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(OF TRANSACTIONS)

ON

The Influence that Mountains have on

HEALTH, WEALTH, POLITICAL INDEPENDENCE, HABITS

AND

PURSUIITS OF MANKIND.

BY

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(PAST PRESIDENT).

READ AT STRATFORD, TUESDAY, 24th MARCH.

PREFACE.

THE LANGTHORNE ROOMS,

BROADWAY, STRATFORD,

March 24th, 1891.

A Meeting of the Institute of Marine Engineers was held here this evening, when MR. G. W. MANUEL, Past President, read a paper on "The influence that Mountains have on the Health, Wealth, Political Independence, Habits and Pursuits of Mankind."

The Meeting was presided over by MR. W. J. CRAIG, Vice-President. The subject of the paper is more of a social than a technical character, and lays a step for what may be considered a pleasing departure from the purely technical, to be followed up by others, so that there may be an occasional introduction of the poetry of life to mingle with the hard facts.

JAS. ADAMSON,

Honorary Secretary.

THE INFLUENCE THAT MOUNTAINS HAVE
ON THE
Health, Wealth, Political Independence, Habits,
AND
PURSUIIS OF MANKIND.

The benefits that have arisen from the existence of mountains on the earth's surface, is but little regarded by many of its inhabitants, and in these days of peace in our own Isles, the majority of the population being engaged in trades, arts, and manufactures, and our protection from an enemy's power depending no longer on their friendly retreats or frowning cliffs, but on the smart iron-clad, floating battery, or torpedo boat, they are looked upon by many of us as strange irregularities on the earth's surface, and visited in connection with the memory of bygone days.

Their influence on the health of mankind is beneficial in whatever latitude they are found, allowing him to dwell in places which, in their absence, he could not well exist. In the cold regions of the earth, they serve as screens to protect him from the piercing winds, retaining in their valleys that heat which would otherwise be spread but scantily around, and by elevating the earth's surface, expose it to the more direct rays of the sun. It is partly owing to the absence of mountains in the northern parts of Asia and America that they are so bleak and cold, having no protection from the northern winds, and because of their great distance from the equator, the surface of the ground is exposed only to the oblique rays of the sun. In the warm regions of the earth they attract and break the clouds which would otherwise pass along,

thereby refreshing and cooling the earth and air, by genial showers and gushing springs, affording pleasant retreats for the languid and parched inhabitants of the plain, enabling them to enjoy a temperature equal to that of countries far distant from the equator. An example of the moderate temperature enjoyed by mountainous parts of the earth in warm regions is the City of Quito in South America. Though in the middle of the torrid zone, it has a mean temperature of 53 degrees, equal to that of Amsterdam in latitude 52 degrees, 22 minutes, owing to its elevation, and the cooling effects of the snow-capped mountains of the Andes which surround it.

In Egypt, where very little rain falls, the overflowing of the Nile remained for a long time a mystery, until it was accounted for by the existence of the great mountains at its source, thereby rescuing a great part of Egypt from the Lybian desert. Mountains contribute largely to the wealth of mankind, for without mountains many of the mineral treasures of the earth would be beyond his reach. Had the surface of the earth been without irregularities, and its various strata enveloped it like the coats of an onion, it is clear that we should have become acquainted with only the upper strata, and the beds of coal and salt and the ores of the metals, all of which are confined to the lower strata, could not have so readily become available for the purposes of man. The mountains, upheaved by the great eruptions of nature from within, break the crust of the earth, and lay bare those precious stores which contribute so largely to man's wealth and comfort, and are the reservoirs of rivers that irrigate the earth's surface and along whose banks man has ever located himself, using these waters for his domestic purposes, making their bosoms the highways for his commerce, and applying the force of their currents for the abridgement of his toil. When at Geneva I was much interested in the manner the citizens made use of the splendid river Rhine, as it leaves the Lake of Geneva.

To the existence of mountains in many of the political divisions of the earth the inhabitants have been indebted for the maintenance of their civil and religious

independence and peace with prosperity. In our own Island when we call to mind the fierce contests the Scot and the Southern engaged in, much of the Scot's success was due to their heather hills, behind whose barriers they could defy the encroachments of their more numerous neighbours. In their valleys were nurtured, and among their rugged crags were trained, the stalwart highlanders who, in the annals of our wars have been long distinguished for their powers of endurance and heroic bravery. Switzerland, that small territory surrounded by so many powerful and despotic neighbours, to the existence of her mountains owes her preservation as a distinct province; and it was in her secure retreats that the pious Waldenses and Vaudois were enabled to preserve their religion and its creeds, during the dark ages of apostacy. Among the caves of the Scottish mountains the Scottish covenanters found a safe retreat, and the venerable Peden and Renwick were often, as it were, folded safe in their mantling mists, and their valleys echoed to the plaintive psalm of their wearied followers—"I to the hills will lift mine eyes, from whence doth come mine aid; my safety cometh from the Lord, Who heaven and earth hath made, &c." Circassia is also a remarkable instance of the strength and security that mountains give in sustaining the liberty and independence of small divisions against the encroachments of the greater, *viz.*, the Russian Empire, until they had to give way after many years to the power of modern weapons of war; Spain, France, Italy, India, &c., owe their division, as separate nations, to their mountain boundaries. You are all well acquainted with the mountains of the bible, and as they are the creation of Him who inspired the writers of its sacred pages, I would here mention Mount Horeb, where God spake to Moses midst fire and darkness, and afterwards on Mount Nebo, where, after viewing the promised land Moses' grave was appointed.

Mountains have a great influence on the habits of mankind. The more we study the mental and physical constitution of man, the more we are led to the belief that it is to the adaptation of the whole to a great variety

of circumstances that its grand perfection consists, and the difference among the races of men are such as are observed in other animals to result from the influence of external causes. It is by the demand which his peculiar condition makes upon the exercise of his ingenuity, that his mental and physical powers are first called into active operation, and when once aroused their development has no assignable limit. On a cursory glance at the conditions of the inhabitants of the different parts of the earth, it will almost always appear that where food and shelter are the most easily obtained, civilisation is frequently the least advanced, as in many eastern nations a certain progress is early made and the race then remains stationary for centuries. Hence, where we have a mountainous country, the mental and physical powers of its inhabitants are greatly developed, in the procuring food for their subsistence, in the rearing of houses to shelter them from the storm, in the construction of roads to convey along the fruits of their labours; and by calling their higher powers so much into exercise, their moral character is also much improved.

As I stated before, the wealth of particular portions of mankind depends greatly on the existence of mountains on the earth, so on the composition of these mountains depend the employments and pursuits of the inhabitants of those countries. If the mountains are composed of granite, quartz, or slate, they may contain gold, silver, tin, and copper; if they are of the limestone, Derbyshire or Durham, they are very likely to have lead mines. If of the sandstone or grit of Northumberland, Lancashire, or Yorkshire, it is probable there will be coal at no great distance. On the contrary, if they consist of the yellow limestone of Gloucestershire, Oxfordshire, and Northamptonshire, or of chalk, like the hills of Wiltshire, Berkshire, and Hampshire, or of clay like the hills about London, it is certain they will contain neither coal nor lead, nor any valuable mineral whatever. On a country having coal or not having it, depends the nature of the employments of its inhabitants. Manufacturers follow coal, and where there is no coal the bulk of the people are employed in agriculture.

It has been well said that mountains are the bones of a country, and determine its form like the bones of an animal. If they come near the sea, the rivers are short and rapid; if they are a long distance from the sea the rivers are long and gentle, and become so great as to be navigated by vessels of large burden. Hence towns will be built, and become rich and populous, acquiring political importance.

Mountains have been the treasury of religion, the arts, and sciences. When the fierce warriors devastated the rich cities of the plain, the monasteries on the mountain heights were left secure, and books, manuscript, and works of art were safely preserved. In a monastery amongst the mountains bordering on the Red Sea, one of the few manuscripts of the sacred writings was preserved in secret until a copy was made by stealth by a Russian would-be monk. Mountains encourage thought and reflection. The object of the sage in taking up his residence in the mountains was to obtain a mastery of his own nature. Amongst their solitudes, away from the pressure and entanglement of the crowd, the soul becomes sensible of our infirmity. Music and song has been much as sociated with mountains, and the Highlander is stirred when he hears the pibroch sounding in the glen.

In the times and country in which we live men's intellectual powers have become highly developed, both as regards the arts of peace and war, though I fear to the decrease of his physical powers. He seems to scorn the mountain and its uses by sending the locomotive engine up its heights, dipping its barrier, and piercing through its centre, thousands of feet above the sea level, again continuing its onward career down its sides to the plains below.—This struck me much in crossing the Alps to Italy through Mont Cenis.—On the other hand, he is depopulating their valleys, the cradle of the Highlander and Irlander, and the elastic step of our "Braw Donald" and "Patrick me jewel," does not so frequently sound to the delight of many fond mothers' ears.

If we have no cause now to fight behind their barriers, let our nobles and wealthy lairds who possess them

pause before they oust the braw lads from the mountains and glens for the sake of a few months game and deer shooting.

Operatives from the factories, during trade depression, and the overplus of large cities such as London, make poor subjects for the soldier. The success of the British troops through the long Peninsular war, that laid low the great but ambitious Napoleon, was due to the endurance of the British soldier, chiefly drawn from the agricultural class. In fact, it was our braw youthful soldiers that stood the charge of the French Cuirassiers at Waterloo, and crushed the flower of the French army, on which Napoleon so relied.

In conclusion, mountains are monuments of the wisdom and skill of the Supreme Being, His aqueous machinery by which he fertilizes and refreshes the earth.

They have ever formed a beautiful subject for the poet and the painter, silent monitors to the moralist, and agents of comfort and civilisation to mankind.
