the Mountaineer

1959

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The Mountaineers

THE PURPOSE: to explore and study the mountains, forest and water courses of the Northwest; to gather into permanent form the history and traditions of this region; to preserve by the encouragement of protective legislation or otherwise, the natural beauty of Northwest America; to make expeditions into these regions in fulfillment of the above purposes; to encourage a spirit of good fellowship among all lovers of outdoor life.

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1959

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CONTENTS

ILLUSTRATIONS

NAME

CALLING

By ROBERT HITCHMAN

For those who love the Olympics, who know the silence of the rain forests and the mystery of fog sweeping in from the sea, it is fitting that the early history of the peninsula should be weighed heavily with legend. The story is an old one: "in Aprill 1596" when Michael Lok the elder was in Venice "happily arrived there an old man, about threescore years of age, called commonly Juan de Fuca, but named properly Apostolos Valerianos, of Nation a Greeke, borne in the Iland Cefalonia, of profession a Mariner, and an ancient Pilot of Shippes." In "a long talk and conference" he told Lok that in 1592 the Viceroy of Mexico had sent him out "with a small Caravela, and a Pinnace . . . for discovery of the Straits of Anian" and the North-west Passage, believed to link the Atlantic and Pacific oceans.

The ancient Pilot reported that he came to "a broad Inlet of Sea, betweene 47. and 48. degress of Latitude: hee entred thereinto, sayling therein more than twentie dayes . . . and that hee passed by divers Ilands in that sayling. And that at the entrance of this said Strait, there is on the North-west coast thereof, a great Hedland or Iland, with an exceedingly high Pinacle, or spired Rocke, like a pillar thereupon."

This report eventually reached Samuel Purchas who recorded it in his master work *Hakluytus Posthumus or Purchas His Pilgrimes,* first published in 1625.

In addition to claiming discovery of the Northwest Passage, Juan de Fuca told of a land, "very fruitfull, and rich of gold, Silver, Pearle, and other things, like Nova Spania." Geographers, seamen and dreamers too had good reason to remember his report. Historians have remembered it too. Some have written at length in defense of his story pointing out that a strait does exist about where he stated he found one and that at its entrance is a "spired Rocke." Others discredit the tale as a bold and absurd yarn. But whether the report was true or not, the Strait of Juan de Fuca bears the name of the

"ancient Pilot of Shippes"—a name given to it in July 1787 by a British sea captain and fur trader.

The first recorded voyages to the Pacific Northwest were made by Spaniards, sailing north from San Blas. Their trips, made without enthusiasm and under great difficulty, were prompted by news of Russia's advances in the North. Spain determined to explore the coast that she had claimed but had not visited, to establish sovereignity there, and to thwart foreign encroachment.

On August 11, 1774, Juan Pérez, sailing southbound along the Olympic Peninsula, sighted a mountain which he called Sierra Nevada de Santa Rosalia. The general belief is that the peak was Mount Olympus. Pérez did not land on what is now the Washington coast; reports of his discoveries were not widely circulated and it remained for another mariner to give Olympus the name it now bears.

Despite the fact that the Spaniards visited the region frequently between 1774 and 1792 and briefly maintained a fort at Neah Bay in 1792, few place names on or adjacent to the peninsula serve as reminders of them. The name of Port Angeles has come to us from Puerto de Nuestra Señora de Los Angeles. Quimper Peninsula — a name that is on many modern maps but seldom on anyone's tongue — tells of Manuel Quimper who, in 1791, landed at various points along the north coast of the peninsula, taking possession of the region in the name of Don Carlos IV, King of Spain.

In 1778 Captain James Cook, the celebrated British naval officer and explorer, visited the northwest coast with two vessels, the *Resolution* and the *Discovery*. Searching for the Northwest Passage, he recorded that on Sunday, March 22, he saw

> ". . . a small round hill, which had the appearance of being an island . . . it appears to be of a tolerable height, and was just to be seen from the deck. Between this island or rock, and the Northern extreme of the land, there appeared to be a small opening, which flattered us with the hopes of finding an harbour. These hopes lessened as we drew nearer, and, at last, we had some reason to think, that the opening was closed by low land. On this account I called the point of land to the north of it Cape Flattery . . . It is in this very latitude where we were now, the geographers have placed the pretended strait of Juan de Fuca. But we saw nothing like it; nor is there the least probability that ever any such thing existed."

Cook's name of Cape Flattery has been in use longer than any other name on the map of Washington. Neither he nor his men

landed on the peninsula but his voyage had great effect on the history of the region. When his ships returned to England in 1780 they carried the news that on this coast furs could be secured from the Indians in trade for trifles; the same furs could be sold at great profit in China. Soon British and Yankee traders were headed to the far northwest coast of America seeking sea otter furs and fortunes.

Among the traders by sea was Charles William Barkley who was accompainied by his 17-year-old bride—the first white woman to visit this region. He discovered and named the Strait of Juan de Fuca in 1787. There was also John Meares who claimed to do far more than he did but who, in 1788, named Mount Olympus for the home of the gods, and called Tatoosh Island after the principal chief at Neah Bay—"so surly and forbidding a character we had not yet seen."

There was Captain Robert Gray, bold and enterprising, whose name now is borne by Grays Harbor, which he discovered. The Columbia River serves as a memorial to his vessel, *Columbia Redivia,* and to the fact that on May 11, 1792, he sailed her across the bar to enter the mouth of that river. When Gray "discovered" the Columbia (which the Spaniards had noted previously) he gave the United States a strong argument in its dispute with Britain over ownership of the Oregon Country.

While the fur traders did leave names here and there, they did not see more than a man could see from a ship's masthead. Geography and discovery were not their prime concern.

In 1792 Captain George Vancouver reached the strait, a year out of England, with two vessels, the *Discovery* and the *Chatham.* Discovery Bay he named for the former. Years later Mount Chatham, standing at the head of the bay, was named for the latter. It was Vancouver who first explored and charted Puget Sound and Hood Canal. It was he who determined that the peninsula is a peninsula. The names he placed on the map of the Olympic area relate principally to the coast and to maritime features: Dungeness, which "from its great resemblance to Dungeness in the British channel I called New Dungeness;" Hood Canal, for the Right Honorable Lord Hood, one of the Lord Commissioners of the Admiralty; Marrowstone Point; Port Townsend, a corruption of Vancouver's Port Townshend; Point Wilson and Oak Bay, so called because there "some of the young gentlemen in their excursions found several oak-trees."

For almost fifty years after Vancouver, few white people visited the peninsula. The fur trade by sea dropped off rapidly. Land-based Hudson's Bay Company traders passed along the coasts of the

peninsula but seldom paused there, for the area was not rich in furs. There seemed to be nothing in the interior promising enough to warrant the struggle necessary to penetrate the forests.

Some people, however, found themselves on the peninsula against their will. In October 1808 the *St. Nicholas,* a Russian trader out of New Archangel (Sitka) was wrecked near the mouth of the Quillayute River. Several members of the crew were killed, others were captured, and eventually the rest surrendered to the Indians in desperation. In 1811 fourteen of these unfortunates were ransomed by the master of the *Lydia,* an American trading vessel. One Russian, Philip Kotilnikof, had been taken so far away that he could not be found. His fate is a mystery. At least one student believes numerous Olympic place names can be related to Russian visitors. However, the evidence is not conclusive and his theories have not been accepted widely.

In 1841 the Puget Sound country was visited by the U. S. Exploring Expedition under command of Lieutenant Charles Wilkes. Again the forest was a barrier, and the explorers followed easier routes. A good many of the Olympic Peninsula names were placed on the maps by this group, but most of these are coastal: Port Ludlow, Kiapot Point, Brown's Point, Carr Point, Point Hudson, Diamond Point. One exception is the name Jupiter Hills; no explanation is given for this choice but the reason is apparent. Olympus already was on the map.

Following Wilkes came Captain Henry Kellett, master of H. M. surveying vessel *Herald.* "On the 29th of August (1846) the survey was finished, not so much to the satisfaction of Captain Kellett as he could have wished, but the fogs in August had been so dense and continuous that the month was in a great measure lost." Kellett added to the map the names of Crescent Bay (from which Lake Crescent took its name); Clallam Bay and Ediz Hook (borrowed from the Indian name of a Clallam village, a name that has been translated as meaning "good place"). Kellett's Freshwater Bay is appropriate, for in 1790 Quimper reported that there his men filled empty casks with "delicious water, taken from a beautiful stream." Kellett first recorded the name Sekiu as Sekou, applying it to the point. Striped Peak "was doubtless named from a well-marked line upon its water side, occasioned by a land slide from its summit."

When Kellett sailed from the strait, the Olympic Peninsula was well defined. It remained only for the U. S. Coast Survey to complete the task by adding details here and there. But since those who had contributed to the map had approached the area by sea and had

been bound to ships and long boats in their work, only the coastal fringe was known. All that lay beyond the beaches was terra incognita. In the 1850's George Davidson, the brilliant and hard driving leader of Coast Survey expeditions, lifted his eyes to the hills. He gave the name of his sweetheart to Mount Ellinor. Mount Constance honored her sister and The Brothers was named in compliment to their brothers, Arthur and Edward Fauntleroy.

It was not until white men moved to the peninsula, until they began logging and farming that the names on the land appeared. The first settlers arrived little over a hundred years ago. Self-reliant individuals formed the vanguard: Alfred A. Plummer and George Bachelder staking claims at Port Townsend in 1851. Samuel Hancock attempted to set up a trading post at Neah Bay the same year. In the fall of 1851 others chose claims at New Dungeness, Sequim Bay and Port Discovery. Gradually the northern and eastern fringes of the peninsula were populated with whites.

The salt water still dominated the lives of all who worked and lived on the peninsula. Their faces were turned to it; their backs, to the forests and the mountains. Transportation was by water; contact with the world was by water; sustenance came by water or from the beaches; the lumber they sawed was shipped by water. In this period names were fixed by usage and not design. Names of Indian origin were adopted for the rivers: Quillayute, Elwha, Hoh and Hamma Hamma, Calawah, Bogachiel, Dosewallips and Duckabush. Later, students of Indian lore wrote on these. While such contributions are interesting, they are brief and often of questionable value. The peninsula's Indian names, adding flavor to the map, offer a special field of study for professional anthropologists.

In later years men of imagination remembered the Indians and turned to the Chinook jargon for a source of place names. Scattered across the area is a delightful lot of words taken from this Northwest Coast Esperanto. Elip Creek is the first, the foremost, the best. Its neighbor, Kimta Creek, is the lesser of the two. Heehee Creek will always laugh; Cultus Creek is worthless or good for nothing; Sitkum River is the middle river; Pilchuck Creek is red water; Olallie Creek tells of berries along its banks; Itswoot Creek may be translated black bear creek; Klone Lakes are the three lakes; Sollecks River is angry and Kloshe Creek is gay or beautiful. Kloshe Nanich is a more interesting name than Lookout Mountain, and Lapoel Point more intriguing than frying pan.

As men—and women—drifted into the peninsula, settlements grew to towns. Port Townsend became a booming community. Port

Angeles—once called Cherbourg with the hope that eventually it might become as notable as the French port—had a precarious fight for existence but managed, somehow, to survive. Port Crescent, on Crescent Bay, eventually boasted a hotel and a newspaper in addition to a logging camp. Sequim and Dungeness were connected by wagon road—a rarity in these parts.

It is likely that a few men turned to the mountains, pondering on their secrets. At this point records are fragmentary. Fifty-three years after the event was alleged to have occurred, George H. Himes, pioneer and student of Oregon history, reported in *Steel Points* that "the first ascent of Mount Olympus was made in the summer of 1854, and it is believed during the month of July." Himes credits B. F. Shaw, woodsman, and H. B. Cock (or Cook, for both spellings appear in his article) with that feat. No evidence has been found to support the story but Himes was reporting well and truly when he stated later in the same article that Lake Cushman was named to honor Orrington Cushman, better known as "Devil Cush." That worthy, a noted woodsman and first treasurer of Mason County, was described by James Swan as "a most capital man for a camp expedition, always ready, always prompt and good natured."

In 1855 when the steamer *Southern* was wrecked near the mouth of the Quillayute, passengers and crew hiked to Port Townsend. Their route is not described. A party led by Major John F. Sewell visited the wreck to save the mail aboard it and Sewell has been credited with being "the first white man to cross the Olympian range to the coast so far north."

James G. Swan, who might well be termed Washington's first civilized citizen, was not content to leave the Olympics unprobed. In August 1861 he visited Lake Ozette, reporting that "although its existence has been made known to other white men than myself, by Indians, I believe I am the first who has identified its locality. At any event, I am the first who has given it publicity, and I therefore take the liberty of naming it 'Webster,' both in honor of the memory of the immortal Daniel and in compliment to my friend Henry A. Webster, of Neeah Bay, at whose house I am now writing . . ." Others used the name Lake of the Sun and some called it Swan's Lake, apparently in compliment to James Swan. Finally, however, Ozette (of Indian origin) prevailed, although Swan Bay remains as vestigial evidence of one of its former names.

Bancroft refers cryptically to "a company . . . formed in Olympia" in 1875 to explore the headwaters of the Wynooche River. Also, he mentions that "The first party to penetrate the Olympic range to

the ocean was formed in 1878, on Hood Canal." It is likely that prospectors, hunters, trappers and adventurers penetrated into the heart of the peninsula. If they did, records of their treks have not yet been brought to light.

In 1881 and 1882 the commanding officer at Fort Townsend endeavored to explore the forests to the westward and to build a trail into the mountains. After some "six months of weary labor a trail was cut to and across both branches of the Dungeness River. But in penetrating to the last range of foothills the way seemed so difficult and the undertaking so impracticable that the attempt was abandoned."

In 1885 Second Lieutenant James P. O'Neil, then stationed at Vancouver Barracks, persuaded the Army to send him on an expedition to "the section of country lying west of Puget Sound to conduct a reconnaissance into the Olympic range of mountains" with a detail of four engineers and three enlisted men. O'Neil's trip began at Port Angeles and ended abruptly at a spot named Noplace when he received orders to report to Fort Leavenworth. However, his trip was not in vain: on it he formed a determination to return to the peninsula and visit its interior.

In the meantime Washington was coming of age. Cities had grown on the sound and in the eastern part of the state; territorial and county governments were functioning: a university had been established and the region was linked to the east coast by railroads and telegraph. Yet all but the edge of the peninsula was still unmapped. In his annual report to the Secretary of the Interior covering the fiscal year ending June 30, 1888, Territorial Governor Eugene Semple wrote at length (and undoubtedly in purple ink) on the Olympic Mountains. He referred to the interior of the peninsula as "a land of mystery, awe-inspiring in its mighty constituents and wonder-making in its unknown expanse of canyon and ridge." Becoming enthusiastic, he asserted that "Red men and white men have gone all around this section as bush men go all around a jungle in which a man-eating tiger is concealed, but the interior is *incognita*. In tradition alone has man penetrated its fastness and trod the aisles of its continuous woods."

The following year, Elisha P. Ferry, first Governor of the newly created State of Washington, repeated Eugene Semple's message saying, "Washington has her great unknown land like the interior of Africa. The country shut in by the Olympic mountains . . . has never, to the positive knowledge of old residents of the territory, been trodden by the foot of man, white or Indian . . . investigation

of all claims of travelers has invariably proved that they have only traversed its outer edges . . . There are great discoveries in store for some of Washington's explorers . . . There is a fine opportunity for some of the hardy citizens of the Sound to acquire fame by unveiling the mystery which wraps the land encircled by the snow capped Olympic range."

The editor of *The Seattle Press* probably thought of the way in which James Gordon Bennett made newspaper history when he sent Stanley in search of Livingston. In any event, when tall, tough James Halbold Christie offered his services to lead an expedition into the Olympics, his offer was accepted by *The Press*. Christie seemed well qualified for the task; he was a soldier of fortune, a prospector, an Indian fighter, and an explorer. As he put it, he was "no ambitious untried youth . . . but a man tried in all the vicissitudes of mountain, forest and plain life, schooled in the great plain of the northwest territories."

Christie's offer was made in October, 1889, and by November plans were made and a party was recruited. Captain Charles Adams Barnes, formerly of the United States Revenue Marine, was named topographer. Harry Boyle Runnalls, M. D., was selected as natural historian. (He was to continue with the party for only two months, being called home by the illness of his wife.) John Henry Crumback boasted of having been a cowboy, hunter, prospector and Indian fighter. John William Sims was a veteran of the Boer War, and Christopher O'Connell Hayes, great-grandson of the Irish patriot, had been "engaged in riding on a cattle range in Yakima valley." *The Press* assured its readers that "All these men have endured hardship and privation at different times in their lives, and are hardy and rugged in their physical makeup. They have abundance of grit and manly vim." This was well, for before their adventure ended they needed grit and manly vim in quantity.

On December 8 the group left for Port Angeles equipped and provisioned for six months of careful exploration. They would ascend the Elwha River by barge as far as possible. *The Press* reported "The reason for making the start in winter was in order to be over the first ranges and into the central valleys ready for work when spring should open." A more impelling reason for haste may have been to be under way before other explorers answered Governor Ferry's challenge.

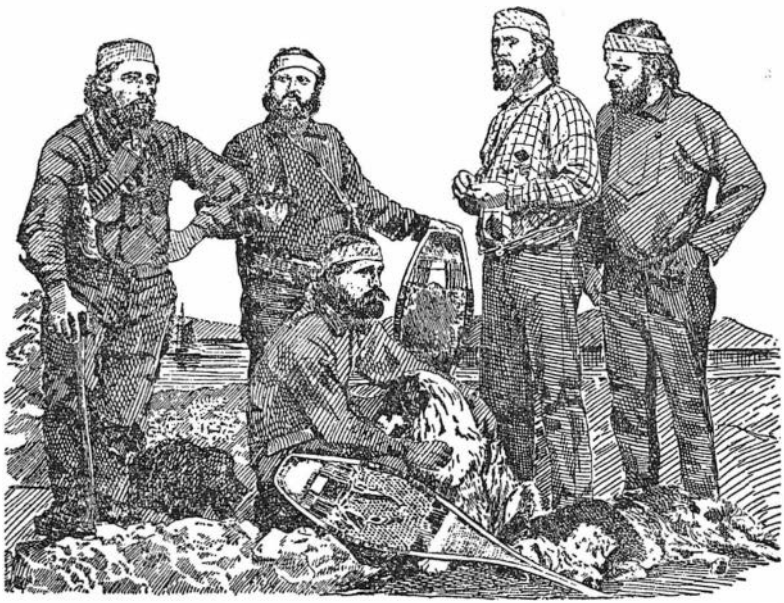
The plan of barging up the Elwha either reveals shocking failure to seek local advice or evidences how little was known about the Olympics at that time. By December 31 a barge had been built and

The Press Exploring Party before starting, from the left: John W. Sims, Dr. Harry Runnals, Charles A. Barnes, James H. Christie, John H. Crumback, and Christopher Hayes.

christened *Gerty*. On January 23rd after fighting for days to move the craft upstream through rapids, *Gerty* was abandoned. "We were in the water continually for two hours (on the last day she was used), at one time to our armpits. As we would emerge from the water in the more shallow places our clothes would freeze . . . we suffered terribly."

This was a prelude to further discomfort and suffering. Shoes and clothing gave out; game was scarce; snow was deep; weather was miserable, and the going tough. But the party kept at it, fighting through the forests and the snow up the Elwha, circling through the mountains, moving on and on until the headwaters of the Quinault were reached. Following downstream, the group reached Lake Quinault on May 19, 1890. The explorers received a hero's welcome at Aberdeen. As soon as accounts of the trip could be edited, cuts prepared and type set, *The Seattle Press* issued a special edition on the expedition. The great challenge of the peninsula had been met.

The Press party left many names on the map as reminders of its work. Mount Christie honors its leader; Mount Barnes commemorates Captain Barnes; the Hayes River carries the name of the youngest member of the group. The names of journalists and newspapers were used freely: the Bailey Range honored William E. Bailey, proprietor of *The Seattle Press,* for which Press Valley was



The Press Explorers upon their return, from the left: Sims, Barnes, Crumback, Christie, and Hayes.

named. Barnes wrote of Mount Dana that "This mountain . . . stands forth so independently and prominently that it reminded me of my favorite newspaper the *New York Sun*. So we called it Mount Dana" honoring its editor, Charles A. Dana. Godkin Creek complimented E. L. Godkin of the *New York Post*, and Mount Lawson, Victor F. Lawson, editor of the *Chicago News*. Mount Meany was a fitting tribute to Edmond S. Meany, a youth then working on the city desk of *The Press*. Crosby S. Noyes of the *Washington Star* gave his name to Mount Noyes, while Mount Scott honored James W. Scott of the *Chicago Herald*.

On April 29, 1890, Barnes wrote that "The first peak on the right of the canyon of the Quinaiult we named provisionally Mount Seattle —provisionally, because we might yet find a greater one." The provisional name was adopted permanently "in honor of the city of Seattle." Other Press Expedition names are Lake Mary, Lake Margaret, Cat Creek, Geyser Basin, Wolf Creek, Mount Ferry (honoring Washington's governor), Lillian River and Goldie River.

Soon after the Press Expedition reached Lake Quinault, Lieutenant O'Neil led another party into the peninsula. This time he was prepared for the experience. His orders directed him to proceed "to a

point on Hood's Canal near the outlet of Lake Cushman. From there you will make your way in a north-westwardly direction until you strike, if possible, some point of your trail made in 1885. Having established a connection with your survey of that year, you will then proceed westward and, if possible, make your way to the shore of the Pacific Ocean . . . It is anticipated that to do this will be a very hard and laborious undertaking . . . You will make your preparation for a three months' trip."

In addition to a detail of enlisted men, O'Neil was accompanied by "certain scientific gentlemen:" B. J. Bretherton, naturalist, L. F. Henderson, botanist, and N. E. Linsley, mineralogist. They represented the Oregon Alpine Club.

Leaving Port Townsend on July 1, 1890, the party reached Lake Cushman two days later and trail making was begun. The survey worked according to plan but at best it was a heartbreaking job to move ahead. Henderson reported "We soon found out that much scientific work must give way to making trails, for none existed than a few miles above Lake Cushman. How I grew to hate those poor innocent mules. Day after day and week after week we were engaged in sawing through and rolling out of the way sections of fallen trees from three to seven feet through, in order that the animals might transport the food and bedding of the party. So a vicious circle was established: go back with the mules to Hood's Canal to bring in more fodder and food for animals and men, so that the men could cut more logs to let through the mules and consume more food to cut out more logs. So gigantic were many of these logs and so impenetrable the vine maple and devil's club thickets, that often we all worked with saw, axe and a brush-hook, to gain a quarter of a mile in a day."

When possible, detachments were sent on scouting parties. O'Neil was determined to cover the interior thoroughly. By the time the group reached Lake Quinault on September 28 a great deal had been accomplished. Mountains had been climbed, rivers traced, reports and journals carefully prepared, and sketches drawn.

A map based on the expedition's work, prepared by W. G. Steel and published in 1891, traces the routes of the various members of the group. It is deficient in light of today's knowledge of the region, but that is not surprising to those who know the intricacies of the Olympics.

O'Neil's names still appear on the map of the peninsula: Mounts Bretherton and Henderson; Mount Claywood, honoring the Assistant Adjutant General who signed the orders for his first trip; Mount

Anderson, in compliment to Colonel Thomas M. Anderson, O'Neil's commanding officer; and Mount Steel in recognition of the work done by William G. Steel in promoting the expedition. O'Neil Creek, Peak, Pass and Mount all serve as reminders of the leader.

Mount Church commemorates the contributions of one or both members of the party named Church. One was a settler who asked to join the group, the other a physician. The two travelled together in a reconnaissance trip to the mouth of the Wynooche. Through accident their provisions were lost and, as Lieutenant O'Neil recorded "the doctor had his first taste of shoe leather as food."

Although the Press Expedition and the O'Neil Explorations unlocked the secrets of the interior of the peninsula the area continued to remain a wilderness, known only to a few. In 1898, 1899, and 1900 Arthur Dodwell and Theodore F. Rixon made an examination of the Olympic Forest Reserve for the United States Geological Survey. Their official report is formal and explicit as to forest resources, but sadly lacking in details regarding their trips. Dodwell-Rixon Pass serves as a reminder of their work and Mount Carrie was named by Rixon for his wife, Carolina.

When The Mountaineers planned a trip through the Olympics in 1907 for their first Annual Outing, they showed the courage of youth. The problems of transportation and supply were tremendous. The story of their trip is well recorded, both in Volume I of *The Mountaineer* and by Ruby Hult in *The Untamed Olympics.*

If it is possible to point to any date and say "as of this time the Olympics were conquered," August 14, 1907, might well be chosen. On that Wednesday evening a group of over sixty Mountaineers reached Port Angeles, having completed a three-week hiking tour through the region.

* * * *

At last, man has penetrated the Olympic's fastness. Courses of streams have been traced, locations and heights of peaks have been established, names have been spread across the land — but all the messages of the mountains have not been read. Despite the Christies and the Barnes, the O'Neils, the Dodwells and the Rixons, the real mystery of the Olympics still remains. For as long as men come under their spell, each visitor will be an explorer on his own, experiencing the solitude of the forests and the grandeur and majesty of the peaks; considering the wonders of Nature and pondering on the forces that wrought them.

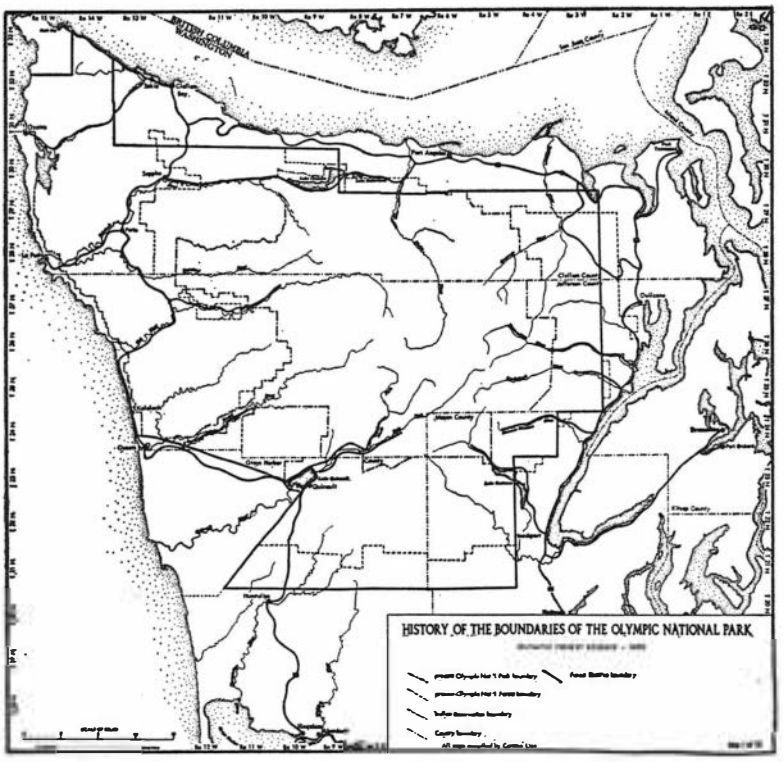
THE OLYMPIC

BOUNDARY STRUGGLE

By CARSTEN LIEN

Olympic National Park, as the protector of the last remnant of the lush coastal rain forest which less than one hundred years ago covered all of western Washington, really had its beginnings in the federal census of 1870. Though the early rumbling for protection for some of the nation's forest land was so slight as to be imperceptible, it grew steadly to a nation-wide roar; so loud that Congress could no longer ignore the demand that some small segment of the vast forest lands which covered most of North America be saved from all possibility of destruction by logging. The fight, as seen through the maps of the political changes on the peninsula has been incessant, bitter and often short-sighted from both the conservationists' and the economic exploiters' point of view. Always has this conflict been fascinating, however, because here in one battle, continuing over half a century are epitomized all the forces at work nationally to utilize economicallly the public land resources for private gain.

The census of 1870 for the first time contained statistics on the nation's forest land and so appalling were the facts about what was happening to the land that Dr. Franklin B. Hough, Superintendent of the Census, determined to bring the issue to the people. A paper entitled "The Duty of the Government in the Protection of Forests," was presented before the American Association for the Advancement of Science in 1873 and started the ball rolling slowly. Nothing came from Hough's later survey of the forest situation for the Agriculture Department or from Interior Secretary Carl Schurtz's recommendation in 1877 that all timberland still belonging to the federal government be withdrawn from entry under the homestead and pre-emption laws. John Muir, at about the same time proposed the appointment of a national commission to take a survey of existing forest lands in public ownership and to recommend measures for their conservation. Such a commission was finally established twenty years later and acting pursuant to the law passed in 1891 authorizing such action, President Cleveland created the Olympic Forest Reserve in 1897 along with several others.



Dark line indicates extent of original forest reserve in 1897

Two-thirds of the Olympic Peninsula were in this one action protected from those who wanted to fatten off of the public domain if not from eventual logging. This forest included all of the coast land betweeen the two coastal Indian reservations and contained over two million acres. Dr. William E. Bade in his *Life and Letters of John Muir* explains:

> "This action of the president created a rogue's panic among the mining, stock and lumber companies of the northwest who were fattening on the public domain. Through their subservient representatives in congress they moved unitedly and with great alacrity against the reservations. In less than a week after the President's proclamation they had secured in the United States Senate, without opposition, the passage of an amendment to the Sundry Civil Bill whereby 'all the lands set apart and reserved by executive orders of February 22, 1897 were restored to the public domain.' "

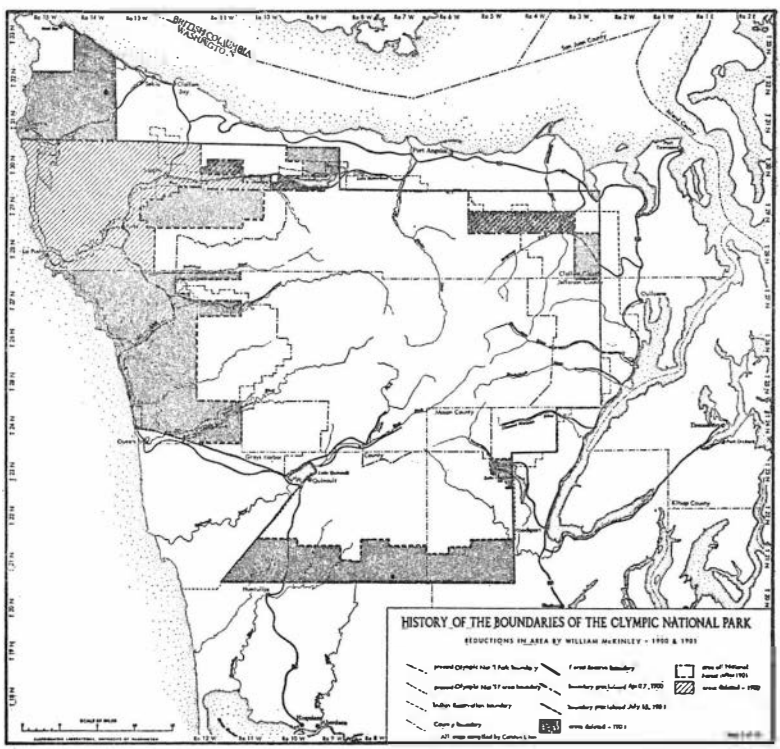
It failed in a pocket veto.

Those who were outraged at Cleveland's actions did not have to wait long for the taste of triumph. When McKinley became president he immediately eliminated those townships which the government cruisers had determined were most valuable. At the time of the eliminations the Dodwell-Rixon report was available although not yet published. It said:

> "Taken as a whole this is the most heavily forested region in Washington and with few exceptions the most heavily forested region of the country. The densest forests are found in townships near the Pacific Coast, in the northwestern part of the reserve and in the southern tier of townships."

This did not keep the commissioner of the General Land Office from explaining in his report of 1901 that:

> ". . . the timber in the extreme northwest corner of Clallam County was not worth preserving, as it would be destroyed by



Eliminations of 1900 *and* 1901. *Double cross-hatched areas indicate areas deleted in* 1900 *but added in* 1901.

storms, and it was good for farming. Twenty miles of seacoast would be restored to use by the elimination."

Gifford Pinchot, then in charge of the Agriculture Department's Division of Forestry was outraged and charged that:

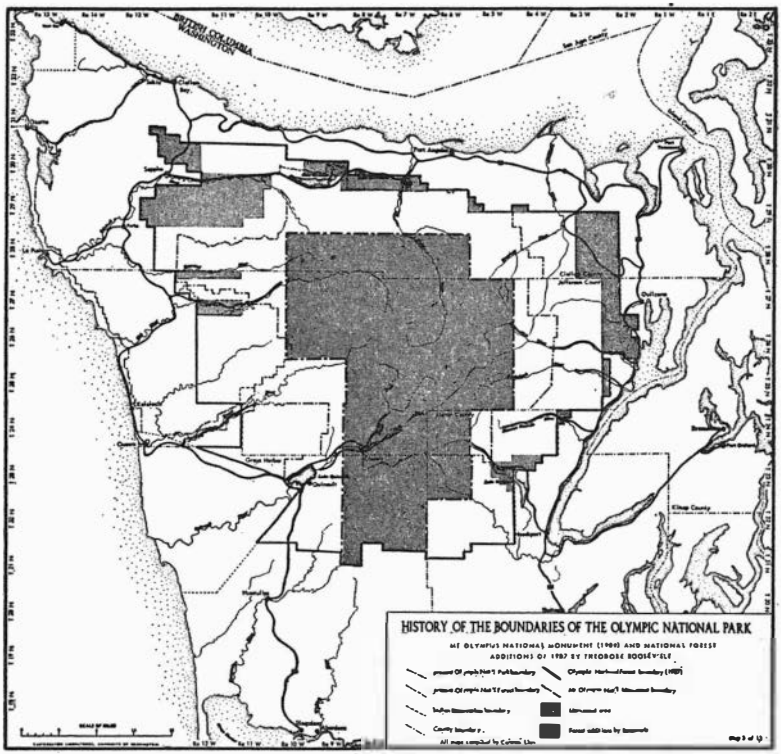
". . . the Geological Survey, in my absence and without my knowledge, consented to and put through the elimination from the Olympic National Forest of some of the heaviest timberland in America, on the utterly imaginary ground that it was more valuable for agriculture than for forestry. Nearly every acre of it passed promptly and fraudulently into the hands lumbermen."

Much of the land thus eliminated as agricultural later was taken up under the Timber and Stone Act, which requires oath that the land is valuable for timber and *not fit for agriculture,* and 170,000 acres of land eliminated passed into the hands of three timber companies and two individuals and only a negligible percentage was even under cultivation.

First to introduce a bill to create a park on the peninsula was Congressman Cushman from Tacoma, who in the spring of 1904 introduced a bill to create an Elk National Park of some 393,000 acres. Although it had the unanimous support of the county commissioners of Clallam County and some other local groups it failed completely to arouse any general interest. The bill did call to public attention the plight of Roosevelt Elk which were being hunted down unmercifully for their teeth. These were used ornamentally on the watch chains of the day and brought a good price.

The following year the state legislature got around to passing a law prohibiting the hunting of elk until October 1, 1915 but included an exception which permitted any miner to kill elk any time. A great many mining claims were made on the Olympic National Forest as a result of this exception; the sole purpose for most of them being to enable their owners to mine elk. To provide some protection for the elk a group of local citizens got Chief Forester Pinchot to draw up an order to establish Mt. Olympus National Monument on over 600,000 acres of United States Forest land. Congressman Humphrey induced Theodore Roosevelt to sign the proclamation during his last days in office. The President's action was taken under the Antiquities Act of 1906 which permitted the executive to establish national monuments for the protection of areas of scientific and historic interest.

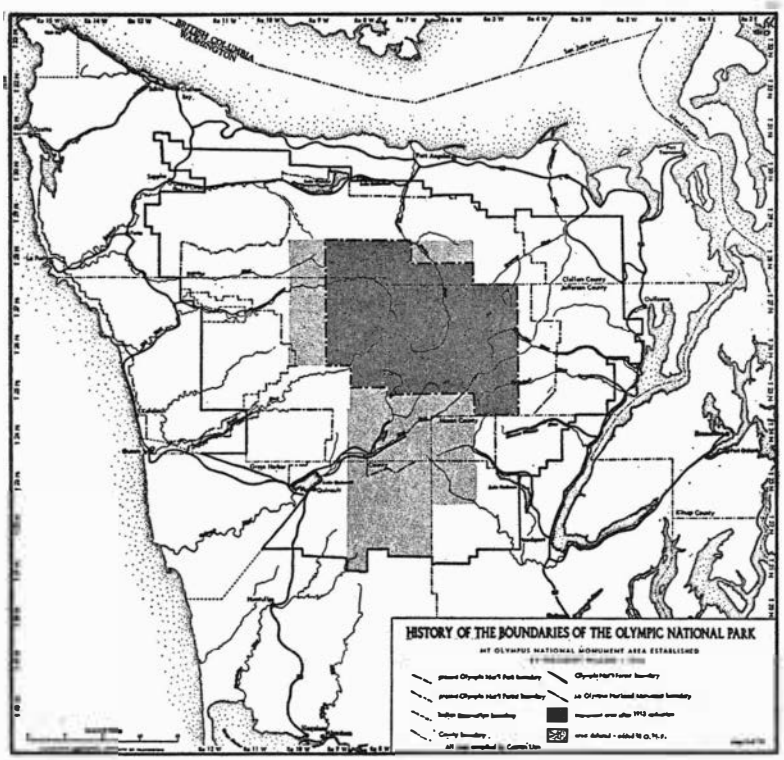
The very people who had worked so diligently to protect the elk discovered that such an area would henceforth be closed to commer-



Theodore Roosevelt's forest additions of 1907 *and area of his* 1909 *Monument proclamation.*

cial exploitation and set to work at once to undo the president's action in establishing the monument. In 1911 Congressman Humphrey introduced a bill to change the monumet into a park, at the same time permitting mining and timber cutting. This agitation, largely from local chambers of commerce and mining interests, reached a crescendo after World War I gave a good reason, if not a valid one, for a reduction. In 1915 Woodrow Wilson reduced the monument to the exact boundaries recommended by a committee of three men; one from the Seattle Chamber of Commerce, one from the Seattle Commercial Club, and another representing the mining interests of the Olympic Peninsula. The public had little to say about it.

With the monument now pushed back to the alpine scrub and shale shopes of the Olympic crest, the scene remained quiet until 1929, when Calvin Coolidge reduced the now flexible monument by another 640 acres to permit the construction of a dam on the Elwha River.



President Wilson's Monument eliminations of 1915.

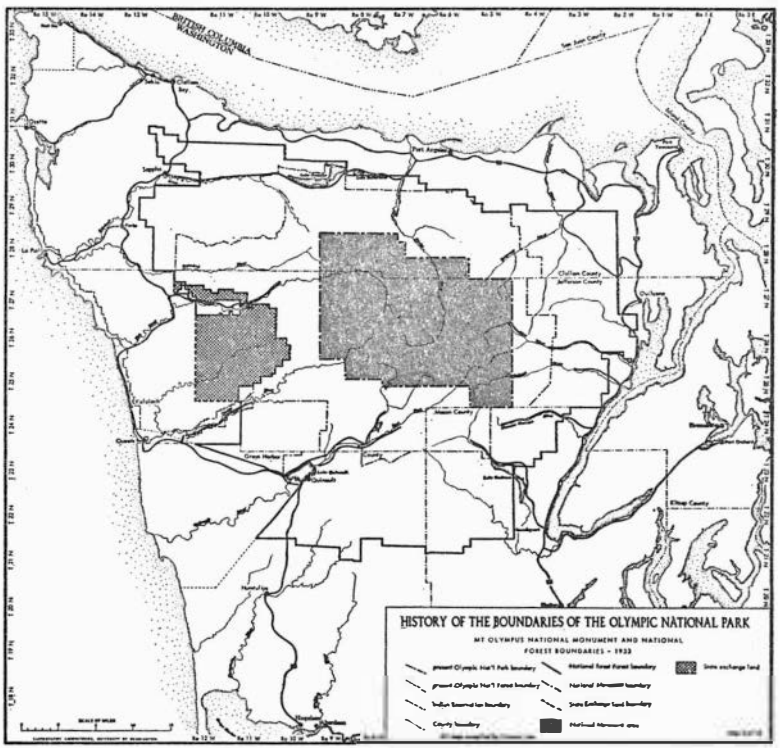
Unwittingly the 72nd congress on March 3, 1933 upset the tranquility which had reigned since the reduction of 1915 by passing a law to provide for reorganization within the executive branch of the government. This was the culmination of a long and bitter battle begun in the Taft administration to eliminate duplicate functions, consolidate, reform, and improve executive offices. In pursuance of this statute, on June 10, 1933, President Roosevelt signed an executive order containing twenty-two sections; among them being a section transferring all functions of administration of public buildings, reservations, national parks, national monuments and national cemeteries to the Office of National Parks, Buildings and Reservations in the Department of the Interior.

When the order went into effect, August 10, 1933, the National Park Service of the Interior Department had under its jurisdiction thirty-two "national monuments," mostly places of historic or scenic

interest. The War Department had nine of them, likewise important from a historical rather than a military view. The Forest Service of the Department of Agriculture had fifteen, some of them natural wonders like the Oregon Caves, and all within or adjacent to the National Forests. Largest of these by far was the Mt. Olympus National Monument which had been administered as an integral part of Olympic National Forest for twenty-five years. In addition it sat right in the middle of the existing forest and the nearest road endings were miles from its boundaries.

Understandably, the Forest Service was disturbed that another agency would be administering what it considered the heart of its own territory. The Park Service found itself on the Olympic Peninsula through no real effort of its own with no administrative machinery established and having to rely at every turn on the cooperation of the Forest Service.

Almost immediately after the transfer, the great park battle was on. The Emergency Conservation Committee of New York City

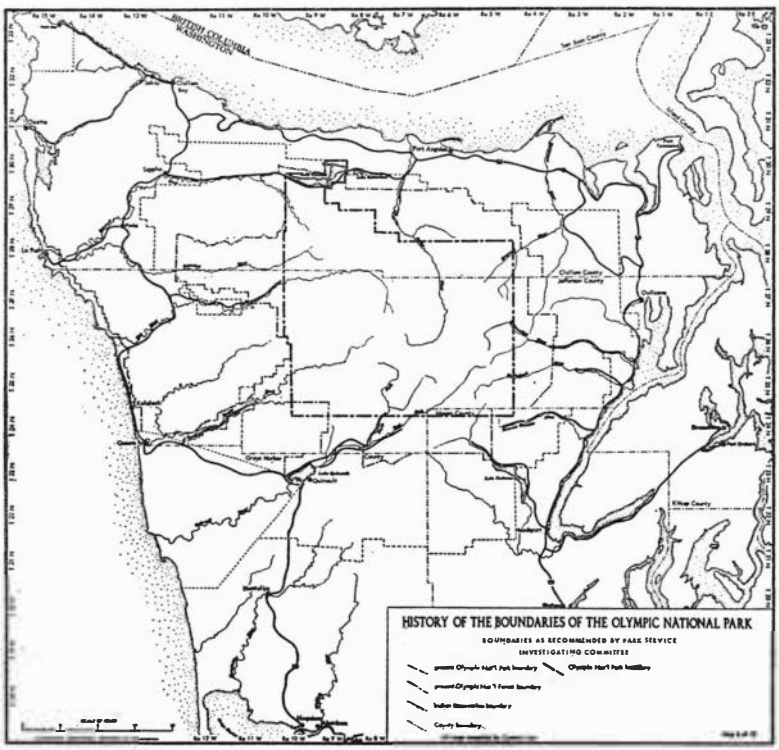


The Monument and Olympic National Forest after the state exchange reductions as boundary battles began.

issued a 16-page pamphlet entitled, "The Propsed Olympic National Park," which was widely distributed throughout the United States. It called for the enlargement of the existing monument to a national park by the addition of vast areas of the rain-forest section of the national forest. The fun now began in earnest.

The Forest Service responded by putting speakers before any group which would listen to the reasons why that Service should administer all of the area as national forest and why a national park should not be created. The Park Service did not waste any time in its attempt to get the public's ear either. Within a little more than a year after it had been given control of the monument, a four-man park service committee had a recommendation ready for the director of the Park Service on the enlargement of the monument to a park. This committee faced a hostile Olympic Peninsula but claimed real accomplishment in their report to the director:

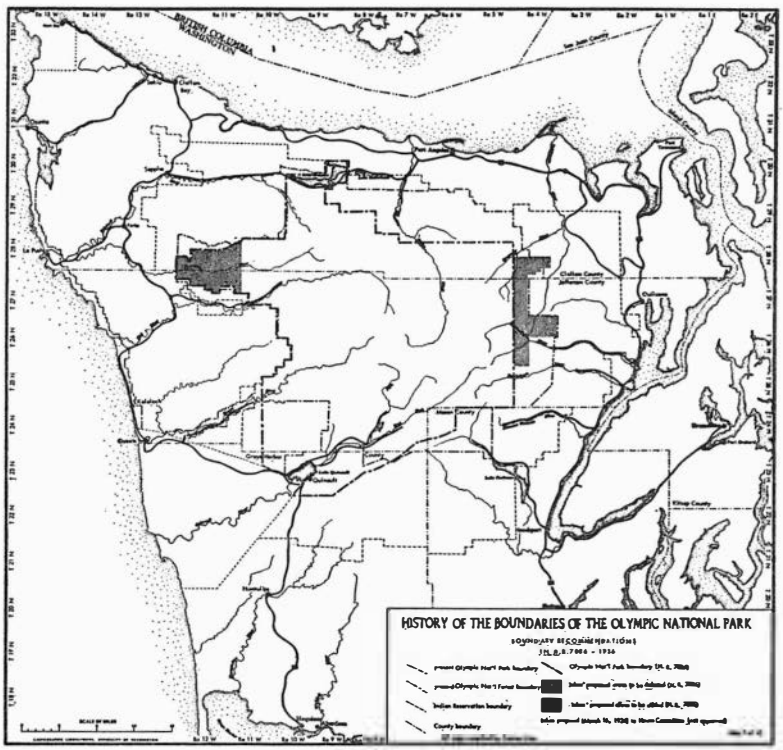
"When we arrived on the peninsula it was the opinion that 85%



The National Park proposed by Park Service Investigating Committee, 1934.

of the population was opposed to the administration of the area by the National Park Service. As of this date, it is our opinion that a very large majority, perhaps equal to that which was formerly against us, are now in favor of our policies and administration, and a very large proportion of the people residing on the peninsula are in favor of the creation of a national park. In connection with this campaign of education we undertook the actual study of the monument."

The boundary suggested by this committee really enlarged the monument generally only to the places where its new boundaries would coincide with the spur road endings in existence, thereby giving that access which the Park Service thought essential to its administration of the area. That recommendation has been used by the timber industry time and again to illustrate that the Park Service itself saw no need for a large park on the peninsula. It came so early, being the first recommendation for a park in the battle, that the great force



Wallgren's first park bill, H. R. 7086, with Ickes' recommended Bogachiel deletion and east side addition.

of public opinion against the logging industry had not yet made itself known. A cautious approach was therefore very understandable.

Congressman Wallgren from Washington caused real furor when he introduced in the spring of 1935 the now famous bill, H. R. 7086 which would have created a park of some 728,360 acres. Both sides now had specific legislation to attack or defend and the battle lines became sharply drawn; the logging and timber-using industries along with the Forest Service and the government of the state of Washington on one side, with conservation groups, the National Park Service and many eastern newspapers on the other. All except the Forest Service agreed that the establishment of a national park was a desirable step so the only question that faced the nation was how large a park on the Olympic Peninsula was in the public interest.

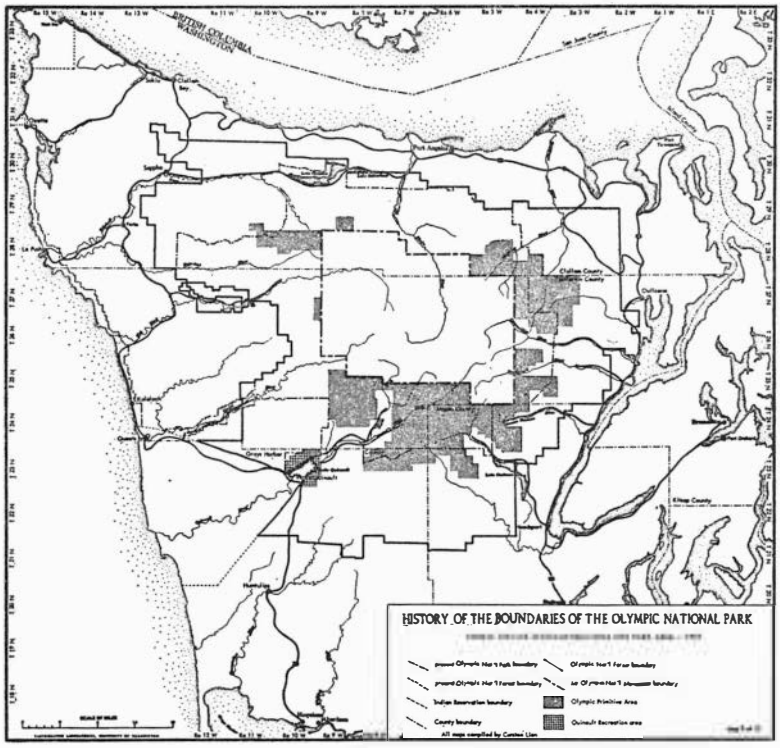
By the time hearings on H. R. 7086 were held a year later, the country was at fever pitch over the controversy. Both sides threw everything they had into the hearings in the hope that this would end the question for once and for all. Years of suppressed animosity on the part of the Park Service toward the Forest Service came bubbling forth with charges going back to 1916 when the Park Service was first created. As representatives of the state of Washington, the timber industry, the Park Service and the Forest Service and even the Secretary of the Interior himself fought it out, Congressman Smith from Grays Harbor, a member of the House Public Lands Committee before which the hearings were held, appeared to be doing everything in his power to impede the hearings when it was obvious that the groups for a large park controlled the situation. His tactics were probably very costly to the groups favoring a small park because they seemed to confirm what conservationists were saying about the extent to which the industry would go to protect its special exploitative privilege on public forest land.

Realizing that they had taken a terrific beating at the hearings on H. R. 7086 the Chamber of Commerce leaders from Grays Harbor and Port Townsend changed their tactics immediately following the close of the hearing, no doubt being motivated by the fact that they might still influence the committee's report on the bill. Grays Harbor Couny interests were desperate to keep the heavy old growth forest out of the park, while Jefferson County had always sought a trans-mountain road to link the east side of the county with the west side, still accessible only by a long loop trip through Clallam County. They decided to ask for a park of restricted boundaries and an east-west road across mountains in return for their support. The bound-

aries were to be determined by a visit of a congressional committee which could no doubt be influenced locally easier than in Washington. Accordingly, they sent to Congressman Martin F. Smith, their representative on the committee then preparing a report on the hearings just held, the following telegram:

> "Jefferson County interests believe state and Olympic Peninsula will not oppose Wallgren Bill if a substantial reduction in boundaries and quantity of timber involved is first determined by a visit of a congressional committee. At no time has there been serious opposition to change of status of monument. Jefferson County requests that any legislation make provisions for an east-west road across the mountains."

It was too late. A week later the House Committee on Public Lands recommended that H. R. 7086 be passed without amendment in spite of the fact that Secretary of the Interior Ickes recommended that the bill be amended to exclude the Bogachiel area because of nine



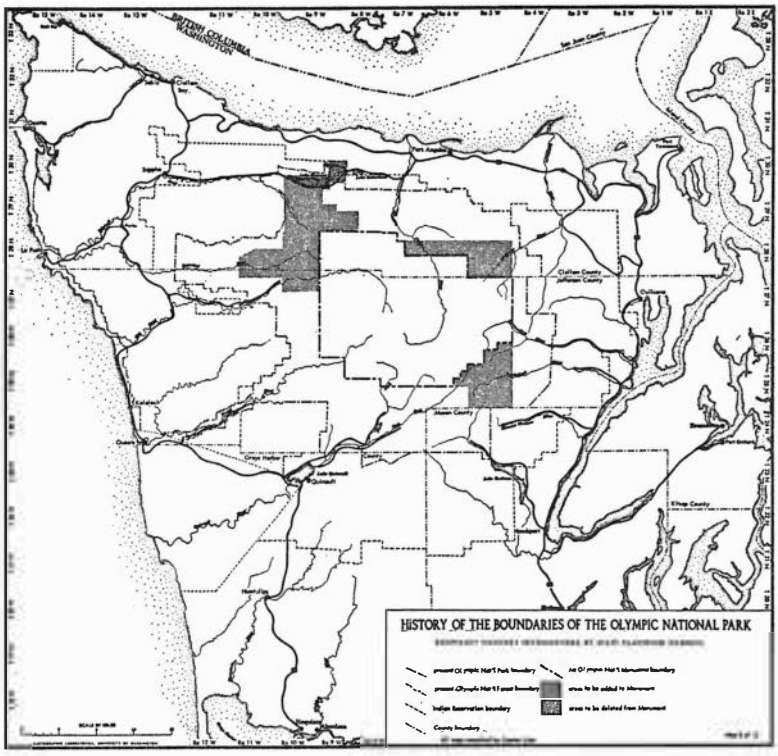
Forest Service 1937 primitive areas adjacent to monument.

sections of privately owned timber there and that a small area be added on the east boundary.

On July 3, 1936, two months after the hearings on Wallgren's bill to create a large national park on the Olympic Peninsula gave a public beating to those who wanted no part in any such park scheme, the Forest Service announced the establishment of Olympic Primitive areas adjacent to the monument. The offical bulletin said, "this choice region with its spectacular snow peaks, mountain lakes and exquisite alpine valleys," has now been set aside along with the existing Mount Olympus National Monument as one great recreation reserve of 661,000 acres. It is entirely possible that by such action it was hoped that action for a park might be stalled. The establishment of the primitive area was interpreted in this light at the time.

The Park Service through W. H. Horning, one of its representatives at the Wallgren Bill hearings publicly attacked the primitive area action at once. He said of the newly established areas:

> "Most of the areas had already been classified as primitive or snow peak recreational areas, but this former designation was based on mere rules and regulations of the Forest Service. Reclassification by official action of the Secretary of Agriculture was apparently intended to give the public impression of great permanence to the arrangement. (It may be pointed out more permanent than those based on administrative regulations but more easily changed than those based on an executive order of the President.) Hence there is little assurance that the areas now classified as primitive will be kept in that condition if local pressure for economic exploitation develops.
>
> "When primitive areas are established by the Forest Service, the usual public impression is that they are to be kept free from all means of mechanical conveyance. In this case, however, it was discovered that provision was made for construction of a transmountain highway across the primitive areas on both the east and west sides of the monument."
>
> "The road is planned for construction to the monument boundary on each side. The missing link across the southeast corner of the monument will then become a liability of the park service. The situation thus created might result in pressure to have the President issue an executive order reducing the size of the monument or transferring jurisdiction of the entire monument back to the Forest Service. Apparently the primitive area classifica-



State Plan eliminating Southeast corner from Monument.

tion does not necessarily provide protection for a wilderness area from invasion by mechanical transportation."

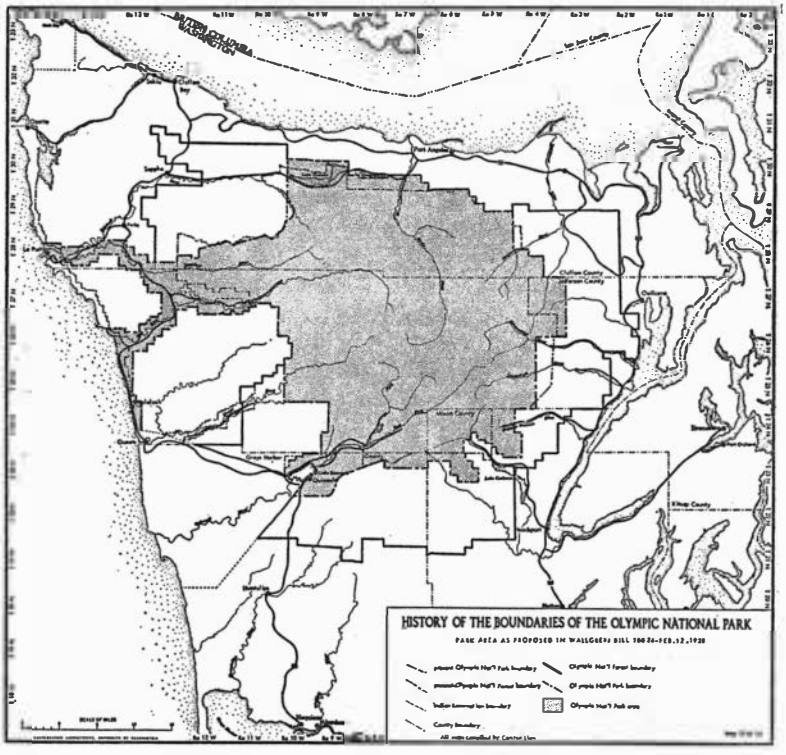
When the Washington State Planning Council adopted a park boundary recommendation proposed by a committee of representatives from eight peninsula communities, the state of Washington as a party in the controversy, lost tremendously in influence. By not realizing the mood of the county towards a large park, they recommended a boundary which did not even include all of the existing monument in order that an east-west road over Anderson Pass would not be hindered by the presence of a park. The state's position was never seriously considered subsequent to this recommendation.

Now fearing that the controversy over boundaries would forever impede the creation of a park, Congressman Mon Wallgren, together with Representative Martin Smith, the Chief Forester and the Director of the Park Service agreed on a much smaller park, eliminating 140,000 acres of the heaviest timber and 4,000 acres of privately owned land on the Bogachiel, Quinault and Queets Rivers. Accord-

ingly, H. R. 4724, the second Wallgren Park Bill was introduced in February 1937 amid cries of "sellout" and "sabotage" from conservation groups.

President Roosevelt left no doubt in anyone's mind about whether or not there would be a large park when he visited the Olympic Peninsula in September of 1937. At a cabin on Lake Crescent he called together Washington's two senators, Bone and Swellenbach, Congressmen Wallgren and Smith, Superintendent Tomlinson of the Park Service and Regional Forester C. J. Buck of the Forest Service and turned on all of the Roosevelt charm. Wallgren emerged from the meeting with a jubilant statement for the press that the president showed clearly his support for a very large park.

While Governor Martin worked furiously and by now ineffectually for a small park, Wallgren, encouraged by the president stated support for a park even larger than the one he first proposed, produced H. R. 10024, which ultimately was to create Olympic National Park at long last. With the knowledge that such a large park would



Proposals of third Wallgren Bill, H. R. 10024.

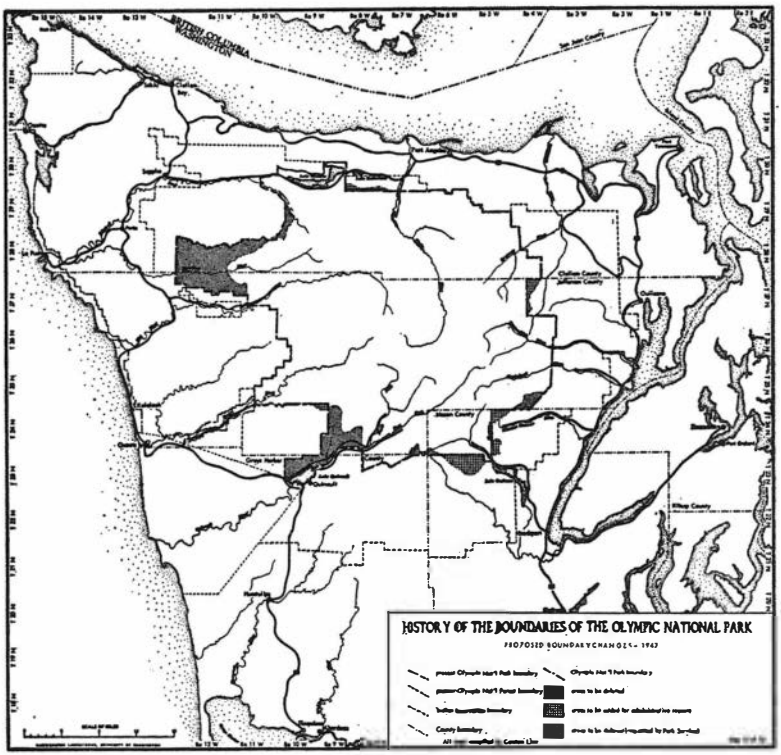
create resistance in the Senate, Interior Secretary Ickes and President Roosevelt agreed to get as large a park as possible through the House. Then if the area was whittled down in the Senate, they wanted an amendment which would give the President the right to add to the park by proclamation. As the timbered areas were slashed from the park in the Senate, the requested amendment was added giving the president this right after consultation with the governor of Washington, the Secretary of the Interior, and the Secretary of Agriculture. The bill barely squeaked through on the last day of the session and became law June 29, 1938.

Lumbering industry spokesmen were pleased that the park was not as large as it could have been and felt somewhat secure in the knowledge that the governor and the Secretary of Agriculture would never agree to any additions. When the president started action a year later to extend the park, they were horrified to find that the presiden did not have to have agreement in order to expand the park; he only had to consult with these officials prior to such action. On January 2, 1940 President Roosevelt added 187,411 acres of heavily timbered area to the park basing his action on a Forest Service survey which indicated that even after this area was added there would be enough pulpwood to maintain the mills not only at the present rate of production but would allow for an expansion of 30 per cent of the then current output.

In 1943, an addition of 20,000 acres, including the Morse Creek Watershed, was made by the President. Because of its use by Port Angeles as a watershed, this addition was never considered to be an area of commercial importance.

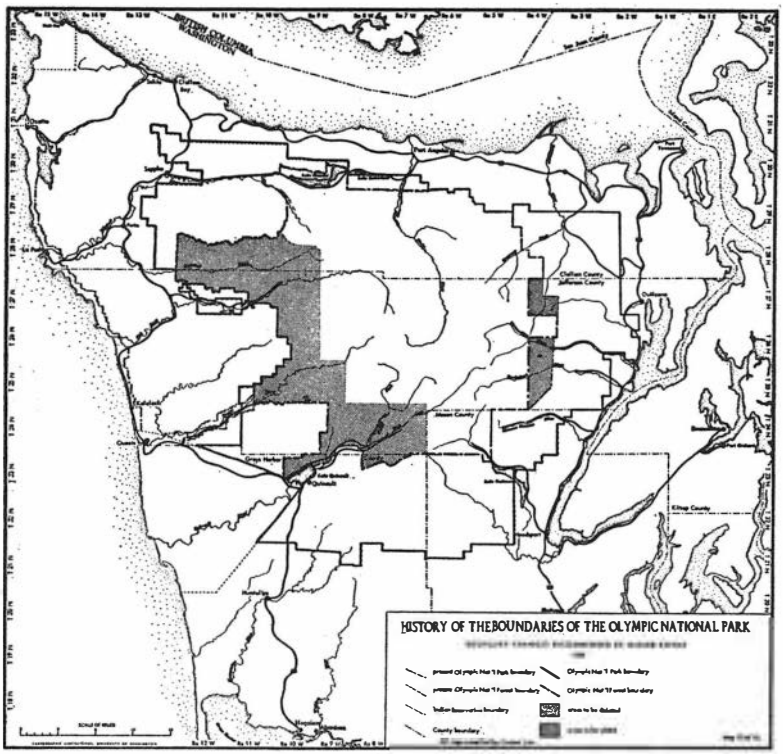
When Harold Ickes once decided that governmental action was desirable in some area, his multi-tracked mind conjured up a way to accomplish that action . Congress had eliminated the river corridors and coastal strip from Wallgren's third park bill so Ickes set up P. W. A. project number 723 with an appropriation of $1,7000,000 to get a corridor and a coastal strip for the park. This did not prove to be a difficult task because in addition to being Secretary of the Interior, he was also administrator of the Public Works Administration and controlled the funds. Coming as it did on top of a park many considered too large, this action created a field day for the anti-park forces. Administered by the Park Service since 1940, most of this land was added to the park in 1953 by proclamation by President Truman.

World War II again provided the basis for demands that the war



1947 *plans to eliminate some rain forest areas.*

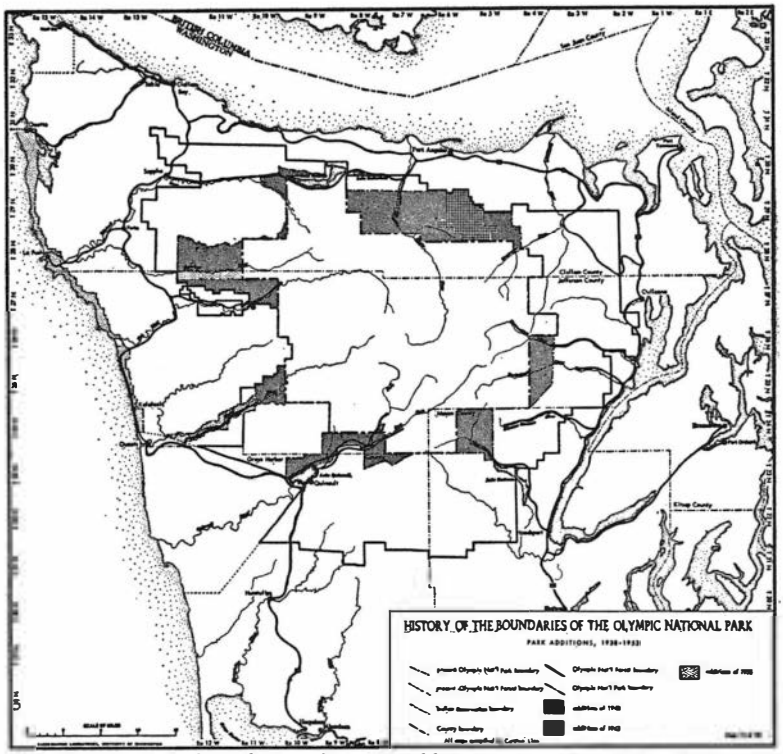
effort made it imperative that the park be logged; Ickes yielded only in the land being acquired with P. W. A. funds. However, following the war, 1947 brought a series of congressional assaults of really serious proportions. Congressman Norman introduced H. J. Res. 84 in January of that year. This measure would have created a commission heavily favoring the lumber industry and would have determined "what areas, if any, should in the judgement of the Commission be withdrawn or excluded from the Olympic National Park in order to render *locally* and nationally the maximum public benefits." Desperate to avoid a showdown with a dangerously biased fact-finding committee, the Park Service approved measures introduced by Congressmen Norman and Jackson, and Senator Cain that would have reduced the park by 56,396 acres, an area comprising three-fifths of the rain forest of the park. Faced with the charge of "gutless" and "appeasement" by conservation groups, the National Park Service reasserted its role as guardian of Olympic's forests, red-facedly withdrew its support of reduction and prepared for the battle.



Timber industry plans for the park include eliminations of the most valuable forest areas.

The hearings before the House Committee on Public Lands opened on September 16, 1947 at Rosemary Inn, on Lake Crescent and were so reminiscent of the 1936 hearings on the first Wallgren Bill it was almost confusing to those who attended both. The same forces said the same things about the same area that had been said eleven years before. Again, the lumbering industry did not know when to let well alone and essentially killed any chance to get into the park when consulting forester James W. Girard, who presented the industry's case, disclosed that what was wanted was one-third of the park's area, containing more than one-half of all the merchantable timber within its boundaries and virtually all of the rain forest. No action was ever taken on any of the bills after the public admission that at best the 56,000 acres was to be only a starter.

After Truman's addition of the coastal strip and Queets corridor in 1953, the governor of Washington State launched an attack through a committee representing various groups. This committee



Present park boundaries showing additions of 1940, 1943, 1953.

was to make recommendations on the future of the park but became hopelessly deadlocked; one group favoring the present park while another recommended further study of the situation.

As the boundaries remained intact, the Park Service itself embarked on a program of "salvage" logging park forest lands, at first using this means as an exchange of logs for private holdings within the park's boundaries. Subsequently this procedure was declared illegal, but the Service continued this logging practice—completely controverting its declarations fifteen years earlier before the congressional committee which considered perpetuating some of the peninsula forests as a park dedicated to other than economic principles.

Nation-wide protests to continued piecemeal logging of Olympic National Park's forests as "salvage" or otherwise eventually resulted in a new policy being announced by the National Park Service. Although it is not the ideal to be desired, the ecological balances for plant and animal life in Olympic National Park's forests can expect to be less disturbed and continue to inspire both serious student and casual visitor.


CAPE FLATTERY
NEAH BAY
ARCHAWAT
MAKAH INDIAN RES.
PORTAGE HEAD
SEKIU
CLALLAM BAY
STRA
POINT OF THE ARCHES
ELLIS MTN. 2668
PYSHT
CAPE ALAVA
OZETTE LAKE
LAKE DICKEY
LAKE PLEASANT
SAPPHO
HWY 101
SOLEDUCK RIVER
LAKE CRES
CAPE JOHNSON
FORKS
SOL DUC HOT SPRINGS
LAPUSH
QUILLAYUTE INDIAN RES.
BOGACHIEL RIVER
GIANTS GRAVEYARD
HOH RIVER
HOH HEAD
OIL CITY
RUBY BEACH
PACIFIC OCEAN
CLEARWATER RIVER
KLOOCHMAN ROCK 3387
KALALOCH
QUEETS
RAFT RIVER
ARMANDA PARK
QUINAULT INDIAN RESERVATION
QUINAULT RIVER
NEILTON
CAPE ELIZABETH
TAHOLAH
FT GRENVILLE
HUMP. TULIPS
MOCLIPS
COPALIS RIVER
PACIFIC BEACH
IRON SPRINGS
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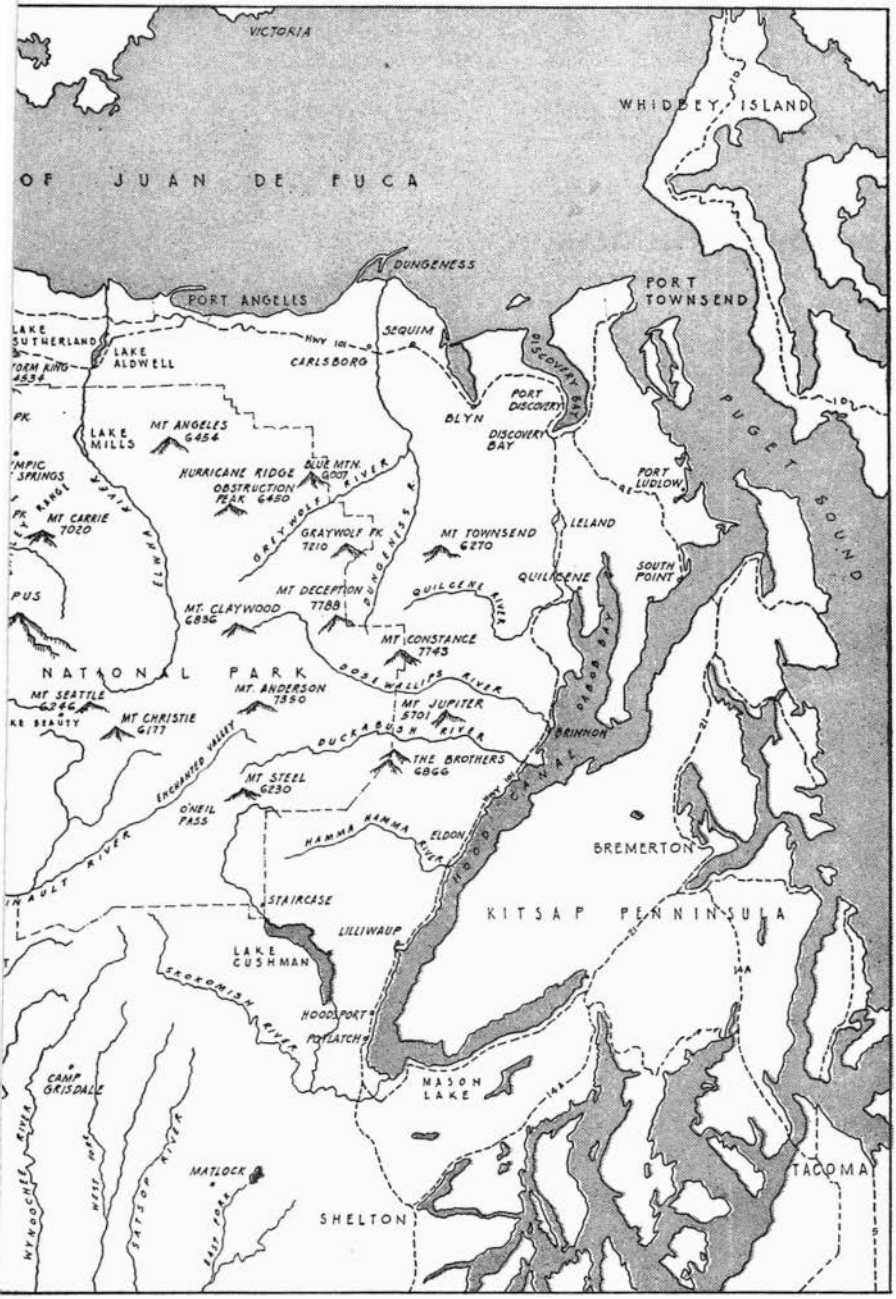
THE OLYMPIC


VICTORIA
WHIDBEY ISLAND
OF JUAN DE FUCA
DUNGENESS
PORT ANGELES
PORT TOWNSEND
LAKE SUTHERLAND
LAKE ALDWELL
HWY 101
SEQUIM
CARLSBORG
DISCOVERY BAY
PORT DISCOVERY
BLYN
DISCOVERY BAY
PUGET SOUND
LAKE MILLS
MT ANGELES 6454
HURRICANE RIDGE
OBSTRUCTION PEAK 6450
BLUE MTN.
GOAT RIVER
PORT LUDLOW
MT CARRIE 7020
GRAYWOLF RIVER
GRAYWOLF PK 7210
MT TOWNSEND 6270
LELAND
DUNGENESS R
QUILCENE
SOUTH POINT
MT DECEPTION 7788
QUILCENE RIVER
MT CLAYWOOD 6836
MT CONSTANCE 7743
DOSEWALLIPS RIVER
NATIONAL PARK
MT SEATTLE 6246
MT ANDERSON 7350
MT JUPITER 5701
MT CHRISTIE 6177
DUCKABUSH RIVER
BRINNON
THE BROTHERS 6866
HOOD CANAL
ENCHANTED VALLEY
MT STEEL 6230
O'NEIL PASS
HAMMA HAMMA RIVER
ELDON
BREMERTON
STAIRCASE
KITSAP PENNINSULA
LILLIWAUP
LAKE CUSHMAN
HOODSPORT
POTLATCH
MASON LAKE
CAMP GRISDALE
MATLOCK
TACOMA
SHELTON

PENNINSULA

THE

ROOSEVELT ELK

By COLEMAN NEWMAN

The Roosevelt elk of the Pacific Coast is truly a forest inhabiting species. During the past fifty years the amount of desirable elk range, especially in the lowlands, has been reduced by the advance of civilization. However, even with the habitat changes caused by the human population increase and the economic development, there are still between eight and nine thousand elk on the Olympic Peninsula. Recent estimates indicate that perhaps five thousand of these elk are in the Olympic National Park.

A hike into elk country can be a very rewarding experience. Few people have the opportunity to study their life cycle over a twelve-month period but short trips can be timed to coincide with such high points as the calving season, the summer dispersal to the alpine meadows, the mating season, and the concentration of the population on the winter range.

There are numerous places in the Olympic National Park where the elk can be observed. The watersheds on the north and west sides contain approximately 90 per cent of the population. With this situation, the only problem is that of making a choice of which stream to visit—Elwha, Soleduck, Bogachiel, Hoh, Queets or Quinault. During the winter elk may be found in good numbers in any of these valleys, but the lower portions of the Elwha, Soleduck and Quinault have relatively few in the summer and fall.

A trip up the Bogachiel to Bogachiel Peak and vicinity then down the Hoh to the Hoh Ranger Station would provide an opportunity to study the elk in the full expanse of their range. However during the summer there may be many hikers in this portion of the high country and the possibility of close study of the wary elk is somewhat reduced.

Actually, the Queets is the most likely place for a study, and whether the trip be long or short, in winter or summer, a small party on foot is usually the most successful.

If a trip to the Queets is selected, many good sites for elk will be

passed in the vicinity of the park road, before it ends and the trail begins. Large herds may be seen in the Streeter fields as one looks across the river from the road. In fact, all the abandoned homesteads on both sides of the river are excellent sites on which to locate elk. Near the end of the road, the Kelley ranch and the Cowan and North fields are frequented almost daily by one or more herds. A large band of a hundred or more range daily in and around the Andrews homestead, which is across the river from the end of the road and about two miles up the trail. The old barn provides a good place from which to take pictures.

The cows start calving in late May and the peak is reached during the first ten days of June. The expectant mother leaves the herd and goes to some secluded spot to drop her calf. The new calf, spotted and sporting a prominent rump patch, is frequently found hiding by a log or in vine maple or fern until it is old enough to follow its mother. While the calves are quite young the cows do not rejoin the main herd. Instead they form little bands of their own. Usually they may be seen on gravel bars along the streams or in the grassy glades of the forest. Sometimes it may appear that they have a "calf-sitting" arrangement—one cow remaining with the calves while the others feed. When the calves are able to keep up, the cows move about more and more and soon rejoin the herd. At this time the band is composed of barren cows, yearlings, spikes and quite possibly some two- and three-year old bulls. The mature bulls are rarely observed with the herd except during the mating season and for a few months on the winter range.

Contrary to the widely held belief that the entire population migrates each summer, less than fifty per cent leave the valleys and sidehills for the alpine meadows. Many herds, however, make a shift in range within the valley according to the season of the year.

To get the greatest appreciation of the elk, the hiking party should try to observe the herds on the sidehills and in the alpine meadows as well as in the more accessible valleys. The Skyline Trail is an excellent route for a high country trip. It follows the ridge between the Queets and the North Fork of the Quinault and crosses several meadows that are in the very heart of a most interesting summer population that has gathered from the valleys of both streams. Day after day the herds may be found on the lingering snow banks which are cooling and afford some relief from the tormenting insects.

In late August the bulls begin to show interest in the cows. By early September the cows have been gathered into harems by the bulls that are now in their prime and by mid-September the elk country is

alive with activity. The bugling bulls sound their challenge throughout the area. The mating activities start in the alpine meadows and in the lowland valleys at about the same time but are more spectacular in he high country. Some hikers think that bulls are dangerous during the rut but this point is highly exaggerated. A pugnacious bull elk has not been encountered in years of experience of working with them.

The elk leave the alpine meadows with the advent of winter storms (usually early in October), and as cold weather sets in they concentrate in the valleys. Their range now usually includes the valley floor plus the first several benches on the sidehills. They graze and browse in groups that vary in size from only a few to a hundred or more. However, in periods when the ground is covered with deep snow they may feed individually or in small bands of four or five.

The greatest natural mortality (winter-kill) among the elk does not occur in the dead of winter. Rather it comes as an aftermath to a severe winter and occurs in early spring as the new grass, broadleaf forbes and young shoots of woody plants become available. The search for these succulent and tasty young plants requires the expenditure of more energy than the foods provide. Following a winter in which woody browse constituted a chief source of food, the fresh green plants act as a laxative and the effect is physically weakening.

As for predators, cougar may take a few elk but the kill is not a serious threat to the population. This fact has been established through extensive field work covering a number of years. Tracks of bear, bobcat and coyote are sometimes found in the midst of the elk range but these carnivores are principally carrion feeders.

Observing elk on the winter range can easily be done on the Elwha, Soleduck, Hoh and Quinault as well as on the Queets. In January and February several elk herds can be found within a mile or two of the Elwha Ranger Station or the Hoh Ranger Station.

Summering herds, in addition to the ones on Skyline Trail, are found in large numbers in the Bogachiel Peak area, Cream Lake in the Bailey Range, Queets Basin, Seattle Creek Basin, Lake Beauty vicinity, Elwha Basin, Upper Godkin, Upper Enchanted Valley and the Six Ridge area.

Certainly the Roosevelt elk is interesting enough to warrant a field trip that will coincide with one of the important phases of their annual cycle.

THE WET WEST SIDE

By GRANT W. SHARPE

The next time you are on the Olympic Peninsula, don't forget to visit the Olympic Rain Forests. If you haven't heard by now, it's in the west-side valleys of Olympic National Park. "But rain forests are in the tropics, aren't they? Is it possible, a rain forest in the temperate evergreen forests of North America?" True, it doesn't have the monkeys, marsupials, and mangroves of some tropical rain forests, but it does have rain (actually much more than many tropical areas) and the forest is extraordinary even in this land of tall timber and lush growth.

Today most residents of the Northwest know of the superabundance of precipitation in the Olympic Mountains. This land mass, located only thirty miles from the Pacific Ocean, acts as a barrier and for centuries has intercepted the warm moisture-laden winds blowing in from the Pacific.

In the coastal area the annual rainfall is about 90 inches. A few miles further inland at Forks, Washington, the rainfall is about 117 inches each year. Still further inland in the west-side river valleys of the Bogachiel, Hoh, Queets, and the two forks of the Quinault, the surrounding valley walls, 3,000 to nearly 8,000 feet high, stimulate even greater rainfall. The farther up the valley the measurement is taken, the greater the annual precipitation. For example at Spruce (Huelsdonk Ranch, Hoh River) the rainfall is 122 inches. Nine miles farther up the Hoh River, at the Hoh Ranger Station, the annual rainfall is 142 inches. (While on duty at the Hoh Ranger Station during 1953, an exceptionally wet year, I measured 171 inches of rain.)

The U. S. Army Corps of Engineers in studies of stream runoff show on their 1947 isohyetal map of the Olympic Peninsula that Mt. Olympus receives 220 inches of precipitation each year. In discussing this with the engineers who made the study, it was unofficially indicated the precipitation was undoubtedly much higher. The recent IGY studies in the high Olympics verify this fact. This enormous

precipitation, much of it in the form of snow, does wonders for glaciers but at such high elevations the adverse weather conditions do not permit tree growth. The rain forest understandably grows only at low elevations where, in addition to the great rainfall, there is a mild climate, as well as ideal soils and gentle topography.

Before further considering the rain forest, let's look at the forest type, typical of the area between the Coast Range and the Pacific Ocean. This narrow coastal strip of Oregon and Washington, which supports a climax forest of spruce and hemlock, widens in northern Washington and extends inland for several miles up the river valleys of the Olympic Mountains. It is in these western valleys that spruce and hemlock reach their maximum size.

The most abundant of the rain forest conifers is Sitka spruce, *Picea sitchensis,* which occurs in both pure and mixed stands with other conifers. Nearly all pure stands occur in the valley bottoms, mostly below 1,000 feet elevation. Although the trees' average height is about 220 feet, I've measured many which reached 300 feet (but strangely enough very few over this) making this spruce one of the tallest of Olympic's trees. The average DBH (diameter at breast height, 4½ feet above the ground) is nearly six feet. The largest Sitka spruce found anywhere thus far is four miles up the Hoh River trail to Mt. Olympus. Its DBH is over 16 feet. In the rain forest Sitka spruce is characterized by a buttressed base although this formation is also found to a lesser extent on hemlock.

The second most common conifer in the Olympic Rain Forest is western hemlock, *Tsuga heterophylla.* It too occurs both in pure form or mixed with other conifers, not only on the valley floors, but on the slopes to about 3,000 feet elevation. On the Olympic Peninsula, this species is most common in the Canadian Life Zone between 1,500 and 3,000 feet. Measurements of numerous hemlock reveal this species to be the smallest of the rain forest conifers. (The largest recorded hemlock, 9 feet in DBH, is located near Enchanted Valley on the East Fork of the Quinault River.)

Although Douglas fir, *Pseudotsuga menziesii,* is the principal tree west of the Cascade Mountains, it becomes less abundant in the area immediately bordering on the Pacific Ocean. Inland, in the rain forest valley bottoms, individual trees and small groves occur frequently mixed with the spruce and hemlock. Because of its inability to reproduce under heavy shade, young Douglas fir is uncommon in the rain forest. Undoubtedly Douglas fir was more abundant here centuries ago but has lost its place to the spruce-hemlock type through

succession. On the lower slopes of the Olympic Mountains above the valley floor, Douglas fir is more common, mixing here with western hemlock and western red cedar. Above 1,500 feet it is found with Pacific silver fir, *Abies amabilis*. The altitudinal limitation of Douglas fir on the peninsula is about 5,000 feet.

The average height of rain forest Douglas fir is about 250 feet although occasionally trees do reach 300 feet. Average DBH's are about 7½ feet. The largest Douglas fir on record, 17 feet 8 inches in DBH, is located on the Queets River, 3 miles up the trail from the end of the Queets road.

The least common of the conifers of the rain forest is western red cedar *Thuja plicata*. West of the rain forest valleys, in the poorly-drained areas near the Pacific Ocean, this species occurs in pure stands, known locally as "cedar swamps." In the rain forests, however, it occurs generally as an isolated specimen, mixed with other evergreens and deciduous trees. Heights average 142 feet; diameters 7½ feet, although two park cedars, both record trees, measure 20 and 22 feet in DBH.

Red alder, *Alnus rubra,* is the most abundant of the deciduous trees and occurs in large pure stands along the valley bottoms usually adjacent to the rivers. Heights (95 feet) and diameters (16 inches) are small by comparison with other major rain forest species. Occasional black cottonwood and Sitka spruce occur in alder stands.

Black cottonwood, *Populus trichocarpa,* is also found along the rivers, usually mixed in red alder and evergreen stands. The average DBH is about 3½ feet although some diameters surprisingly enough reach six feet. Heights average 146 feet, with some individuals reaching 180 feet. This species does attain greater sizes elsewhere in the Northwest.

As will be seen later, Bigleaf maple, *Acer macrophyllum,* is the most striking of the rain forest deciduous trees. The average height of the tree here is 90 feet, the DBH 30 inches. Bigleaf maples occur as isolated individuals in other rain forest types but the tree most commonly occurs in groves. It is these maples, luxuriantly upholstered with many species of air plants, that the visitor to the rain forest will remember longest. One grove so impressed me that I named it "The Hall of Mosses." This grove is seen on the Nature Trail near the Hoh Ranger Station.

A small tree appearing in the forest understory, especially under the conifers, is vine maple, *Acer circinatum*. Pure stands or thickets of this plant, sometimes considered a large shrub, are occasionally

"In Olympic National Park is a wilderness supporting everything from alpine flowers and glaciers on rugged mountains to the marine life of tidal pools along a wild coastline. While these features individually are found in other national parks, Olympic's distinguishing feature—its rain forest—is truly unique.

Yet from the establishment of the Park in 1938, and even before, these lowland forests have been the subject of much controversy between conservation groups and timber interests. To some of the latter, use of the term "rain forest" is objectionable. To admit that the forests are unique (and thus worthy of preservation) would be inviting defeat. Nonetheless, the fact that the major tree species of the northwest attain their greatest sizes in these valleys of Olympic in itself indicates that the area is of national park stature.

Thus far only the rain and the tree species have been considered. For a general description I'd like to quote part of my article appearing in the July-September 1958 issue of *National Parks Magazine* titled "Olympic's Forest Treasure":

One of the objectives in establishing the present boundaries of Olympic National Park was to preserve the immense Douglas fir, western hemlock, western red cedar, and Sitka spruce so significant in this region. Another was to include sufficient winter range to guarantee permanent protection of the once widespread Roosevelt elk. A third objective was to protect the moss-covered forests, held to be of tremendous interest to tourists as well as to scientists.

Increased agitation to have at least part of the rain forest removed from the park for commercial logging prompted me to make a study of these Olympic forests. Laden with approximately seventy-five pounds of instruments, plot sheets, camera equipment, sleeping gear, water-repellent clothing, and food sufficient for a week to ten-day stay, I back-packed alone on dozens of trips into the rain forest valleys during the years 1952 to 1955. Added to what was already known these findings acter of the forest.

Many other rare species were encountered. The outstanding eral species never before reported for the State of Washington.

Intensive collecting of plants during the study revealed sevshould leave no doubt in anyone's mind as to the unique charseen. Vine maple is often profusely covered with air plants, especially if it is growing near bigleaf maple.

feature of the forest, however, is not necessarily *which* plants occur here, but *where* they occur. Some mosses, for instance, occur only on the ground, others on tree trunks, and still others only in the high crowns. During the study, I found seventy-seven different species of air plants growing in the crowns and seventy species on the trunks. *Selaginella,* a clubmoss, forms extensive draperies hanging from the limbs of bigleaf maples. Often the growth on the limbs becomes so profuse that, when saturated by rain, the weight of the moss causes the limbs to break.

In spite of the precipitation in the rain forest, the soil is so well drained that bogs are lacking. Only the heaviest storms cause standing water, which disappears soon after the rain stops. The great rainfall, however, permits sphagnum—a typical bog species—to grow both on the ground and on logs. This growth of sphagnum is one of the most remarkable ecological features found in the rain forest, and serves to distinguish these wet, lowland forests from other temperate forests."

May I depart here to relate an amusing incident which pertains to the last paragraph. During the above mentioned study much expert help was necessary to positively identify my plant collections. Two gracious ladies who were kind enough to assist were Dr. Elva Lawton and Dr. Grace Howard, the latter a Mountaineer since 1907. These two prominent botanists saw a lot of the rain forest's mosses and lichens, in the form of packaged specimens sent to them. During the summer of 1954, while visiting with us at Lake Crescent, Dr. Lawton and Dr. Howard went with me to see the rain forest. After a 4-hour inspection tour of the Hall of Mosses and other nearby points of interest, I was heading back to the Hoh bunkhouse for a long overdue lunch. Understandably, each plant held a world of fascination for the two, especially Dr. Lawton who came out from New York City to see the mosses. At one point, about 200 feet ahead of the other two, I heard Dr. Lawton scream. I immediately pictured her about to be impaled by the antlers of a huge bull elk. Although no elk was in sight, I ran back to where Miss Lawton was standing and saw at her feet the cause of her excitement. In her many years of collecting mosses, it was the first time she had seen sphagnum moss not in or near a bog but growing on rotting logs, tree bases, and on mineral soil. It was then I realized the real significance of sphagnum's habitat in the rain forest.

Sphagnum is only one of the 300 plant species found in the rain

forests between 500 and 1,000 feet elevation. As mentioned previously, several of these plants have not been reported before in the State of Washington. It is not meant to imply they don't occur elsewhere; it's just that apparently no one has found them yet. Perhaps a list of the common plants is in order at this time. Quoting now from the Winter 1955 volume of the *Arboretum Bulletin* (University of Washington) my article titled "The Olympic Rain Forest":

> "There are fifteen species of shrubs, the most common being red huckleberry (*Vaccinium parvifolium*) and blue huckleberry (*V. ovalifolium*), which grow to 15 feet tall. Five ferns are represented here. Western swordfern (*Polystichum munitum*) is the most common, occurring on soil everywhere. Licorice fern (*Polypodium vulgare*) is common on bigleaf maple trunks and crowns. It also grows in conifer crowns, some specimens occurring 270 feet above ground. A close relative of the ferns is *Selaginella oregona,* a club moss which reaches its maximum development on trunks and crowns of bigleaf maple.
>
> Grasses, sedges, and rushes total 28. Common grasses include *Bromus sitchensis, Trisetum cernum, Deschampsia caespitosa,* two Poa and two Agrostis species. The most common sedge is *Carex brunnescens*. Luzula parviflora is the common rush.
>
> Herbs other than the grasses and grass-like plants total approximately 75 in number. Preferences for the soil beneath either conifers or deciduous trees is noticeable in this group of plants. Space does not permit listing all of the plants; however, here are some of the more common ones. Oregon oxalis (*Oxalis oregona*), trefoil foamflower (*Tiarella trifoliata*), sweet-scented bedstraw (*Galium triflorum*), catchweed bedstraw (*G. aparine*), Western springbeauty (*Claytonia sibirica*), beadruby (*Maianthemum dilatatum*), American adenocaulon (*Adenocaulon bicolor*), youth-on-age (*Tolmiea menziesii*), and common selfheal (*Prunella vulgaris*). A notable example of a plant preferring a certain tree type is the trailing raspberry (*Rubus pedatus*), very common over the ground and on logs in conifer stands but almost entirely lacking under hardwoods.
>
> What is lacking in species of ferns is made up by the conspicuous bryophytes, the name given to the mosses and liverworts. These seedless plants total 71 and 30, respectively. Here again one notices a preference not only for particular tree types but for specific locations on the trees as well. Mosses abundant on the ground and on logs include *Rhytidiadelphus loreus, Eur-*

hynchium oreganum, Hylocomium splendens, and *Plagiothecium undulatum. Mnium insigne* is especially abundant on the soil in hardwood stands. Trunk mosses include *Hypnum circinale, Dicranum fuscescens, Hypnum subimponens,* and *Pseudoisothecium stoloniferum.* Bigleaf maple trunks support *Neckera menziesii;* the crowns *N. douglasii. Other crown species include Pseudoisothecium stoloniferum,* and *Antitrichia curtipendula. Orthotrichum lyellii* var. *papillosum* and *Ulotia obtusiuscula* show a distinct preference for the crowns of black cottonwood and red alder.

Of the liverworts on conifer trunks *Scapania bolanderi* is the most abundant. A small liverwort, *Dounia ovata,* grows in conifer crowns on the underside of limbs, found on occasion over 280 feet above ground. The most robust of the liverworts is *Porella navicularis which occurs on hardwood trunks and crowns. Frullania nisquallensis* has a preference for red alder crowns. The greatest number of liverworts occur on the sides of rotting logs. The most common include *Riccardia latifrons, Calypogea trichomanis, Cephalozia bicuspidata, C. Media, Lophozia incisa,* and *Scapania bolanderi.*

Limited space did not permit treating the lichens to any great extent, and perhaps limited interest on the part of most readers doesn't justify it here. Such an interesting plant group does deserve some mention in this more extensive report, however. The visitor to the rain forest, easily impressed by the abundance of bryophytes (mosses and liverworts), will usually assume that the extreme wetness is more favorable to bryophytes than lichens. Apparently the lichens, not able to compete with mosses and other plants on soil and logs, are forced to "take to the trees" for it is here that nearly all the lichens are found.

A total of 70 lichens inhabit the rain forest. Of the three types of lichens—fruticose, foliose, and crustose—the foliose or leafy lichens are the most common. A total of 33 have been found in the rain forest, and all but two of these are confined to crowns and trunks of trees. At higher elevations in the Olympic Mountains, say 2,000 feet and above, out of reach of moss competition, many of these lichens occur on rock and soil.

One of the rain forest's distinctive features is the colonnade where 5 to 15 or more conifers grow in a straight line. This is a result of conifer seedlings getting their start years earlier on a decaying log.

Conifer seeds germinate everywhere on the forest floor. However, the seedling in its early stages is comparable in size to the vigorous full-grown mosses and is even smaller than the herbs. Yet it must compete with them for the same water and light. As a result of their inability to compete on equal terms, the seedlings die. Seedlings of even the shade-enduring trees, hemlock and spruce, are uncommon away from roads and trails in the undisturbed soils of the rain forest. The soil itself may be another reason for the scarcity of seedlings on the ground. The soils are very acid as they are thoroughly leached by the heavy rain fall in these valleys. Such strong soils may be detrimental to the young seedling.

Hundreds of seeds fall and germinate on rotting logs. Here there are fewer mosses and herbs, thus competition for growing space is mainly between the seedlings, and the problem of soil acidity is also overcome. The somewhat taller seedling seems to have the best chance for survival. It receives more light, makes more growth, thus has a greater transpiration rate, and the result is greater demand on its roots. It is this seedling which wins the "root race" through or around the rotting log, to mineral soil. Once in contact with the soil, the several-year-old seedling, even with its base several feet above the ground, begins to grow at a normal rate.

On the "nurse log" as it is called, where there formerly stood hundreds of tiny seedlings, only a few will attain maturity a century or two later. By looking elsewhere in the forest, one can see this later development. The nurse log may or may not be completely decomposed. The trees growing from the log form the colonnade and will of course be growing in a straight line. If the log is decomposed, the trees of the colonnade will appear to be standing on stilts (the roots that had been once sent around the log to mineral soil). With time these roots will enlarge, filling the space left by the disintegrated nurse log. This mute story of the seedlings and the resultant colonnade is in evidence everywhere in the Olympic Rain Forest.

Animals play an important part in the rain forest story. One in particular, the Roosevelt elk, which winters in the rain forest valleys, is known to have tremendous effect on the vegetation there. These elk, gregarious in habit, frequently band in herds of up to 100 animals, and it is not difficult to see why the browsing and trampling drastically alter the plant succession.

This is the animal which keeps the rain forest floor open and parklike, making it possible for the visitor to better enjoy the huge trees and other features of the forest. One need only look at the robust plant life within the several elk enclosures (fenced plots) constructed

in the mid-thirties, to see how rank the understory would become were it not for the presence of the elk.

One of these enclosures is located a mile up-trail toward Mt. Olympus from the Hoh Ranger Station. Inside the fenced plot the lady fern, *Athyrium felixfemina,* stands seven feet tall. Just outside it barely reaches a foot in height. Sword fern *Polystichum munitum,* less common in the enclosure, reaches a height of 5½ feet, yet outside it is half that high. The presence of some grasses often serve as an indicator of overgrazing. Inside, no grasses and only one grass-like plant (a Carex) occur. Outside, a few feet away, are seven species of grass and grass-like plants. Vegetative types change near places of human habitation also. Where elk have not been permitted to browse for several years, such as in the Lake Quinault area, brush is thick. Salmonberry *Rubus spectabilis* and Pacific red elder *Sambucus callicarpa* are common here, whereas in the rain forest proper, where elk graze freely, these species are restricted to the exclosures or the upturned root area of fallen trees, out of reach of the elk.

Approximately 3,500 elk winter in the rain forest valleys of the park. Most of these animals migrate in early summer to the park's Hudsonian meadows where they enjoy a change of diet and relief from rain forest insects. Most of the elk return during September and October, but some delay their return until November snows drive them to lower elevations.

Other animals are residents of the rain forest but have little or no effect on its vegetation. Such animals are the black-tailed deer, black bear, cougar, bobcat, coyote, snowshoe rabbit, Douglas squirrel, and numerous smaller animals. A very large ground beetle, *Scaphinotus angusticollis olympiae,* and the banana slug, *Ariolomax columbianus,* are conspicuous in the rain forest. Keep an eye out for these two interesting inhabitants next time you are on your way up to Mt. Olympus.

While working in the rain forest I identified the following birds: blue grouse, Canada jay, Stellar's jay, western winter wren, water ouzel, Oregon junco, Pacific varied thrush, western and northwestern robin, western pileated woodpecker, Gairdner's woodpecker, northern red-breasted sapsucker, American merganser, and dusky horned owl.

During my study of the rain forest I made many enjoyable trips up the west-side valleys, nearly always traveling alone. At one time or another, all the above animals were encountered, but understandably I was most deeply impressed by the sight and sound of the

hundreds of elk. One occasion I'll never forget, however, was an encounter with another animal. I was setting out sample plots in the Queets River Valley in early November of 1954, working from dawn till dark. My camp on this occasion was in the shelter at Spruce Bottom. Coming in a good hour after dark, from about two miles up-trail, I waded out into the middle of the river to get a bucketful of water. The river and the ripples of the spawning salmon were the only noise on that cool and very black night. Suddenly, from a sandbar near the opposite bank less than twenty feet away, a pack of coyotes broke into their spine-tingling wail. Was I startled? Ever try to go 30 MPH from a standstill, while wading in three feet of water? The top bunk in the shelter felt pretty good that night.

Visitors to the Olympic Peninsula are on the increase. The park boundary controversy, new films, and magazine articles have all publicized Olympic National Park. In the summer of 1958, Olympic passed Mount Rainier National Park as the Number One tourist attraction in the Pacific Northwest. All this means more visitors to the rain forest areas.

The 12-mile Hoh River road from Highway 101 to the park boundary is now surfaced, and plans call for paving the six-mile stretch inside the park, probably by 1960. On the Hoh a wayside museum, second nature trail, parking area, and larger campground are hoped for in 1961. These developments will relieve pressure on the already overused and inadequate facilities. A new feature, in addition to the proposed visitor center at the end of the road, will be turnouts at places of special interest along the roadway. These turnouts will illustrate rain forest features not found at the end of the road.

As the Hoh area reaches its capacity, similar facilities will be needed on the Queets and Quinault Rivers in future years. Will they be necessary? Travel on the Hoh in five years jumped from 15,000 in 1954 to well over 60,000 visitors in 1958. As one can see, this development is necessary. Mountaineers will be happy to learn that no road extension or commercial development is planned in the rain forest areas.

IGY RESEARCH

By JIM HAWKINS

Weary, rain-soaked mountain climbers have long suspected that the Olympic Mountains have the heaviest precipitation in the United States. Now evidence has been provided from field studies by the Department of Meteorology and Climatology, University of Washington, in participation with the International Geophysical Year. From August 1, 1957, through July 31, 1958, they recorded a total annual precipitation of 148.9 inches.

Although only 7,914 feet high, Mount Olympus is the third most glaciated peak in the United States (excluding Alaska). More than twelve square miles are covered by the mountain's glaciers which are the headwaters of the Hoh and Queets rivers. Largest of the glaciers is the Blue which originates near the 7,500-foot level and extends down the northern slopes of the mountain. Increased activity and growth during recent years fostered the choice of the Blue Glacier area on Mount Olympus for extensive studies of the mass and energy budget which assists determination of climatic trends.

Under the leadership of Dr. Phil Church, Executive Officer of the Meteorology Department, preliminary plans were developed. In June, 1957, Jim Hawkins and Yves Eriksson were flown to the Blue Glacier to set up a tent camp and mark the air drop area with lampblack. A few days later Ed LaChapelle, field project leader, Rowland Tabor and Mike Hane arrived by foot. A relatively level and sheltered area near the edge of Snow Dome, at the 6,800-foot level, was selected as the site for the year-around station. Snow Dome is a ridge running from the summit of Mount Olympus parallel to the Blue Glacier.

Two United States Air Force C-124 Globemasters dropped 23 tons of fuel, lumber, clothing, food, a diesel-driven electric generator and even a kitchen sink. In spite of the strong cross-winds most of the supplies landed on top of Snow Dome. Only one load of lumber landed on the lower Blue Glacier which necessitated many back-packing trips of heavy wet two-by-fours.

Immediately work began on the cabin. With the help of picks, sledge hammers and strong backs a solid foundation of rock was built to accommodate a 16′ x 24′ building. Within a few days the framing, ½″ plywood sheathing, aluminum sheeting and roofing paper were in place. Rockwood insulated the space between studs and inside walls were covered with ¼″ plywood. The ceiling was finished with composition tile. Bunks, shelves, work tables, and, of course, the kitchen sink completed the furnishings. Heat was supplied by an oil Spaceheater; and a Coleman three-burner campstove was provided for cooking. The cabin was anchored to the bedrock by ⅝″ steel cables.

Several yards from the cabin a smaller structure was built to house the diesel generator, the latrine and storage house. To conform with Park Service requirements and keep the buildings as inconspicuous as possible, both structures were painted a dull brown. On the high point of the ridge, which would remain snow-free, a fire cache was made from corrugated steel culvert sections and stored with food, clothing and emergency equipment. A portable radio provided communication with the Park Service Headquarters.

The ski-equipped plane flown by William Fairchild of the Angeles Flying Service transported personnel who were rotated on a monthly basis during the winter and kept camp supplied with fresh food and mail. In August Noel Gardner was flown in, and his specialized background in avalanche control and rescue contributed to the safety of the team. Roger Ross arrived in January and remained with the project until completion in September.

In spite of the rough, makeshift landing field on Snow Dome, only one mishap occurred. In November the plane hit a crevasse dislodging a ski. The pilot managed to get the plane airborne but could not gain sufficient elevation to clear the mountains. He landed in the Hoh River near the Olympus Guard Station, brought in repair parts by packhorse and finally was able to take off from a sandbar and fly the plane back to Port Angeles.

The objective of this scientific station was to study the balance between the snow and ice accumulated in the glacier system and that portion lost by it through ablation or wastage during the year. The movement, accumulation and ablation studies were made on Blue Glacier. Other tests were conducted on Snow Dome.

To determine the annual accumulation a careful record was kept of snowfall, snow type and density. Studies were made of rime formation (thick ice layers) which may account for a considerable part

of the winter's accumulation on exposed rocks of Mount Olympus. Each month pits were dug through the snow to reach the summer's firn surface (granular recrystallized snow) to observe the accumulation and metamorphism of loose new snow to granular firn. Precision instruments measured the rate of settling as the snow became more compact.

During the winter months the heavy snowfall required the use of skis as several trips were made each month to the cirque to survey movement stakes in the accumulation area. Ice axes and crampons were a necessity for the climb to the rime-coated peaks which were used as base line stations.

When the ablation season arrived in mid-May, stakes were set out to measure the rate of melt. Holes were drilled in the ice, wooden stakes set and their height measured weekly for the amount of ablation. Forty stakes were set on Snow Dome and Blue Glacier.

Throughout the year the temperature profiles were checked daily. Thermocouples installed on a cable extended into the snow pack to a depth of 15 meters, together with a portable thermocouple probe for new snow layers, plotted the temperature profiles on a time basis.

At the end of the project a survey was made to determine how much snow remained in the cirque of the glacier. The glacier will continue to grow only if the net accumulation at the end of the melt season is greater than the amount lost through melting. In 1958 the Blue Glacier system lost 7.1×10^6 cubic meters of water. By August 13, all of the previous winter's snow was gone; further melting produced the net loss first mentioned.

By the use of solarimeters the amount of energy received through solar radiation could be studied. These instruments convert short wave solar radiation into electrical energy registering the values on a chart recorder. The data are converted to hourly quantities of energy. Both incoming shortwave or visible radiation and that reflected from the surface were recorded, the ratio of the two expressed as a percentage being known as the albedo.

Similar studies were made with a radiometer which measured the amount of both long and shortwave radiation received and the amount reflected and reradiated from the surface. Micrometeorological studies were made of the energy exchange at a melting snow surface. Temperature, humidity and wind velocity profiles were made every four hours around the clock during the summer months. Water content of the snow was measured daily, at noon and in the

evening, to provide data on the amount of energy being absorbed by the snow.

Travel on Snow Dome required constant caution. Wide, deep crevasses have developed near the top and these are bridged, often thinly, until late in summer. Crevasses over 150 feet deep and 20 to 30 feet wide appeared on the edge of Snow Dome and in the cirque, especially at the head of the icefall. The lower Blue Glacier is clear of snow most of its length by early July and the crevasses are no problem.

During the summer of 1957 a detailed map was prepared from aerial photographs. Considerable mountain climbing was involved while setting up triangulation points on West Peak, Middle Peak, East Peak, Mount Mercury, Mount Apollo and Panic Peak, and a base line was measured between two points on the ridge which extends down the west side of Blue Glacier. Mount Apollo was the most interesting ascent. The climb was started at Blizzard Pass and ascent was made on the west face. The ridge connecting Mount Apollo with Mount Mercury is nearly a mile long and narrows into a spectacular knife edge. Several deep gulleys cut the crest so it is not possible to travel along the skyline for the entire distance.

Field work on the Blue Glacier and Snow Dome project ended officially September, 1958, but the work of reducing data and compiling results will continue for some time. Information indicates that in 1958 there was a deficit in the snow mass budget, but the relative amount of loss is actually quite small. Heavy snow accumulations of previous years will continue to move to the terminus and cause the Blue Glacier to advance. At some time in the future the negative balance caused by the 1958 loss will cause a retreat. Glaciers are sensitive indicators of climatic changes, and the information gathered from the International Geophysical Year studies is another step toward knowing what part glaciers play in man's environment.

OCEAN STRIP

By WILLIAM E. BROCKMAN

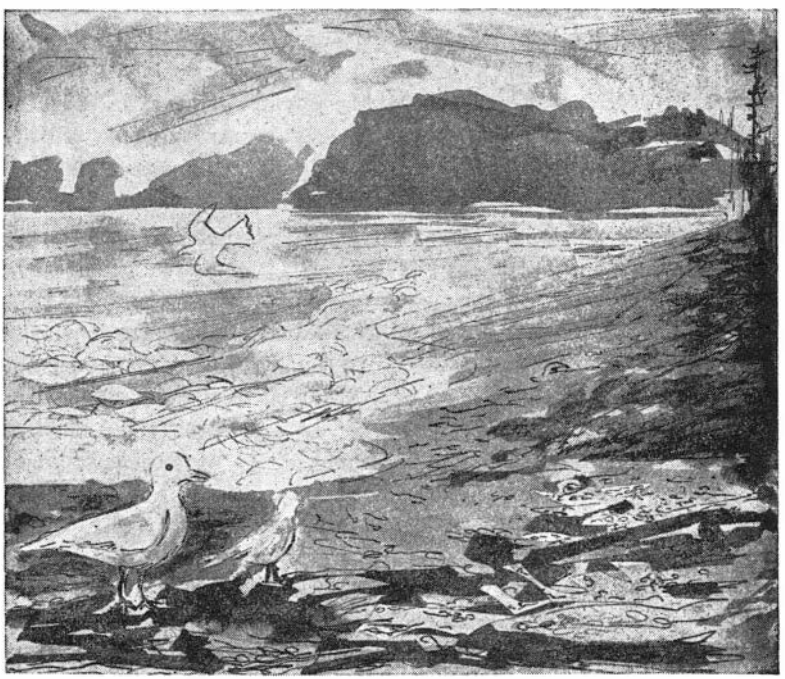
Of the twenty-nine national parks now under the jurisdiction of the Department of the Interior, each was established for a definite scenic, historical or cultural value. Olympic National Park was created primarily for three reasons: (1) Preservation of the Roosevelt Elk, popularly known as the Olympic Elk; (2) Preservation of a vast wilderness area in the heart of the Olympic Peninsula; (3) Preservation of the fast disappearing western slope forest, now known as the rain forest. Little thought at this time was given to what might have been rightly considered a fourth reason, preservation of the Olympic Ocean strip.

This narrow portion of land along the Pacific Coast of the Olympic Peninsula extends about 50 miles from the Ozette Reservation on the north almost to the Queets River on the south. Although the acreage of the ocean strip was purchased by the government in 1940, it was not made an official part of the Olympic National Park until 1953. With this addition, one of the most unusual and last remaining wilderness coastlines left in the United States was given final protection and became part of the National Park System.

Standing on the wind-swept Olympic beaches one reflects upon the passage of time since the story of the earth began. The geologic history of the Olympics began about 120 million years ago. The land, mountains, and expansive rain forest did not exist. The whole of western Washington was covered by a shallow sea. With the passing of millions of years, seas covered the land at least three times. The constant forces of erosion reduced the land masses formed between successive seas, establishing vast accumulations of sediments which eventually compacted and formed shales, sandstones, and conglomerates. Periodic lava flows spread across the ocean floor. The present-day coastal formations are exposures of rocks which were formed millions of years ago. Only remnants of the early lavas remain today. They are exposed at Point of Arches, Portage Head, Third Beach and other areas along the coast. Their resistance to erosion is marked

by the presence of numerous stacks, arches, off-shore reefs and islands.

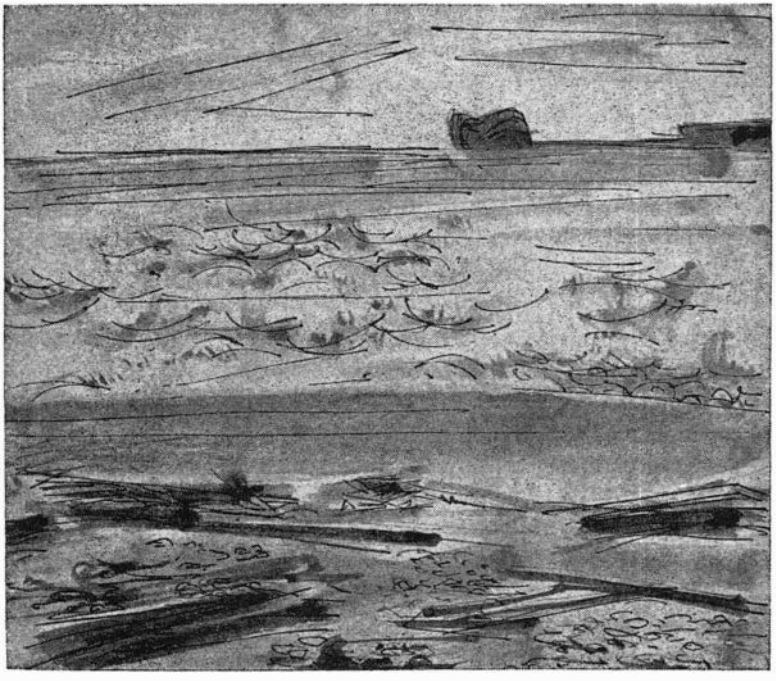
Erosion and time play a dominant role in the changing face of the land. The ever-changing landscape along the Olympic shore gives testimony to the force and power of nature. The coastline offers a variety of interesting geological forms sculptured by wind and wave, rugged cliffs alternating with long sandy beaches. Abrasion by the pounding waves causes a steady retreat of the shore. Violent winter storms leave tumbled boulders strewn about the beach. Waves reaching shore compress air within the cracks in the rocks, forcing the gap to expand until large sections fall. Such quarrying can be observed at points south of Cape Alava, Goodman Head and at other points projecting into the sea. Weak zones in the strata allow the erosional processes to proceed at a more rapid pace. Cracks so formed become caves. Gradually these caves deepen and expand, occasionally breaking through narrow strips of land to form arches. Arches fall in time, leaving stacks, which are pinnacles of land isolated from the mainland. Point of Arches, to the north and outside the park, and the Giants Graveyard, offshore from Third Beach in the vicinity of La Push, best exhibit this type of formation.



Sections of sandy beach interspersed among the rock bluffs and jagged headlands suggest that the laws of erosion were governed by a basic desire for tranquillity. These beaches are formed where the rock structure is weak and sand, silt and clay can form. These lighter materials are carried by the currents and deposited in sheltered sections. Once part of the beach, no individual sand grain remains long on one spot, moving on with the next breath of wind or whim of the tide.

The northern approach to the Ocean Strip is from Lake Ozette. The second-largest natural fresh-water lake in the state, Ozette, could have been a truly magnificent wildlife refuge, because of its geographic location and relative shallowness. With national park protection existing only along the western shore however, much of the Lake Ozette habitat is open to change as man moves deeper into the wilderness.

At the end of the Lake Ozette road a trail plunges immediately into the dense forest which is at the ultimate growth stage or ecological climax of the *humid-transition* coastal area. Extending inland from the ocean this wilderness forest band, averaging a mile in width, is the result of the Olympic marine climate, temperate, with



rainy winters and relatively dry summers. Plants and animals are sensitive indicators of the inter-relationships of environmental influences. Due to the limiting drought factor, many organisms do not exist here which normally would be found in areas having in excess of 90 inches of rainfall.

The coastal forest region is a complex community of living organisms whose primary existence is dependent upon the physioclimatic factors of this humid region. The forest community is a delicate balance between members of the living biota. Each organism plays a significant role in the cycle of life from the germination of the seed to the death of the adult plant.

All forests have some degree of vertical stratification. The conditions of life known to the ecologist as microenvironments vary at different elevations or depths. Many organisms are adapted accordingly to those vertical differences and zones. This is particularly true of a humid coniferous forest.

Providing the dominant protective layer, the coastal forest climax consists of Sitka spruce (*Picea sitchensis*), western red cedar (*Thuja plicata*) and western hemlock (*Tsuga Heterophylla*). Some Douglas fir (*Pseudotsuga menziesii*) can be observed, but this species is rare near the ocean. These great conifers, averaging 200 feet in height, provide a spreading leafy canopy, continuous through the year, which intercepts almost all the direct sunlight.

Beneath the evergreen branches the hiker is confronted by jungle-like underbrush. During the rainy season much rain is cut off from above, but the lower levels have constant high humidity and are dripping wet. A great abundance of lesser woody plants constitutes this second level of plant growth. The tangled branches of vine maple (*Acer circinatum*) are clothed with many species of mosses and Selaginella, or club moss (*Selaginella oregana*) which has a moss-like appearance but structurally is related to the ferns. Like the ferns, the club mosses are remnants of the Carboniferous period in the earth's history when they were the dominant form of plant life. Hanging in long pendant streamers from the branches of woody plants, Selaginella gives to the forest its true rain forest character. The matted nature of centuries of 'moss' cover on the branches opens to exploitation a new environment which houses the delicate epiphyte, licorice fern (*Polypodium vulgare*). Its woody root-like forms, or rhizomes, extend through the thick mat of moss. During the summer new ferns sprout from these rhizomes.

Also characteristic of second-layer forest stratification is the red alder (*Alnus rubra*) which springs up in clearings where nature has

uprooted or broken off the larger trees or in such man-made clearings as are found throughout the northern Lake Ozette section due to early pioneer settling. The alder bark is almost birch-like in character, due to the whitish color of a lichen which utilizes the trunk for support. Lichens are actually two plants growing together, an algae and a fungus. Through chlorophyll in its filaments, the algae is able to manufacture food for both itself and the fungus. The fungus on the other hand provides structural protection and during dry periods retains moisture making it available to the algae. In this manner the lichen is able to endure weather conditions and to inhabit environments unsuitable for higher forms of plants.

Masses of woody shrubs which vary in texture and habit occupy a strata extending from ground level to 15 feet. The Pacific red elder (*Sambucus callicarpa*) with its compound leaves and small white flowers which change to brilliant red berries in the fall is a favorite food of the Olympic Elk. Two species of willow (*Salix hookeriana* and *Salix lasiandra*) and the shrubby dogwood (*Cornus stolonifera*) can be found in well drained moist soil. Salal (*Gaultheria shallon*) with woody stems and thick, leathery, shiny green leaves and Salmonberry (*Rubus spectabilis*), growing erect with prickly stems, form dense thickets. Their exaggerated growth sometimes reaches heights up to fifteen feet, demonstrating the plant's ability to grow throughout life if environmental influences remain constant. In areas near streams the devils club (*Oplopanax horridum*) is encountered. This plant, the hiker's nemesis, grows with stout spine-covered stems, its erect green flowers giving way to red berries as summer fades.

At the lowest level, the forest floor is springy and moist underfoot and covered with mosses, liverworts and other plant forms. From this matted cover the graceful fronds of the western swordfern (*Polystichum munitum*) and ladyfern (*Athyrium felix femina*) extend upward. Moss carpets the ground with patterns of Oregon oxalis (*Oxalis oregana*), beadruby (*Maianthemum dilatatum*) and foamflower (*Tiarella trifoliata*). In swampy areas one of the most conspicuous and abundant herbaceous plants is the skunk cabbage (*Lysichitum americanum*). The hiker will easily identify the plant by its bright yellow center enclosing a spike of small flowers and by its skunk-like odor.

In observing the freshly upturned roots of fallen forest giants which have succumbed to the physical violence of winter storms, a dramatic story unfolds. A tree's roots have two major functions,

to provide necessary mineral nutrients and to give structural support. The tendency in most forest environments is for the root system to deeply penetrate the soil to reach available water. With a ready supply of surface water the trees of the coastal area have shallow root formations and are therefore susceptible to high winds. The upturned root mass represents an interesting biological phenomenon of ecological succession in miniature. In the newly exposed virgin soil, one can observe the growth of mosses such as *Holocomium loreum* and *Mnium acanthoneurum*. The delicate deerfoot vanilla leaf (*Achlys triphylla*) with its slender leaf stem and spreading fan-shaped leaflets and its near associates wood fern (*Dryopteris dilatata*) and deer fern (*Struthiopteris spicant*) occupies any other available moist soil. Fungi and other saprophytes attack the exposed roots.

Moving along the forest trail, the roar of the surf announces the approach of land's end. The trail ends abruptly as the hiker passes from the forest's depth into the salt-filled air of the beach. Stretching far to the north the rugged western coastline disappears into the distance. Overhead the incessant chatter of the glaucous-winged gull (*Larus glaucescens*) and other members of the group commonly referred to as 'sea gulls' characterizes the change from the dense and humid forest to the open stretches of ocean shore.

The shore, with its ever-changing conditions, is a testing ground for the adaptability of organisms. All life now existing in this narrow area exhibits evidence of its successful battle with the realities of a harsh physical world. Many forms exist today much as they did in the past, surviving eons of geologic time.

Sand is an unstable substratum, for its yielding, shifting particles are stirred constantly by the waves. Few things can make a home on its surface, but many go below, where in burrows, tubes, and underground chambers the hidden life of the sands is lived. A myriad of submicroscopic to macroscopic beings exist underneath the sand. The best-known of these is the razor clam.

Indian Island, to the north of Cape Alava, is one of a vast variety of interesting features of the Olympic ocean shore. A multitude of plant and animal forms are visible around its base during low tide. This narrow band is crowded with organisms, each trying in its own way to adjust to and live in a changing environment. The rhythmical ebb and flow of the tides covers and then exposes this zone. Solar radiation and precipitation contribute to great variation in temperature and saltiness. Slippery algae and other sea plants cling perilously to surf-swept rocks, their moist structure providing shelter

for many species of crabs and snails. As one walks about on the rocks, one hears the pop and snap underfoot of the air bladders which hold the brown algae (*Fucus spp.*) on the surface of the water.

The tidal pools found along the shore are natural museums. The mussels and barnacles attach themselves to any exposed rock in dense communities. Purple and ochre starfish remain attached to rock surfaces or move sluggishly in search of food. Small univalve limpets and the chiton, an evolutionary curiosity with a seven-segmented shell, cling to rocks.

Many birds use the shore as feeding grounds. One of the most interesting groups of shorebirds are the sandpipers. Many species can be found along the Olympic shores moving up and down the sandy beaches in search of food. Flying low over the water-edge they alight suddenly and run along the edge of a receding wave picking up bits of food from the wet sand. The black oyster catcher (*Haematopus bachmani*) dwells among the rocks next to the crashing surf and feeds on shellfish. He can be recognized easily by his dark body with contrasting bright-red bill and short pink legs and feet. The gulls are present throughout the four seasons. Many species, such as the Bonaparte's gull (*Larus philidelphia*), are migrants arriving early in the fall, spending the winter, and then moving north to their spring breeding grounds. Soaring high over the coastal forest the Southern Bald Eagle (*Haliaeetus leucocephalus leucocephalus*) passes silently by in search of prey.

The Olympic Ocean Strip is important to migratory birds. This fifty miles of Pacific wilderness is a sanctuary for the revitalizing of many species of shorebirds who arrive here from all over the southern hemisphere as a stop-over on their long trip north to summer breeding grounds. Throughout the east and midwest many migratory routes have been seriously reduced by the steady encroachment of civilized man. The greatest migratory route left is along the Pacific shore.

Small and large mammals appear on the beach. The skunk (*Mephitis mephitis spissigrada*) and his carnivorous neighbor the raccoon (*Procyon lotor*) search among the rocky pools for crustaceans and other edible forms. Black bear (*Ursus Americana*) also can be observed as they take advantage of the low tides to feed upon the abundant sea life. The gregarious Olympic elk (*Cervus canadensis* var. *roosevelti*) and its cousin the Columbia black-tailed deer (*Odocoileus hemionus* var. *columbianus*), which roam the spruce climax forest, occasionally venture to the beach in search of salt or special forage

plants. Fur seals (*Callorhinus ursinus cynocephalus*) ride with the currents or rest on one of many off-shore islands. They too play a significant role in the balance of nature and need protection.

Faint records of man's existence are etched into the rocky bluffs south of Cape Alava. Petroglyphs depicting natural forms associated with his daily experiences can be observed at random on many of the exposed surfaces. The source of such rock carvings is not known, but it is altogether likely that the petroglyph drawings were done by members of local tribes of aborigines. The coastal tribes include the Ozette, Quillayute, Hoh, and Quinault. These primitive men took advantage of the rather mild climate and abundance of food to develop a distinctive culture. The sea still provides a substantial portion of their sustenance. Many a Quillayute or Quinault Indian still dips silver smelt out of the surf as these small fish ride on the waves to spawn in the sand during the high spring tide. Both Indians and tourists dig clams from the sand at low tide. Today the Indians are confined to specific reservations which are within the park but not part of it. Much of their past culture has been replaced by white man's methods.

The Olympic Ocean Strip has become an integral part of the Olympic National Park. It is to be hoped that this unique section of wilderness coast line resists the threat implicit in the present park boundary line, which extends only to mean high tide, leaving the off-shore islands and much of the marine life unprotected. At present the delicate ecological balance of the ocean strip remains intact. It remains to be seen whether in the future the increased pressures of civilized man will tip the scales and permanently disrupt the interrelations of animal and plant life with their environment of wind, water, and forest.

IN WINTER

By HARVEY MANNING

With rare exceptions[1] mountains, considered as structures, are virtually permanent, but not so as problems. Though summits of the Himalaya have thrived several decades or more before being finally embalmed in the journals, towers in the vicinity of Chamonix and Cashmere have been born and have died the same afternoon.[2]

Olympus kept a tenacious grip on life for half a century, surviving a first ascent in 1854, another first ascent in 1890 and various other first ascents before finally succumbing to the Mountaineers. That August afternoon in 1907 decisively ended the matter, and for many years ambitious climbers couldn't find a thing to do with the peak except take pictures. But Olympus was to live again . . .

Along about 1947 a mysteriously large number of people began to worry about whether Olympus could be climbed in winter. It was not a question of whether the peak *had* been climbed in winter. In such a semitropical cycle as that of the late 1930's and early 40's Januaries were roughly equivalent to the Junes of a decade later. The question posed after World War II was "can Olympus be climbed in winter *now*?" It was a dreadful time to ask. Pacific Northwest climate had begun to deteriorate when the big dams were built and simply went all to pieces after the Bombs. Moreover, if the weather is in a mood to pick just one little place in the Northwest to be bad, chances are Olympus will be the spot. There is no question that if a brave, ambitious glacier like the Coleman were on Olympus it would completely disrupt North Pacific steamer lanes with icebergs.

Possibly the "Olympus in winter" problem was born in the minds of a group of friends who before and during World War II had been in the habit of taking long winter tours, and once spent a week skiing in brilliant sunshine on the High Divide, constantly admiring the Alaskan look of Olympus across the Hoh. This and other trips during the semitropical cycle had given them a deep and abiding faith in the "midwinter clear," a long spell of deep blue sky and

crisp air they fervently believed to be an immutable characteristic of Northwest Januaries. Twice this group marched up the Hoh in horrid weather sustained by their faith that the Clear would come by and by. However, the dams and the Bombs had begun to do their filthy work. It never stopped snowing except to rain. If the road to Jackson Guard Station wasn't blocked by snow it was washed out by floods. Senile hemlocks were toppled across the trail at intervals of several yards, adding nothing to the pleasure of soaking wet, half-frozen skiers staggering under the burden of winter packs. One attempt was pushed as far as the Hoh Bridge. Another ran out of momentum at the Olympus Guard Station. Only bitter dregs were left of the sweet faith in the Clear.

Other hikers had slightly better luck. In early winter one party found relatively easy going to Elk Lake, though not so easy that they were tempted to go farther. Another group skied to the beginning of the gullies on the trail to Glacier Meadows; anyone who has hiked that forested cliff in summer can well imagine why they turned back. The hillside itself is a fairly formidable mountaineering problem when buried in snow, and the gullies that contain pleasant trickles of water in summer frequently carry roaring avalanches in winter.

The turning point in the life of "Olympus in winter" came in 1949, when Pete Schoening and party were thrown back from the Hoh battered and humiliated. Though Pete had not then been to the Yukon or the Himalaya, it was already apparent his approach to the peaks was not that of a haphazard guerrilla. While other mountains occupied most of his attention Olympus was not forgotten. In the late fall of 1950 he returned, pondered the terrain, and formulated the Plan.

Traditional strategy had been as straightforward as trench warfare. It was a matter of fixing a week for the campaign, starting on schedule, carrying seventy or eighty pounds of winter equipment through whatever weather happened to turn up, pushing on as long as food and morale held out, waiting for the Clear. The Schoening Plan was as revolutionary as the blitzkrieg. It was based on the illusionless proposition that in an entire winter Olympus might have no more than a dozen days of good weather, parceled out a day here, three days there. Recognizing the folly of leaving on a fixed date Pete postulated a small party with every member ready to leave Seattle on eight hours notice. This ready reserve would swear an

oath to remain mobilized all winter if necessary awaiting a favorable forecast.

The second axiom of the Plan was that precious sunshine must not be wasted muddling up the Hoh. To expedite a lightning-swift assault, over New Year's holiday Pete and Chuck Allyn hauled supplies to the Elk Lake Shelter, laying down a cache of food, tent, sleeping bags and skis.

A flaw in the excellent plan now became apparent. Among those who had previously been passionately interested in the problem, and had traveled the Hoh in winter, none could be found with an immediate inclination to return. Though any number of people were willing to serve in a Seattle-based support party, and the ranger at Jackson was keen to cooperate by keeping communication lines open to Seattle, one more member was essential. Partly because I was still in a state of shock from an August weekend on the North Peak of Index, and partly because there seemed little danger we would ever actually leave town, I accepted the flattering invitation to join the enterprise. It seemed a rather exciting way to spend the winter, with gear packed waiting for a turn in the weather.

As luck would have it, the winter of 1950-51 was mild by the standard of preceding years. After a stormy Friday and a nondescript Saturday, on Sunday morning, January 28th, some fragments of blue sky appeared over Seattle, and sunset that evening was brilliant. Monday dawned cold and bright. At noon came the telephone call from Pete, and immediately after work we left Seattle, delayed only briefly by the necessity to lay in an adequate supply of pumpernickel, without which, of course, it is madness to attempt any important expedition. Somewhat after midnight we arrived at Jackson Guard Station. The ranger arose from bed to make us welcome, offering the disconcerting news he had been expecting us since Friday, when the weather cleared. Young readers will not readily understand so gross a blunder, but it must be remembered this was in the age before television weather forecasts.

We had not entirely wasted the weekend. The three freezing days had provided a crust so hard we walked on the surface all day Tuesday, our only problem being to avoid the deep pits stomped by elk during the preceding thaw. We made good speed. Our packs averaged less than twenty pounds and the brisk temperature kept rest stops short. It was a magnificent day to hike through the rain forest. We frequently surprised (quite a bit, probably) bands of elk. The

low sun highlighted the festoons of moss draped from the monstrous trees. At lunchtime we were grateful for the wide waist of the valley at the Huelsdonck Ranch where the sunlight spilled gloriously bright over the mass of Olympus. We noted with mild interest that the old guard station had been rebuilt into a cozy shelter, though at the time we couldn't imagine who would ever stop there for the night. Once during the afternoon I recall being pleased by the frozen clarity of a lone wisp of cirrus that floated out from behind Olympus into the hard blue sky.

The last few miles of the day were not unalloyed pleasure. The play of light and shadow through the forest gave way after lunch to deepening darkness. The trail began to gain elevation. My own boots having disintegrated the previous fall I had borrowed a pair of what are euphemistically called half-breeds, with lug foresoles and tricouni heels. As the trail grew steep and icy and I grew weary it became harder and harder to remember to walk uphill on my heels. The shades of night were falling fast when Chuck and I paused to admire an enormous cascade of icicles. It was almost totally dark when the odor of boiling bully beef guided my last stagger to Elk Lake Shelter.

I've no idea what time Pete arose Wednesday morning. Though a confirmed disciple of the "wait to be baked out of the sack by the sun" school of mountaineering, a little reflection made it clear to me the sun wasn't going to hit Elk Lake until sometime in April. Lest any of my fellow disciples think I was stampeded out of bed by mob hysteria, let me place in the record our hour of departure—10 A. M. Not far above camp we came to serious grips with the mountain. The crust grew increasingly undependable, and burdened as we now were with the cache it was necessary to strap on snowshoes. Fortunately the slopes soon became too steep for anything but honest foot travel.

We were, I must mention, following the trail route, the one possibility we had scarcely considered before because of climbing difficulties on the forested cliff and avalanche hazard in the gullies. Some thought had been given to leaving the trail at Hoh Bridge and following the river to its source in the Hoh Glacier. More had been devoted to a route that would leave Glacier Creek at Elk Lake, ascend a tributary nearly to the foot of the White Glacier, then strike up a steep rib to the Blue Glacier. An aerial photograph in Pete's

possession indicated this latter alternative might avoid all avalanche exposure, though at the cost of some respectable high angle climbing on ice and iced rock. On their New Year's reconnaisance Pete and Chuck had scouted this approach, but the mildness of the winter now ruled out such a route by not providing deep enough snow to smooth the path, and also by making it unnecessary by minimizing the chance of avalanche.

Very likely we were the first party to make a Class Three and Four ascent of the trail to Glacier Meadows. The rope was a great comfort in the steep forest, guaranteeing that any fall would quickly find us all wrapped solidly around one or more large trees. The climbing was easy enough, though there were times when three-point support was desirable on the frosted rocks and shrubs, and more than once Pete improved the trail with his ax. The crux of the ascent was the Big Gully, where Pete, carefully belayed, cut steps a full lead to the center, established a stance and safeguarded our passage. Beyond the gully the slopes lessened and on snowshoes we continued to Glacier Meadows, noting now that while we were busy with our climb a translucent curtain had drawn across the sky from the south, and was steadily descending and darkening.

An advantage we enjoyed over earlier parties was the recent construction of two shelters at Glacier Meadows, saving us the weight of a tent. Chosing the one containing the least snow we excavated a stairway to the interior and scraped some of the superfluous ice from the bunks. With housework finished we separately wandered to the Blue Glacier, admiring the pretty pattern of our snowshoe tracks. On the gentle rise leading to the glacier we walked out of powder snow onto a hard boardlike surface which occasionally cracked under our feet with a sharp pop. Making a number of vertical sections we saw clearly the record of recent Olympic weather. At the bottom was an irregular raincrust smoothed over by loose powder, over this a tough slab measuring up to an inch in thickness, then a fraction of an inch of loose powder, and on top another slab ranging up to four or more inches thick. After satisfying scientific curiosity we wandered on, at the crest of the lee slope meeting the wind. Quite briefly we admired the Blue Glacier in twilight, the white cliffs astride Hoh-Blue Pass, and the blackness of the lowering cloud. We returned to camp with snowflakes falling, regretting the lost weekend of sunshine. But then, we had an immense supply of oatmeal and there was always the chance of the Clear.

Thursday morning there seemed no good reason to crawl out into

the roaring blizzard, and therefore we turned our energies to building what is colloquially known as a "hell of a big fire." By noon we had achieved some degree of success, having melted about two cubic yards of snow from the backwall. Unfortunately on our side all we got was smoke. Periodically a furious gust from the rising storm turned our hole into a blue limbo where weeping souls coughed and cursed. Between intervals of strangulation we ate away at a pot of oatmeal, raisins and dates cooked into an homogeneous gruel, flavored to taste with what is called in polite circles (which ours was not) Eagle Brand Condensed Sweetened Milk. Pete gave us to understand it was an old Forest Service recipe. At noon we buttoned our parkas, strapped on our shoes and before we knew it were leaning into the blizzard out in the middle of the Blue. Visibility was limited; usually I could scarcely see Chuck in the middle of the rope even when I opened my eyes. I don't know how the other fellows spent the afternoon but most of the windy walk I was trying to light a cigarette. Halfway through a box of war surplus waterproof-and-fireproof matches I bumped into Pete and Chuck, who had stopped. Not having seen each other for quite awhile we enjoyed passing the time of day, shouting guesses back and forth as to where we were. Pete asked if either of us had any idea where we were going. The question shocked us all out of a trance, and in no time at all were were back at the shelter melting snow and making smoke. I made a most exciting discovery this evening. Along with Vilhjalmur Stefansson and thousands of mountaineers I had long been baffled by the reason for the Army packaging as emergency rations the fruit-nut confection they incorrectly and libelously call "pemmican." The postwar price was so attractive I, like many climbers, had purchased dozens of the little khaki tins, and never been able to swallow more than a bite of the stuff. On my honor, that evening at Glacier Meadows without any assistance or first aid I actually consumed the contents of *one entire can.* It took several hours of steady chewing, but I felt not the slightest nausea the entire time. Despite my respect for Vilhjalmur I must applaud the nutritionists (and psychologists, probably) who devised a food that could conceivably be eaten in an emergency, but not by any stretch of imagination under any other circumstances.

Friday morning we melted another yard of snow before deciding a new evaluation of our situation was in order. It was a happy little home in the underground, and we still had plenty of oatmeal and Eagle Brand, a fair amount of Tin Willy and pumpernickel, and some irrational hope the Clear might be more than a myth. On the nega-

tive side were the two feet of new snow and the steady increment and the gullies between Glacier Meadows and Elk Lake. We also were aware the temperature had risen: the corrugated aluminum roof of the shelter had been nailed through the valleys rather than the ridges, and meltwater was now dripping through the nail holes onto our bunks. At noon we agreed it was high time to get out while we could.

Deep new snow complicated passage down but fortunately avalanches hadn't yet started to run in the gullies. With the tension relieved at Elk Lake we strapped on shoes for a short and merry hike home. However, at Elk Lake we dropped below the freezing level. Invigorating frost gave way to debilitating warmth. The floating snow crystals became slapping slush and finally a cold pounding rain. The sturdy crust sickened and died. Symbolic of the transformation, the enormous cascade of icicles we had admired on Tuesday lay this Friday in a shattered heap. At nightfall, with still no shelter in prospect, my thoughts wandered to another winter on another continent, and I joined in spirit with the French grenadiers straggling across the Russian plain, Cossacks harrying our flanks, wolves nipping my heels. But this time, unlike Napoleon, Pete remained with his troops all the way to the Huelsdonck Ranch. That night we understood and fully approved reconstruction of the old guard station, blessed the impervious roof and the dry woodpile stacked inside. After a delicious supper of chicken noodle and Tin Willy soup, slices of pumpernickel and margarine with Eagle Brand and marshmallows, we sank onto soft and fragrant mattresses of forest moss.

Saturday we marched through the rain down the Hoh on the shoes. Each stream crossing made us giddy with delight, offering a choice of beavertailing through cold water over gravel, or the thrilling sport of walking a footlog on snowshoes. In Aberdeen Chuck lost his Glacier Meadows wager that he could eat all the hamburgers Pete and I could buy. One was his limit; apparently Eagle Brand has a fairly lasting effect on the system.

* * * *

The Plan was flawless, as another winter or two of trial would have proven. But as every general knows some of the best wars have been won by accident. The next assault violated the plan in every respect. On Washington's Birthday, in equivocal weather, Pete and his brother and Chuck returned to the Hoh. Despite heavier packs and a poor walking surface Elk Lake was still made in one day, and on the second the party started early enough to drop gear at Glacier

Meadows in the morning and in the afternoon strike for the summit.

The sky was hard and blue, the sun was bright. Everything went well over the Blue onto the Snowdome. With no crevasse showing anywhere on the glacier a direct route to the West Peak seemed most reasonable. When the slope grew too steep for snowshoes the party slogged along on foot, Pete plugging steps up the steadily increasing incline. At last there lay between them and the summit what in summer is an icefall, but now was only a rounded hump. Suddenly there was a cannonlike explosion. At Pete's feet appeared a hole which widened to a crack and then a chasm, running instantaneously left and right out of sight. The party had the transitory sensation of descending in an elevator. It was over in a moment. Frozen in their tracks they stood awaiting a second drop, the long one. Pete and Chuck recalled the windslab . . .

A more circuitous route led to the base of West Peak. Embossed with glittering ice, fluted with snow channels, all rock invisible, the summit tower proved beyond the capacity of a party lacking crampons and ice pitons. Moreover, the familiar grey veil was once more drawing over the sky from the south, and the afternoon was well advanced. Missing a summit by a dozen yards is disappointing, but not a tragedy. But a tragic day it was. Chuck Allyn knew he would climb many another season before ever seeing another such sight. Marveling at every nuance of this rockless Olympus, a statuary in ice, he wound up many an irreplaceable camera shot, hiking indeed almost to the Middle Peak seeking the best angles. About twilight, when the blizzard hit, he found the sprockets in his new camera had slipped. No photographic record remains of a most unusual day.

* * * *

Though the last lead was not made this was the end of the "Olympus in winter" problem. The IGY people doubtless tromped all over the summit whenever the mood seized them, but the use of airplanes and iron huts places their efforts in the annals of science rather than pure mountaineering.

Regarding the origin of the problem, when you come right down to it there is still no proof Olympus could have been climbed in those splendid glacier-nourishing winters of 1947-1950.

[1] Krakatoa, Katmai, Mazama.

[2] Generally speaking, to merit a lead article one should not immediately climb a newly discovered peak. It is far better to make a reconnaisance one year, and the ascent the next. Certain obvious precautions must, of course, be taken in the preliminary article, such as incorrect compass bearings or describing in detail an approach up a valley that does not exist.

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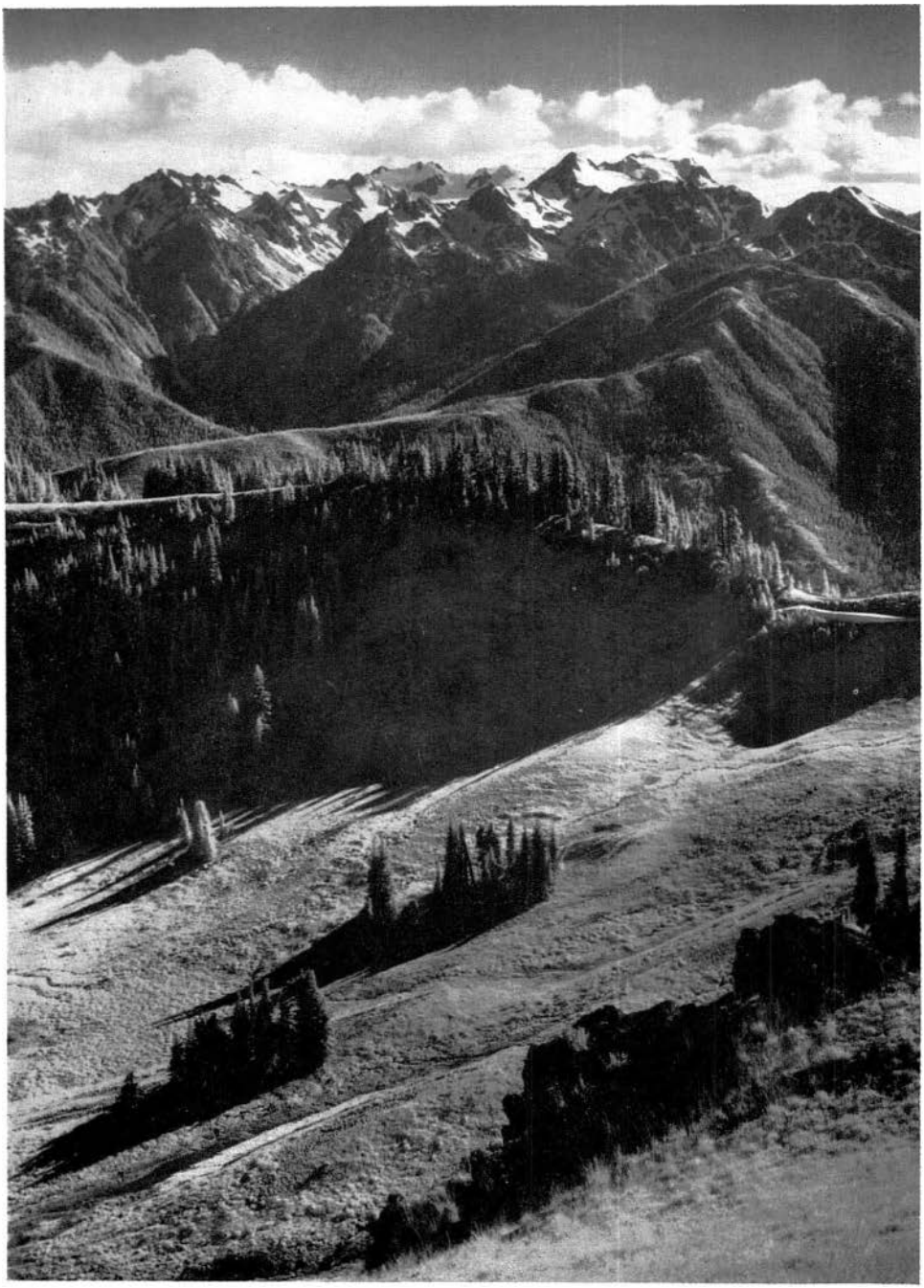
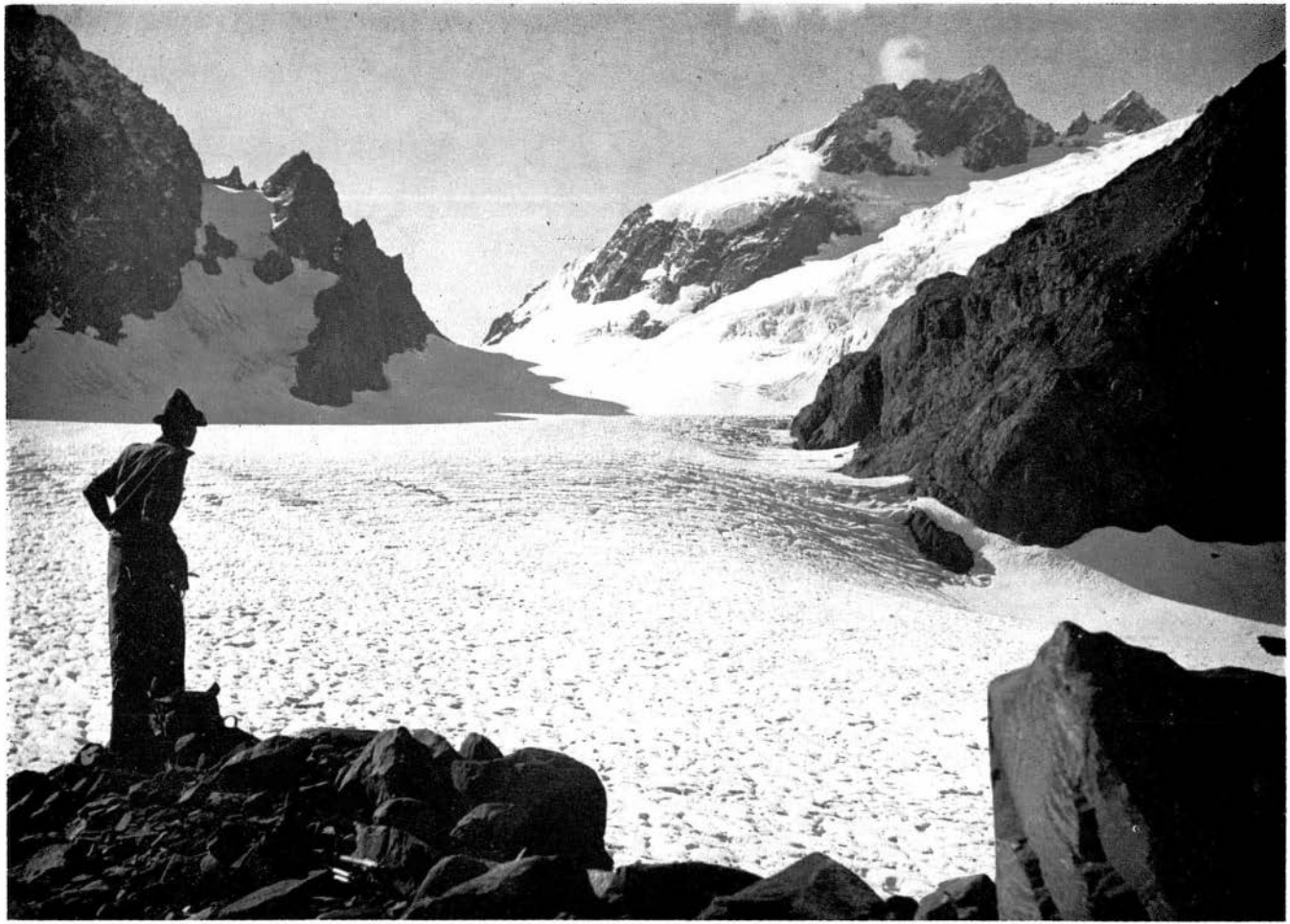
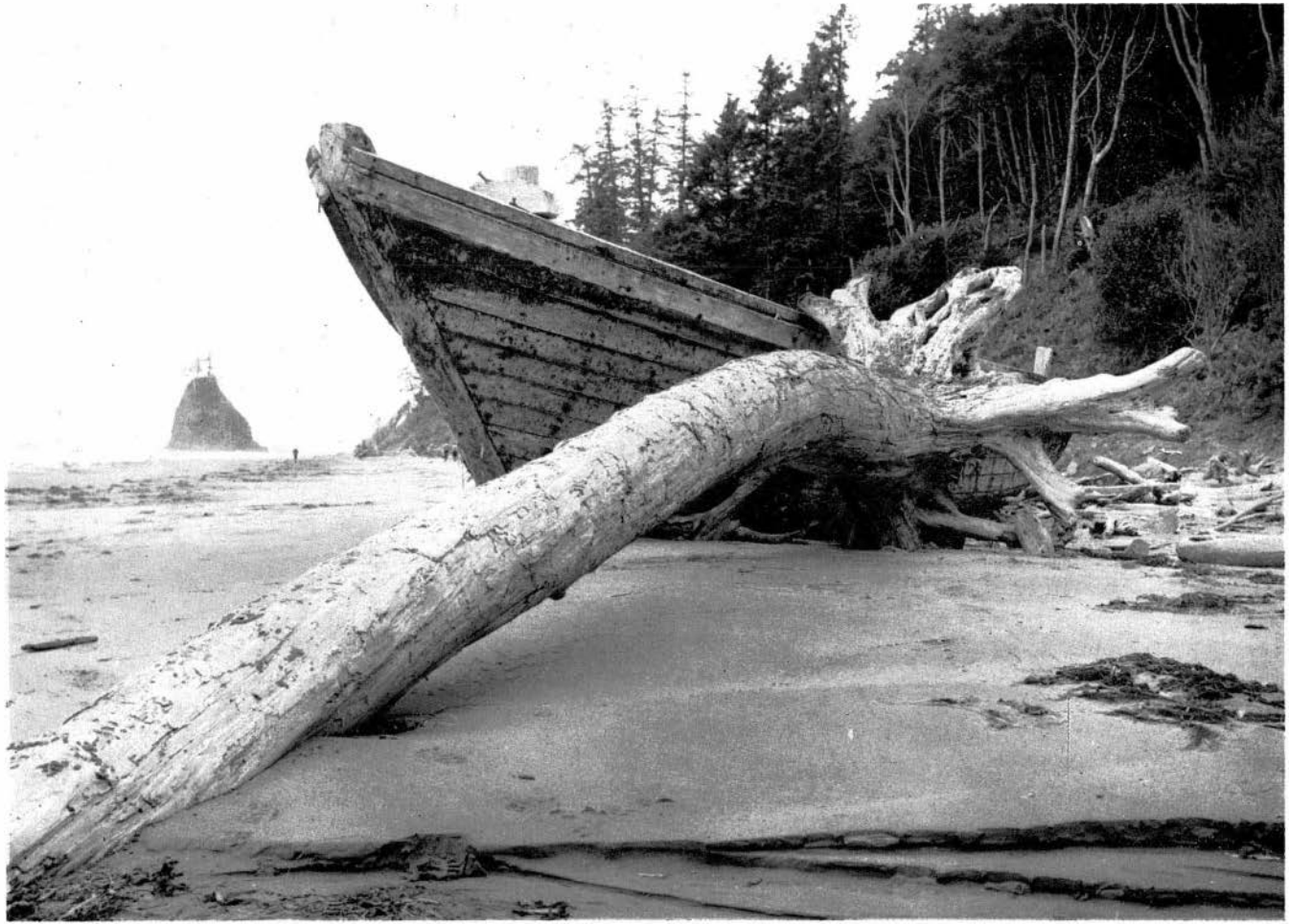


Bailey Range from Mt. Angeles Trail *National Park Service*



Blue Glacier on Mt. Olympus — *Charles Allyn*

Mt. Olympus from Hurricane Ridge *National Park Service*



Olympic Ocean Strip *Dick Brooks*

Olympic Ocean Strip

Dick Brooks

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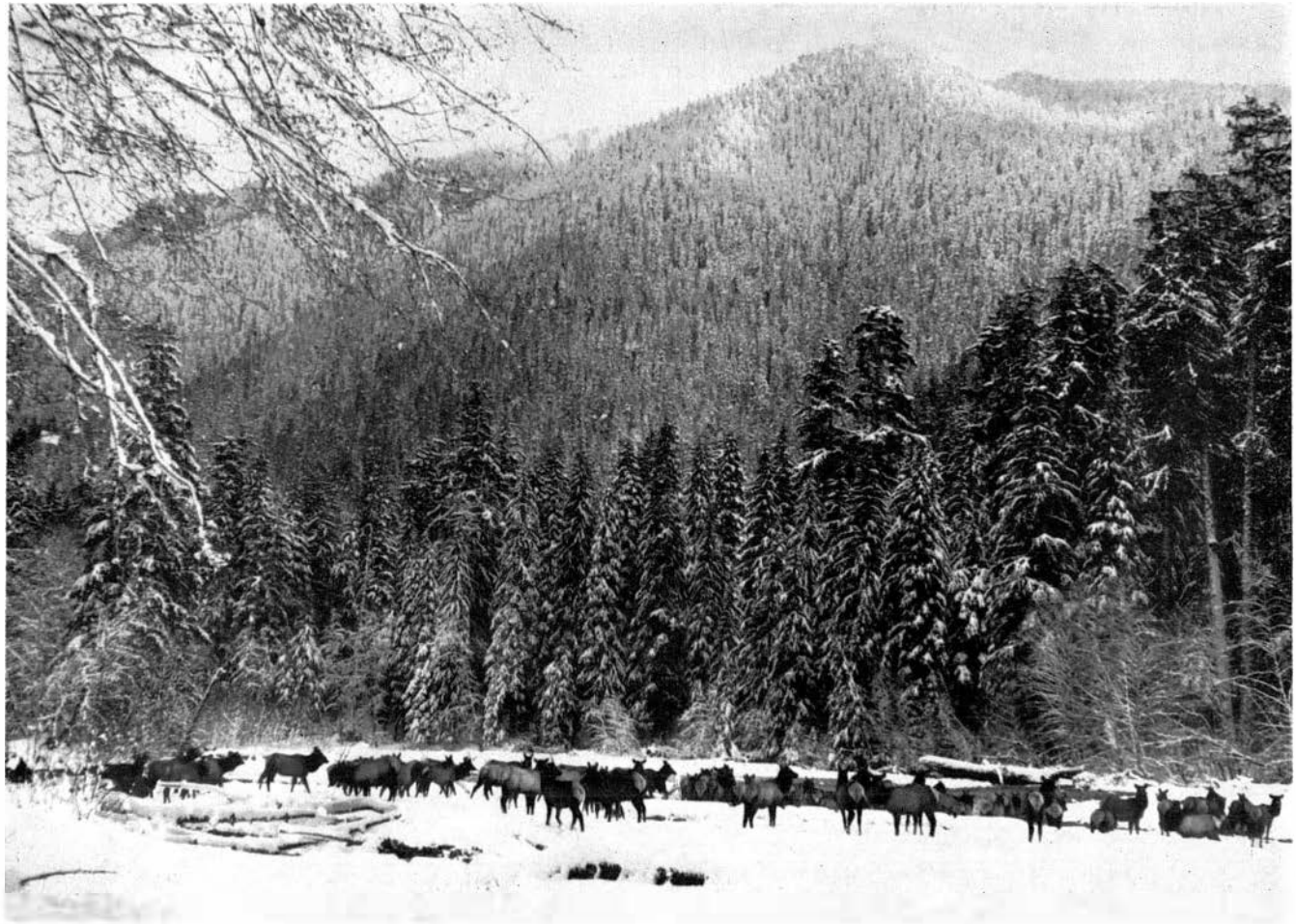

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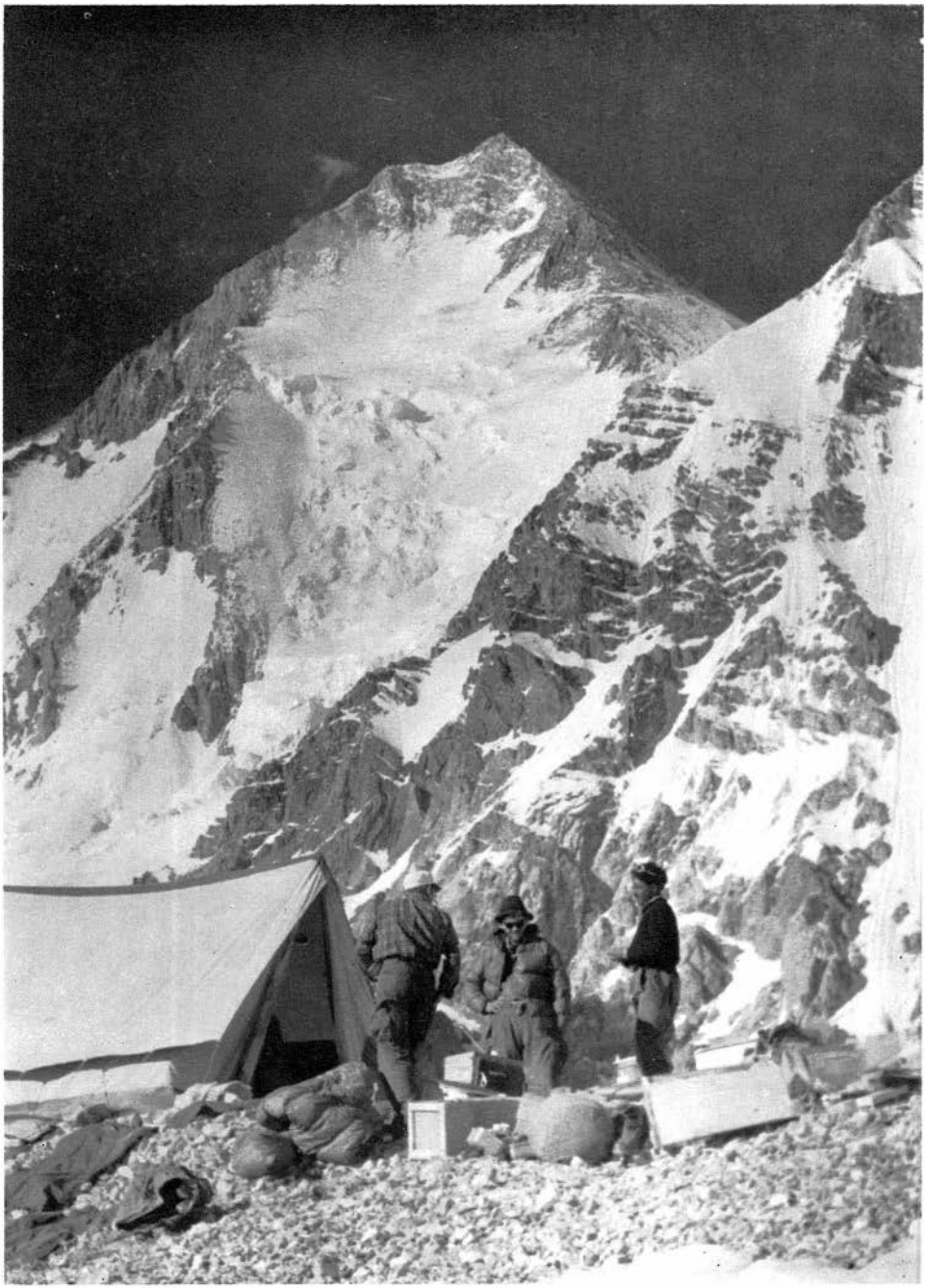

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ASCENT OF

HIDDEN PEAK

By PETE SCHOENING

A great era of Himalayan mountaineering has almost come to an end. Prior to 1950 none of the world's *achtausenders* had been climbed, but today the score reads:

Everest	29,028	British	1953
K2	28,250	Italian	1954
Kangchenjunga	28,146	British	1955
Lhotse	27,890	Swiss	1956
Makalu	27,790	French	1955
Dhaulagiri	26,795	unclimbed	
Cho Oyu	26,756	Austrian	1955
Manaslu	26,658	Japanese	1956
Nanga Parbat	26,620	Austrian	1953
Annapurna	26,492	French	1950
Hidden (Gasherbrum I)	26,470	American	1958
Broad	26,414	Austrian	1957
Gasherbrum II	26,360	Austrian	1956
Gosainthan	26,291	unclimbed	(Red Tibet)

In the spring of 1958 only two available *achtausenders* remained unclimbed: Hidden Peak and Dhaulagiri. The Swiss were then on the slopes of the latter, and permission for climbers to attempt this peak was booked as far ahead as 1960. American climbers had not yet made a first ascent of an 8,000-meter peak, though they had left their mark on some of the world's highest. Here was perhaps a last chance.

Through hope, energy and tenacity, Nicholas B. Clinch obtained Pakistani permission late in 1957 and in the next two months he organized the 1958 American Karakoram Expedition under the sponsorship of the American Alpine Club. The sole objective: to climb Hidden Peak.

Unlike most expeditions which generally have used locally made equipment, the expedition attempted to obtain the best equipment from throughout the world. The oxygen equipment was a result of

Swiss, French and British efforts. The food was supplied by a British packer, climbing equipment was primarily Swiss, whereas the tents, down equipment and most of the garments were by U.S. suppliers.

Organization of the supplies and the innumerable arrangements necessary to clear the path to the peak came about through the efforts of many people. The foreign interest and support was terrific, especially that of the Swiss, and the support by the American Alpine Club and several of its members was a major factor in making the trip successful.

On May 21 the last lap of the flight took Bob Swift, Dr. Tom Nevison, Dick Irvin, Captain Akram, Gil Roberts, Captain Rizvi, Nick Clinch, Andy Kauffman, Tom McCormack and me from Rawalpindi in West Pakistan over the awe-inspiring western tip of the Himalaya, up the Indus River gorge to the now famous town of Skardu. The walking begins at Skardu.

Arranging 60-pound pack loads, acquiring 110 porters and the six special high altitude porters required two days at Skardu during which we enjoyed the gracious hospitality of the Political Agent.

The last hill village, Askole, is 80 miles march from Skardu. Here on May 26 was a day's rest and the hiring of new porters, paying off the old, purchasing and packing 3500 pounds of wheat flour for porter food and hiring the 60 porters to carry the porter food.

Off again, a three-day march to the snout of the Baltoro Glacier, and six more on the glacier brought the expedition to the temporary base camp where porters were paid, then released.

The approach march up the Baltoro is probably not excelled in sheer mountain beauty any place in the world. The expedition walked past the bases of Paiju, the Lobsang and Trango Towers, Muztagh, Masherbrum, K2, Broad Peak, Gasherbrums IV, V and VI, Mitre, Chogolisa, Sia Kangri, and Baltoro Kangri just to name a few.

Base camp was located south of Hidden Peak at the confluence of the South Gasherbrum Glacier which flows from the northwest and the Abruzzi Glacier from the southeast. The Gasherbrum peaks form a horseshoe around the Southern Gasherbrum Glacier with the ridge extending southeast from Hidden Peak (Gasherbrum I) to Sia Kangri located at the southern tip of the Abruzzi Glacier, and on around to the massive summits of Baltoro Kangri southwest of the latter glacier.

Four routes were considered by the party. The west ridge (left skyline from base camp) appeared feasible but involved 2000 feet of

rock climbing just below the summit. The southwest side of Hidden Peak is a glacier with obvious avalanche hazards. A third possible was to follow the 1936 French route which appeared to be a beeline for the summit passing over some treacherous rock and ice slabs, and terminating on the south summit at least two miles from the main summit. The fourth route, up a ridge between Hidden Peak and Sia Kangri to a huge snow plateau at 23,000 feet, was reconnoitered by the Swiss in 1934. Its main hazard was the danger of becoming isolated on the plateau by the deep snow of the monsoon storms.

The Swiss route was selcted and on June 13 the preliminaries began for establishing a fully stocked camp at the top of the ridge and on the edge of the plateau. This involved stocking a Camp I at the base of the ridge and at the same time roping in a route up 2500 feet of snow slopes to Camp II. Another 1500 feet lay along an ice and snow-arete and over the snow dome to the crest of the ridge for Camp III. Cutting in these routes and slowly working up supplies was hard work, particularly during the period of acclimatization. The lead routefinders, usually two or three climbers, continually exchanged duties with the packers below to conserve strength, assist acclimatization and maintain morale.

On June 28 Camp III was well stocked and all members, including three of the Balti high-altitude porters, were in relatively good health. The plan for the summit included two camps: a Camp IV along the fringe of the plateau and a big push to Camp V as far up the plateau as possible. Equipment, food and oxygen were carefully selected. Then the personnel was selected to provide a balanced party with teams at each high camp to maintain the supply line. From here timing and retention of strength to cope with any emergency was critical.

Camp IV with five climbers was established on June 29 only to be followed by three days of storm. But fortunately the Balti porters at Camp III continued packing to IV under most severe conditions and thus valuable supplies at Camp IV were not depleted. Further, the Camp IV team, including Nick Clinch, Bob Swift and Dr. Tom Nevison, doggedley pushed supplies out onto the plateau to enable a good start for Camp V.

On July 4 the weather cleared, the packs were heavy, the snow deep and the air light. About noon the trail breaker started using oxygen to speed the operation. The lead was changed at frequent intervals. Late in the afternoon but still short of the desired site, a tent was erected to designate Camp V. Andy Kauffman and I re-

mained and the other three slowly turned and plodded off back down to Camp IV to serve as support.

Everything was checked and laid out for the next day. A low flow of oxygen assisted getting a few hours of sleep through the night.

Andy Kauffman and I left camp at 5 A.M. having made snowshoes simply by embedding the spikes of our crampons in pieces of plywood. By nine we had reached the saddle between the south summit and the summit ridge; seemingly still miles from the objective. With oxygen set at two liters per minute and exchanging the lead every few minutes, we moved slowly up and across the upper snowbowl and directly below the summit. Here we picked our way over snow-covered rocks while the slope became progressively steeper, possibly 50° in places. A snow couloir led to the summit ridge, and a final hundred yards along the ridge found us at the summit. The time was now 3 P.M.

The sky was cloudless with the giants of the Karakoram in full view. There was movement at our Camp III and shortly we were able to exchange mirror flashes. A flurry of photographs in the chill wind and an hour had passed. The day ended at Camp V at 9 P.M.

On the following day the Camp IV support group were met coming up. Here with clouds collecting in the sky, we tentatively agreed upon a speedy evacuation with no further attempts for the summit.

Four days later we were off the mountain, and had left base camp for the return march.

See page 88 for photograph of Hidden Peak.

CLIMBING

NOTES

Edited By SUSAN HENRIKSON

NORTH RIDGE OF MOUNT CONSTANCE

Mount Constance, in the eastern front range of the Olympics, had been climbed by several routes including the south, east, and difficult west aretes. Our party, consisting of Kent Heathershaw, Bob McKee, Bob Oram, and myself, climbed the last unclimbed ridge on the north. The route was first scouted from the northwest side of the mountain to determine if an approach via the usual trail to Lake Constance was feasible. This approach proved very long and it was decided that the climb should be initiated from the Quilcene River terminus of the Tunnel Creek trail.

The climb began on October 4 at the start of the Tunnel Creek trail from which we hoped to reach a bivouac spot at the head of the West Fork of Tunnel Creek just north of the mountain. Since the trail follows the main fork of the creek, the best plan appeared to follow the trail as far as possible and then cross the intervening ridge to the west fork. In spite of the fact that the ridge was crossed at a low notch, the crossing involved a gain of 3,000 feet and a loss of 2,000 feet in timber so dense that a compass was necessary.

The arrival of dawn at 6:00 a. m. found us surrounded by a veritable jungle. The direction of the north ridge was not apparent. A compass bearing and much brush crashing brought us to a small meadow, however, and from here a steep slippery series of chimneys appeared to lead southwest to the ridge proper. An hour of climbing in these chimneys brought us into a shallow cirque which divided the lower part of the north ridge into a right and left branch. These two branches came together about a thousand feet higher, presenting a foreboding looking buttress. Our route led up to the right-hand ridge crest and followed this ridge to just below the overhanging buttress. Fortunately we were able to bypass the buttress by making an exposed traverse across the upper part of the steep northwest face. Some anxious moments were spent here as full packs made this pitch quite intricate. Climbing on over smooth slabs brought us to the ridge crest again at about 6,500 feet. We then ascended along the ridge for some time, dropping onto one face or the other to bypass towers. A contour onto the east face was required to reach the steep slabs leading to the summit. Our party finally reached the top at 2 p. m.

The descent was via the conventional route and Lake Constance,

completing what had probably been the first north-south traverse of the mountain.

F. K. SPENCER

MT. MC KINLEY—1958

Our ascent, except for one variation, followed the West Buttress route pioneered by Bradford Washburn in 1951. The party, consisting of Bob Elliott, Fergus O'Connor, Bruce Gilbert, Martin Mushkin, Clarence LaBell and Ed Cooper was flown in by the very competent Don Sheldon to an airplane landing camp at 7,500 feet up a minor fork of the Kahiltna Glacier beneath Mt. Crosson. A slight descent and backtrack was necessary to regain the main fork of the Kahiltna Glacier. The route was quite straightforward from here, camps being established at 8,300 feet, 9,800 feet and 13,200 feet on the Kahiltna Glacier. The one variation in our route occurred between the 15,400- and 16,000-foot level which Bradford Washburn described as 600 feet of 60-degree slopes, measured with a clinometer. In the original ascent, apparently only 200 feet or so were hard ice near the top. The winter of 1957-1958 was a light snowfall year, and the entire slope proved to be blue-green ice. At this point we chose to climb the rock to the left of the ice wall instead. Ice pitons were used on the one very steep ice slope climbed to gain the rocks. A peculiar 200 foot, 55-degree ice ridge was climbed in getting to the upper rocks from the lower rocks. A few more ice pitons were placed here. A ridge camp was placed at 16,100 feet. Under conditions when the entire slope is bare of ice, our variation is probably easier.

The only rock scrambling took place on the ridge between our 16,100 foot camp and our 17,200 foot camp. Early on the morning of July 1, we started for the summit (as it is light 24 hours a day on the mountain, we often climbed at night.) Above Denali Pass, the weather became worse and visibility dropped to nearly zero. We could only proceed by using wands spaced closely. Finding a point from which everything else led down, we were content to call this the summit. It was, we found out later, 700 feet below and about a mile away from the true summit.

Returning to our 17,200 foot camp that afternoon, Clarence had the misfortune to run a crampon into his foot. At this time we met a party led by Dave Dingman which had caught up to us. Upon talking to Capt. Bill Hackett, a member of Dingman's party, who had been to the summit three times previously, it was evident that we had not reached the true summit. The next morning, closely behind Dingman's party, we again set out for the summit. Maury Mushkin stayed behind with injured Clarence LaBell. It was a record breaking day with ten climbers standing on the summit of McKinley. I roped with a member of the other team, Ross Kennedy, and made a small side trip up Archdeacon's Tower while Dave Dingman and Dave Dornan climbed both summits. Also, Fergus O'Connor became the first Englishman to reach the summit and Captain

Hackett reached the summit for his fourth time. It was an extremely clear day. The summit temperature was -8 degrees F with no wind. The bamboo pole placed there in 1947 was still prominent.

On the descent, Dave Dornan and I made a third ascent of Peak Z. An attempt to climb unclimbed Mt. Crosson by the connecting ridge with Peak Z was foiled by an oncoming storm.

As we had previously planned, we made use of igloos and snow caves, snow caves at our 9,800 foot and 16,100 foot camps and igloos at our 13,200 foot and 17,200 foot camps. We found the snow caves very satisfactory during the long blizzards. There were no storms at our igloo campsites.

EDWARD COOPER

A VISIT TO THE NORTHERN PICKETTS

The warm sunny morning of August 18th found five climbers trudging hopefully southward across the Challenger Glacier. Their destination? Mt. Fury's unclimbed West Peak. The previous day, they had reached Perfect Pass from Whatcom Pass by way of the badly crevassed Whatcom Icefall and the slabs beneath it, followed by a side trip to Whatcom Peak. The party, Maury Muzzy, Duke Watson, Phil Sharpe, Vic Josendal, and Warren Spickard, passed through the third notch in the ridge west of Challenger (7,300) and crossed a small snowfield. Descending about 600 feet, they contoured a glacier west of Challenger and a further drop of 800 feet put them on flatter going over the numerous granite slabs and snow-fed streams beneath Crooked Thumb and Phantom Peak. At the southern end of this traverse, the party crossed through a pass (5,800) between two branches of Pickett Creek and continued the bouldery side-hilling southeast to the Goodell Creek-Pickett Creek Pass (6,000). This pass lies between a southwest spur peak of Fury and a reddish brown mass of rock (7,080) henceforth to be known as "Old Brownie." At a heather campsite, a hasty meal was eaten in anticipation of a hard day coming.

Sunrise found the party beneath Fury's southwest spur peak on a steep heather traverse followed by 1,000 feet of easy rock. After this an easterly traverse over several snowfields brought them to a 200-foot drop down cliffs to the glacier just west of Mt. Fury's West Peak. A quick lunch was followed by a rapid crampon ascent to a col (7,500) whose two notches revealed precipitous cliffs on the north side. If a way was to be found, it would have to be one of two unpromising looking gulleys on the west side of the summit. Maury and Vic tackled the most northerly of these which proved to be somewhat dirty and rotten as well as steep. An hour and a half was spent making 120 feet and solving the problem of a rather large chockstone. Shortly after this, the whine of unseen rocks and joyous shouts announced that the first rope had reached the ridge and the second part of the party commenced the climb upwards using occa-

sional pitons for safety. About 400 feet of gulley and two pitches of face climbing put the rope on the ridge. A 200-foot traverse along the north face of the mountain with spectacular views 4,000 feet down into Luna Creek Cirque led to another slightly rotten gulley where the first rope was met, having made the summit 20 minutes earlier. Once the ridge was reached, an easy scramble led to the summit (8,292) at 6:30 p. m. To the east, guarded by a very long difficult ridge, lay the slightly lower east peak (8,288) which has been climbed only four (?) times. Challenger, Phantom, and Crooked Thumb made an awe inspiring group to the north, glistening in the evening sunlight, and the tangled spires of the Southern Pickets rose in the south above a jumble of ridges. Cairn building, register signing, and view finding were cut to a minimum by the imminence of the approaching night. Moving as rapidly downward, as the rottenness of the rock would permit, the second rope reached a point about 300 feet above the glacier as darkness fell, just in time to see Maury and Vic starting down the ice. With a few pitons for anchors, Duke, Phil and Spick spent the night studying the stars and watching the flashlights of their comrades trace their way back across the morning's traverse to the high camp which they reached after midnight Somewhat cold and stiff, the bivouaced climbers roped down in the first light, made the traverse and reached camp about noon.

After a bath in a rocky depression in two and a half feet of melt water, the campsite was moved to a pleasant alp (5,500) on the west side beneath Crooked Thumb, complete with thick heather, blueberries, and grasshoppers. The following morning, after a breakfast of beef stew and lemon pudding, an early start put the party across the slabs and a small glacier to the outlet (6,800) of a long gulley leading to the ridge of Phantom. Though again plagued by loose rock, the gulley went fairly fast and 9:00 a. m. found them on the ridge (7,500) north of the peak. The climb over the first false summit (7,700) where a monstrous marmot lived brought them face to face with a sheer 130-foot cliff. The only feasible route consisted of a 110-foot rappel to a small steep glacier on the southwest side. The rappel rope was left in place as a handline for the return trip. Being ill equipped for glacier travel in rock climbing shoes, the party spent an interesting 45 minutes in a damp and slippery moat. From this, easier slabs led to a 7,500-foot col between the main and the south peak. A 1,000-foot snow filled gulley, which led down to the south to the area between the Picket-Picket and Picket-Goodell Creek cols, could furnish a third route of ascent. At this point, they joined the previous climbing route over good clean slabs to the main ridge. The climb south on the ridge proved to be easy, ending at the steep 40-foot summit block. This was climbed on its south side using one piton for safety. The summit cairn was undisturbed in the 18 years since the Beckeys left it. On the descent, the moat was avoided by two rappels down the 130-foot cliff and camp was reached after sundown.

The next day a rope of three—Phil, Duke, and Spick set out

for Crooked Thumb, while wiser heads sacked out in camp. A nerve-racking five hours of "egg-walking" on rotten rock through a long precipitous gulley brought the three to the ridge (7,800) of Crooked Thumb, a long way from the summit and obviously in the wrong place from which to continue the ascent. Several leads down the knife-like ridge led into areas of excessively rotten and unsafe rock which forced a retreat at about 1:30 P. M. Three hundred feet from the bottom of the gulley, the former ascent route was found. A steep 100-foot climb ended on a whitish grey ledge that contoured to the west side of the peak. From there, white well fractured rock led to the ridge just north of the summit tower. In spite of the lateness of the hour (3:00 P. M.), there was some talk of continuing, but a second bivouac did not appear inviting.

On Saturday, the retreat began with a retracing of their steps to the Challenger Glacier from which the Summit of Challenger was reached in four hours of enjoyable climbing. The bergschrund was unclimbable; so, the party was forced to use the east ridge, which went easily. Returning, the packs were picked up and Perfect Pass was reached at 6:30 P. M.

The retreat continued on Sunday, dropping about 500 feet and then heading for Easy Ridge only to be cut off by a canyon with vertical walls 150 feet deep. A 1,200-foot descent was necessary to circumvent this obstacle and by the time the crest of Easy Ridge (6,400) was reached, deterioration had set in. The remainder of the afternoon was spent strolling along this beautiful rolling grass and heather ridge with its spectacular views on both sides. After a foot soak in a small tarn, the Easy Peak Lookout Trail was located and followed 2½ miles and 136 felled trees to its junction with the Chilliwack River Trail (2,800). The road was reached at 9:00 A. M. the next morning after a short night at a camp 7½ miles back on the trail. The week had been pleasant, no rain, one new summit, one new route, Mountaineer registers placed on four summits and everyone with his cranium intact in spite of the loose rock.

WARREN SPICKARD

EAST RIDGE OF INSPIRATION, SOUTHERN PICKETS

With a three-day weekend planned, Fred Beckey, Ed Cooper, and I took the circuitous ridge route into Terror Creek Cirque for a try at the unclimbed east ridge of Inspiration Peak. We already had a hardware cache in the cirque from two months before when the weather chased us out, so with lighter packs we got in to our camp in only six hours and a few minutes on October 4.

Above camp there was a short bit of sport chopping up the glacier to approach the wall under the col between Inspiration and the nearest of the five sharp pinnacles to the east. A comparatively easy scramble got us to the col on connecting ledges, and then we had two easy rope lengths up the ridge. The remainder of the ridge to

the lower east summit, with a necessary traverse right and up a short overhang, provided some wonderous diversion on good steep granite. A few safety pitons were necessary. The climb over to the higher peak along the unusually solid and sharp ridge was also most pleasurable culminating what could become the classic ascent of this range.

DAVE COLLINS

NORTHEAST FACE OF MT. BAKER

On June 22, Fred Beckey, John Rupley, and Don Claunch made the first ascent of the N.E. face of Mount Baker. Although hidden by the prominent north ridge and seldom seen, the northeast face is spectacular, broken by ice cliffs. From Kulshan Cabin we climbed to Heliotrope Ridge, crossed the Colman Glacier, and passed below the north ridge. Moving to the center of the face, we climbed a steep snow slope and then cut left across a 45° ice slope. Above this we dodged crevasses and crossed some tricky snow bridges. A traverse to the right brought us to the center edge of the huge bergschrund cleaving the entire northeast face. Climbing across broken ice debris in the bottom and ascending a 10-foot vertical ice wall and chimney brought us through the bergschrund and to the nevé above. Here we traversed left to the top of the Cockscomb Ridge and followed this to the summit.

DON CLAUNCH

MOUNT SHUKSAN—NORTH RIDGE

A Mountaineer Advanced Climb on the weekend of August sixteenth went up the seldom climbed north ridge of Mt. Shuksan. The north ridge is on the left-hand sky-line as seen from Baker Lodge. The party consisted of Bill Foster, Dave Erickson, Ned Glubran and Stan Curtis.

The first day we hiked overland, starting from a logging road a mile or two below the lodge, and traversed the meadows and streams leading into the White Salmon Creek valley. We managed to skirt all the brush except one short bad patch. The view of the mountain from this approach is magnificent. Camp was made on the ridge on the opposite side of the valley, just beneath the base of the north ridge proper (5500 feet). Since the climb was scheduled on a two-day weekend, we bivouacked here, so that we could come down the regular route next day.

We got off to a rather late five o'clock start the next day. The climb began with third class rock easing off into second class for a short time. Above this, very steep (50-60 degree) hard snow was encountered, and our crampons came in handy. The steep snow led to a plateau immediately below the summit pyramid. After crossing

the crevassed glacier and climbing down into and then out of a wide bergschrund at the top, we emerged at a low col on the northeast ridge. We then dropped down a few hundred feet on the other side onto Crystal Glacier to avoid some rock outcroppings and continued up fairly steep snow to the rotten continuation of the northeast ridge of the summit pyramid. After negotiating this short stretch of loose rock, we emerged at a col on the northeast summit ridge. Several rope lengths of fourth and fifth class climbing up this ridge over fairly secure rock brought us to the false summit. A relatively easy short scramble along the summit ridge completed the climb. We reached the summit about 3:15 in the afternoon. Descending the regular route, we reached the cars at Austin Pass at 10:30 P.M. after spending considerable time getting down the very treacherous, icy Winnie's Slide.

This route is a very enjoyable way to climb one of the most beautiful mountains. It turned out to be an ideal advanced club climb because it offered a wide variety of climbing problems — bushwacking, bivouacking, steep snow, fourth and fifth class rock climbing — none of which are encountered to much extent on the Experience Climbs. A safety factor was that there were escape routes to the regular route in two places. Turning right after reaching the plateau below the summit pyramid brings one to the bottom of the Hourglass not far from the top of Winnie's Slide. Continuing around the pyramid keeping high on the Crystal Glacier brings one to the spot above Hell's Highway where the regular route leaves the snow for the summit pyramid.

STAN CURTIS

EAST RIDGE OF FORBIDDEN PEAK

The East Ridge of Forbidden Peak was ascended on May 25th by Fred Beckey, Don Claunch, Ed Cooper, and Joe Hieb. Using the approach to the usual northeast route, difficulties began at the base of the east ridge where the northeast face route diverges. The east ridge has many towers and is very narrow throughout its length. Two of the many towers were traversed, the others being ascended directly. The first tower bypassed was traversed on the north. While Fred and Don bypassed the second tower with a very delicate piton traverse on the downslab south side. Joe and Ed traversed the equally steep but upslab north side. The ridge, in spots, was quite sensational being only one-quarter inch wide with airy view down both the south and northeast faces and requiring finger traverses. Although this was not a truly difficult climb, it was a very enjoyable and spectacular climb.

EDWARD COOPER

WEST RIDGE OF TORMENT

The West Ridge of Torment was climbed in June by Franz Mohling and Tom Miller. This marked the fifth ascent and, interestingly enough, the fifth route. Though it is clear that people can't seem to get together on what is the "normal" route, I feel confident in saying that the West Ridge is unqualifiedly the least convenient of those tried to date. The climb starts from an out-of-the-way spot, the col on the ridge leading west to Eldorado, and involves numerous leads over, around, under, and through (the rock is quite rotten in places) the pinnacles along the ridge. Some of the climbing is good, some bad, and some indifferent. All in all, not recommended as a place to take the girl friend.

TOM MILLER

MOUNT TORMENT-FORBIDDEN PEAK RIDGE TRAVERSE

This ridge, a mile and a half long, runs from 8,200-foot Mt. Torment to 8,900-foot Forbidden Peak. It is bounded by a very steep south wall rising from an impressive glacier and an even more alpine appearing north wall.

On July 26th an ascent was made of the southwest and south face of Mt. Torment by Buck Sellers and Ed Cooper. A rappel and partial descent of the southeast face was necessary in order to regain the ridge. Thence followed very narrow ridge climbing for the most part, being moderate class four. Occasional traverses were made on the north side to bypass particularly rough obstacles. All the major points on the ridge were visited and cairns left on two of them. A bivouac was made about halfway to Forbidden Peak on a small ledge. For this purpose a bivouac sack that held us both was used.

After a somewhat uncomfortable night, we continued, often encountering knife-edge portions with drops on both sides, but no climbing that could be termed genuinely difficult. Finally an ascent of the West Ridge of Forbidden was made, descent being made by the northeast face.

Descent from any place along this ridge in case of emergency would be very difficult and anyone attempting this traverse should keep this in mind.

EDWARD COOPER

WEST FACE OF LIBERTY BELL

Liberty Bell is destined to become a rock climber's mecca, possibly within a few years if the proposed north Cascade Road is constructed. This summer the third ascent of the West Face was made by John Rupley and Fred Beckey by a new route. This route is the most challenging yet done, but even more challenging opportunities are present.

The route up the west face involved a slow start at the end of the first afternoon when we were forced to use three bolts because of poor cracks and rotten rock. The next morning we climbed up the fixed ropes and continued up a long V-crack, mostly on aid. Blade pitons took us up a sheer wall bypassing an ominous roof, then a rotten gulley with overhanging bushes led to a secure stance. From the top of a chimney, Rupley worked across a smooth slab to a hidden chimney thus negotiating a section of the climb that had caused grave concern. I took the last lead, a vertical rotten wall involving a few aid pitons and another bolt. From then on the climb was only a route-finding problem. The ascent took most of the day and about thirty pitons. The descent was made by the southwest face.

FRED BECKEY

NORTH FACE OF GOLDEN HORN

Golden Horn, at the head of the scenic West Fork of the Methow, is an imposing rock castle from the north and east. Unfortunately, from the climber's standpoint, it is a long distance from the Methow Road and the granite is very loose and scaly.

Hiking in via Horseheaven, Duke Watson and Fred Beckey camped at a lovely double lakelet at timberline in the shadow of the northwest amphitheater of Golden Horn. From camp the climb appears quite difficult but the next day we detected a great angular gully bisecting the north wall. From the ridge north of the peak we climbed up gullies and loose rock walls alongside this great gully, generally unroped. The crucial point was a left traverse onto a great chockstone; two pitons were used here for safety. From there on the climb was straightforward. The descent was made by the same route.

FRED BECKEY

NORTH FACE OF NORTH EARLY WINTER SPIRE

This, the second route on the imposing North Early Winter Spire, was made in August by Joe Hieb and Fred Beckey. It is an excellent 400-foot climb on good granite.

We climbed over the col on the north of the spire from the west heather slopes, swung around a hundred feet, and took a pitch of fifth class rock up and left to a leaning pedestal. Here the climbing becomes artificial. Joe took this lead nicely, climbing mostly on slings up thin wall cracks. A bolt was used for an anchor at the top of this pitch. From here, an easy gully terminates the difficulties and ends in a chimney leading to the summit. Though the climb was technically difficult, the rock was the best that we have encountered in the Liberty Bell group.

FRED BECKEY

SOUTH FACE OF CUTTHROAT PEAK

This climb could well be done more leisurely, but on this trip was accomplished by Don Claunch and Fred Beckey on a fall weekend

from Seattle. The approach was via the Twisp River and Copper Pass.

We found the actual climb not as difficult as anticipated; the rock is well broken granite and has sufficient bushes for rapid rappels. The route begins on the southeastern ridge, which merges into a steep wall. About five leads of class-four climbing are involved, these being made more difficult by a veneer of fresh snow. Eventually we encountered a difficult rotten chimney that required the use of several pitons and wedges. Possibly a variation to the right might have avoided some of these problems, but due to the lateness of the hour we had no choice but to hammer our way up this wet groove. Above, a sand slope led to a rampart which was climbed. This was followed by a short wall and a final jam-crack pitch that required full use of arm and leg muscle. This was the third route on Cut-throat—and the third ascent. The aftermath was an all-night hike to the road and drive to Seattle.

FRED BECKEY

NORTHEAST FACE OF THREE FINGERS

On July 20, 1958, the interesting northeast face of Three Fingers was ascended for the first time by a party of Mountaineers from Everett consisting of Jerry Cate, Ron Muecke and Kenn Carpenter. The approach is from Darrington via the Squire Creek trail. Four miles up the trail where it becomes undiscernable, we continued across a ¼-mile wide open slide area of thick brush. This slide area cannot be missed as it comes from high on the right ridge and sweeps clear across the valley bottom. Beyond the slide area we ascended west up open timber and a creek bed on the edge of the slide area to thick huckleberry, heather, and then talus slopes at 4500 feet. Here we traversed south ¼ mile to the 4500-foot saddle on the main ridge overlooking frozen lakes to the west. (5 hours).

From here climbing to the 5000-foot knoll south of the saddle we continued directly up the face to a grassy ledge at 5250 feet where a grass and rock gully followed by steep wet mossy slab leads to heather and snow at 5700 feet. Going up and left of the rock tower, we skirted the top of a sheer gully at the left. Here the party crossed snow at 6000 feet to a prominent rock rib leading directly on to the summit face. The final ascent is 600 feet of good class four rock, and comes out directly on the 6845-foot North Peak (8 hours from 4500 foot saddle).

The summit face can be bypassed by keeping left of the rock rib on snow and ascending 50 feet of rock to the saddle on the main ridge. Here continue on the regular route to the summit.

KENN CARPENTER

SLOAN PEAK VIA WEST FACE

A new route on the west face of Sloan Peak was climbed by Fred Beckey and Ron Niccolo on September 7. The route begins at the southern head of Bedal Creek not far from the pass leading to the

south divide. We cut left up a rock chimney then left again on a heather bench to where the west wall steepens sharply. For two pitches the rock is steep and excellent. Then we walked left 200 feet on an easy grassy ledge and climbed a 120-foot wall of steep rock to another ledge. We walked right a lead, then up a steep exposed slab to a promontory. By following this for several leads we reached the upper face where the steepness is reduced sharply. We unroped here and walked to the summit. The descent was made via the same route.

FRED BECKEY

NORTH CRESTED BUTTE (5300)

On October 25, 1958 what may have been the first ascent of the North Crested Butte in the Monte Cristo area was made by a party including Tony Hovey and Klindt Vielbig. From the end of the Sultan River road a short trail leads to the basin dominated by the higher south Crested Butte. On the south, the North Butte is separated from the South Butte by a deep notch, and on the north Sheep Gap separates the North Butte from Sheep Gap Mtn.

The North Crested Butte is an impressive tower-like summit protected by cliffs and steep chutes on all sides. From the basin, the right side of a steep chute was followed into the notch between two prominent pinnacles and the North Butte. This involved three hours of climbing steep slabs and dirt covered by snow knee-deep in places, rendering several pitches quite delicate. Occasional brush and trees provided momentary security.

Above the notch, two steps topped by narrow rock crests were encountered before arriving at the base of the summit tower which offered an easy scramble. From the notch there was approximately 600 feet of roped climbing over steep snow-covered rock, heather and brush with two sections of narrow crest. There was evidence of previous parties on the summit. The thought of the tricky descent made a traverse of the peak an advisable alternative.

A ridge dropping down the east side was descended 400 feet, then a traverse to the south ridge below the summit tower was easily negotiated. A 100 foot rappel was necessary to descend the near vertical notch between the Buttes. The ascent required four and three-quarter hours and the descent four hours.

The descent ridge on the east side seems the only possible easy route although the lower portion was not seen. The notch between the buttes would present a formidable barrier to the easier south side of the peak. At this time, the steep chute and north ridge route offers the only sure access to the summit.

KLINDT VIELBIG

NORTHWEST RIDGE OF KYES PEAK

On June 8, 1958, a party of Mountaineers from Everett consisting of Dave Collins, Tom Williams and Kenn Carpenter completed the first ascent of the northwest ridge of Kyes Peak direct to the summit.

The approach is from Monte Cristo and Glacier Basin to the north. From the south end of the basin rockslides and gullies were ascended to a high minor notch (6900 feet) just north (left) of the main north summit of Monte Cristo Peak. Here we traversed south on the east side of the peak and descended to the 6700-foot saddle starting the north ridge of Kyes. After ascending the first 300 feet of snow a sharp rotten notch is encountered but easily bypassed by dropping 100 feet to the left where a ledge cuts back into the gully. The gully was traversed and we ascended 200 feet of very steep snow in a couloir to easy rock and snow slopes above leading to the ridge crest. Following the easy almost level crest southeast to just under the northwest peak we ascended 70 feet of class three rock to its top. All rock on the ridge is extremely friable.

The class four ridge was followed southeast toward the main peak, traversing to the right around a gendarme with one piton for safety to a point just under the sheer northwest face. The prominent 50-foot vertical open chimney on the face here required four direct-aid pitons. From its top a short easy scramble gained the summit. (10 hours).

KENN CARPENTER

MOUNT STUART AREA

Sherpa Peak: On July 20th, Fred Beckey and Ed Cooper ascended the northeast face of Sherpa Peak (the first peak east of Mt. Stuart). The approach used was the usual one for Mount Stuart and camp was made at Ingalls Creek. The next day, ascent was made to the col between Sherpa Peak and Argonaut Peak by climbing across the lower, brushy part of Sherpa Peak and a descent of about 750 feet was made on the north side of the col. The northeast face is quite broken, having many indistinct small couloirs and ridges lower down. About one thousand feet to the west and three to four hundred feet up a talus slope, a 45 degree snow couloir was ascended to an indistinct ridge and broken rock was followed to within three hundred feet of the top. The rock became significantly steeper and more solid here and two hundred feet of minimum fifth class climbing followed. The famous balanced tower seen from Mount Stuart is just below the summit. Descent was made via the east ridge to the Argonaut-Sherpa col. The northwest face of Sherpa Peak as well as the faces above Colchuck Lake appear to have possibilities.

Argonaut Peak: Using an approach via Mountaineer Creek, Fred Beckey, Tony Hovey, Ron Niccoli, and Ed Cooper ascended the North Face of Argonaut Peak. Although this approach is longer in miles, it eliminates the up and down of the usual Mount Stuart approach. Camp was made at the head of the last valley one can turn up to the left or south before reaching Stuart Lake. Care must be taken to avoid the large swamp in this area, which was bypassed by the far (west) side. The climb is maximum class three over excellent rock following a fairly well pronounced rib below the top.

EDWARD COOPER

PESHASTIN PINNACLES

Grand Central Tower: Tom Miller and Dave Collins completed the 250-foot West Face of Grand Central Tower on March 29th. Fifteen or so bolts and several pitons were used on this class six climb. Except for one delicate pendulum traverse from a bolt 200 feet up into an awkward chimney, the climbing is straightforward direct aid, with a free section midway, stemming behind a flake. Anyone wishing to repeat the climb should be equipped with nuts and hangers for the 3-16", 1-4", 5-16" and 3-8" bolts already placed. A very rotten section 100 feet up detracts from this otherwise attractive early season climb.

Dinosaur Tower: On April 6th, Fred Beckey and Ed Cooper completed the West Face of Dinosaur Tower. The 150-foot route follows a direct line (angling to the left) to the summit from the saddle between Dinosaur Tower and Trigger Finger. Some 15 bolts of 1-4", 5-16", and 3-8" were used. Except for one bulge (where a strategic bolt popped out so that a delicately balanced position is necessary to reach the next one) there are no difficulties on this enjoyable class six climb on very good rock considering the general sandstone nature of the area. The climb is excellent for polishing one's direct-aid technique and has to date been ascended three times.

EDWARD COOPER

REVIEWS

EDITED By MARJORIE WILSON

THE UNTAMED OLYMPICS. (The Story of a Peninsula) By Ruby El Hult. Binfords and Mort, Portland, Oregon, 1954. 267 pages. $3.50.

The spirit of this book *The Untamed Olympics* is best expressed by its subtitle. Rather than the usual account of various ascents and mountaineering adventures, it is a most interesting historical document of the entire peninsula. The mountaineering explorations and ascents appear casually as a part of the Olympic story.

Mrs. Hult has collected a tremendous amount of little known material from available journals, newspapers, and literature of the past century. She has interviewed many individuals to obtain first hand accounts of historic events or general information about the peninsula. The ten-page compilation of bibliography and sources arranged according to chapter subject should be of great value to any student of Northwest history. The descriptive chapter titles whet one's interest, and the many old pictures are fascinating.

After a fanciful description of the geological formation of the area and the coming of the Indian God "Thunderbird," Part I, "The Old Greek's Strait" describes early explorations and the jealous warfare between nations for possession of a country that could give a Northwest Passage. Spain, France, Portugal, England, and even Russia were involved. All were looking for the strait, first mentioned by the old Greek Juan de Fuca. Clarification of the origin of many of our geographical names is made.

Part II, "Red Men and White," describes the simple pastoral life of the peninsula Indians, with their legends, ceremonials, battles, and bits of folklore. The gradual but relentless influx of white men brought many problems. Such musical names as Dosewallips, Duckabush, Quileute, Hoh, and Hama Hama, marking various geographical areas are reminiscent of this early life.

Part III, "What Lumber and Whiskey Built," deals with the great boom in lumber, the inroads made into virgin forests, and the subsequent growth of the lumber towns of Port Angeles and Port Townsend. The story of "The Railroad that never came" and resulting political history makes wonderful reading.

In subsequent chapters, Part IV, "From Dungeness to Angeles," and Part V, "The West End," we read of other areas on the peninsula.

Part VI, "The Rugged Interior," tells of the expeditions made from 1885 on, to explore, map and climb the high Olympics, the interior section of this peninsula. As the years roll on we have the Seattle Mountaineers coming into the picture in 1907 with a first ascent of the west peak of Mt. Olympus and verification of the first ascents of the other two peaks by earlier parties.

Part VII, "The Expendable Forests," continues the history of lumbering in the Olympics, and describes the gradual depletion of the forests. Too we read of later railroad hopes and failures, and the organization of present day industry of the peninsula.

This discussion leads very logically to Part VIII, "The Great Park Battle," a problem still undecided, and the final chapter Part IX, "Bridge to the Future," a discussion of the projected cross-sound bridge.

As a Northwest resident I found *The Untamed Olympics* not only good reading, but also an informative document of one section of the Northwest.

JANE MAC GOWAN

GEOLOGY OF OLYMPIC NATIONAL PARK. By Wilbert R. Danner, 68 pages, 50 figures. University of Washington Press, Seattle, 1955. $1.25.

This book is a welcome introduction to a region equally as fascinating for its geology as for its spectacular scenery. Written for the layman, the geology is presented simply and clearly, emphasizing the interplay of processes which have shaped the rocks to the present Olympic Mountains.

The oldest rocks in the Olympics are the intensely folded and deformed slates and sandstones of the Soleduck formation which make up most of the Park interior including Mt. Olympus. The age and structure of these rocks remain a subject of controversy among geologists.

The younger basalts of the Metchosin formation form a great loop open to the west around the park boundary. This formation, consisting in large part of submarine lava flows, is topographically more prominent than the Soleduck formation, if less extensive in area. The interesting pillow lavas of this formation, as found in the high peaks of the eastern Olympics, together with smaller areas of similar rocks in the Sawtooth and Mt. Deception-Needles areas, offer the best climbing as well as some of the wildest scenery in the Park.

The deposition, folding, and uplift of these formations to form the Olympics, and the later glaciation of the range are interestingly presented. Numerous photographs and references to places of particular geologic interest strongly commends this small book to past and prospective visitors of Olympic National Park.

JOSEPH A. VANCE

LISTENING POINT. By Sigurd F. Olson. Illustrations by Francis Lee Jaques. Alfred A. Knopf, New York, 1958. 244 pages. $4.50.

Although little really "happens" in *Listening Point*—no narrow es-

capes or astounding discoveries—outdoor lovers who have taken the time to stop, look and listen will find much to hold their interest. Like *The Singing Wilderness* the setting is in the Quetico-Superior canoe country, which the author knows and loves so well.

Each chapter, composed in a style akin to poetry, is a complete unit. "Laughing Loon" is a literary gem deserving of a place beside the John Muir bird classic on the water ouzel. We Puget Sounders might well benefit from "The Sound of Rain." How many of us would notice after a storm the lowly fungus pushing through the humus, or the delicate odors from the diminutive bells of Linneaus? We would be too busy straining to see the peaks through the mist.

Even though Mr. Olson is a zealous crusader for wilderness (he is president of the National Parks Association) his sympathy with all life enables him to see that the motives of the logger or cat-driver are basically no different from the homesteader with his ax and plow. In *Listening Point* is science, philosophy, Indian lore, reminiscences and conservation skillfully woven into a story of quiet adventure.

JOHN F. WARTH

ARCTIC WILD. By Lois Crisler. Harper & Brothers, New York, 1958. 301 pages, 66 photographs. $4.95.

Arctic Wild is the warm-hearted account of Herb and Lois Crisler's photographing venture for Disney to film caribou on the north side of the Brooks Range, the most remote wilderness of North America. They were "three hundred miles northwest of Fairbanks, a two-hour flight over wilderness mountains from Beetles Field and over a hundred miles of tundra walking from the nearest humans, the Eskimos at Anaktuvuk Pass." For eighteen months they lived here with the exception of a brief winter stay at Point Barrow. Their only close companions were wolves which they raised from pups.

Caribou passed the Crisler's "cracker box" shelter on the migration trot. Cris estimated thirty thousand passed in one afternoon and evening. They watched their own wolves and wild wolves make caribou kills, and always the animals killed were the crippled or sick. A healthy caribou, and even a calf can outrun a wolf in a chase.

The Crislers raised two wolves from pups. Later they adopted a litter of five taken from a den. The wolves considered the Crislers part of their pack. They invented games. Lady untied the ear flaps of Chris's cap whenever he sat down. They leaped on his back if he kneeled on all fours. They chased each other playing tag.

Lois watched a wolf acquainting herself with her first pink daisies. "She brushed her nose across them, raised her paw and touched them. —She patted her first puffball, sprang back and sneezed, then patted it again." Lady watched Lois picking and eating blueberries. After Lois mashed some and gave them to heer to lick, the wolf then picked and ate a few from the bushes herself. "Wolves have to learn."

In summer the intense sun, day and night, was hard on both man and animal. Cris sunburned in bed one night. At times filming conditions were poor because of heat waves, "the tundra was vibrating." The caribou were plagued by the heat, botflies, and thirst. The wolves,

protected only by a thin coat now, winced and jumped from mosquitoes.

The nearly seventy photographs taken by both Cris and Lois would make a book in themselves—a book of story-telling expressions on wolf faces, caribou migrations, radishes grown in the Arctic, and friendly singing as the Crislers howled with their wolves.

Arctic Wild is a cry for wilderness preservation, a fight to save the Arctic Wildlife Range, the last and only chance for great herds of caribou and "their shepherds, the wolves" to be preserved in natural habitat in United States territory. Bounties on wolves and the extreme pressure which is being brought in the Department of the Interior to remove protection spell doom for this area unless action comes quickly from wilderness lovers. "Wilderness without its animals is dead—dead scenery. Animals without wilderness are a closed book." The natural balance of nature, the Crislers feel, is far better than the supposed control by the killing of predators. "In civilzation there is a vast, overwhelming whimper to be secure, sheltered, cared for. But if you refuse danger too much, you refuse life."

Part of the charm of the book lies in the deep feeling Lois has of the mood of a land inhabited only by non-humans, and her relation of the infinite variety of life in that land. Added to this is her word picture of the changing mountains, tundra and sky. So strong is her feeling of the glory of that world, that many readers will feel with her that it must be preserved.

Mountaineers will know that Lois Crisler has a special sensitivity to wilderness. Many will remember that she and her husband met on a Mountaineer outing and spent several years on Hurricane Ridge and on the Elwha, where they filmed "Olympic Elk." Lois Crisler's own nature, and her many years in remote areas have given her a kinship with animal life that is wonderful and rare. Not many can hope to share it, but we can cherish it, and feel that we Mountaineers are included in her dedication of the book "To the wolves of the Arctic tundra and to those people who will act to preserve life and habitat for them."

MARGUERITE BRADSHAW

A CENTURY OF MOUNTAINEERING 1857-1957. By Arnold Lunn. George Allen & Unwin Ltd., London, 1957. 263 pages, 16 photographs, 8 color plates. $5.00.

Although commissioned by the Swiss Foundation for Alpine Research as a centenary tribute to the Alpine Club, and written by a distinguished British mountaineer author, *A Century of Mountaineering* seems to this reviewer a work of uneven merit. As a sort of encyclopedia of mountaineering during the last hundred years, with special emphasis on British climbers in the Swiss Alps, it contains a wealth of information, but its very mass of detail makes for heavy recreational reading, and much that it covers has been described more vividly elsewhere.

The book is most interesting where Lunn writes from his personal

recollection. He gives some vivid characterizations of British Alpine pioneers such as Whymper, Leslie Stephens, and Coolidge, all of whom he had met. His discussion of the Alpine Club's original system of voting on membership applications is interesting, since he himself was blackballed on his first application (apparently a family connection with a travel agency was suspect), and was later admitted just before the system was changed.

Lunn discusses dispassionately the old controversy over artificial aids to climbing, and one feels that he has real appreciation both of the skills of modern rock climbers, and of those who earlier made tremendous ascents unaided. As a pioneer in European ski mountaineering he pays welcome attention to this phase of mountain activity.

Despite his experience as a writer on climbing and skiing, Lunn is of least interest in his discussion of the philosophy of mountaineering and mountaineering literature. His tendency to pontificate is tedious, and untranslated quotations from French, German, and classical sources are sometimes annoying.

The illustrations in this book, though not numerous, are very fine. The black and white photographs include views of all faces of the Matterhorn, with the site of the first ascent tragedy clearly marked. (Lunn's discussion of this tragedy is good.) The color plates reproduce paintings of Alpine scenes, mostly nineteenth century. An American reader going through this book longs for a detailed map of the Swiss Alps, without which the mass of geographical reference is difficult.

ELIZABETH M. ROBINSON

IN HIGHEST NEPAL: Our Life Among the Sherpas. By Norman Hardie. George Allen & Unwin, Ltd., 1957. 191 pages, 3 maps, 16 plates. $4.50.

For those who enjoy hiking, outdoor living, mountainous surroundings, and foreign peoples, *In Highest Nepal* by Norman Hardie would be of special interest. It is rich in travels that involve narrow valleys, heavy packs, tropical mists, thin frosty air, snow, and the Sherpa peoples. After Hardie's ascent of Kangchenjunga in eastern Nepal, he traveled westward for three months until he reached a small Sherpa village, the home of his head Sherpa, where he lived for six months. During the three months of hiking, he carried up to seventy pounds in his pack, hiked over several passes, four of which were over 15,000 feet, and then down again into tropical valleys. With the village as his headquarters, he took several side trips to take topographical measurements of surrounding unmapped valleys.

In general, however, most of *In Highest Nepal* is a study of the Sherpa peoples. Hardie has made a very detailed observance of their customs, dress, food, and the influence of Buddhism in their daily life. Hardie gives accounts of spring planting, of taking the village herds of yak up to high pasture, of placing prayer flags near all forks in the trails, and of monks chanting at funerals and festivals. Through these and many more of his experiences, one learns that the

Sherpas are an extremely hard working people and have a high standard of living. However, generally they are uneducated and many of their customs are based on superstitious beliefs. For example, in spite of the fact that the Sherpas are land starved, and grow barely enough for their own use throughout the winter, they have left areas of virgin forest untouched because foreign gods are believed to inhabit them, although permitting these forests to stand does serve the purpose of keeping the highlands from becoming dry and eroded.

Perhaps one of the most humorous and yet important Sherpa customs that Hardie learned was to graciously accept Sherpa hospitality. Evidently at almost every hut that Hardie and his three Sherpa coolies passed, they were asked to come in for a drink of *chang,* a local type of beer. In spite of Hardie's desire to continue on to his destination, he would always have to accept the invitation, as a refusal was considered very unfriendly. When he was offered a mug of *chang,* he had to refuse it three times before drinking. Only after this formality had taken place could he drink. Then his cup was filled up to the top after each sip he took! Even when Hardie earnestly wished to refuse the *chang,* his ardent refusals were only taken as a very polite and enthusiastic acceptance!

Actual mountaineering comes into Hardie's book very little. However, one very interesting account of his trip over a high pass during the monsoon season does stand out. Hampered by a frightened and inexperienced Sherpa friend, very high wind, freezing temperatures, waist deep snow, ice, and a sixty-pound pack, Hardie climbed up the pass. Even roped and "cramponed" the Sherpa slipped, but fortunately recovered. The descent was equally treacherous as the snow slid away beneath them at every step and debris of hundreds of soft snow avalanches could be seen below. Only through astute handling of his Sherpa and excellent use of his own mountaineering experience did Hardie manage to reach the lowlands safely.

In Highest Nepal is a book of great variety, as Hardie's travels involve the extremes of cold and heat and exuberance and exhaustion in climbing; too, it gives accounts of the fundamental human needs and traits of love, curiosity, humor, and devotion, as they are manifested in the Sherpas. Thus the descriptive passages show Hardie's love of the mountains and give a silent commentary on human nature.

LORRIE HOYT

THE MOUNTAIN WORLD, 1956-57 edition and 1958-59 edition. By the Swiss Foundation for Alpine Research. English version edited by Malcolm Barnes. Harper & Bros., New York. $6.00 each.

If some Mountaineers are unfamiliar with these books, they might try visualizing their Annual on a world-wide scale to get some kind of an idea of what awaits them in these outstanding publications.

Written primarily for experts and experienced climbers, these two latest volumes of *The Mountain World* nevertheless will strongly appeal to all mountaineering addicts, because of the variety of material covered. National boundaries are brushed aside by the common bond of alpine interest, with chapters authored by Americans, French,

English, Indian, German and Japanese. Both books chronicle major summit attempts, predominantly in the Himalayas, but include as well intensive coverage of alpine geography, glacier studies and field research.

Members of The Mountaineers will find some close-to-home familiarity in the several chapters discussing peaks and people in western North America. For example, there is the chapter in "56-57" on the unsuccessful 1954 try on University Peak in Alaska and the successful climb the following year. The outstanding feature of the "56-57" book is the "Mount McKinley Portfolio" by Bradford Washburn, which can be considered a definitive work on the mountain. Washburn covers the history of mountaineering on McKinley as well as the more practical aspects from the expedition standpoint: equipment, radio, air support, evaluation and the future. The maps, drawings and photographs are superb. Washburn closes with a description of what he terms "the greatest remaining pioneer ascent in North America," i.e., approaching the South Peak from the south, a vertical ascent of 8,000 feet in less than two horizontal miles.

And in "58-59" is Gilbert Roberts Jr.'s account of the successful 1957 Mt. Logan expedition, with Seattleite Dave Collins a party member.

The outstanding photographs and personal narratives of climbs of Himalayan, Andean and Alpine peaks will interest, excite and reward any mountaineer with the desire, secret or otherwise, to make an expedition climb somewhere, some day. In fact, the "58-59" photos of peaks on three continents are some of the most incredible and awe-inspiring ever published in a mountaineering book. For any student of mountain rescue, the penetrating studies of the tragedies on the Eiger and Mont Blanc in "58-59" are invaluable.

WARD C. WILLIAMS

THE CONQUEST OF FITZ ROY. By M. A. Azema, translated by Katherine Chorley and Nea Morin. Essential Books, Inc. Fair Lawn, N.J. 1957. 236 pages. 19 photographs. 7 illustrations. $5.00.

On picking up *The Conquest of FitzRoy,* most readers will wonder "What is FitzRoy?" When they find out it's a mountain they'll ask "Where?"

Dr. Azema's account leaves no doubt that FitzRoy in the Patagonian Andes is a test for even the best of modern technical climbers on the order of the great north faces in the Alps.

FitzRoy's 11,286 feet would make it inconspicuous among the great peaks of the Alps except for the final few thousand feet of bare rock which sprout from the strikingly jagged ridge like a gigantic thumb jabbing at the sky.

The avid climber who turns to *The Conquest of FitzRoy* solely for the record of the assault will be disappointed. Only about one fourth of the book tells of the climb, the rest is devoted to lengthy descriptions of the approach to the peak, the general topography of southern South America and the preparations for the climb.

But each phase of the book has its own merit. If Dr. Azema's

wordy wandering through the southern Andes serves to focus attention on the possibilities of these unknown and untried peaks, especially for American climbing groups, then it has been well worth it.

Of particular interest is the serious problem posed by weather conditions . . . so serious in fact, that the French expedition had to resort to pitching its tents inside snow caves.

The safety-conscious climber will gasp at some of the practices of the French climbers. He will be especially critical of their glacier technique where Terray and Dr. Azema persist in wandering around alone.

In the final analysis though, this will reflect the eagerness and daring which must be inherent in an expedition of this kind to make a successful assault. It brings to mind Danton's words during the French Revolution—"Audacity, more audacity, always audacity."

Conquest of FitzRoy is essentially the story of some fifteen hundred feet (it is never made clear just how much) of vertical rock and how two men successfully climbed it. It is in part a vindication of climbing through mechanical aids. The only feasible route is one alternating between Class 5 and 6 climbing most of the way.

The climbing descriptions are superb. In some places the palms of your hands will get moist as you inch along with Terray on an airy traverse. Your heart beat quickens as you take a stance with Terray and watch his partner, Magnone, swing rythmically and flawlessly up an almost impossible pitch disdaining the help of pitons.

With Dr. Azema's descriptions of the hardships involved, the peculiarities of the weather, you get the feeling of the terrific physical and mental combat as the two climbers meet and overcome every obstacle which the mountain puts before them.

Dr. Ameza titles his book *The Conquest of FitzRoy*, but after Terray and Magnone have returned to the high camp below the rock face in swooping rappels, you get the feeling that climbing FitzRoy was a matter of exceptional skill combined with exceptional good fortune.

The climbers gain immeasurably in stature by their achievement, but FitzRoy has lost nothing by condescending to let them step on its summit . . . for this one time.

HUBERT N. BELANGER

THE WINTER BOOK OF SWITZERLAND. Edited by Dore Ogrizek and J. G. Rufenacht. Printed in Switzerland. McGraw-Hill Book Company, New York, 1958. 382 pages. $3.00.

Have you always wanted a trip to the wonderful land of Switzerland? Then, here is your ticket of encouragement. All that is necessary is to leisurely peruse this very complete book by Dore Ogrizek and J. G. Rufenacht. They have included all the regions with their history—Bernese Oberland, Valais, Lake of Geneva, Alps of Fribourg, Grisons, Northeastern Switzerland and the Jura. Incidentally the reader has the opportunity to enjoy beautiful pastel colored maps and pictures showing the splendid beauties of this fab-

ulous winter sport center. It will become your guide and key to skiing, skating, ice hockey, curling, bobsledding, tobogganning, and mountain climbing. Included is a very handy guide to highway signs —a very vital part of your trip if you are motoring through the country. Skiing equipment and exercises, in preparation for skiing are given, as well as timely tips on certain things that are not done. In this little book you will find each resort's downhill runs graded as to the degree of difficulty—on the maps you will find blue marks the easy runs, black the medium or intermediate, and red the difficult or expert. You will find yourself chuckling over the humorous sketches and cartoons throughout, depicting incidents and individuals. One section is devoted to the mountain climate as related to bodily health and will be most beneficial to anyone wanting to know the basic reasons for certain procedures in the higher altitudes.

This brief view of some of the highlights is just a sample of what the reader will encounter. All in all *The Winter Book of Switzerland* is, indeed, the most comprehensive guide book to this enchanting country I have come across and is recommended to all interested as most worthwhile!

CAROLYN LAMSON

AVALANCHE! By Joseph Wechsberg. Alfred A. Knopf, New York, 1958. 254 pages, 3 maps. $4.00.

On January 11th, 1954, two major avalanches descended on the isolated alpine village of Blons, high in the Austrian province of Vorarlberg. These wiped out half the houses in Blons, including many which had stood unharmed for centuries, and took the lives of 53 men, women and children. Mr. Wechsberg with skill and insight has reconstructed life in the village immediately preceding the disaster and followed the hours of terror afterwards, when cut off from the outside world, the surviving townspeople attempted, untrained and ill-equipped, to carry out a rescue. Necessarily sketchy in its technical details concerning modern avalanche prediction and control (Mr. Wechsberg is on much firmer ground describing human emotions than snow mechanics), this book still makes clear the fact that such tragedies as Blons can be prevented or greatly minimized by intelligent forethought and planning. It makes even more abundantly clear the less obvious fact that prevention of avalanche accidents depends on more than science and engineering; such diverse factors as finance, politics, and human apathy and stubborness play an equally important part. Here in America, where most of our avalanche hazard results from the transient use of ski areas or mountain highways, the diversity of problems is not so clearly developed, but in the high valleys of the Alps where farmers and dairymen have clung tenaciously for centuries to their ancestral acres, the technical problems of avalanche defense designs may be less important than persuading endangered villagers that recourses other than prayer are available to them.

The history of Blons offers clear evidence of these human problems. Since the valley was first occupied it has been scourged by ava-

lanches which time and again destroyed houses, only to return in a decade or a century to destroy new houses rebuilt in the same location as the old. Fifty years ago an attempt was made to build avalanche defense structures and restore the Bannwald, the protective forest above the village, but within a few years the inadequate structures were allowed to fall into disrepair and the forests were cut once more. The immediate events preceding the 1954 avalanches were frightening in the implacable step-by-step march toward disaster: disregard of snow conditions which even to the most casual observer, let alone a veteran mountain dweller, pointed to catastrophic avalanches; complacency in the face of urgent bulletins from the government avalanche warning service; persistence in the usual village routine even when unmistakably warned by the fall of nearby avalanches; apathetic response to the few foresighted individuals among the populace who urged immediate evacuation to a safer zone—all of these characteristics of the stubborn mountain peasants could have but one consequence. These people might be admired for their tenacity in clinging to their homes and land, but they can hardly be commended for their wisdom.

In *Avalanche!* their story is well told. It is recommended reading, both as a human story and as an object lesson for those interested in avalanches and their effects on a mountain people.

E. LA CHAPELLE

THE MONT TREMBLANT STORY. By John and Frankie O'Rear. A. S. Barnes & Company, New York, 1954. 96 pages, 135 photographs. $4.50.

The Mont Tremblant Story is an attractive picture book covering the history of this Laurentian mountain area and the development of a fine eastern ski resort.

During the pioneering days of early Quebec Province it was farming, lumbering and trapping that developed the area and little did those first rugged and colorful French-Canadians realize that it would be *snow* that would bring fame and fortune to their land.

The one man more than all others who lived and loved these mountains and their villages was Joe Fortune Ryan and this book is dedicated to him. The problems involved in buying a mountain and the work of planning a charming new French-Canadian ski village of 95 buildings at the foot of "Trembling Mountain" are clearly written.

All phases of ski technique from basic to the revolutionary Mambo are presented here along with illustrative photos. World famous ski personalities are pictured with the snowy backdrop of Mont Tremblant scenery.

With the reading of this book pleasant memories were recalled of the all too short period we had in this area one New Year's week as we hunted snow from Boston north to Mont Tremblant. We particularly enjoyed the Nansen run on the Mont Tremblant Lodge side of the Ryan development and the Lowell Thomas run on the "other side of the Mountain" called Devils River.

ELENOR BUSWELL

AND COMMITTEE REPORTS

NOVEMBER 1, 1957 - OCTOBER 31, 1958

After a minor setback in 1957, membership of THE MOUNTAINEERS in 1958 resumed its growth. Total membership increased from 3,444 October 31, 1957, to 3,659 October 31, 1958. Of the 1958 total, 329 received the supplementary benefits of Tacoma Branch membership, 122 held Everett Branch membership.

While membership expanded slowly in 1958, activities offered by THE MOUNTAINEERS and properties held by the club continued to expand at a rate that brought satisfaction to the members and problems to those concerned with administration of the organization.

Major property advance of the club in the year was substantial completion of the new ski lodge at *Mount Baker*. This was ready for occupancy, and the old, leased Gates Cabin was surrendered at the start of the 1958-59 ski season. The new lodge is situated 400 feet from the commercial Mount Baker Lodge at a site planned to provide the best combination of accessibility to road and tows, minimum snow depth and view of Mount Shuksan. It is a two-story, elevated wooden structure 64 feet long by 22 feet wide, with shed-type roof, Its main floor offers two lounge or recreation areas separated by the kitchen. Its upper, dormitory floor will accommodate a maximum of 60 skiers. This lodge was built at a cost of $11,500 and thousands of hours of volunteer labor by Mountaineers in its planning and erection.

Another building project neared completion in the *Linda Coleman Memorial Shelter*. The roof was put up over this picnic and outdoor gathering area at Snoqualmie Lodge, and only minor work remains to finish the shelter.

Meanwhile, finishing touches and improvements continued to be made on the *Mountaineers Clubroom in Tacoma*.

Growth of the *Rhododendron Preserve* for the year was represented by acquisition of a three-acre tract adjoining Mountaineer property there. The owner, C. Triol, agreed to sell this tract to the club for a nominal price. The Rhododendron Preserve now comprises approximately 163 acres.

Administratively, the Mountaineers' biggest step in 1958 was establishment of a divisional system for better liaison between the club Board of Trustees and its committees. Six divisions were set up. Each standing committee of the club was assigned to a division. Divisional leadership was given specified club Trustee and non-Trustee

members with experience in committees coming under their divisions. These leaders were held responsible to meet regularly with chairmen of committees assigned to their divisions, to help committees exchange ideas and correlate their activities for a smooth, unified club program. Leaders also were held responsible to report to the Board on activities of committees in their divisions. At year's end four divisions—the Administrative, Properties, Outdoor and Indoor Divisions—were staffed and operating. The Educational and Publications Divisions remained to be activated. The divisional system still was operating experimentally in many fields, but its benefits were evident.

Your Board of Trustees also moved in other ways to streamline and strengthen administration of the club's increasingly complicated activities and properties.

In its financial structure, the club strengthened its controls through a system instituted by the Treasurer to insure that monthly financial statements would give as up-to-date a picture as possible of the condition of the club and its various activities. The Board approved hiring of a bookkeeper to handle much of the mechanical part of its financial administration and give the Treasurer, as an unpaid elected officer, more time for his important analytical and advisory duties. The Board authorized establishment of a *Finance Committee* to review the club's continuing financial policies.

In other actions reviewed by the Board:

. . . Insurance coverage was studied comprehensively by the *Insurance Committee,* coverage was adjusted where advisable, an attempt was made to centralize coverage through one broker, and club liability insurance was extended to protect leaders of club-sponsored activities.

. . . The *Nominating Committee* was instructed to list vocations of nominees in biographies distributed with ballots for members of the Board of Trustees but not to list religious or fraternal affiliations.

. . . The *Junior Representative* was given the status of official observer, with voice but not vote, at Board of Trustees meetings.

. . . The schedule for repayment of the *Tacoma Clubhouse* construction loan to the permanent building and improvement fund was revised to ease the burden on the Tacoma Branch.

. . . The *Clubroom Secretary's* hours were increased to give her a full 40-hour week. (Much of this time is devoted to maintaining records. Open clubroom hours were unchanged.)

. . . Specific term dates were established for all committee chairmen and members.

. . . A special committee to review Mountaineer share-the-ride transportation policies recommended that the rules for such transportation be publicized and strictly enforced, that efforts be made to encourage more offering of rides, that share-the-ride rates (now 1½ cents a mile per passenger for most trips) remain unchanged temporarily.

. . . Special committees were named to prepare a new brochure for

distribution to new and prospective members and to study more effective means of preserving minutes of the Board of Trustees. . . . The *Future Clubrooms Committee* continued its survey of short-term and long-term club housing needs, although it still was not in a position to offer the Board a comprehensive, written report of alternatives on which the club can base its policies.

While ski lodge construction was concentrated at Mount Baker, good skiing seasons were reported from Mountaineer lodges at *Snoqualmie, Stevens* and *Meany,* as well as *Mount Baker.* However, light snowfall and unusually warm weather combined to shorten the season. In the only lodge summary submitted for this report, Meany listed attendance of 928 for the season from December 26 through March 30.

With coming of the divisional system, many functions of the *Lodge Operations Committee* were assumed by the new Properties Division, and the committee was disbanded.

The popularity of *Snoqualmie Lodge,* particularly, continued to grow. The combination of Snoqualmie's proximity to Seattle, its tows and fine slopes attracted overnight and day skiers in heavy numbers. Operation of what amounted to a commercial ski hill placed a heavy load on volunteer leaders, and the Board experimentally placed the property under paid management for the 1958-59 season. This step was taken with the provision that the property continue to be operated for Mountaineer members, under Mountaineer traditions and policies.

Reservation of Mountaineer facilities for Mountaineers and their legitimate guests was furthered by a provision that lodge guests and those attending the monthly dances be required to show proof of membership.

Mountaineers' 1958 *climbing* season was affected by the same light winter snowfall and warm weather that shortened the ski season. Reduced snow cover changed the character of many climbs. Heavy brush slowed progress on many normally easy snow climbs. Despite this, the climbing courses drew record crowds, and full climbing schedules were pursued. Beginning students totaled 303 in Seattle; 150 intermediates were registered. In Tacoma there were 69 basic students and 38 intermediates. The Everett course attracted 21 students. The Seattle course alone scheduled 38 experience climbs.

Interest in advanced climbs lagged. Two out of six scheduled advanced climbs had to be canceled for lack of participants. On the other hand, climbers' Viewfinders program showed such strength that a new standing *Viewfinders Committee* was set up to direct it in the future. The past year, from 10 to 38 persons attended each of the nine Viewfinders snowshoe trips. The 11 Saturday and 11 Sunday Viewfinders climbs attracted 459 persons. For the fourth year, the Climbing Committee directed the *Camping and Hiking Course.* The course will be sponsored in future years by the Campcrafters, Viewfinders, Trail Trips and Summer Outing Committees.

One committee structure change saw the *Achievement Records Committee* consolidated as part of the Climbing Committee.

The 1958 climbing season was saddened by the death of Ray Rigg. Rigg, a veteran Mountaineer and one of the most enthusiastic climbers in the club, was killed May 31 in a fall on rain-slicked rock as he and the rest of his party descended from the base camp where they had been weathered out on an advanced climb of Mount Temple. Rigg was the second member in the Mountaineers' 52-year history to be killed on a club-sponsored outing. The Mountaineer *Safety Committee* investigated the fatality. It also investigated lesser accidents during the year and continued the program of education and preventive work that have helped the club build an enviable record in this field. The Safety Committee continued to work closely with the Mountain Rescue Council.

Junior Mountaineers' civic project for the year was a work party at the new Mount Pilchuck Recreation Area June 21 and 22.

This year's *Summer Outing* to the Eagle Cap Wilderness Area of the Wallowa Mountains July 19 to August 2 was attended by a total of 75 persons. Fifty-six stayed for the full two weeks. Fourteen came for the first week, five for the second.

Campcrafter activities continued to interest many Mountaineer families. A total of 383 persons attended Campcrafter outings during the year. Campcrafters' 13th Annual Gypsy Tour August 2 to 17 took 70 persons to the Twisp and Methow Valleys of the North Cascade Wilderness Area in its first week, 79 persons through the Mount Baker Recreation Area the second.

Trail Trips and *Ski Tours* added to the club's outdoor activities. Only one *Special Outing* was held—to the Okanogan area over Memorial Day.

Mountaineer *Players* came up with another hit show this year at the unique Forest Theater in the Rhododendron Preserve. A nonmusical version of "Annie, Get Your Gun" drew more than 2400 persons to three afternoon performances June 8, 14 and 15, as sunshine and blue skies co-starred. A cast of more than fifty players participated, and as many more helped with the production. Perhaps the most spectacular assortment of backdrops in the Players' history was assembled to set such scenes as a train, a hotel, the grounds of a mansion and a trans-Atlantic cattle boat. A section of railroad track used in setting the scenes particularly intrigued the audiences.

A hundred and eighty-four persons attended the *Annual Banquet* April 11 in the Hotel Edmond Meany. Featured speaker was Dr. Win Bird of the University of Washington Speech Department. Entertainment was provided by the Players and the Lower Slobbovian National Orchestra of Meany Ski Lodge.

Joseph M. Buswell was awarded the annual *Mountaineers Service Plaque* for his service as a leader and worker for the club. A member since 1939, Buswell was President in 1949 and 1950. He also has been a division and committee chairman and served the club in many ways.

Another former President also was honored in 1958. The Mountaineers were informed that the United States Forest Service has named an 8200-foot peak in the Picket Range of Whatcom County for the late William A. Degenhardt, president in 1953 and 1954.

Responsibilities of the Monthly Meetings Committee were increased, and its title was changed to the *Program Meetings Committee.* Besides conducting the Monthly Meetings, the Program Meetings Committee will handle any speaker or program not in the province of any other standing committee. In the last special program before this policy was established, a committee under Dan Streeter presented a film lecture by Maynard Miller February 7 at the Chamber of Commerce Auditorium. The first special program of the Program Meetings Committee presented British climber Joyce Dunsheath October 1, also at the Chamber of Commerce Auditorium.

The Natural Science Committee, under contract with the University of Washington, presented three courses — Astronomy, Botany and, for the second time, Geology for Mountaineers. Attendance totaled more than 100.

Dinner Meetings, the *Monthly Folk Dance, Bridge, Picnics* and *Photography* meetings provided other recreation for members.

Among publications, work went on quietly toward completion of the long-projected *textbook on climbing.* The first Mountaineers' *Library* inventory in several years showed more than 800 volumes crowding the shelves, with more books and periodicals being received each month.

Like the Library, the club's monthly bulletin, *The Mountaineer,* found itself crammed tighter and tighter, as the staff labored to give all activities proper notice.

The Annual came up with a new format, excluding the roster, which was published separately. In the interests of conservation, a quantity of 1957 Annuals, which featured the Glacier Peak Wilderness Area, were sold at cost to the Sierra Club for distribution to the North Cascades Conservation Council. A special committee was named to ensure better use of old Annuals lying idle in the club storeroom. This committee launched an effective sales campaign to get these Annuals of past years into the hands of interested members.

The Conservation Committee functioned effectively in distribution of the 25,000 brochures prepared the previous year on the Glacier Peak Wilderness Area. It also gave consideration to its essential responsibility to inform the membership of its program and to ensure that Mountaineer conservation policies stem from the will of the membership and have the support of that membership. A Mountaineer, Mrs. John (Polly) Dyer was elected president of the Federation of Western Outdoor Clubs. The Conservation Committee was empowered by the Board of Trustees to study any local issues relating to conservation and recommend appropriate action to the Board.

On recommendation of the Conservation Committee, the Board of Trustees took the following actions:

. . . Again reaffirmed its stand opposing invasion of the Arboretum by approaches to a second Lake Washington Bridge and informed Gov. Albert D. Rosellini of that stand.

. . . Expressed opposition to any reduction in size of the Goat Rocks Wild Area.

. . . Authorized purchase of a copy of the Sierra Club film, "Wilderness Alps of Stehekin," and a copy of the film, "The Two Yosemites."

. . . Opposed the proposed Packwood Lake Dam.

. . . Endorsed the King County Commissioners' plan to obtain the Seahurst-Seola Beach area and the State plan to acquire land in the Dash Point vicinity for public parks.

. . . Appointed President Paul Wiseman delegate to the annual convention of the Federation of Western Outdoor Clubs.

. . . Endorsed a Senate bill to establish an Indiana Dunes National Monument on shores of Lake Michigan.

. . . Opposed construction of Bridge Canyon Dam in Arizona.

. . . Approved FWOC Resolutions—Wilderness Bill, and Deferment of Land Classification.

. . . Authorized President Wiseman to testify for the club at a Senate committee hearing on the Wilderness Bill at Bend, Ore.

Programs tailored especially to the needs of members in the Tacoma and Everett areas were conducted through the club branches in those cities. While designed particularly for members in those areas, branch activities were open to all Mountaineers, as, of course, all activities of the parent organization are open to all Mountaineers, whether or not they enjoy the additional benefits of branch membership. The following two reports outline activities conducted for the club this year through the branches in Tacoma and Everett:

Tacoma Branch Report

Improvements in the clubhouse this year included an asphalt tile floor, a storeroom, completion of kitchen cupboards and countertops, and painting of the kitchen and restrooms. Both Campcrafters and Climbers reported the new building well suited to their needs. Campcrafter families helped with equipment and suggestions at a Family Camping Workshop sponsored by the YWCA. Besides learning to take better pictures, the Photographers sponsored Dee Molenaar's K2 show and contributed the proceeds toward the purchase of a permanent screen.

Music meetings continued to be held in members' homes, with "live" music by Charlotte Bergoust, cellist, and Jim Holt, pianist, as well as records. Social highlights were a special meeting with Maynard Miller, who told about recent glaciological studies leading to climate forecasts, amplifying the talk by Ed LaChapelle on his Blue Glacier Project for the International Geophysical Year; the Christmas Party with packages for the clubhouse and songs by the Stadium Madrigal Singers; and Robert Sprenger's talk on Vancouver Island wilderness at the Annual Banquet. Ways and Means Committee

activities furnished the clubhouse with dishes and folding chairs, as well as giving Mountaineers a new taste treat, real roast buffalo. Two thousand viewed Audubon Screen Tours covering conservation and wildlife in Africa, the Grand Canyon, Canadian marshes and mountains, Colorado prairies and peaks, as well as penguin territory in faraway Falkland Islands.

The most important activity at Irish Cabin was the Thanksgiving Dinner. Trips at Mt. Baker and on Nisqually Glacier highlighted the ski season. The Greens Walk introduced a new area on Tanwax Creek where hikers saw beaver dams and tried to beat their way down the creek to the Nisqually, while countless salmon beat their way upstream. For Trail Trippers the high point of the year was the joint Cape Alava Outing over Memorial Day. Keith Goodman led a group at 5 A.M. at a rapid clip along the trail to the Cape to reach the barnacle-encrusted anchor before the tide covered it. Finding a doe and fawn on Cannonball Island, seeing swamp laurel and Labrador tea in the clearing, and singing "For He's a Jolly Good Fellow" around the campfire are all pleasant memories of this trip.

Everett Branch Report

From square dancing to a first ascent of the northeast face of Three Fingers — the Everett Mountaineers during the year 1957-58 ran the full gamut of activities. In their sedentary moments at the monthly meetings and the annual banquet they traveled via slides to faraway places from India and Pakistan to Mt. Logan and the northwest. In a socializing mood they ate, talked, square danced, and sang at seven potluck dinners during the year. Feeling slightly more ambitious many members participated in a number of one-day family outings—two beach walks, a greens walk, a steak walk, and a salmon bake. May 25 was a perfect summer day at Gold Basin for the steak walk while in October 117 adults and children enjoyed the fall sunshine and moist salmon steamed in the traditional Everett manner.

Wet was the word to describe most of the fall and spring hikes such as Lost Lake, Green Mountain, Mineral City, Frailey Mountain, though views from Maloney and Haystack Lookouts were clear.

With three days of planned hikes the campers were busy and most energetic on the Memorial Day and 4th of July outings on the Chiwawa River and at Sulphur Creek Campground. Carnie Mt. was wet; Estes Butte, steep and hot; but views of Glacier Peak from Sulphur Mountain Way were spectacular.

Though the winter was mild, snowshoeing and skiing were the major outdoor activities, with several trips to Stevens Pass and one to the lodge at Mt. Baker.

Two lookout peak climbs were completed: Evergreen, on one of the hottest days of the year; and Church Mt. with its superb view of Baker from the meadows.

The climbing season stretched over the four seasons of the year with winter snowshoe climbs of Eagle Peak and Surprise Mt.; the sponsoring of the basic climbing course in the late winter and early

spring; summer climbs of Snoqualmie, Formidable, Adams, Mix-up, Sahale, Clark; and numerous private climbs including a new route to the summit of Keyes, the northeast face of Three Fingers, and others.

Packing and weather problems limited the activities of the summer outing in August in the Whatcom Pass area, but the small group enjoyed hikes, campfires, and spectacular views in every direction.

DON PAGE
Secretary

In Memoriam

1957

Hector V. Abel
Arthur Bailey
Albert C. Doph
Alexis J. Melnichenko
Viola Neupert
Mary Paschall Remey
Eugene L. Todd
Arthur A. Wakefield

1958

Mrs. Eugene R. Faure
Raymond R. Rigg
Edgar Royer
James Siter
Melvyn L. Stilwell
Herman P. Wunderling
Nathaniel Haynes
Mrs. Nathaniel Haynes (Marian)
Richard A. Savery
Mrs. Robert Rasmussen (Gertrude Snow)

THE MOUNTAINEERS
STATEMENT OF FINANCIAL CONDITION
August 31, 1958

	Assets	Liabilities
General Fund		
Cash	$11,882.89	
Accounts receivable	277.61	
Advances to Mountaineering Book Fund	1,294.18	
Due from other funds	476.92	
Property and equipment - schedule	31,664.07	
Unexpired insurance and prepaid expense	2,305.95	
Accounts payable		$ 680.49
Dues and initiation fees allocated to Branches		652.83
Due other funds		2,221.00
Balance of fund		44,347.30
	$47,901.62	$47,901.62
Permanent Building and Improvement Fund		
Cash	$ 6,718.82	
Tacoma clubroom construction loan	3,600.00	
Due General Fund		$ 151.80
Principal of fund		10,167.02
	$10,318.82	$10,318.82
Mountaineering Book Fund		
Cash	$ 4,151.80	
Due to and from General Fund	191.00	$ 1,294.18
Pledges receivable	4,014.00	
Note payable		4,000.00
Pledges subscribed		4,170.00
Principal of fund - deficit		(1,107.38)
	$ 8,356.80	$ 8,356.80
Permanent Fund		
U. S. Government bonds - at cost	$ 3,000.00	
Due from General Fund	$ 2,000.00	
Principal of fund		$ 5,000.00
	$ 5,000.00	$ 5,000.00
Linda Coleman Memorial Fund		
Cash	$ 655.92	
Due to and from General Fund	5.00	$ 325.12
Principal of fund		335.80
	$ 660.92	$ 660.92
Seymour Fund		
Cash	$ 255.16	
U. S. Government bond - at cost	1,000,00	
Due from General Fund	25.00	
Principal of fund		$ 1,280.16
	$ 1,280.16	$ 1,280.16

THE MOUNTAINEERS
PROPERTY AND EQUIPMENT
August 31, 1958

	Recorded Value	Accumulated Depreciation	Net Value
Rhododendron Preserve	$ 4,040.88	$ 3,368.37	$ 672.51
Meany Ski Hut	7,923.79	5,230.10	2,693.69
Mt. Baker Cabin	417.80	79.38	338.42
Snoqualmie Lodge	13,388.48	7,403.80	5,984.68
Stevens Ski Hut	9,389.01	3,502.93	5,886.08
Clubroom furniture and fixtures	2,723.50	1,549.75	1,173.75
Library	2,931.21	1,774.43	1,156.78
Photographic equipment	1,442.37	1,093.04	349.33
General equipment	2,234.71	1,071.00	1,163.71
	$44,491.75	$25,072.80	$19,418.95
Construction in progress:			
Linda Coleman Memorial		$ 325.12	
Mt. Baker Lodge		10,062.50	10,387.62
Land			1,857.50
NET PROPERTY AND EQUIPMENT			$31,664.07

THE MOUNTAINEERS
STATEMENT OF INCOME AND EXPENSE
For the year ended August 31, 1958

INCOME

Dues and initiation fees:			
Seattle		$18,290.50	
Tacoma		1,773.50	
Everett		556.00	$20,620.00
Less allocations:			
Tacoma		$ 555.00	
Everett		169.00	
Bulletin subscriptions		5,872.00	
Permanent Building and Improvment Fund		4,367.00	10,963.00
			$ 9,657.00
Sales of publications		$ 6,533.45	
Less cost of publications:			
Monthly Bulletin	$ 5,156.44		
Annual	2,879.42		
Roster	581.75	8,617.61	(2,084.16)
			$ 7,572.84
Other sales			541.14
			$ 8,113.98
Committee operations:			
Lodges - schedule		$ 895.63	
Other - schedule		1,825.22	2,720.85
		TOTAL INCOME	$10,834.83

EXPENSES

Salaries	$ 3,192.00	
Rent	1,440.00	
Education	735.58	
Dues and subscriptions	14.50	
Donations	105.00	
Telephone	333.82	
Clubroom expense	319.68	
Office supplies and expense	420.58	
Stationery and postage	571.10	
Bank charges	32.28	
Legal charges	289.71	
Bookkeeping	475.00	
Payroll taxes	190.81	
Depreciation - other than lodges	418.47	
Insurance - other than lodges	720.02	
Miscellaneous	72.19	9,330.74
	NET INCOME	$ 1,504.09

Respectfully submitted,
RICHARD G. MERRITT
Treasurer

Seattle, Washington

I have examined the statements of financial condition of the
General Fund
Permanent Building and Improvement Fund
Mountaineering Book Fund
Permanent Fund
Linda Coleman Memorial Fund, and the
Seymour Fund
of THE MOUNTAINEERS as of August 31, 1958, and the related General Fund statement of income and expense for the year then ended. My examination was made in accordance with generally accepted auditing standards and accordingly included all procedures which I considered necessary in the circumstances.

In my opinion, the accompanying statements of financial condition for the named funds and the related statement of General Fund income and expense present fairly the financial condition of THE MOUNTAINEERS at August 31, 1958 and the results of the club's operations for the year then ended, in accordance with generally accepted principles of balanced fund accounting, applied on a basis consistent with the prior year.

HARRY J. PEDERSEN
Certified Public Accountant

THE MOUNTAINEERS
LODGE COMMITTEE OPERATIONS
For the year ended August 31, 1958

INCOME	TOTAL	Meany Ski Hut	Mt. Baker Cabin	Rhododendron Preserve	Snoqualmie	Stevens Ski Hut
Meals served	$ 8,000.54	$2,903.75	$1,592.58	$ 873.06	$1,539.40	$1,091.75
Use of hut or lodge	4,094.83	791.00	877.63	100.80	1,686.85	638.55
Use of ski tow	2,624.75	782.50			1,842.25	
Miscellaneous	391.17	236.13	41.84	35.75	77.45	
TOTAL INCOME	$15,111.29	$4,713.38	$2,512.05	$1,009.61	$5,145.95	$1,730.30
EXPENSES						
Food and service	$ 6,777.59	$1,960.56	$1,426.32	$ 703.81	$1,754.51	$ 932.39
Building expense	2,302.26	439.36	357.65	34.40	1,053.05	417.80
Tow expense	1,132.25	333.70			798.55	
Rent	60.00		25.00			35.00
Committee expense	100.08	27.38			39.70	33.00
Refunds	118.25	81.25				37.00
Insurance	673.53	237.93	22.73	72.37	245.80	94.70
Property taxes	248.62	19.88		103.99	76.91	47.84
Depreciation and replacement charges	2,317.32	800.00	37.60	74.72	800.00	605.00
Miscellaneous	485.76	73.68	95.03	141.22	175.83	
TOTAL EXPENSES	$14,215.66	$3,973.74	$1,964.33	$1,130.51	$4,944.35	$2,202.73
NET INCOME - (LOSS)	$ 895.63	$ 739.64	$ 547.72	($ 120.90)	$ 201.60	($ 472.43)

THE MOUNTAINEERS
OTHER COMMITTEE OPERATIONS
For the year ended August 31, 1958

INCOME	Total	Annual Banquet	Camp-Crafters	Climbers	Dance	Dinner	Natural Science	Players	Summer Outing	Trail Trips	Special Events
Receipts	$10,764.80	$ 578.50			$1,253.10	$ 15.88	$1,171.00	$2,054.95	$5,050.00		$ 641.37
Registration fees	1,466.00			$ 716.00					750.00		
Trail and other fees	810.65		$ 176.44	361.64					40.50	$232.07	
TOTAL INCOME	$13,041.45	$ 578.50	$ 176.44	$1,077.64	$1,253.10	$ 15.88	$1,171.00	$2,054.95	$5,840.50	$232.07	$ 641.37
EXPENSES											
Food and services	$ 3,373.78	$ 561.00	$ 22.41		$ 97.18				$2,693.19		
Program expense	1,598.44		15.64		563.00		$ 843.80				$ 176.00
Climbing ropes	237.05			$ 237.05							
Stationery & postage	293.83			106.26				$ 187.57			
Rent	425.00				405.00		20.00				
Taxes— other than property	59.15				54.15						5.00
Committee expense	167.42								152.42		15.00
Costumes & properties	440.56							440.56			
Playbooks & royalties	94.05							94.05			
Directors fees and expenses	350.80							350.80			
Transportation	2,351.80								2,351.80		
Refunds	984.00						10.00		940.00		34.00
Insurance	15.54								15.54		
Miscellaneous	824.81	4.50	13.96	363.58	67.10			59.38	78.49		237.80
TOTAL EXPENSES	$11,216.23	$ 565.50	$ 52.01	$ 706.89	$1,186.43		$ 873.80	$1,132.36	$6,231.44		$ 467.80
NET INCOME (loss)	$ 1,825.22	$ 13.00	$ 124.43	$ 370.75	$ 66.67	$ 15.88	$ 297.20	$ 922.59	($ 390.94)	$232.07	$ 173.57

THE MOUNTAINEERS—TACOMA BRANCH
Statement of Financial Condition
August 31, 1958
ASSETS

Current Assets		
Cash in Regular Bank Account		$ 1,508.61
Investment in U. S. Government Bonds - Series G		600.00
Irish Cabin Property (estimated values)		
Land	$ 200.00	
Cabin	1,900.00	
Furniture and Equipment	400.00	2,500.00
Clubhouse		
Land	800.00	
Buildings—cost to date	12,074.62	
Furniture (estimated)	1,000.00	13,874.62
TOTAL ASSETS		$18,483.23

LIABILITIES

The Mountaineers—Loan	$ 3,800.00
Surplus	14,683.23
TOTAL LIABILITIES	$18,483.23

Statement of Income & Expense
For the Year Ended August 31 1958
INCOME

Interest on U. S. Bonds		$ 15.00
Membership Refund from Parent Club		651.00
Repayment of Committee Advances		20.55
Clubhouse Ways and Means		1,126.84
Audubon Screen Tours		147.23
Committee Operations:		
Irish Cabin	$ 170.45	
Trail Trips	134.78	
Social Committee	284.91	
Climbing Committee	36.25	
		626.39
TOTAL INCOME		$ 2,587.01

EXPENSES

Clubhouse Construction	$ 699.39
Clubhouse Operation	374.10
Committee Operations	533.11
Chairs for Clubroom (75 chairs)	414.19
General Expenses	56.88
Repayment on Loan	200.00
TOTAL EXPENSES	$ 2,277.67
EXCESS OF INCOME OVER EXPENSES	$ 309.34

THE MOUNTAINEERS—EVERETT BRANCH
Statement of Financial Position
August 31, 1958
ASSETS

Cash	$ 265.34
Dues and initiation fees receivable from Mountaineers	202.00
Investment in U. S. Government Bonds (at cost)	879.00
SURPLUS	$ 1,346.34

Statement of Operations
For Fiscal Year Ended August 31, 1958
INCOME

Dues and initiation fees		$ 202.00
Repayment of Loan		200.00
Committee Operations:		
Climbing	$ 55.45	
Hiking	53.40	
Salmon Bake	13.05	121.00
TOTAL INCOME		$ 523.00

EXPENSES

Rentals	$ 24.00
Snohomish County Library towards purchase movie, "Mountains Don't Care"	50.00
Administration	31.93
TOTAL EXPENSES	$ 105.78
EXCESS OF INCOME OVER EXPENSES	$ 418.22

Committee Chairmen

ADMINISTRATIVE DIVISION
Wm. Marzolf

Auditing	Harry Pedersen
Budget	Joe Patelli
Clubroom Custodian	Mrs. Irving Gavitt
Future Clubroom	John Hansen
Insurance	Hubert West
Membership	Lois Irwin
Operations Manual	George McDowell
Service Awards	Duane Fullmer
Typing and Duplicating	Eleanor Hisey

EDUCATIONAL DIVISION

Conservation	Robert Latz
Program Meetings	Julie Balinski
Natural Science	James Lea
Photography	Richard Salo

INDOOR DIVISION
Kenneth Hitchings

Annual Banquet	Peggy Lawton
Bridge	Mrs. Adolph J. Eberharter
Dance	W. F. Cook
Dinner Meetings	Helen Froberg
Players	Richard Kahler

OUTDOOR DIVISION
Maury Muzzy

Campcrafters	Mrs. Edmund Lowry
Climbing	A. L. Crittenden
Expedition	Richard McGowan
Safety	Everett Lasher
Ski Recreation	Stella Degenhardt
Special Outings	Andrew Bowman
Summer Outing	Arthur Winder
Trail Trips	Marion Wallace

PROPERTY DIVISION
Joseph Buswell

Building Policy	William Gardner
Coleman Memorial	Harriet Walker
Meany	Daniel D. Streeter, Jr.
Mt. Baker Building	Gordon Logan
Mt. Baker Cabin	Norman E. Anderson
Rhododendron Preserve	Robert Landon
Snoqualmie Lodge	H. L. Cross and Gordon Cook
Stevens	Albert Alleman

PUBLICATIONS DIVISION

Annual	Nancy Bickford
Book Promotion	Allen Robinson
Bulletin	Evelyn MacDonald
Library	Kinuye Jitodai

OTHERS

F. W. O. C. Representative	Paul Wiseman
Irish Cabin	Raymond Bruns
Mountain Rescue Rep.	Lincoln Hales
Recording Secretary	Elsie Wagner
Trustees' Publicity Representative	Stella Degenhardt
Mountain Rescue Representative	Lincoln Hales

Tacoma Chairmen

Audubon	Stella Kellog
Campcrafter	Ron and Nadean Newgard
Climbing	John Freeman
Clubhouse	George Munday
Conservation	Carl Heaton
Irish Cabin	Earl Gjuka
Membership	Marjorie Goodman
Memorials and Awards	Winifred Smith
Music	Inez Kilmer
Photography	Bill Matthews
Property Custodian	Nels Bjarke
Publicity	Mary Fries
Rentals	Floyd Raver
Ski	Kathy Biery
Social	Helen Sohlberg
Trail Trip	Margaret Stapleton
Ways and Means	Tom and Linnea McGegee