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Vinson Massif

The Ellsworth Mountains is a large mountain range situated in Antarctica. It is home to Vinson Massif – the highest mountain on the Antarctic continent at 4,892 m.



INTRODUCTION

Welcome to the amazing world of exploration

The wild places of our planet have always fascinated and amazed. From the soaring, snow-capped peaks of the Himalayas, to the tumultuous raging oceans which separate the great continents of the world. Over the centuries great adventurers have explored these places and returned home with fascinating tales to tell.

Navigators have sailed across the oceans, discovering new lands. Travellers have traversed deserts and jungles, establishing routes and rediscovering the remains of ancient civilisations. Mountaineers have conquered the highest and most difficult peaks, and polar explorers have reached the most northerly and southerly points on the globe.

This book explores the wild places on our planet, and the great adventures that have taken place while exploring them. In the following pages, we will visit the polar regions, mountains, volcanoes, oceans, rivers, deserts, jungles, forests and cave systems deep underground. We will hear about the pioneering adventurers who first explored these places, use maps to learn about the routes they took, and meet some of the local wildlife along the way. In parts of this book you may find some scientific or geographical terms that you are unfamiliar with. The first time these are used they are highlighted in CAPITALS, and all of these words and phrases are explained in the glossary at the end of the book.

AMUNDSEN AND THE SOUTH POLE

Roald Amundsen was a Norwegian explorer who led the first successful expedition to the South Pole. He was born in 1873, in the village of Borge. His family was a seafaring one, but his mother made him promise to break from tradition and go to university to become a doctor. When Roald was in his early twenties his mother died, and he gave up medicine to pursue his dream of becoming an explorer.

His first expedition was as first mate on the Belgian Antarctic Expedition between 1897 and 1899. The team was the first to spend an entire winter on the continent of Antarctica. Between 1910 and 1912 he focussed his attention on the South Pole. He and the other members of his team – Olav Olavson Bjaaland, Hilmer Hanssen, Sverre Hassel and Oscar Wisting – constructed a camp – Framheim Base – at the Bay of Whales on the Great Ice Barrier. From here they organised their equipment and sled dogs, and ventured inland to lay store depots containing food and fuel.

After an aborted attempt in September 1911 due to bad weather, he set out again with his team the following month. Their dangerous journey took them across the Ross Ice Shelf, beyond which they discovered a glacier which allowed them passage onto the high Antarctic Plateau. They named the glacier Axel Heiberg after a Norwegian who had funded early polar expeditions. The glacier was a fortuitous discovery, as without it the climb up to the plateau would have involved ascending the precipitous Transantarctic mountains. The Norwegians were well-skilled both at skiing and driving their dog-pulled sleds, and were able to travel fast and efficiently across the Antarctic ice. They reached the South Pole at 3pm on Friday 14th December 1911.

Amundsen and his team returned to Framheim, following snow cairns which they had left to help them retrace their route. The descent of the glacier was enjoyable for those on skis, but for the men driving the heavy, hard-to-control sleds, this section of the journey was fraught with danger, as the glacier was littered with deep crevasses. Once back on the Ross Ice Shelf, they accessed their supply depots, and made it back to Framheim by 25th January 1912. Their journey had taken 99 days, and they had covered 3,440 km.

Their jubilation was short-lived. Their competitors – Robert Scott and his Terra Nova Expedition – successfully reached the Pole thirty four days after Amundsen's team but, on their return journey, they succumbed to frostbite and exhaustion. Scott and his four companions perished.



EARLY CLIMBS IN THE HIMALAYAS



PINNACLE PEAK
1906

The American mountaineer and explorer Fanny Bullock Workman learned to climb on the rocky outcrops of New Hampshire in the late 19th century. Later, she and her husband, William Hunter Workman, embarked on lengthy bicycle tours across Europe and then on to North Africa and India. During the latter trip, they visited the Karakoram Himalaya. They subsequently made this the focus of their future exploratory endeavours, returning to the region eight times.

In 1906, at the age of 47, Fanny made the first successful ascent of Pinnacle Peak, a 6,903 metre mountain in the Zanskar region. In doing so, she set an altitude record for female mountaineers and, on her return, won numerous awards for her achievement. She climbed with great conviction and purpose, and she was able to operate at high altitudes without suffering unduly from altitude sickness. She later explored the Hispar and Biafo glaciers via the Hispar Pass, becoming the first woman to traverse any Himalayan glacier (let alone two) and proving her ability on dangerous and unpredictable terrain.

K2 and CHOGOLISA
1909

Prince Luigi Amedeo, the Duke of the Abruzzi, was an Italian nobleman who led some of the most ambitious mountain and polar expeditions ever undertaken. His greatest expedition was to the highest mountains of the Karakoram Range.

They first tackled K2 (also known as the savage mountain because of how difficult it was to climb). They chose to attempt the southeast ridge of the mountain, with their base camp on the Godwin-Austen glacier. Despite relatively primitive equipment, they reached 6,250 m, and the ridge is now known as the Abruzzi Spur.

They then diverted their attention to Chogolisa, another mountain to the south. They were just 170 m from the summit before they had to retreat due to bad weather. The height they reached – 7,498 m – was a new high altitude record which remained unbroken until the 1922 British Mount Everest Expedition.





Katia Krafft

Because of the high temperatures and toxic gases produced by erupting volcanoes, the Kraffts wore special protective equipment when they ventured close to the lava flows. Designed for firefighters, fire proximity suits, coated in reflective aluminium, shielded them from the heat, and breathing apparatus provided them with safe air to breathe.

VOLCANO EXPLORERS

Katia Krafft and her husband Maurice were French volcanologists who made documentary films about active volcanic eruptions. Both had been fascinated by volcanoes as children. When they met at university in the 1960s they discovered their shared passion and, after they had finished their studies, they visited the volcanic island of Stromboli, where they documented the near-constant eruption of this Mediterranean volcano.

The photographs they took of Stromboli proved popular with experts and the public alike. Magazines and newspapers paid them for their images, which provided them with the funds to continue documenting eruptions all over the world. For the next twenty years they travelled far and wide, flying directly to eruption sites, where they often climbed right up to the crater in search of active lava flows.

Their work would also have a great effect on public safety. In 1985 they made a film of the eruption of the Colombian volcano Nevado del Ruiz. This was a particularly dangerous and destructive event which triggered massive volcanic mudslides, known as LAHARS. These occur when the hot lava melts the summit snow-cap, adding vast amounts of water to the material flowing downhill. In this eruption, the lahars buried the nearby town of Armero, with a great loss of life. Many people around the world saw the devastation caused by this eruption, including the President of the Philippines – Maria Corazon Aquino. When a volcano – Mount Pinatubo – became active on the Filipino island of Luzon in 1991, the memory of the Krafft's film prompted Aquino to organise an evacuation of the area, with over 60,000 people moved to the capital Manilla. This proved to be well-judged as the eruption of Pinatubo was one of the largest in recent memory.

That same year, Katia and Maurice were recording the eruption of Mount Unzen in Japan. They were part of a group which included journalists and another volcanologist, the American Harry Glicken. Without warning, a huge pyroclastic flow swept out of the volcano and all the people in the group were tragically consumed by the deadly blast.



UNDERSEA EXPLORATION

Exploring the depths of the oceans has fascinated humankind for hundreds of years. In Ancient Greece, divers would use rocks to help them descend to the sea floor to collect sponges, shells and coral. Japanese divers, known as AMA, dived down to extract valuable pearls from oysters. Throughout Japanese history, ama have mostly been women.

In the 16th and 17th centuries, nautical engineers constructed the first DIVING BELLS and diving suits. Both allowed people to breathe underwater – the first by trapping air inside a metal tank, the second by supplying air to a sealed suit with a hose running to the surface. These were used both for scientific endeavours and to salvage valuable equipment from the wrecks of sunken ships.

!n 1925 the French naval officer Yves Le Prieur invented SCUBA equipment. Scuba stood for Self-Contained Underwater Breathing Apparatus. Le Prieur's equipment combined a tank of compressed air which supplied a breathing mouthpiece via a regulator, which reduced the flow of air so it was easy to breathe. This design was later updated by the well-known underwater adventurer Jacques Cousteau, who named the new device the Aqua-Lung.

Scuba diving allowed scientists and explorers the freedom to spend prolonged periods underwater, greatly increasing our understanding of the flora and fauna both in the water and on the sea floor. However, it could be dangerous, especially when divers tried to descend deeper. If equipment failed at depth, returning safely to the surface could be difficult. Decompression sickness, known as THE BENDS, could occur if a diver ascended through the water too quickly.

Various techniques were later developed to allow divers to dive deeper safely, and for longer. These included special mixtures of gases (rather than normal air), 'rebreather' equipment (which recycled the gases, rather than releasing them into the water with each exhalation), and pressurised suits. The latter are rigid metal apparatus which allow dives as deep as 700 metres with virtually none of the dangers of conventional diving.

Dr Sylvia Earle (left) is a renowned marine biologist and underwater explorer. In the early 1970s she led a team living aboard the long-term underwater laboratory Tektite, in the US Virgin Islands. In 1979, she used a pressurised JIM suit to set a new female deep-dive record when she dived to a depth of 381 metres off the coast of the Hawaiian island of Oahu. As well as her scientific and environmental work, she has been involved in the development of both manned and unmanned deep sea exploration equipment.

THE EMPTY QUARTER

The Rub' al Khali (Arabic for the 'Empty Quarter') is the largest area of continuous sandy desert in the world. It is the central part of the Arabian Desert, which stretches from Jordan in the north to Oman in the south. Temperatures here soar to over 50 °C in the summer months.

The first European to cross the Empty Quarter was the explorer Bertram Thomas, who completed the journey in 1929. In the 1940s, British adventurer Wilfred Thesiger made a number of journeys around and across the Empty Quarter, learning about the Bedouin people and how they lived in this desolate place.

Thesiger was born in Ethiopia, and he returned to Africa after university in England. He explored Darfur and the Upper Nile, remote regions which are both part of modern Sudan. During the Second World War, he served with the newly-formed Special Operations Executive and Special Air Service, in both the Middle East and North Africa.

Following the war, he was hired by an anti-locust unit operated by the United Nations. They wanted to know about locust breeding grounds within the Empty Quarter, which gave the curious Thesiger a reason to explore the region.

Thesiger had studied the reports Thomas had made about his crossing, and realised that, in order to travel safely, he would have to learn the desert skills and customs from the native Bedouin people.

Thesiger made two crossings of the Empty Quarter, both accompanied by Bedouin tribesmen. He recorded the journeys, taking lots of photographs, and making detailed maps of the region, marking the locations of important features such as oases (where they could collect water) and treacherous areas of quicksand.

The journeys were dangerous because of the perils of the desert itself, and also because of tribal and political tension in the area. Local desert rulers treated foreigners with suspicion, and some of Thesiger's guides refused to travel with him after confrontations with other tribesmen. Later, he and his guides were imprisoned by the King of Saudi Arabia.

The Empty Quarter itself remains just as desolate and unforgiving as it was in Thesiger's day.



Arabian camel

Camelus dromedarius

Also known as the dromedary, the Arabian camel is a large mammal well-adapted to life in the arid heat of the desert. Grazing on tough, thorny plants and dry grasses, it is able to build up fat reserves in the hump on its back. During periods when food and water are scarce, it can then use the reserves in its hump to sustain itself until it can eat and drink again.