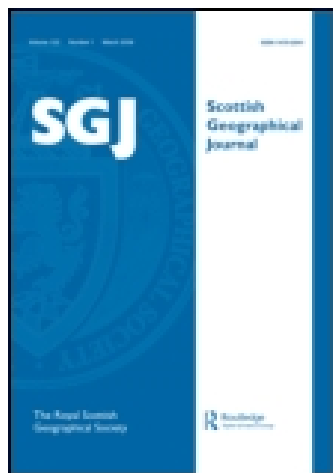


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Articles of Luxury.—Amongst productions which may be reckoned as articles of luxury to the Negroes, the most important is tobacco. This plant is cultivated at the beginning of the dry season, when the stream of the Congo falls and leaves patches of its muddy banks uncovered by water. The young plants, which have previously been grown on other soil from seeds, are planted in this fruitful ground, and before the rainy season sets in they produce sufficient tobacco, not only for the use of the native grower himself, but also sufficient to constitute an article of commerce with the interior. Nevertheless, it is as well to observe that it is not grown in sufficient quantity to furnish an article of export to Europe. As for its quality, it is difficult to form a correct opinion, owing to the extremely imperfect methods of preparation employed by the Negro.

Another luxury that seems worth mentioning is hemp (*Cannabis indica*). Its leaves are smoked like tobacco, and in pipes specially constructed for the purpose. These are either very small clay pipes or peculiarly constructed water-pipes, made with a pumpkin and a sweet potato. The narcotic effects of this hemp may be compared with those of hasheesh. The native appears to derive great enjoyment from it in spite of its provoking violent coughing. The practice of smoking hemp must without doubt have been introduced from the East, for it is never observed on the West Coast, except amongst such natives of Zanzibar as happen to be living there. Staying at any of the fishing-stations in the vicinity of Manyanga, one is frequently awakened at night by the violent and boisterous coughing of the hemp-smokers.

Such is a brief account of the useful vegetable productions that are now grown on the banks of the Congo. The details will doubtless vary from time to time, as civilisation and knowledge of agriculture advance. The outcome of the present small beginnings must be left to the future to fashion and determine.

THE PATAGONIAN ANDES.

BY COLONEL FONTANA,

Governor of Southern Patagonia.

[Through the courtesy of Mr. Michael G. Mulhall, our Honorary Corresponding Member, we have received a copy of Colonel Fontana's Lecture to the Argentine Geographical Institute, as it was reported in *La Prensa*, June 10th, 1886, and translated by the Buenos Aires *Standard* of June 12th. We give Colonel Fontana's Lecture *in extenso*, and refer such of our readers as wish to trace the previous progress of discovery to the article "Patagonia" in the *Encyclopædia Britannica*.]

HAVING been some time Governor of the Gran Chaco, it was with a certain feeling of misgiving that I received intelligence of my appointment to Patagonia, as you can well understand what a transition it must be from the tropics to such a raw climate as my new seat of government,

the Welsh colony of Chubut. Nor were my anticipations groundless, for the first view of Chubut, from the mouth of the river of that name, is as gloomy as anything in Young's *Night Thoughts*. Sandhills line the coast, and a few straggling bushes are seen at intervals. As you ascend the river and get a glimpse of the valley, it seems an oasis in the midst of a vast howling wilderness, and here 3000 hardy Welsh people have made their homes. Wood and pasture abound, and the wheat raised by the colonists is reputed the best in the Republic. It is now over twenty years since the first Welsh arrived; but their labours have been impeded by the want of canalisation works and the consequent scarcity of water at seasons. From time to time the Tehuelche Indians, who came to barter skins, used to excite the imaginations of the Welsh by describing the wonderful lakes, forests, and smiling valleys that lay westward near the foot of the Andes, a country of genial climate, teeming with the richest fruits. Some of the colonists had, moreover, read Musters's travels in that region, and often sighed for a chance to explore the mysterious west: every effort failed, the venturesome explorer either perishing for want of food, or being killed by Indians.

As soon as it was announced that I intended to set out towards the Cordillera with a view to discovery, the Welsh overflowed with enthusiasm. I may here observe that my territory of Patagonia stretches from the forty-second to the forty-sixth parallel of S. lat., and from the seaboard to the Andes, the most of which country was until then absolutely unknown, except as regards Musters's remarks about the fertile valleys and rich forests of Manzanos, and Captain Moyano's very correct hydrographic and geological observations. We had indeed much information about the Patagonian coasts from Moreno, Lista, Colonel Lasserre, Fauvety, and others, who have at various periods done such good service to geographical science. But the interior was practically a sealed book. The foremost to second my undertaking were Messrs. Thomas and Mayo, two respectable shopkeepers of Chubut, and a mining engineer named Katerfeld. Thomas had already made various explorations, at one time penetrating as far as Lake Colhué. The Welsh colonists generously defrayed the whole cost of the expedition.

We set out on Oct. 13th, 1885, from Rawson, the village of the colony, full of spirits, the party comprising 30 well-mounted men, each carrying a Remington and 100 rounds of cartridge, 20 horses laden with camp-baggage and provisions, 260 saddle-horses for remounts, a medicine chest, and two horses with scientific instruments. Before going far, I observed that the Welsh are like Arabs on horseback, and as dexterous as Indians in the chase, while they can handle the Remington liked trained soldiers. Nor was I less impressed with their sober character and discipline.

We followed the left bank of the Chubut, going S.W. till we reached 69° 25' W. long. and 43° 48' 24" S. lat., where the river makes a great bend to the south, but does not cross parallel 44, as erroneously marked on maps. We crossed at Paso de Indios, and followed the right bank, going

northwards (Colonel Fontana appears to reverse the order of the banks, the S. being the right, and the N. the left, bank ; but he doubtless means the bank on *his* right or left). In some places there were sandy formations like ruins, in other volcanic formations with caverns containing remains of prehistoric man. We reached a junction of two rivers at $42^{\circ} 38' 6''$ S. lat. and $71^{\circ} 12' 47''$ W. long., one river coming from the west, the other from the south. I learned from one of the Indians, whom I had captured on the way, that both streams came from the Andes, and that some twenty miles higher up the first issued from Nahuel-Huapi. This, however, is shown to be incorrect by Lieutenant Albarracin, from the careful surveys of that lake recently made by Captain O'Connor, of the Argentine Navy.

Having come thus far without the loss of a single man, crossing the stony wastes of Patagonia to the Andine region, we were much gratified to see before us some lovely valleys, from which the Chubut rolls its waters to the Atlantic, its course having never before been ascertained. We killed and roasted some guanacoos, at an elevation of 1827 feet higher than the village of Rawson in the colony. You will be surprised that I did not follow the course of the principal affluent in a northerly direction, but I was unwilling to cross parallel 42, the northern limit of my territory. Moreover, the Welsh colonists who formed my party were desirous to explore the land of forests and valleys that lay westward, and as our provisions were only sufficient for 90 days I hardly cared to venture too far.

After exploring 15 miles of the Chubut above the confluence, I left that river and followed the southern stream, called the Charmate, which waters a valley about 5 miles wide, with rich pasture, and better suited for grazing or agriculture than the Chubut lands of the colonists. We crossed this river at $43^{\circ} 8' 45''$ S. lat. and $71^{\circ} 45'$ W. long., observing that the water rose one inch (3 centimètres) every twenty-four hours, and that there was plenty of fine trout.

To this point of the Charmate I gave the name of Evans' Ford, after one of the Welsh colonists, and then followed a westerly course by an old Indian track, which led us over a succession of table-lands covered with pebbles, the highest being 160 feet over the river. Here and there, in hollows, we found good grass, with scattered brushwood. A light fall of snow occurred, although it was summer. We saw troops of guanacoos and ostriches, which fled before us, and caught some armadilloes.

After two days' march from Evans' Ford we came to a high hill—say 700 feet, the ascent of which took one hour ; and the view from the top caused us to shout for joy. There was a great lake before us, in which were numbers of swans, gulls, and flamingoes, surrounded by verdant meadows and woods intersected by streams. We examined the soil near the lake, and found it of the richest kind, the grass at times reaching the horses' knees. Farther on we came upon plains of strawberries and currants, as if we were in some market-garden near a populous city.

Flowers were so abundant that Col. Wagner presented me with a bouquet of thirty different kinds, the fragrance of which surpassed Lubin's perfumery. The mountains west of the lake were a lower range of the Andes, covered with woods, the summits of which we had noticed some days before.

We pitched our camp in Strawberry Valley, but no one slept that night, so anxious were we to continue our explorations of this Happy Land. Who could have believed that such a paradise could have remained unknown for centuries? Who could suppose that the barren wastes and stony steppes of the Patagonian seaboard were the outer margin of a land teeming with fertility near the Andine slopes? No more delightful country could offer for immigrants, with its fertile soil and abundance of wood and water. I collected specimens of eleven kinds of timber: red cedar, white and red pine, two kinds of beech, pitch tree (*calafate*), and others suitable for cabinet-work. There was a profusion of cryptogams, mosses, lichens, and various mushrooms, two kinds of which we found good and savoury. Besides game, there were singing birds and some of brilliant plumage; also butterflies; the birds killed for eating were tender and well-flavoured. In fact, Nature is there as exuberant as in Misiones or the Gran Chaco.

From this place we passed into the Valley of Currants, traversed by a river running due east: at the northern extremity is a mountain to which I gave the name of Thomas's Peak, in honour of my Welsh comrade, who has taken the keenest interest in Patagonian discovery. Following the river, we found ourselves in the grandest valley of all, which I called October Valley, the great depression near the Andes fully bearing out Darwin's and Moreno's remarks on the subject. It is like a large hollow, wherein three large rivers and four smaller ones converge, to form the great Corcovado River.

Wonderful as it may appear, the head-waters of the Corcovado are these streams (hitherto unexplored), which flow through a gap in the Andes, into the central valley of Chile, and make their way to the Pacific. At first we supposed that the meeting of the waters was a lake from which took rise either the Sengel or the Chubut, but we followed the course as far as 73° W. long., at which point we took a fine photograph of this body of water. The Corcovado at its commencement has a width of 500 feet, and its current in the latter part of November was two miles an hour. Having no boats we could take no soundings, but it appeared very deep.

We followed the Corcovado fifteen miles along the south bank, through a wooded valley, in which we killed some wild cattle. The river runs two miles due west, then turns S.W. After proceeding about ten miles on horseback we had to dismount, the remaining five miles being through such dense and thorny woods that we had to cut our way, at times crossing sundry cow-tracks. Our clothes were torn to ribbons, our hands and faces bleeding, for we suffered greatly from the *Urtica magna* and other brushwood, having no hatchets to clear the path.

It was with regret that, on reaching 73° W. long., I found it necessary to turn back, for I felt certain that we must be within view of the Pacific Ocean, but for the dense forests that impeded our view on all sides. The problem connected with the Corcovado is so important to the geographical world, that I hope to return with a suitable expedition before long, and solve it.

Leaving the Corcovado, we went south through many woods and valleys, hunting wild mares and cows, and finding gold in the sands of various streams, till we reached the bank of the river Sengel, fifty miles eastward from its source. The gold that we found nowhere exceeded $\frac{1}{4}$ oz. per ton. We ascended the Sengel, as I desired greatly to ascertain its source, crossing a succession of slopes, each higher than the preceding, until we reached the spurs or foothills of the Andes. In this delightful region of hills and valleys the river Sengel was fringed with timber, and the mountains were wooded on their sides, the summits being clad with snow, which had a dazzling effect in the sunshine, a clear blue sky covering all. I confess I felt proud to think that such superb scenery existed in the territory under my command. Singling out one of three stony peaks from which to obtain a prospect, I proceeded with Thomas, Mayo, and Katerfeld to the ascent.

At our feet was a vast lake, several leagues in length, whose green waters were agitated like a sea, breaking on a pebbly beach. The borders were of green turf, then dense woods, these reaching to the foot of the Andes, which rose westward in imposing majesty, thick mantled with snow.

Our wearied horses drank their fill near the point where the turbulent Sengel draws its source from the lake, and we camped hard by—that is, about two miles from the waterfall, which is about 7 feet high, being the headwaters of the said river. In the lake I observed many small islands. We could not explore much on horseback, the ground being burrowed by moles. The lake, I believe, is unnamed.

Bending our course south, we passed a chain of hills and saw a river, apparently from the same lake which penetrated the Cordillera in the direction of Chile, and seems to me to be the river Aissen, which Col. Simpson, at the head of a party of Chilians, traced from that country into Argentine territory. Farther south we saw a good-sized lake, and more distant another much larger, probably that to which Moreno gave the name Buenos Ayres. Following a stream that ran eastward, for a few leagues, we left it to take a northern route till reaching the south bank of the Sengel, which river we forded, and then continued along its north bank as far as $45^{\circ}46'3''$ S. lat. and $70^{\circ}20'25''$ W. long.; at this point a river from the S.W. falls into the Sengel. We followed the latter river to $45^{\circ}59'2''$ S. lat. and $69^{\circ}40'16''$ W. long., where it makes a great elbow, going off N.-E., its ultimate course. The confluence above mentioned is 1392 feet above sea-level, the elbow 1280 feet.

Passing lakes Colhué and Musters, we examined them closely, and

then made for St. George's Gulf, ascertaining that there is no river of that name, as marked on maps. Finally the Rio Chico guided us to its confluence with the Chubut, and we reached the Welsh Colony after an absence of four months, having explored at least 3000 miles. The colonists had given us up for dead, and rejoiced to see us return without the loss of a man. We never enjoyed better health than in the open life of the desert. In conclusion, I can only say that the sub-Andean portions of Patagonia are the country of the future.

PROCEEDINGS OF THE SCOTTISH GEOGRAPHICAL SOCIETY.

DR. ROBERT W. FELKIN, F.R.S.E., Member of Council, has been elected as the Society's Delegate to the British Association, which meets this year in Birmingham on September 1st.

The Exhibition of Appliances used in Geographical Education was closed on 31st July. The attendance at the Exhibition, and at the Lectures given in connection with it, has been good. Teachers have largely availed themselves of the opportunities which it was the aim of the Society to place at their command. Four Educational Lectures were delivered during July in the Hall of the Museum:—Mr. J. Scott Keltie, on "Geographical Education in Germany, and the Appliances for Teaching the Subject;" Mr William Jolly, on "Realistic and Dramatic Methods in Teaching Geography;" Professor Laurie, on "Method as applied to Geography in Primary and Secondary Schools;" and Professor Meiklejohn, on the "Romance, History, and Poetry of the Names of Places."

GEOGRAPHICAL NOTES.

EUROPE.

Royal Geographical Society's Education Scheme.—The Council of the Royal Geographical Society have resolved to establish a Geographical Lectureship, and to seek the co-operation of the Universities in the matter. It is proposed to give lectures at the Universities and elsewhere, as the Council may direct; and it is also intended to establish at Oxford and Cambridge a sort of Travelling Geographical Scholarship. Prizes, moreover, will be offered to pupil-teachers and Normal School students on the results of the Inspector's examinations in Geography. These, we understand, are the leading points of the Society's new scheme.

Extension of Cullen Harbour.—Cullen Harbour, which was given over to a Harbour Board by the late Earl of Seafield, is about to be enlarged, and the works are to be completed in fifteen months. A breakwater is to be thrown out as a continuation of the east quay. The basin also is to be considerably deepened.

Physical Exploration of the Clyde.—A cruise of the Scottish Marine Station's yacht *Medusa*, on the Firth of Clyde, took place from June 16th to 22nd, in continuation of the work which was done in April, and described in the *Magazine* for June. Dr. John Murray, Dr. Mill, and Mr. Morrison carried on the observations, as on the previous occasion. The greatest increase in warmth was found in the