Geography and History

EDWARD PECK

John Muir, Mountaineer 1838 –1914

(*Plates 51–53*)

One hundred years ago, in 1894, a book entitled *The Mountains of California* by John Muir was published in the United States. It was a collection of articles which had appeared in American monthly magazines over the previous sixteen years, captivating their mountaineering, and wider, audience. A contemporary reviewer wrote: 'We have here nature pure and unadulterated ... sixteen chapters, each a gem of landscape and animal painting.' The writer did not exaggerate; like John Muir's earliest diaries (published as *My First Summer in the Sierra* in 1911), the articles do indeed reflect with vivid freshness Muir's devotion to his beloved Sierra Nevada.

But who was John Muir – this Scotsman who has only recently been recognised in the land of his birth but who has long been a household name in the United States? Perhaps he is best known internationally for his part in inspiring the Californian and Yosemite enthusiasts who, on 4 June 1892, founded the Sierra Club, of which John Muir became the first president. Though its original remit was limited to the mountain regions of the Pacific Coast, the Sierra Club became America's leading environmental group, with a declared aim 'to explore, enjoy and preserve the nation's forests, waters, wildlife and wilderness'.

Although John Muir is often thought of exclusively as a conservationist, his interests were, in fact, uniquely wide-ranging. This remarkable Scotsman can be assessed, successively and sometimes simultaneously, as farmhand, inventor, shepherd, sawmill manager, mountain guide, geologist, glaciologist, ornithologist, philosopher, friend of Presidents, founder of the Sierra Club, advocate of the US National Parks concept. But he was, above all, a man whose delight in mountains was all-embracing, and I propose here to consider John Muir primarily as a mountaineer.

Brought up in Dunbar until the age of eleven, when his stern God-fearing father emigrated to the plains of Wisconsin, John Muir did not set eyes on anything resembling a mountain until, in the course of a thousand-mile trek from Canada to Louisiana in 1866-67, he crossed the Unaka hills of the Cumberland range on the Tennessee border. Arriving in San Francisco in 1868, he made for the Sierra Nevada – the 'Range of Light' as he later called it – for his first enthralling visit to Yosemite. The following year (1869) he was fortunate in being engaged as a 'sheep-herder' by one Pat Delaney. Impressed by the intellectual qualities of the young Scot, who had already made a name for himself at Wisconsin University with his

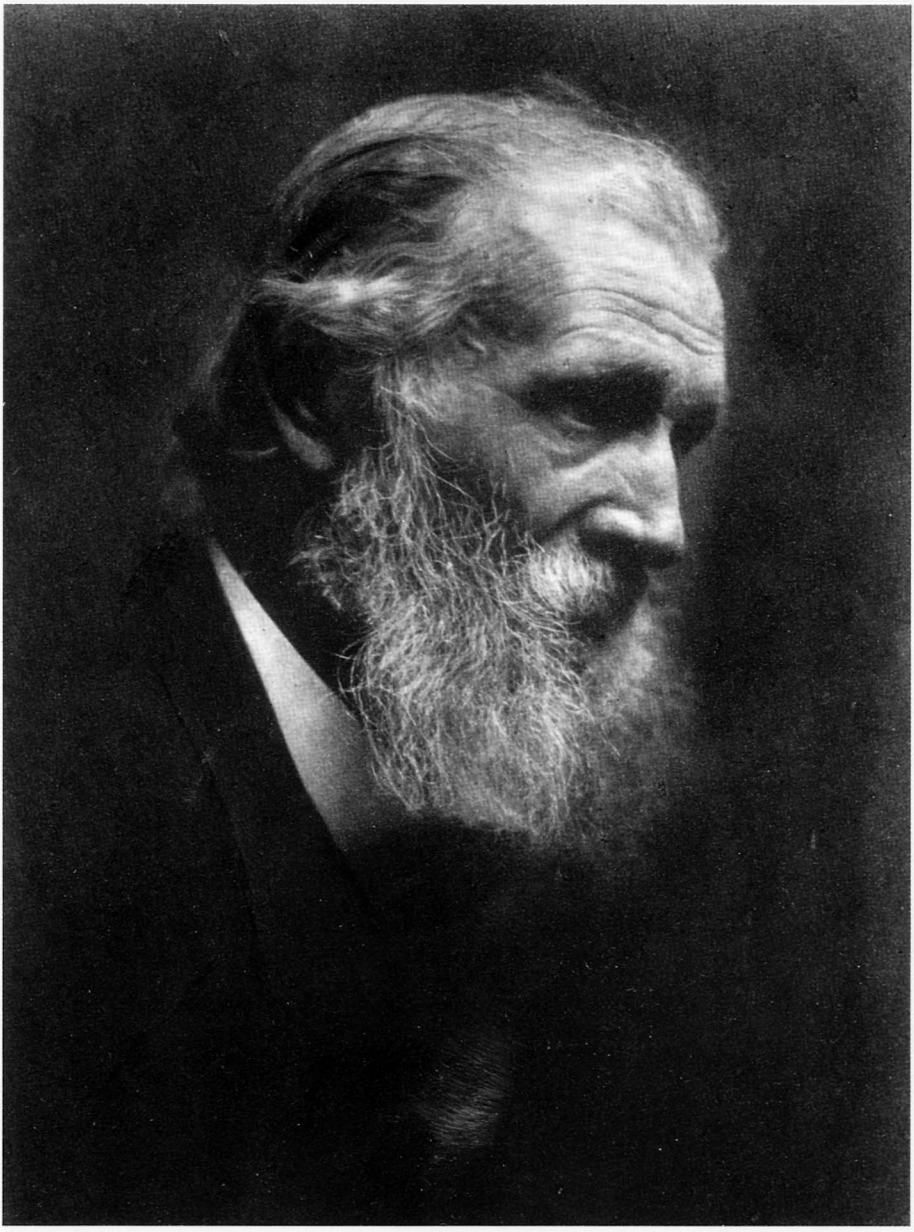
inventive gadgets, Delaney agreed that, once Muir had helped the regular shepherd bring the sheep up to the Tuolumne Meadows for the summer grazing, he would be free to roam this wonderful area. His diaries record his early joy and enthusiasm for the mountains. When, in later years, he suffered ill-health or depression in the plains, a trip to the mountains never failed to restore his health and peace of mind. Once, vexed with himself after a minor fall, he addressed his feet severely: 'That's what you get by intercourse with stupid town stairs and dead pavements.' (One sympathises.)[1]

Yosemite

It was during this period that Muir acquired his close knowledge of the upper Tuolumne area and tested his steadiness of head and foot by climbing down the stream that leads to the Upper Yosemite Fall. At the 'brink of the tremendous cliff', he took off shoes and stockings, working his way cautiously down 'alongside the rushing flood, keeping feet and hands pressed firmly on the polished rock'. Beyond the obvious lip of the fall, he found an 'irregular flake of rock' which offered a view into the 'heart of the snowy, chanting throng of comet-like streamers, into which the body of the fall soon separates'. The telling sentence, 'I concluded not to venture farther but did nevertheless' betrays the mountaineer's perennial need to 'feed the rat' of excitement. Muir's diary for that day (15 July) sagely concludes: 'Hereafter I'll try to keep from such extravagant, nerve-straining places'.[2] But of course he did not and his subsequent solo exploits not only led to a number of close calls but also inspired some fine mountain writing.

The Yosemite valley enthralled Muir and for the next five years, working as manager of a sawmill owned by the first innkeeper in the valley and acting as mountain guide to early tourists, he acquired a deep knowledge of and feeling for the plants and birds of the Yosemite, the scenery and mountains and the effect of glacial action. He had little patience with young ladies with unsuitable footwear and clothing, or the 'blank, fleshly apathy of the ordinary tourist'.[3] However, Mrs Jeanne Carr, a friend in San Francisco who knew Muir from his Wisconsin days, sent him a succession of distinguished Americans, including the geologist Joseph Leconte and the great Emerson himself.

While camping in the Upper Tuolumne in 1872, Muir broke away from his companions on a solo mountaineering venture to Mt Ritter. This involved another close call in high, unexplored mountain country. Frustrated on one face of the mountain, where he found himself in 'danger of being shed off like avalanching snow', he crossed the divide into 'one of the most exciting pieces of pure wilderness that I ever discovered in all my mountaineering. There loomed the majestic mass of Mount Ritter'. There follows a splendid description of the forbidding face, which he surveyed for a possible route. Climbing up into a 'wilderness of crumbling spires and battlements', Muir found himself in the sort of situation familiar to many of us: 'Having passed several dangerous spots, I dared not think of descend-



51. John Muir, 1838-1914. (*W E Dassonville*) (p201)

ing.' Higher up, halfway up a cliff with minuscule holds, 'I was suddenly brought to a dead stop with arms outspread,' Muir recalled. 'My doom appeared fixed. I *must* fall.' But 'the other self, bygone experience, instinct, or Guardian Angel, call it what you will, came forward and assumed control.' His trembling muscles became firm again and, having regained strength, courage and morale, he overcame the bad step and made the first ascent of Mt Ritter (4010m). Muir's vivid account of that incident, followed by the description of the view south along the range past the Minarets towards Mt Whitney, belongs to the finest tradition of mountaineering literature. The crest of the Sierra Nevada, along which he was looking to Mt Whitney (4418m), is now closely followed by the John Muir Trail.

Muir's ascent of Mt Whitney in October 1873 was made within two months of the four previous parties. It was memorable because, having run out of food while heading for the 'false' Mt Whitney, Muir returned to Independence (a good deal further away than the present base of Lone Pine) and was back to climb by a difficult route to the summit two days later. 'For climbers,' he commented, 'there is a canyon which comes down from the north shoulder of the Whitney Peak. Well-seasoned limbs will enjoy the climb of 9000 feet required for this direct route, but soft, succulent people should go the mule way.'[5]

In his writings on Yosemite, Muir repeatedly referred to 'glaciers' and to the glacial action which formed the domes and canyons of the Yosemite area. Though he counted 65 glaciers in his day, many are now no more than névé. But Muir correctly read the signs, noting the striations, moraines and erosion caused by the passage of huge glaciers. His application to Yosemite of the theory of glacial erosion, in which he was supported by the American geologist Joseph Leconte, brought Muir into conflict with the traditional geologists, in particular the prestigious Josiah D Whitney who headed the Geological Survey of California in the 1860s. Whitney maintained that the Yosemite gorge had been created by earthquake or volcanic action causing the bottom of the valley floor to 'drop out'. The observations of the brash young Scot, branded as those of an 'ignoramus' and 'sheep-herder', were later thoroughly vindicated by the detailed surveys of the French geologist François Matthes.

Among Muir's many climbs in Yosemite was his ascent of Half Dome, 2698m, (or, as Muir called it, 'South Dome'), that dramatic, shorn-away dome that has become Yosemite's trade mark (Plate 53). In 1872 the Yosemite trail-builder John Conway had tried, with the help of his sons who 'climbed smooth rocks like lizards', to forge by rope, hammer and spikes a way up the east shoulder of the Dome which, as Muir described it, 'rises in a graceful curve a few degrees too steep for unaided climbing, besides being defended by overleaning ends of the concentric dome layers of the granite'.[1] They failed, but, three years later in 1875, Anderson, the valley blacksmith, forged a set of eye-bolts and drilled his way to the top. Shortly afterwards Muir, though 'apprehensive of the slipperiness of the rope and the rock', made his ascent in a 'snow-muffled condition'[6] after a November storm. Though disappointed by the flatness of the view, he expressed the

Phimister Proctor on Half Dome in 1884
drawn by him from memory in 1945

hope that no one should implement Anderson's plan to make Half Dome accessible to litter-leaving tourists and to charge for his *via ferrata*. Soon afterwards the latter was partially swept away in a winter snowstorm.

There was a sequel which (though it diverges from the Muir theme) should amuse members of the Alpine Club. In the summer of 1884 a fire was seen on the summit of Half Dome. Fearing a possible accident, a rescue party set out – needlessly, since the two climbers, Alden Sampson (a painter from New York) and Phimister Proctor (a sculptor from Colorado) managed to descend unaided. While making a horseback trip through the area, they had learnt from Galen Clark (the grand old man of Yosemite) that he was waiting for 'some member of the English Alpine Club to come over and have the goodness to replace the rope'. The pair resolved that 'no foreigner will do that job till we have had a try at it'. Their method of

ascent was to cast a thin, frayed 'picket rope', cowboy fashion, from spike to spike. When the spikes gave out, they roped down to return the following day to complete the climb; this involved standing for over an hour on a two-inch pin while trying to lasso the pin above. Proctor's sketch of himself precariously balanced on one toe above an arch of granite belongs to the collection of Alpine comic horrors.[7]

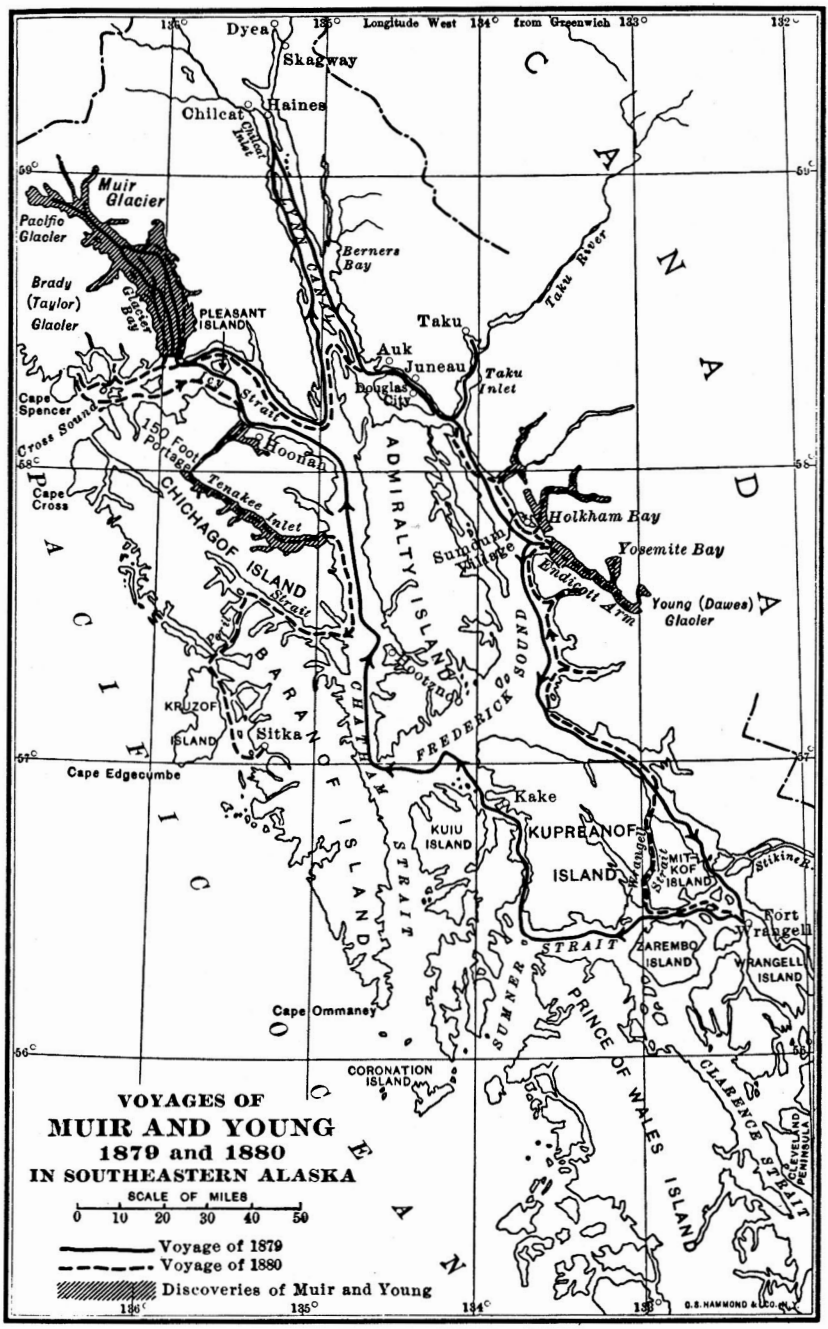
In his early years in Yosemite John Muir's climbing techniques were scarcely less primitive. Climbing alone, he usually scorned any use of the rope, took a minimal amount of food, and relied on a comfortable pine tree for a bivouac; he seems reluctantly to have admitted that a few hobnails in his boots would help. At the same time, Muir was developing his mountain philosophy and recording in his journals magnificent descriptions of mountain scenery and close observations of trees, birds and animals, in particular his favourites – the Water Ouzel (or Dipper) and the fearless and inquisitive Douglas squirrel. His articles on glacial action, published in *Overland Monthly* 1874-75, were collected as *Studies of the Sierra*.

Muir was naturally driven to expand his mountain experience beyond Yosemite. His first visit to Mt Shasta (4317m), the semi-active volcano in North California, was in November 1874, when he enjoyed magnificent views over the clouds while snugly tucked up through successive storms in his camp on the tree-line. He returned in April 1875 with Jerome Fay, an experienced mountaineer. On the summit ridge a tremendous thunderstorm blew up, followed by a heavy snowstorm. Seeking refuge in the sludge of the hissing and spitting fumaroles, they passed the night broiled on one side and frozen on the other. Stumbling down the next morning, they met their rescue party and were escorted down, not without Muir suffering some permanent physical damage. 'A Perilous Night on Shasta's Summit'[8] makes exciting reading as another of Muir's close calls.

Muir's passion for the study of glaciers could not be satisfied among the denuded glaciers of the Sierra Nevada. He wanted to see glaciers on the grand scale and spent three summer seasons – 1879, 1880 and 1890 – on the Pacific coast of the Alaska 'Panhandle', exploring, among others, the glacier that was to bear his name. On the way north, he made the ascent (probably the seventh) of Mt Rainier (4392m) by the Nisqually and Cowlitz glacier route, which has now become the normal way up this 'ice-crowned king of the North West'. Muir was accompanied by a veteran local guide and five ambitious young climbers. He did not find the ascent particularly difficult, though when the crevassed ice became too steep 'every one of the party took off his shoes, drove stout steel caulks about half an inch long into them, having brought tools along for the purpose and not having made use of them until now so that the points might not get dulled on the rocks ere the smooth dangerous ice was reached'.[9] They also carried 100ft of rope and one axe. The night was spent on a narrow ridge, at a spot now marked as 'Camp Muir' at 10,000ft, somewhat below Gibraltar Rock. All were in 'light marching order, save one who pluckily determined to carry his camera to the summit'.

52. Muir Glacier, 1971. (p208)

53. Yosemite: view of E side of Half Dome from Olmsted Point, on the way up to Tuolumne Meadows. (*Sylvia Wyatt*) (p203)


Longitude West 134° from Greenwich
Dyea
Skagway
Chilcat
Haines
Chilkat Inlet
Muir Glacier
Pacific Glacier
Brady (Taylor) Glacier
Glacier Bay
PLEASANT ISLAND
Berners Bay
LYNN CANAL
Taku
Auk
Juneau
Douglas City
Taku Inlet
Taku River
Cape Spencer
Cross Sound
Icy Strait
Hoonah
150 Foot Portage
Tenakee Inlet
Cape Cross
CHICHAGOF ISLAND
Peril Strait
BARANOF ISLAND
ADMIRALTY ISLAND
Hood Bay
Holkham Bay
Sumdum Glacier
Endicott Arm
Yosemite Bay
Young (Dawes) Glacier
FREDERICK SOUND
KRUZOF ISLAND
Sitka
Cape Edgecumbe
CHATHAM STRAIT
Kake
KUIU ISLAND
KUPREANOF ISLAND
SMITKOF ISLAND
Stikine R.
Fort Wrangell
ZAREMBO ISLAND
WRANGELL ISLAND
Wrangell Strait
SUMNER STRAIT
PRINCE OF WALES ISLAND
Cape Ommaney
CORONATION ISLAND
CLARENCE STRAIT
CLEVELAND PENINSULA
PACIFIC OCEAN
CANADA
VOYAGES OF
MUIR AND YOUNG
1879 and 1880
IN SOUTHEASTERN ALASKA
SCALE OF MILES
0 10 20 30 40 50
Voyage of 1879
Voyage of 1880
Discoveries of Muir and Young
G.S. HAMMOND & CO.

Alaska

On arriving in Alaska, Muir enjoyed the friendship of Hall S Young, the missionary at Fort Wrangell. Their first expedition together, in July 1879, was up the Stickeen (now 'Stikine') river in the good ship *Cassiar* with a party of elderly clerics. Muir and Young played truant to climb Glenora Peak. Young was scrambling well and keeping up with Muir until, a few feet below the summit, he slipped above a thousand-foot drop, dislocating both his shoulders (weakened from a previous accident), and was left with his toes scrabbling in slaty grit. With great skill and strength, at one point grabbing Young's shirt collar in his teeth, Muir hauled him to the summit, thereby missing the spectacular sunset he had promised himself. He reset one of Young's shoulders on the spot and escorted him painfully and slowly back to the *Cassiar*, to endure the reproaches of the clerical party for having gone on a wild-goose chase.[11]

On his return down the Stikine river, Muir made solo surveys of two of the considerable glaciers flowing down into the Stikine gorge – the so-called 'Dirt' glacier and the 'Big Stikeen' glacier. After struggling through dense forest and sliding moraine he was thrilled to make his first direct contact with a really extensive glacier – kettle-holes, rumbling stream, crevasses and all – and to stand inside an ice-cave to study the debris accumulated under the ice.[12]

Meanwhile, Hall Young, nothing daunted by his accident, invited Muir to join him on a canoe trip in October 1879 to the glaciers of the Lynn Canal and the Fairweather Range north of Icy Strait. This was intended primarily as a missionary trip to the Tlingit, Chilcat and Hootsenou Indians, some of whom were inclined to Christian virtues, while others preferred the delights of Bacchus (thereby originating the word 'hooch'). The Stickeen Indians, already Christian converts, were reluctant to set off north so late in the year, but Young's missionary zeal, and Muir's eagerness to see even greater glaciers, carried the day. The party sailed up Chatham Strait and, after refuelling at a wooded island in Icy Strait, ventured into what the Indians called Sit-a-kay, (or 'icy bay'). This is Glacier Bay, now accessible to tourist cruise ships for over 50 miles inland. Vancouver, in his careful charting of this coast in 1794, had failed to note this entrance which was entirely filled with ice. Only 85 years later, Muir's party navigated 25 or more miles of sea before reaching the snout of what was to be known as Muir Glacier. It has since retreated as far again towards the Canadian border. As a result of the advancing winter and the somewhat fearful Indian crew who could not understand why Muir should wish to visit these icy mountains, Muir and Young only spent five days (24-29 October) in the area on this first visit. This was enough to allow Muir to name the James Geikie and Hugh Miller glaciers, after the Scots geologists of his day, and to climb as high as he could up the sides of the fjord. Through gaps in the mist and rain he obtained views over the huge glaciated expanse of mountains to the west – the Fairweather Range round Mt Crillon.

On their way down the east shore of Glacier Bay, dotted with icebergs, the party obtained the 'first broad view of the glacier afterwards to be

named the Muir ... The spacious prairie-like glacier with its many tributaries extending far back into the snowy recesses of its fountains made a magnificent display of its wealth and I was strongly tempted to go and explore it at all hazards. But winter had come and the freezing of the fjords was an unsurmountable obstacle.'[13]

Back in California, Muir married Louise Strentzel in April 1880, but by October of that year he was already anxious to renew acquaintance with the huge glaciers around Fort Wrangell. On their second expedition, Muir and Young set out on 10 August up Frederick Sound where they first explored by canoe the SE branch, or Endicott Arm, where Muir described the 3500-4000ft 'granite walls of the very wildest, surpassing in some ways those of Yosemite'. He named the head glacier 'Young Glacier' after his friend, though later geographers have rechristened it 'Dawes'. In the NE branch, or Tracy Arm, they found 'stupendous walls of grey granite crowded with bergs from shore to shore with domes as lofty and as perfect in form as those of the California valley', and, at the head, 'a deeply and desperately hidden glacier'.[14]

Returning to Frederick Sound, they headed west along Icy Strait to Cross Sound and made a base in Taylor Bay, west of the entrance to Glacier Bay and in front of the immense moraine-strewn Brady glacier. Muir could not resist a solo expedition on this glacier, setting out on a cold and cloudy day, accompanied by his faithful little dog Stickeen. Moving up the east side of the glacier, he found it easy work crossing the narrow crevasses; he then decided to cross to the west side, enjoying the 'lovely colour and music [of the glacier rills] as they glided and swirled in their blue crystal channels and potholes ... '. Starting back across the glacier at 5pm towards camp about 15 miles away, he struck a maze of deep and wide crevasses, involving cutting steps across slivers of ice bridges. He flattened these knife-edges to allow Stickeen to follow, but to escape from one particular ice island was only possible 'over the very worst of these sliver bridges ... extending in a low, drooping curve like a loose rope'. This involved some tricky step-cutting and a lot of coaxing of the little dog, but eventually both reached camp, too tired to sleep and with nightmares about their 'dreadful ice bridge in the shadow of death'.[15]

Muir was able to persuade the Indian captain, reluctant to endanger his craft close to the calving bergs, to go round into Glacier Bay and let him land near the edge of the Muir Glacier and to camp there for a night or two. On climbing 2500ft up the hill behind, he was able to enjoy in fine weather the splendid sight of Mts Fairweather, La Pérouse and Crillon, and also to study his eponymous glacier. He compared it to a 'broad undulating prairie streaked with medial moraines and gashed with crevasses', comprising seven main tributary glaciers from 10 to 20 miles long. He boldly claimed that the area 'drained by this one grand glacier can hardly be less than seven or eight hundred square miles, and probably contains as much ice as all the eleven hundred Swiss glaciers combined'. He observed that 'the thundering ice-wall, while comfortably accessible, is also the most strikingly interesting portion of the glacier'.[16] In the past

110 years the glacier has continued its retreat up Muir Inlet, and the frontal ice-wall is still magnificent. (See Plate 52 showing state of the glacier in 1971.)

Muir was not to return to 'his' glacier for another ten years and by the time of his third visit, in 1890, tourist ship excursions were already plying to view this spectacular area. Leaving San Francisco on 14 June, he was able to set up his little base camp on the moraine at the snout of the Muir Glacier by 23 June. His one-room cabin is now no more than an overgrown heap of stones and the glacier snout is 25 miles further inland. Muir's exploratory excursions were largely on his own, and his delight in the glacier and its surroundings shines vividly out of the pages of his diary.[17] The climax was his memorable sled trip up the glacier to survey the seven tributary glaciers he had noted in 1880. He hauled his sled over hummocky ice, crossing 'many narrow nerve-trying, ice-sliver bridges, balancing astride and cautiously shoving the sled ahead of me with tremendous chasms on either side'. He enjoyed a long spell of fine weather which brought the unexpected discomfort of snow-blindness.[18] This extensive exploration of the Muir Glacier was rounded off by an adventurous canoe trip to the Hugh Miller Inlet. Muir's canoe was nearly nipped between two converging bergs. However, to his intense delight, he enjoyed several splendid displays of *aurora borealis*.[19]

Muir paid two visits to the Arctic. The first was in 1881 when he was invited to join the US naval vessel *Corwin* in the search for the US expedition ship *Jeannette*, which had been caught in the Arctic ice north of the Bering Strait and was drifting across the East Siberian Sea. The *Corwin*'s search did not succeed, as the *Jeannette* was crushed in the ice in June 1881; some of her crew reached the Siberian mainland near the mouth of the River Lena. The *Corwin* voyage, however, did enable Muir to make the first ascent, on 31 July, of Herald Island (now known in Russian as Ostrov Gerald), E of Wrangell Island and some 450 miles NW of the Bering Straits. The impetuous crew (no mountaineers, they) were anxious to get ashore on the steep-sided island, pronounced inaccessible by its discoverer, Kellett, in 1849. They rushed up a steep gully, dislodging rocks on themselves. Muir, as Captain Hooper reported, came over, axe in hand, and 'with the practised eye of an experienced mountaineer, selected a steep bank of frozen snow and ice at an angle of 50°, deliberately commenced cutting steps and ascended the ice-cliff'. Muir found an easy way to the top and spent the arctic midnight on the summit where he observed signs of glacial striation, proving that the hard granite of this 'fine glacial monument' had resisted the pressure of the northern ice sheet.[15]

Muir's final visit to Alaska and the Arctic was in much plushier circumstances, when his conservation activities had made him a national figure. Invited, along with 25 leading American scientists, to join Edward H Harriman's 1899 Alaska expedition in the railroad king's own steamer, Muir was able to point out and explain the Alaskan glaciers he knew so well.

Later life

Muir had spent most of the years from 1881 to 1889 rearing a family, managing his father-in-law's California fruit farm and starting some of his writing projects, based on his vividly written diaries. It was during this period that he began to take a keen interest in the conservation of wild areas. With others, he founded the Sierra Club in 1892 – the first and leading mountain club of the USA – and took an active part in the National Parks debate. This was another fascinating aspect of Muir's life, which there is no space to describe here save for one highlight. This was a four-day private visit to the Yosemite valley which President Theodore Roosevelt agreed to make alone with Muir (without the usual journalists and other hangers-on associated with Presidential tours). They visited Glacier Point and camped below the Bridal Veil Fall. Muir convinced the President of the need for conservation of the natural beauties of the US, especially its trees and mountains, by a policy of Federal National Parks. Would that mountain diplomacy could nowadays be conducted on such intimate terms with a Head of State!

In his later years, Muir, having achieved fame and a modicum of wealth, travelled to Scotland and the Alps in 1893 and to the foot of the Himalaya in 1902. Though tempted by the Alps, he achieved nothing higher than a view of the Matterhorn from the Gornergrat. In 1911, aged 73, he visited South America and went high in the Andes in search of the monkey-puzzle tree. He travelled thence to Southern and to East Africa where, though he did not see the Ruwenzori, he may have sighted the equatorial snows of Kilimanjaro or Mount Kenya.

Revered as a national figure in the USA, John Muir received scant recognition in his native Scotland or, indeed, in Britain until the foundation of the John Muir Trust in 1982 by a distinguished group of Muir enthusiasts. The Trust has acquired three fine mountain wilderness properties in Scotland in his memory. The first covers Li and Coire Dhorcaill, on the N side of Ladhar Bheinn on Knoydart peninsula; the second is at Torrin, on the SW coast of Skye, including part of the E slope of the black Cuillin; and the third, acquired in 1993, is the remote and desolately beautiful Sandwood Bay, on the NW coast of Scotland 12 miles south of Cape Wrath, with its prominent sea-stack Am Buachaille and tales of a haunting mermaid.

John Muir died in his California home on 24 December 1914, much venerated as the 'patriarch of American lovers of mountains' and, as James Bryce wrote at the time, 'one who had not only a passion for the splendours of Nature, but a wonderful power of interpreting her to men'.

A note on John Muir's writing

A list of John Muir's own writings occupies seven pages of Volume 10 of the *Sierra Club Bulletin* of January 1916, which is wholly devoted to him. A further six pages list associated articles and biographical notes up to that date. To these must be added the numerous subsequent biographical and other works to complete the *corpus* of John Muir literature. Much of his early writing was in the form of personal diaries or contributions to

Californian journals. He drew heavily on these when he began writing complete books, which he found a laborious task. Thus his first book, *Mountains of California*, was published in 1894, while *Travels in Alaska* only appeared posthumously in 1915. Subsequent compilations, such as *Mountaineering Essays*, may duplicate excerpts from other works, in particular *John Muir: The Eight Wilderness Discovery Books*, an omnibus edition published by Diadem Books in 1992.

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All the following references are from books, essays or letters by John Muir unless otherwise stated. Full details of the sources quoted are given in the bibliography on page 212.

1 Letter to Jeanne Carr, quoted in Margaret P Sanborn, *Yosemite, its Discovery, its Wonders and its People*, 124.
2 *My first Summer in the Sierra*, 71-72.
3 Letter to Jeanne Carr, quoted in Sanborn, 116.
4 'Near view of the High Sierra' in *Mountaineering Essays*; and *Mountains of California*, 44-45.
5 Quoted in Francis P Farquhar, *History of the Sierra Nevada*.
6 'The South Dome' in *Mountaineering Essays*, 93-93.
7 Francis P Farquhar, *History of the Sierra Nevada*, 192-194. The drawing of himself by Phimister Proctor is reproduced from Farquhar by courtesy of the University of California Press and Sierra Club.
8 'Perilous Night on Shasta's Summit' in *Mountaineering Essays*, 65-89.
9 'An Ascent of Mt Rainier' in *Mountaineering Essays*, 107-116.
10 Two accounts: Samuel Hall Young, *Alaska Days with John Muir;* 'The Stickeen River' in *Travels in Alaska*, ch 4, 44-46.
11 'Glenora Peak' in *Travels in Alaska*, ch 7, 75-80.
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13 'The Discovery of Glacier Bay' in *Travels in Alaska*, ch 10, 118-132.
14 'Sum Dum Bay' in T*ravels in Alaska*, ch 14, 180-193.
15 'From Taku River to Taylor Bay' in *Travels in Alaska*, ch 15, 203-214.
16 'Glacier Bay' in *Travels in Alaska*, ch 16, 219-224.
17 'In Camp at Glacier Bay' in *Travels in Alaska*, ch 17, 234-246.
18 'My Sled Trip on the Muir Glacier' in *Travels in Alaska*, ch 18, 247- 261.
19 'Auroras' in *Travels in Alaska*, ch 19, 262-267.
20 'First Ascent of Herald Island' in *Mountaineering Essays*, 167. Also in *Cruise of the Corwin*.

The bibliography which follows is a short list of works drawn upon in writing the foregoing article, and does not include any of Muir's works relating to his pre-mountaineering days, such as *The Story of my Boyhood and Youth* or *A Thousand Mile Trek*. Where possible, reference is made to those few editions which are published in Britain.

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