~HER~~ jaws open. ~~SHE~~ had cut through the flesh of my little finger to the bone.

~~444~~  
out  
72\*  
I had one more experience with an old setting puffin that I can't forget. I had carefully extracted her from the nest and dropped her in the grass. Instead of taking her liberty she turned and took me by the leg. She hung on and fought like a mad bull pup, till I had to choke her loose and she dove back into her hole. ~~I had to laugh at the unadulterated spunk of the little beggar.~~

Petrels  
73\*  
O U T  
We might have lived on the rock for a month and climbed over it every day and not known a petrel was there, if we had not found their hiding places. They were never seen flying about the rock in day time. By digging in the soft earth, it was no trouble to unearth their small white eggs. We found that one of the parents, either the male or female, stayed in the burrow every day. ~~The minute they~~ were disturbed, they crawled clear back into the furthest corner and hid.

33

The petrel nestling is fed during the day by the parent thrusting the beak down it's mouth and injecting him with a yellowish fluid. The old birds seem to be expert at this, for if you take one out of the burrow he will immediately "play Jonah" in your direction with surprising power of projection. A dose of rancid fish oil suddenly shot up your sleeve is not pleasing either to your nerves at the time, or to your nostrils afterwards. (If you drop him, he will generally crawl back into his dark hole, or flit off swallow-like and disappear toward the open sea.

94 \*  
OUT

I'll never forget the evening we made the dangerous trip clear to the top of the rock in the dusk and hid there on the north slope. At the last gleam of daylight, the petrels swept in upon the island like a swarm of bats. Those in the burrows came chittering out to meet them. The ground beneath seemed full of squeekings and the air of soft twitterings and whistlings, until it felt uncanny. We frequently felt the breath of swift wings, but it was all like a phantasy, for not a bird could be seen, not even a shadow. How in the world a petrel could find his own home and his mate in a whole acre of nesting holes, hidden all about in the grass and in the darkness of the night, if more than I can understnad.

75 \*



carb

76 \*

One day, we rounded the rock at the water's edge and scrambled up on a little shoulder of the ridge, which jutted out from the main rock on the east end, sixty feet above the water. Here in a rocky crevice, we found the only nest of the Pigeon Guillemot, where we were able to photograph the egg in its natural position. (This shows how the picture of the egg was taken.) The guillemots build in the most inaccessible niches about the rocks. (This shows the picture of the egg, that was taken with the telephoto-lens.)

77 \*

Our work with the camera about this section of the rock made us neglectful of the time. When we descended, our path was cut off by the rising of the tide, the waves were beating over the ledge along which we had worked our way. The narrow neck, which joined this shoulder to our main rock, was a sheer knife-like angle. I climbed up ten feet holding to the crumbling rocks. It was a little too much like a devil's stair-case. On either side, I looked down over the sharp-angled, jutting surface and could see nothing between myself and the white-fanged surf seventy feet below. We would have had to pass the night on the spur, had we not luckily brought our rope with us, but we dropped one end of it over the cliff side and swung ourselves down forty feet to the path leading to our camp.

OUT

~~78~~ \*

When we pitched our camp below the two murre rookeries, we knew they would squawk all day long, but we had no idea but that they would go to sleep when it got dark. We crawled in at nine o'clock that night to get some sleep.

79 \* Just as we got well under way, two murre lit at the landing-point of the rookery just over my head. Many of these birds had a habit of coming home late. Instead of moving on the two got in some kind of an altercation on the spot. They wouldn't fight it out like a pair of good tom-cats, but for a good lively discussion, it out-did anything, I ever heard in a backyard. I have slept in the midst of a her<sup>a</sup>fon rookery and never<sup>a</sup> woke amid the continuous clacking of the night her<sup>a</sup>tons. You can do it, if there is a sort of regularity in the monotony of the chirps. But this was out of all proportion. I yelled and shooed for five minutes, but was not heard. I reached under my branket, raked out a rock, crawled over and hurled it at the serenaders. The murre left, but they bore no grudge against me. Before I got covered up they were back again and started in from the beginning. We simply had to wait till the quarrel ran its course. No matter what time we got to sleep, we were always roused at four in the morning and had to crawl out with the rest of the bird population and get breakfast. Every morning about that time, the murre would drop off the rock in squads and swim off southward to their fishing grounds.



OUT  
A murre seems to be a creature of the crowd, he wants to live in the midst of the multitude. If you were to isolate the murre, I don't know whether he would die of lonesomeness like the bee or not, but he likes to be enclosed in living walls, where he has to force his way in and out. He seems most contented when he can breathe the breath of the crowd.

OUT  
The most comical feature about the murre is that they do their sitting standing up. They sit close for two reasons, to hold their eggs on, and to keep the gulls off. It was hard to see just how they covered their eggs effectively and kept them at the proper temperature. A murre will walk up, straddle its egg and then reach down and cover it up carefully with feathers so it is completely hidden.

→  
79\*  
The peculiar top-shape of the murre's egg is a unique device to prevent it from rolling. The practical value of this can be seen every day on the slopping ledges. We tried several experiments with these eggs and found they were of such taper, that not one rolled over the edge. When they were started down grade, they did not roll straight, but swung around like a top and came to a stand-still four or five inches down. The eggs were tough shelled and a sharp PUSH only sent one about nine inches before it whirled around on its own vertical axis.

37

OUT

Of course, where the ledges are steep a sudden commotion among the birds will send a number of eggs over the edge. I noticed one murre mother, whose egg had been dislodged by the awkwardness of her neighbor. As it began to roll down the steep incline, her maternal instinct aroused, she hobbled after it and checked it for an instant with her bill. It swung the opposite way and went tumbling toward the edge, the poor bird following with a mournful "Coo! Coo! Coo!" until it dropped to the rocks below, where it was devoured by an ever-watchful gull.

82 \* A young murre seems to be born with a little more vigor than an ordinary chick, he has to have strength in order to kick himself out of such a tough shell. When he first sees daylight, he is uniformly dusky in color, but he rapidly takes on a white shirt front. When he is half-grown, the white extends to the throat and the sides of the head. The old birds on the contrary, have no white whatever on the throat and head.

OUT

83 \* When a murre rookery is suddenly startled into flight, the young scamper away and mass themselves close in against the rock wall. If an old murre stays on the ledge, the youngsters will flock about her for protection.

One day, I was passing through a rookery, and all the old birds left except one, that was sitting close back



in a little cranny. The neighboring chicks rushed in to get near her, but she knocked them right and left with the sharp thrusts of her bill. It was no use, however, in half a minute she was almost completely buried under a bushel<sup>84\*</sup> basket full of the squirming, climbing little brats. I pulled them out one by one, till I counted thirty-three of the wiggling youngsters crammed into that crevice.

On land, the murre is about as awkward as anything that ever grew a pair of wings. They have to flap and waddle along, bumping here and there, till they get a good start before they can clear the ground. It is amusing to watch one sweep in from the fishing ground and land on the rock. When about twenty feet away, he begins to slack speed, then he spreads his legs and back-peddles as awkward<sup>ly</sup> as a man, who has just slipped on a banana peel, and he strikes<sup>85\*</sup> kind of sprawled-out in much the same shape as the man does.

OUT  
Late one afternoon, we were sitting in camp with our feet dangling over the edge of the back porch, when our attention was caught by a gull, that sailed out from the side of the rock about a hundred feet up. In his mouth, he held a screaming young murre. High above the rock-reef he let him drop. Instead of the youngster striking on the rock and being killed as the gull expected, he landed at the water's edge with a splash. He came up paddling and started ocean-

ward crying for help. He hadn't gone but a few yards when  
86\* I saw the <sup>hungry</sup> gull swoop and catch the <sup>W</sup>squeeling youngster again.  
He flew over to the reef, shaking the little fellow as a  
terrier does a rat, and would have made short work of him,  
had we not hurled two bowlders at the murderer and stopped  
him at the very act. The little murre crawled up into a  
crevice. We examined him but found no injury except a little  
blood on one wing.

OUT  
To watch a murre colony for a while, one would wonder why they persist in crowding so close together. Neighbors always seemed to be quarreling, hacking or jawing at each other. They are rarely hit because they all know how to dodge well. I have often seen a murre take out her spite on her neighbor's children. I was sitting a few feet away watching some murres. There were two matrons, each with a  
OUT ~~baby at her breast.~~ The youngster of one mother seemed to have gotten a little too near the other old lady, for she dealt him a rap on the side of the head that made him crouch back in a hurry. Instead of the chick's mother avenging by striking back at her neighbor, she suddenly reached over and took her neighbor's chick two sharp clips on the head. The old birds didn't strike at each other once but several times the chicks got the benefit of the quarrel until they dodged out of the way.



The <sup>b</sup>abble is as continuous as at an afternoon tea.

87\* Every one talks at the same time. The noticable difference is that each individual raises her voice to the pitch of a squaling old hen caught under a fence, for she is not satisfied to talk to her nearest neighbors, but she has to scream above the clamor to the whole company along the ledge.

P As one looks at the hundreds of murre eggs that cover the ledges, he sees a wonderful variation in color. Some are white, some brown and some have various shades of blue for a ground color. Some are marked with blotches, some with wavy lines of different colored pigment, some on the larger end, some on the smaller and some not marked at all. No two eggs are exactly alike.

~~wasting pigment for naught?~~ Scientists have said that this variation in size, shape and color may be of use in helping the murrees recognize their own eggs.

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87\*

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As you look over a large series of murre eggs, you see a perfect spring flower-garden of tints. You might wonder who the artist was who designed a thousand of them and got no two alike. You find for a ground color, he has used pure white, various washes of gray and brown, and a dozen shades from the lightest blue tints to deep azure. Upon this back-ground, he has spread an elaborate pattern of splotches and splashes of all sizes and shapes, sometimes thickest toward the larger, sometimes on the smaller end and often marked all over; from eggs, with not a mark at all, to those painted with tints of dusky-brown and chocolate-red to velvety-black. Sometimes he dubbed them with a brush, again he scratched them from end to end with a sharp pen and finished off with wild flourishes and scrawls.

OUT

What of all this? Do you think Nature has been ~~wasting pigment for naught?~~ Scientists have said that this variation in size, shape and color may be of use in helping the murrees recognize their own eggs.



OUT  
I sat looking at a colony of murrees crowded together on a broad shelf of rock. Is the nesting communal or not? Does each bird know its own mate? Does each mother know her own egg? Does she know her own chick from the hundred surrounding it? It seems hardly possible. I looked at the throng, each individual looked exactly alike. I couldn't pick out a single one that I would have known had I turned away and looked a few minutes later. Land birds recognize their own nest by an accute sense of location. Here there are no nests, and location counts for little or nothing.

88\* I questioned whether it was within a murre's limited intelligence to know her own egg or chick, when there were several hundred ~~of~~ others scattered about on all sides. I thought all she wanted was a part in the big nest group, and that she returned each time and planted herself on the first egg she found, and, like any old barn-yard fowl, didn't care a feather whether she or her neighbor laid it. But this is not so.

(Now, to give you some idea of a good sized murre colony, while I give you our observations at the same time, let me say that the next three pictures are not three different murre rookeries, nor are any of the birds of one picture included in the next. The three pictures as a whole are the main part of the immense rookery that almost covers the

89 \* sea-end of the Outer rock. There are hundreds of birds that could not be shown in the three views. The first is the top end; the second, the middle right side; and the third, the middle left side of the big rookery.) (This is the first section of the rookery.)

For two different seasons, both when the birds had eggs, and after the eggs were hatched, we studied this question of a murre's intelligence. ~~I shall try to give you~~  
~~our observation.~~

We lay stretched out on our stomachs on the ledge just above the big rookery, where we could watch the ordinary run of life and not disturb the birds in any way. When a murre arrived from the fishing grounds, he lit on the outer edge of the table, ~~where he looked about after two or three elaborate bows.~~ Then, like a man in a Fourth of July crowd, he looked for an opening in the dense front ranks. Seeing none, he boldly squeezed in, pushing and shoving to the right and left. The neighbors resented such behavior and pecked at the new arrival with their long sharp bills, but on he pressed amid much opposition and complaint, until he reached his wife. They changed places, and he took up his vigil on the eggs. The wife, upon leaving the rookery, instead of taking flight from where she stood, went through



col 90 \*  
the former proceeding, although in inverse order, much to the disgust of the neighbors. They made a vigorous protest, and sped the parting sister with a fusilade of blows, until she arrived at the edge of the ledge, where she dropped off into space. Others were coming and going and kept up an interesting preformance for the onlooker from above.

Then, we went down and scared all the birds from the ledge and watched them return. Almost before we got back into position, the first one pitched awkwardly in and lit on the edge. She sat for a little bit clucking and craning her neck. Then, she hobbled up the rock past two eggs bowing and looking around. On she went in her straddling gait, stopping and cocking her head on the side till I saw her pass eight or nine eggs. Finally, she poked an egg gently with her bill, looked it over and tucked it under her leg. By that time, the ledge was half full of birds all cackling, pecking at each other, and shuffling about looking among the eggs. It took almost half an hour for life in the colony to drop back to its normal stage.

col 91 \*  
Two years later, when we sat and watched the same large rookery, there was hardly an egg to be seen. Where it was a little noisy during the days of incubation, it was the triple extract of bedlam-turned-loose when the murrees had

young. We tried the same experiment of scaring the parents from the ledge and watched their return. The young kept up a constant <sup>squeeling</sup> from the time the old birds left; a noise that had the penetration of an equal number of young pigs that had just been roped and gunny-sacked. When the first old hen returned and lit on the edge, she bowed elaborately and started calling in cries that sounded, at times, just like the base voice of a man and varied all the way up to the cackling of an old chicken. After sitting there for five minutes, she straddled up a few steps and started in from the beginning again. Some of the young began waddling down to meet their parents calling all the time in piercing screams. One crawled hurriedly down to get under the old murre's wing, but she gave him a jab that knocked him clear off his feet, and sent him looking for his real mama. She looked at two more that sat <sup>squeeling</sup>, but passed them by and knocked another one sprawling out of her way. At last, a chick came up that seemed to qualify for she let him crawl under her wing. The same thing seemed to be going on in every part of the ledge, I didn't see an old bird that accepted a chick until after calling and looking around for from five to twenty minutes. If the difference in size, shape and color helps the murre to recognize her own egg, then the great variation in pitch, volume and tone of the voice surely helps

col 92 \*

not col 93 \*



her to know her own child among so many others.

\* 95  
~~99~~  
The murre pictures I have shown can give you but a partial idea of the numbers on the Outer rock. But, you will remember there are two more rocks at this place about the same size of this one, each containing a similar number of birds. In fact, the largest murre colonies, I have not and cannot show you. The largest cover the twin peaks of the Middle rock.

OUT  
A telephoto view shows nothing but the location, where the thousands crowd the shale ragged top of the peak for from thirty to sixty feet clear around.

95 \*  
Standing at the point in this picture, and looking across at the second peak, you see only a small part of the numbers that crowd every side of the top as thick as they can stand.

How many Murres nesting on these Three Arch Rocks?

When we first climbed about over the rocks and compared notes we thought there were hundreds of thousands, I wouldn't have been surprised if an actual count had shown a million.

OUT  
After we had visited the rocks for two different summers and lived right among the birds, we found that a careful estimate of the murre population alone on the Three Rocks was about 75,000 birds. If this number does not seem very large, you should visit the rocks and climb among some of the rookeries.

*To give a more concrete idea*  
1 You <sup>might</sup> ~~may~~ take a room fifty feet square, and set the murres about the floor as thick as you could possibly get them, then when you looked at the mass of living bodies you might think there were a good many. But you would have to empty the room and fill it up about <sup>15</sup> ~~ten~~ times more to get some kind of an idea of the Murre population on these rocks.



OUT

There are a group of seven rocks off Cape Blanco, another group opposite Port Orford and several rocks south of the Port. During the summer, a man is stationed on each group of rocks and he collects the eggs daily, while a launch <sup>plys</sup> back and forth gathering in the eggs by the barrel-full.

96 \*

I hope the crowding, throbbing multitudes on Three Arch Rocks may never be diminished in number. I can never forget the nervous strain of spending five days and nights in that dense feathered metropolis by the sea. The danger of climbing ledges, where we had to risk life or limb a dozen times every hour; the constant screeching of fowls, day and night, over-head, sea-ward, land-ward, every where, the ~~se~~ screaming, calling of fowls, never for a moment intermittent. But for all, its worth the hardship, just to feel the charm

97 \*

of sensing Nature in her primordial state and see how she revels in the wild life of the feathered myriads that live on the cliffs in the midst of the sea.

End

or  
cont

In getting an estimate of bird numbers in a sea-fowl metropolis, one is easily deceived. If you are suddenly placed in the midst of great bird colonies as they exist on the rocks at sea, the sight is new and wonderful. The mind cant describe it and runs clear out of bounds in trying to describe it. <sup>you</sup> It may see in hundreds but you are sure to talk in thousands. If you see in thousands, it is hard to describe except by hundreds of thousands. You often see accounts that if examined closely might prove to be a little over drawn.

I have seen accounts of Bird Rock, a great metropolis in the North Atlantic. I have never visited the rock but Mr Chapman says "it is 350 yards long, and from 50 to 140 yards wide, and rises abruptly from the sea to a height of from 80 to 140 feet." A few pages further on Mr. Chapman speaks of Dr. Henry Bryant's visit to the rock in <sup>June 23</sup> 1860. Dr. Bryant found Gannets nesting over the entire northerly half of the summit. He estimated that this one colony alone on half the summit contained no less than 100,000 birds.

Now, the Doctor may have been correct, but when you come down to actual space measurement and the nesting habits of the Gannets, you might carpet the whole top of Bird Rock with nests as thick as they have ever been found and it is hard for me to see how you would use more than 35,000.



48

50

Auth  
Good for 2 pages

name 92\*

The Farallones, off the California coast, occupy a very important place in the sea-bird world of the Pacific slope. Three Arch Rocks, off the Oregon coast, hold a still more important position, in one respect, because they have not yet, to any extent, been ravished by the hand of man. What are the Farallones now, <sup>compared</sup> to ~~what they were~~ forty years ago? What is Bird Rock in the North Atlantic, to-day, compared to what it was when the great Audubon looked at it? Unless it is checked, the same hand that cuts and burns all our forest trees, that shoots all our game birds, that slays our wild animals and devastates our land of its scenic beauty, will destroy all our great sea-bird colonies.

comment 93\*

Isamb

I have tried to give you some idea of the largest sea-bird colonies off the Oregon coast, but these need protection, they are far from being undisturbed at the hands of man. They must be protected in the egg season. If they are not, let me give you one illustration of the immense amount of harm, that can be done in a few minutes of carelessness. We were first landed on Three Arch Rocks by some sea-lion hunters, June 7th, 1901, in the midst of the egg season. At the top of the Outer Rock, they deliberately fired a shot. This picture was taken immediately after. Up and down the roof of the rock for a hundred yards almost every cormorant left her nest. Many eggs were carried away by the

1880 94\*

49. 51  
fishermen and the gulls tended to the rest. We visited the top of the rock two days later, where we had counted over a thousand cormorant's eggs, we scarcely saw a dozen. Here is a time and place where you can bag a thousand birds at a shot.

The last few years it has grown to be a habit of sending out Sunday excursions to these rocks, three or four times each summer, when the weather permits. A tug is chartered at Tillamook, a small town, a few miles north. All the "sports" about the country get aboard, and, while the tug steams in about the sides of the rocks, they knock the thickly flying birds right and left, as long as the ammunition lasts. This serves as a kind of a "big wild-pigeon shoot."

95 \*  
Thus far, Three Arch Rocks have not been ravished by professional eggers, simply because shipping facilities at this point are lacking. But the eggs will reach market before long unless some preventative steps are taken. The nefarious business has been stopped on the Farallones, but it is in full swing on the Southern Oregon coast, and the San Francisco markets receive their big ~~weekly~~ consignments of murre eggs from Port Orford, every week of the summer season. It was thought the egg business at this point had been stopped, and it was for two or three years in the Nineties. The owner lost his life at the business. But a new company soon bought up his outfit and are in full operation now.