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THE GEOGRAPHY OF THE NORTH-WEST FRONTIER OF INDIA.*

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NINE hundred miles of frontier boundary, lengthened greatly by many a twist and curve, extend from the north of Peshawur (let us say the Malakand pass) to that point not far north of Karachi where it takes to the sea. This is a distance half as far again as from the Isle of Wight to the north coast of Scotland, and it is as varied in geographical feature and landscape, as full of ethnographical problems, as interesting a study to the geologist or the strategist, not merely as the length of our familiar Great Britain, but as any 900 miles of borderland that can be found in the world. Taken as a whole, it may be considered as the edge of a region of great elevations. Wherever you set foot across the Indian frontier, you place it on the first steps of a staircase which leads through narrow portals by a series of successively higher landings, till (striking northward) you arrive at the roof of the world; or (striking north-westwards) you cross by somewhat lower grades the uplands of Afghanistan and the stony flats and deserts of Baluchistan. Then you reach the mountains and highlands from whence not only the vast majority of the people of India, but most of ourselves also originally emerged as prehistoric nomads. As the great waves of antique humanity which flooded Indiawards set their backs to the north and turned their eyes to the land of promise which lay under southern skies, they all found themselves face to face with the practical difficulty of crossing the mountain borderlands of India, and descending to the plains through the cracks

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and the staircases of the frontier, which we now know so well. It was no case of forty years' wandering in the entanglements of the wilderness, and then the realization of their hopes with them. In many instances they never reached the land of promise at all. Of those that struck against the Himalaya to the east of the Indus, it may fairly be doubted if any succeeded in effecting a passage. There are their remnants—the flotsam and jetsam of many a past nationality—clinging to the skirts of the mountains, or hiding in their inner recesses to this day. But on the north-west geographical difficulties were not so insuperable. The Kabul valley on the north, the uplands of Herat and Kandahar, and the long troughs of the Makran rivers on the south, let in hordes of Skyths, Aryans, and Dravidians, who absorbed the aborigines of the plains, and now constitute the mass of the Indian population. Yet many a remnant has been left on the border, and it is the extraordinary assortment of divers peoples and tongues, and the intricacies of intertribal relationship derived from prehistoric connection, which forms the peculiar ethnographical interest of the borderland. Similarly, its geological evolution by means of those vast slow-moving processes of nature which first upheaved the frontier highlands and then wrinkled and compressed their edges into parallel folds, leaving fissures or cracks at intervals for the rivers to pass from the highlands to the plains, gives us the key to its configuration.

The climate and the scenery of the frontier are not less varied than its peoples. On some of the slopes of the northern mountains, amidst forest of pine and deodar, where the goddess Flora has touched the hill-sides with her wand, and the olive and the pomegranate throw black shadows under an Italian blue sky, the climate is sweet as any climate can be in this incomplete world; but it is not all sweet. There is a region of dusty heat where the sun looks white through a yellow haze, and the shiny surface of the glaring sand-strewn "putt" sheds the scaly skin left by last season's overflow under the blinding heat; where no water is that is not salt, and where no shade is but the occasional shadow of a great rock in all the weary land—a district well enough known to most wanderers on the frontier—which is frequently quoted as the nearest approach to the conventional "jehannum" that this world affords. I know another tract, a little away from the haunts of the frontier official, where not a living thing is to be found. It is said that even flies refuse to live there!

Thus it is small wonder that the popular idea of the Indian frontier is much mixed, and that military service on the frontier is as cordially disliked by some as it is the oft-quoted theme of fond recollections by others. It is with the hope of making plain a few of the broader characteristics of frontier geography, affecting as it does all the conditions of frontier life, that I am here to-night.

Inasmuch as big mountain chains, where they exist, exercise a

preponderating and dominating influence over all other physical characteristics of a country, and as the whole north-west frontier of India is mountainous from end to end, we may very well begin by sketching the main geographical features of it in two sections—i.e. the northern section of hills belonging to the Hindu Kush system, and the southern section over which there looms the straight-backed masses of the Sulimani and their continuation southwards into Persia. For all practical purposes this division corresponds to the political division which has just lately been established between the new province, or agency, of the north, and the Baluchistan agency of the south; with the ethnic division between an aggregation of tribes who are wholly Pathan (i.e. Pushtu speakers), and another aggregation which is chiefly Baluch; also with a very distinct division between certain physical characteristics in climate, biology, and scenery.

That particular parting of the frontier-line which allows the Gomul river to pass from Afghanistan to the south of Waziristan we may take as the dividing-line.

It may at first appear that the far-away central chain of Hindu Kush can have little geographical connection with the immediate frontiers of India; but a little careful tracing out of the plan of the mountains on the map will show you that from the north of the Peshawur plain to the Kuram valley, when we step from the plains on to the foothills, we are treading on the outermost skirts of those extended spurs which, in one continuous and generally unbroken water-divide, reach downward from the Hindu Kush and embrace the Kabul river-basin. That remarkable offshoot, the Shandur range, which, starting from the head of the Yarkhun, or Chitral, or Kunar river (for it is all the same river), shuts off the narrow valley of Chitral from the headwaters of the Gilgit and the Swat and Panjkora—across which lies the dreaded Darkot pass to the north and the Shandur pass between Chitral and Gilgit—continues as a strictly conscientious water-divide, admitting of no breaks, down the eastern side of the Kunar valley. Here it lowers its crest and allows the existence of several passes, which were once somewhat easy links on the high-road from Kabul to India; then rising again slightly where the Kabul river forces its passage by a devious course between conglomerate cliffs (the first break in its continuity since its commencement), it finally culminates in the great level range of Sufed Koh, the dominating feature both of the Kabul and the Kuram valleys. For all its giant independence, entitling it well to rank as a great individual range, the Sufed Koh has thus a distinct geographical connection with the Hindu Kush, and it practically rejoins its old mountain system by means of the low water-divide which heads the Kabul river. Thus the Kabul basin is embraced, as it were, by a long sinuous arm of the Hindu Kush, and the Kabul river forms no exception to the almost universal frontier rule,



that the rivers of the plateau should pass through a gate of the hills hewn right across the axis of them, ere reaching the Indus flats. When Kelly's relief force from Gilgit forced its guns painfully through the snows of the Shandur, it was really crossing the same great divide which is marked by the Lundi Kotal (the Khaibar pass) beyond Peshawur.

South of the Sufed Koh, between that range and the Gomul river, the mountain conformation is comparatively unsystematic and irregular. The long southern spurs of the Sufed Koh (one of which is represented by the Samana ridge which shuts in the Tirah, and another by the Shutargardan) tend to radiate, and their rugged limestone ridges, flanked by a mass of hills of recent formation, extend to the river Indus.

The Kuram valley and the Tochi form no exception to the general rule of main frontier valley formation. They too are tied in at their exit to the plains, and their drainage passes out through mountain gates—gates which so restrict the outflow that past centuries of detritus has accumulated behind them; the grade of the stream has shaped itself to meet the alluvial formation, and we thus get wide spaces of cultivable land, which are terraced and revetted into level fields, and form those landscapes of fertile beauty, with scattered orchards and half-concealed villages, which are so delightful in the early summer season of the frontier. But whilst these main valleys (which also afford the main lines of approach to the plateau from the plains) are usually distinguished by wide spaces of almost phenomenal fertility, the lateral feeders of the main streams which bring down the detritus scooped out from between the narrow intervals between the long lines of tilted strata on either side, afford quite a different class of frontier valley scenery. Here the rough-hewn edges of the broken strata form cliffs which look straight into narrow confined troughs at their feet, with the course of the mountain stream (when there is any stream at all) broken by boulders and waterfalls, amidst a space so narrow that it is frequently impossible to find passable footway. And where the main streams themselves pass through those limestone gates of which I have spoken, there is frequent occurrence of gigantic gorges smoothly cut and fashioned through the hard grey rock, gorges from the depths of which you may look up for thousands of feet to the narrow ribbon of blue sky above. These two varieties of frontier valleys include nearly all the valleys of the great borderland between the plains and the plateau, and the description applies equally to the Baluch and to the Pathan border.

South of the Tochi, Waziristan forms a little geographical Switzerland all to itself on the border. There are no roads through the Waziri hills and over its western watershed into Afghanistan. There are roads afforded by the usual cross drainage into it, and round it, but not across it.

So far we have been dealing with the Pathan (or, as it lately was,

the Punjab) borderland. It is this country mainly which forms the new province, or agency, which has just been formed in India. The point to be noted about it chiefly is that it belongs to a northern mountain area in all its chief physical aspects. The deodars and pines which grace the slopes of Jakko in Simla, which stand out with more of the dignity of isolation in Kafirstan, and are to be seen high on the slopes above Kunar and Chitral, also group themselves gracefully over the grass slopes to the west of Waziristan. The dark round holly-like bushes of the young ilex which are studded over the yellow slopes of the Waziri hills, and the spreading poplar which gives such graceful shade, are trees of the Himalaya. The wild olive grows everywhere, north and south alike, and so do many other trees; but pines are scarce and rare to the south of the Gomul. The deodar is replaced by juniper, and the ilex by the pistachio. It is these trees which form such a characteristic feature in mountain scenery generally, and which certainly give an impression to the traveller in Baluchistan that in crossing the Gomul southwards he has struck a new country. He may, indeed, at first think himself fortunate if he sees any trees at all.

Here, to the south of the Gomul river, commences a new mountain system—a system which, while it exhibits many of the essential features of the northern orography, claims a distinct constructive anatomy of its own. When the great hinterland of the border emerged from prehistoric seas and became dry land, the result as to those edges of it which border the Indian plains is not unlike that which you may observe any day when a rippling tide recedes from a sandy shore. Innumerable ripples, or wrinkles, or folds were formed, not, certainly, by a receding tide, but by the tilting of strata from a line of central upheaval, which, in their general structure (exhibiting the steep edges of the broken strata on one side and the tilted flat backs of them on the other), are very similar in the general appearance of their formation to gigantic sand-ripples. The tilted strata are rocks of comparatively recent formation. The upheaved central line is composed usually of limestone, which is here and there piled up to enormous thicknesses, measuring thousands of feet, and often carrying with it into high altitudes shells and fossils of quite recent types. From these superficial indications you can imagine the general plan of Baluch border mountain construction for yourselves. Line upon line of ridge and furrow, long dominant sharp-backed ridges with jagged saw-like outlines; short thin ridges packed in between as tightly as they can fit; here and there a huge massif of limestone upheaved in grand outlines, upsetting the regularity of minor construction—all running with a parallel trend from north to south, facing India, present about as formidable a barrier to further advance as may well be conceived. Such a phalanx would indeed be impassable, but that its serrated ranks have been cracked across at intervals (as I have already said) to admit of the passage

of the drainage waters from the uplands beyond them to pass to the plains of the Indus. The main streams have held their own way through them, cutting out their own gateways and gorges through conglomerate and limestone, through all geologic changes, and it is these gateways and gorges which are our approaches to the uplands.

The narrow little troughs between the ridges have, of course, been scooped out by successive floods till there is little enough left but bare rock, but there are now and then small bays and offsets to the main streams on either side, where land can be terraced and irrigated, and villages can find a footing.

The regularity of these parallels and approaches which guard our frontier between the Gomul and the Arabian sea, and then continue through Makran and Persia to the head of the Persian gulf, is much disturbed between Sukkur, on the Indus, and Quetta, on the highlands. There a great wedge of sandy desert and Indus alluvium (called putt) breaks into the line, the effect, or result, of some hidden force of nature which has diverted the mountains, curved them from their course, and piled their thousand ridges into a tangled knot round Quetta. Here, as might be expected, are some of the highest peaks of the frontier, running to 11,000 feet and more, overlooking the plain on which the pretty station of Quetta stands. The sand and putt-covered wedge of Gandava is the opportunity for our railway, which is thus carried much farther west on the flat plains before mounting the hills than would be possible elsewhere. Beyond Quetta, between Quetta and Kandahar, the great border ridges and ranges still keep their rigid way from north-east to south-west, preparing for the great sweep westwards of half their company. The Kojak is one of them. The other half company preserves its southerly trend past Kalat to the Karachi frontier, and forms a phalanx of stiff-backed, sheer-sided, wall-like obstacles to any advance from Sind that is, I believe, unsurpassed by any frontier in the world.

As to the character of this southern border scenery, where the great central masses of limestone are piled in the grandeur of an eternal disarray of cliff and chasm, of towering peak and deep torrent-washed gorge, to a height of over 10,000 feet (as, for instance, in the mountain known as the Takht-i-Suliman, which gives its name to the system generally), there is no lack of magnificence in outline, or of the grace of picturesque vegetation. The Chilghosa pine stretches out its weird white arms all over the heights of the Takht, and over many another mountain peak besides, and it is no less striking here than it is on those other heights overlooking the Indus—the heights and slopes of Astor, in Kashmir. And from the summit of these great hills, who shall describe the grandeur of the view? To me there will always be an impression, first, of stupendous depth, then of line upon line of jagged mountain-top growing out of this depth, a silent shimmering

sea of misty grey hills sharpened into points and pinnacles, a faint white stretch of plains beyond, and a far-off blue-black streak marking the riverain of the Indus. But below the summits of these mountains, amongst the ridges or on the uplands, where one is not overpowered by the vastness of the enclosing walls of some deep gorge, or fascinated by the occasional revelation of gentle olive-covered slopes sweeping down to a central band of green vegetation; when one is not wandering amongst the junipers of Ziarat, or stretched amongst the early summer tulips and narcissus of the Kojak; but when one is making a slow and painful progress in these waste places which form the vastly greater portion of Baluch country-side—what about the scenery then? Arid and dry, with the white hot haze shimmering about the rocky crags of the soaly hills; a small salt trickle meandering through the stony nullah bed, and leaving a sticky leprous edge along its yellow banks; the stunted tamarisk powdered with salt and dust, all grey, khaki, dun-coloured, and glaring—the Baluch landscape is not so alluring. And there is so much of this, and so little of the other, as to lend a certain reasonableness to the Baluch tradition that at the creation of the world the rubbish was piled into Baluchistan. And yet we must remember that throughout that wild southern borderland, into the inner recesses of which but few Europeans have ever really penetrated, where there must exist thousands of peoples—Baluch (or Arab) peoples, Aryans, Dravidians, and Pathans—who have never seen a white face and never heard an English word spoken, there are still infinite possibilities of development. What has been done in Peshin or Zhob, might be done in a hundred other valleys, not so extensively perhaps, but yet with ample justification for the hope of fair returns. Indeed, there are dozens of spots which might be pointed out where the evidences of an old and better order of agricultural development are abundantly evident, especially in Southern Baluchistan and Makran. Baluchistan is, indeed, an old country once developed and civilized, now withered and dried, and the problem to be usually dealt with is that of bringing water back where water once existed and exists no more.

A few words about the infinitely varied ethnical features of the frontier may not be out of place, and I will endeavour to draw the line of distinction between the main features of this complicated agglomeration of varied nationalities as broadly as possible. The most simple division of the frontier tribes-people will be that which places them in two great communities, *i.e.* the Pathan or Pushtu speaking fraternity and the Baluch. In this great ethnic division the arbitrary line of geographical division which I have selected as being represented by the Gomul river is not entirely satisfactory, for there are, as I have already pointed out, large and important Pathan tribes existing not only in the Sulimani mountains to the south of the Gomul,

but extending southwards to the Quetta district. Indeed, the parallel of latitude on which Quetta stands more aptly defines this ethnical division than does the Gomul river. There are no true Baluch tribes in the Zhob valley, although this valley is an integral part of the politically defined Baluchistan province, or agency, and thus it happens that the occupation of the Zhob valley which shuts off the Sulimani mountains from Afghanistan is a strategic movement directed against Pathan rather than against Baluch tribes-people. There is a third section of border peoples in the far north, the Chitralia, who claim no sort of affinity, excepting that of religion, with their Pathan neighbours. They are a very ancient race, belonging rather to Himalayan than to Indus frontier ethnography, and we must for the present pass them by. South of Chitral the Pathan races, who occupy all the northern sections of the long straggling new province of the frontier are chiefly represented by large tribal communities of Afghan origin. The Yusufrais of Swat and Boner, and the Mohmands, who spread southwards over the barren hills which overlook the Kabul river, are all of Afghan origin, claiming ties of race affinity with the Durani Afghans of Afghanistan. So that here again the political boundaries are by no means coincident with ethnical divisions. We find large and important tribes of undoubted Afghan extraction who are beyond the border of political Afghanistan, and it was the separation between them and the parent stock, effected by recent boundary demarcation, which was one of the chief causes of the serious risings on the north-west frontier which culminated in the Tirah campaign. But whilst all Afghans are Pathan in so far as they have adopted the Pushtu tongue, all Pathans are not Afghan, and south of the Khaibar we find in the Afridis, Orakzais, Waziris, Sheranis, Kakurs, etc., races whose origin is not always easy to define—large and powerful communities, always ripe for mischief, who have never within recent historical times been efficiently under control, either from the side of India or Afghanistan. They claim no relationship with the Afghan. They are some of them older races than the Afghan—a people who have held their mountain fastnesses against all outside aggression for more centuries than we can tell; and yet they are in no sense aboriginal, for they belong to one or other of the innumerable Aryan or Skythic overflows from the highlands of Central Asia which have peopled India, partly displacing, partly absorbing, the non-Aryan races which existed before them. But non-Afghan though they may be, they are co-religionists with the people of the Amir, and it is westward and northward toward the ancient land of their early beginnings that they will inevitably turn their eyes for refuge and assistance in times of difficulty and danger. When we talk of the Mohammedan religion in connection with India, and speak of the British Empire as a Mohammedan as well as a Christian empire, we must remember that the strength and vitality of

Islam in India, its fanaticism and its orthodoxy, are really maintained by these frontier peoples, and perhaps by one or two of the native states of the peninsula; not by the great mass of Mohammedan peoples of the plains, who form by far the larger proportion of the fifty million of Mohammedan subjects of the king. The Mulla is of little account in Lower Bengal. It is only amongst the Pathan peoples of the north-west frontier that he is a moving political force. His voice, indeed, is not much heard south of Quetta, where, whilst we are still dealing with orthodox Mohammedan tribes, we meet with peoples as distinct from the Pathan of the north in social organization as they are in ethnical affinities.

The inhabitants of Baluchistan are as varied in their nationalities, and as ubiquitous in origin, as are the inhabitants of Afghanistan. They range from the pure Persian to the pure Dravidian. Turks and Rajputs, Kurds and Monguls, are all to be found amongst them. But the dominant tribes are represented by a great community of people of Semitic origin, and when we speak of Baluch we usually mean one of the great Rind federation. The true Baluch is not of very ancient extraction. He can usually be traced to Arabia or Syria, and he probably owes his existence on our frontiers chiefly to the Mohammedan conquest of Sind in the eighth century of our era, which established Arab domination on the Indus for nearly three centuries. There were Arabs in the West of India long before then—they were there long before Alexander's time, and they have left the mark of their colonies in Southern Baluchistan as imperishably as any that may be found in Rhodesia. But the modern Baluch usually traces back his pedigree with great confidence to the tribe of the prophet, and cares to go no farther. In appearance, in manners, and in disposition, many of the finest of the Baluch representatives are almost typical Arabs of the town-bred class, such as one may meet in any of the coast towns of Arabia, and always be glad to meet again. As a professional robber and raider the Baluch is in no way inferior to the Pathan, but his methods differ, and his standard of ethics is undoubtedly higher. The quality of chivalry is not forgotten by these descendants of a people who claimed affinity with the Saracen, and loyalty to the chief of their clan is traditional; loyalty to his chief with the Baluch takes the place of the Pathan's blind confidence in his mulla. It is sometimes asserted that the Baluch tribesman is a much easier man to deal with politically than the Pathan. This is certainly true to some extent, for he is far more faithful to his engagements when made, and far more open minded in the making of them. But it is due to no lack of the quality of courage or independence. The success of the Baluchistan administration, which for so many years has differed in many important respects from that of the Punjab, must be attributed largely to the wisdom of its conception in the first instance. Baluchistan, indeed, of

late years has been in the position of that happy land which has no history. Not a single important tribal rising has occurred since the first occupation of Quetta.

The political geography of the frontier is a matter of too great interest just at present to be passed over, and we must devote a short space to it.

It appears to me to be very little understood that for fifty years the red ribbon of British occupation has not materially shifted its position on the north-west frontier of India. We took the Punjab from the Sikh, and Sind from the Amirs who ruled it, about sixty years ago, and where we found their frontier-line drawn, there it is, for the most part, drawn now. It is all very well to call it an unscientific frontier, but the hard-headed Sikh of the north did not do badly when he set that line at the foot of the stony frontier ridges, saying, "I will take all the flats and the plains, the cultivation and the jungles of the Indus riverain, and you may have whatever you can make of the sun-baked hills and valleys beyond." Nearly all along the frontier there is a very respectable width of stony glacis, separating the hills from the alluvial tracts, unultivable and yet open. There was, probably, no very strict demarcation in pre-British days. Those slopes of stony "dasht" were the practical hedge between Sikh and Pathan. Of course, from the military point of view, a frontier which admits of a long craggy arm reaching out from the mountains into the plains separating the valley of Peshawur from the valley of Kohat—an arm wherein an enterprising foe can collect his people and do infinite mischief by sudden descent on either side—is most unscientific; but there it was in the time of the Sikh, and there it is, with a minor arm to the south of it, still. No change has taken place. We have not occupied it, and but very few indeed of the frontier officials have ever seen the interior of it. As for the Baluch frontier, south of the Gomul, there is nothing much to be said about it. For mile upon mile a solid uncracked wall of rock, several thousand feet high, faces the sands of Sind, and makes as perfect a barrier as art or nature could desire. Directly across that barrier, behind which lurk the Dravidian peoples of the south, no European ever passes. Only by the two great recognized passes of the Baluch frontier, the Mulla and the Bolan (with which I include the Harnai railway route, as both centre on Sibi, at the head of that Gandava sand-wedge of which I have spoken), can one reach the Brahui hills.

Such, then, is the true boundary of British India, and beyond it (with the exception of that restricted area which we call British Baluchistan) lie the independent Baluch and Pathan peoples of the borderland, governing themselves after their own feudal system, subject to tribal laws, and only subservient to British authority in that they are bound to preserve peace on the border, and keep their own frontier

intact. Beyond them, again, lies Afghanistan, and the recent demarcation of the boundary between these independent tribes and Afghanistan, which led to a not unnatural fear of absorption into British territory, was the dominant cause of the late general rising of the tribes on the north-west frontier. But their removal from the sphere of interference on the part of the Amir did not mean annexation to British India, and to maintain that the red line should be drawn on our maps so as to include Chitral, Kuram, Tochi, and Baluchistan is only to repeat the error which was made by the ignorant tribes-people themselves. But the security of our frontier from aggression in certain parts of the border, and the necessity for enforcing our principles of peace on the frontier everywhere, have necessitated the occupation of certain lines of approach, and certain advanced posts dominating Chitral, the Khaibar, the Kuram, Tochi, Gomal, and Bolan (all of which are highways of more or less significance into India from the plateau), which serve these two purposes, giving us the power of direct control over these wild mountaineers in a degree which is more or less effective in different parts of the frontier. Only in Baluchistan have we acquired the right, partly by conquest recognized in the treaty of Gandamak, partly by the ordinary business procedure of paying a quit-rent for possession, to enclose certain districts (Peshin, Tal Chotiali, Sibi, etc.) which centre about Quetta, and to call them British. Here British authority is as fully established as in any part of British India, the forms and methods of administration being of the regulation pattern.

As regards the degree of independence enjoyed by the various "independent tribes of the frontier," it can only be said that it varies greatly with the geographical conditions of their habitat, and the strategic value of our lines of occupation. In some parts of the frontier (notably in Baluchistan) the European traveller may move in fairly comfortable security, and often be hardly able to recognize the fact that he is not on British Indian soil. In others (notably amongst the wilder Pathan tribes) it would be exceedingly risky for him to cross the border without a strong and well-armed escort. In yet others it would take a whole division of troops, and all the accessories of a small campaign, to enable a frontier officer to inspect the line of boundary pillars which he has himself but recently set up. Within the recognized limits of British India there are a large number of native states governed by their own hereditary chiefs, independent of British control except in such matters as might affect the security and peace of the Empire, around which we are accustomed to draw a yellow line in our maps to signify that they are not yet our property. It appears to me that the independent tribal provinces of the frontier should be treated in exactly the same way. Much of the confusion which exists in the mind of the public between the *meum* and *tuum* of borderland political geography is caused by a want of clear definition in our maps. If, on the other hand, all is to be coloured

red which betokens the sphere of British influence (a term which may mean anything or nothing), then we may as well make our red line conterminous with Persia, with Russia, and with China at once.

Two provinces or agencies now represent Indian border administration on the north-west. The northern of the two has just been formed as an administrative unit independent of the Punjab Government. It includes a long straggling strip of independent mountain borderland stretching from the Gomul river to the Afghan border beyond Chitral, as well as that section of British India which lies between the Indus and the frontier. To the east of it is the Punjab and Kashmir; to the west there is Afghanistan. It will be observed on the hand map that the red line of British possession has been drawn round Kashmir. This is not strictly accurate, for Kashmir is a native state as independent as some of those in the Indian peninsula; but it was more important to define the independence of those tracts which lie between Kashmir and Afghanistan than to emphasize the independence of Kashmir itself. It must be remembered that Kashmir was once British property, acquired by right of conquest from the Sikhs, and it is at the present time so much in British occupation that it has come to be regarded as the traditional playground of the Englishman in India, and almost as a part of the empire. Kashmir, however, forms no part of the new administrative charge, which is concerned almost entirely with the Pathan border tribes existing both within our frontier and beyond it. The watchful political eye of its commissioner will be on Chitralis, Swatis, Mohmands, Orakzais and Afridis, Turis, Dawaris and Waziris beyond the red line, as well as on the Khuttaks and Bangashes of the Kohat district within the red line, but beyond the Indus. These are mostly Pathan peoples, and they represent an agglomeration of nearly all the most troublesome tribes of the Indian borderland, scattered through a most difficult country extending for a distance greater than that intervening between London and Edinburgh. It is indeed a thorny charge, and the result of a scheme which separates it from the well-trying and carefully constructed machinery of Punjab administration will be watched with an interest which will not be altogether free from anxiety.

The Baluchistan agency, which equally includes an area of territory pertaining to British India as well as a vast wide space of mountains and desert occupied by absolutely independent tribes, has long ago justified the administrative system which was first introduced by Sandeman. The success of his form of political supervision over the diverse interests of the infinitely varied nationalities represented in the Baluchistan agency has doubtless prompted the counsels of the Supreme Government in effecting another border agency on similar principles in the north, and thus relieving the Punjab Government of a most responsible burden. But neither the ethnographical conditions of the southern

border, nor the strategical position which we occupy in relation to the tribes themselves, are the same in the northern borderland as in Baluchistan. And the idiosyncracies of the people differ. The Baluch chief is the real (and not merely the titular) head of his clan, and he is not in the hands of the mulla and the fanatic. And in that part of Baluchistan which is peopled with Pathan democrats, again we occupy a better military position than we possess in the north—a position which entirely dominates them, and, in fact, leaves them no option but to behave themselves.

No geographical sketch of the frontier, however imperfect, can pass without a reference to those conditions which determine our strategical position thereon; and these conditions are not so complicated as they would often appear to be. The northern flank of the frontier is protected by a vast wilderness of mountains, so unbroken in its massive continuity that the interminably long narrow valleys which wind about its recesses afford the only practicable foothold for man or beast. Between the Indus and the Kunar (or Chitral) river, across the southern outlying spurs of the Hindu Kush, strategical lines of approach to India are so little worth consideration that we will waste no time in discussing them; and although certain passes practicable for small parties of travellers do certainly drop into the Chitral valley from the north, leading downwards from the Pamirs and Badakshan, I will (having seen something of them) set them also on one side, merely remarking that all these problematical routes to India pass within reach of the dominating fortress of Jalalabad. A serious menace to India from the north can only be directed along one or two lines. One is the historical valley of the Kabul river, the open road down which Aryans and Skyths, Greeks, Afghans, Monguls, and Turks have swarmed into the plains, changing the destinies of India and altering the roll of its nationalities. Beyond Kabul are the snow-bound barriers of the Hindu Kush, but they are traversed by roads fashioned on European models, which bring the traffic of the Oxus to the streets of the city. It is Kabul itself which blocks the way, and the Amir is the true warden of this northern frontier.

Another line is on the south, where there is the more open approach over the "dashts" and deserts of the Persian border—by Herat, Sistan, or Kandahar and Quetta. From the Caspian to Quetta a traveller may pass without encountering a single formidable pass, without rising to higher altitudes than are indicated by Quetta itself, some 6000 feet above sea-level.

On the extreme west, again, is the ancient high-road from Syria and Persia, which lies through Makran. By this way India received her contingent of Dravidian and Semitic, or Arab, peoples. For centuries the whole Indus valley lay under the sway of the Arab who passed by this route. But Makran is within reach of the sea, and whilst we have

command of the sea, we may regard the Makran gateways as locked. Between the northern and southern routes of Kabul and Kandahar, across the borderland of independent tribes, there are, indeed, passes innumerable intersecting the mountains. But these also may be held as practically unimportant so long as the two great avenues of Kabul and Kandahar are in our hands, for they are narrow, rugged, easily defensible, and within striking distance of one or other of these two great strategic centres.

Our borderland posts and lines of occupation to the north and south respectively, are, from their geographical position, rendered distinct in purpose. Those on the north are well enough adapted for purposes of political control and observation both of Afghanistan and of the independent border, but they have not much strategic significance in themselves. We should not sit still and wait at the Malakand or the Khaibar, at the Peiwar or Wana, were a serious invasion from the north threatening us. They are not defensive positions, nor do they even completely dominate the independent tribespeople they are supposed to overlook, for they are not sufficiently in command of their western communications with Afghanistan; but with their assistance we can readily secure the means of occupying stronger and better strategic positions beyond them—they give us a right of way—and so far they are invaluable adjuncts to our strategic frontier.

On the south the geographical conditions are different. Not only does the position of Quetta, with its remarkable command over divergent ways to north and south, to east and west, render it a strategic position of importance such as can be claimed by no other position south of Jalalabad and Kabul, but an easy line of occupation and a connected chain of posts along the line of the Zhob secures to us the back premises of the Pathan border tribes of the Suliman hills, and thus gives us an assured guarantee for their good behaviour, which is sadly wanting further north. The unruly mountaineer hesitates to sharpen his sword and sling his jezail for a foray across the border eastward, when he knows well that, with the coming of the inevitable reprisal, he will find no convenient exit by his back door westward into the universal harbour of refuge for evil-doing Mohammedans—Afghanistan. So that, locally, we are strong in the south. And in the wider sense of Indian defence we are even stronger. For Quetta must be regarded as the bulwark, not merely of Sind, which lies behind it (there are no high-roads into the heart of India yet across the wastes of Sind and the deserts of Rajputana), but of the same northern valleys and plains of the Punjab, which have ever been the objective of an advance from Kabul. The Arabs who passed through Makran to the conquest of Sind never reached Delhi through Sind. But they reached the Peshawur valley and Kashmir, and there they remained. So that it is ever northward that we must turn our eyes, remembering that the geography of to-day

(though it may be modified by railways) does not vary with the introduction of new military weapons and methods, and that to secure India from aggression in the future we should study the pages of the past, and keep our special reserve of strength for the Kabul valley and the gates of the Punjab. What we have learned anew (as much from the experiences of Tirah as from those of South Africa) is the deadly facility of defence which mobility in a rugged country ensures. It is a good and a useful lesson which may comfort the hearts of those who think that it would be an easy matter to repeat history and to overrun India once more from the highlands of Asia.

After the reading of the paper, the following discussion took place:—

General Sir JOHN J. H. GORDON: We have listened to-night to a most interesting lecture, which I am sure, with the views displayed on the screen, has given every one here a graphic picture of the wild borderland provided by nature as India's defence on the north and west. No one is better qualified than Sir Thomas Holdich to adequately present to us those literary and pictorial sketches of nature in her boldest moods. What he has described to-night has brought back to me vivid memories of an interesting part of the north-west frontier of India, which he and I visited together some years ago, when he did so much to fill up a great blank in our geographical knowledge of that important region. A point to be noticed with regard to this vast and formidable breadth of mountainous country lying just beyond the threshold of India, is that its inhabitants are all splendid fighting men, who glory in the fact that kingdoms and armies have come and gone, but that they remain independent. All the best fighting elements of Central Asia seem to have been gathered into this stronghold. The wild scenery has produced turbulent men. Time may bring home some civilization to them, and at this moment, under the hand of an able and strong Amir of Afghanistan, some advance is being made in this direction. There is an immense amount of interest in the subject of this lecture, human and otherwise, which I do not feel capable at present of commenting fully upon, and if the little I have said has been more from the soldier's point of view than from the philosopher's, I trust that my predilections will be accepted as my apology.

Sir RICHARD TEMPLE: I obey your behest to say a few words on this most interesting subject. Time was when I used to lecture on this very subject, from this table, to an audience very much like what I see before me to-night. It is a great pleasure to me to find myself in old haunts and familiar places. You have heard a picturesque, well-informed, and graphic address. But what is the lesson that you and I ought to learn? It is this, that we have a real scientific frontier. There was a great statesman, for whom I have the utmost respect, who said that the frontier was unscientific. But for once he was wrong. Sir Thomas Holdich has shown us that the frontier is scientific as regards the geology, the plateaux, the plains, the natural barriers, the strategic points. Surely that is a scientific frontier, designed by nature herself, the great teacher of science. Nature understands these matters, or rather the Creator who made nature, far beyond any feeble ideas of ours. Of what does the frontier consist? One vast serrated wall with gates and doors here and there; and I will say to my countrymen, having a long acquaintance with the subject, that as long as you have command over these gates and doors, do not waste your resources, spend your money, and shed your blood in going beyond this wall.

My concluding words are these. All our frontier arrangements depend on our being friendly with Afghanistan. This is not an Indian, but a European question. As long as you have the friendship of Afghanistan and retain command over the almost impenetrable wall raised by nature as above described, you may depend on having skilled British officers with faithful and gallant Sepoys to defend the land which lies behind—that is, on the British side of the border.

Sir JAMES HILLS JOHNES: I will not detain you long. I wish simply to tell you that I have come a long way to hear your excellent lecture, and I have been well repaid for having come. I do not know that I am in a position to carry much weight, because I retired years ago, but I must record my approval of your able paper. I have had the frontier question much in my thoughts, and what you have said to-night emphasizes my views. The great point that we must see to, is that we keep the friendship of the Ameer of Cabul. He has made Afghanistan a strong power, and it will be for our mutual benefit to be warm allies.

Dr. BLANFORD: There is no part of the interesting address from Sir Thomas Holdich more deserving of the attention of geographers than the intimate connection which he has shown to exist between the physical geography of the north-western frontier of India and its political, military, and commercial history. That physical geography is both remarkable and interesting, and is closely connected with the geological history of the Indian peninsula. In that wonderful work by Suess, 'Das Antlitz der Erde,' a book already in great part translated, and well translated, into French, but hitherto, I regret to say, not reproduced in English, there is a masterly summary of the subject, to which I should like to call the attention of all interested in physical geography. Very briefly the views expressed are the following:—

In the Mesozoic era of geology, at the time when the British oolites and chalk were being deposited, the land that now forms the peninsula of India was part of a continent, of which other surviving fragments are to be found in Madagascar and Southern Africa. A very large area in Central Asia, including part of the Tibetan plateau, now 15,000 to 20,000 feet above the sea-level, formed a great eastward extension of the Mediterranean. In early Tertiary times the sea still occupied a great part of South-Western Asia, including the Indian north-western frontier. Then changes set in, and from all directions pressure, caused by crust contraction or other agencies, was exerted against the resisting solid mass of India, and resulted in great crumpling of the rocks. The greatest pressure came from the northwards, and to this we owe the mass of the Himalayas, but other thrusts were exerted from the east and from the west, and resulted in the formation to the eastward of the ranges of Assam, Arrakan, and Burma, and to the westward of the mountains of our scientific frontier. So far as I have had an opportunity of investigating the physical features of the country, they agree with Suess's theories.

The results of the crumpling and folding of the rocks in late Tertiary and probably even in almost recent times, coupled with the denudation, especially of the softer beds, are to be seen in the parallel ridges of Afghanistan and Baluchistan. None of the mountains on the Indian frontier are of great geological antiquity. It is in connection with the late formation of the ranges that the river gorges which traverse them are especially interesting. Even the Himalayas are cut through by the Indus, Sutlej, and Brahmaputra, and also by some of the smaller rivers which form tributaries to the Ganges. In the same way, on a smaller scale, as Sir Thomas Holdich has pointed out, the Afghanistan and Baluchistan ranges are frequently cut through by streams of no great size or importance. Two remarkable cases are worth mentioning—one is the well-known Chappar rift, through which the railway runs

between Harnai and Quetta. Here all the drainage of the valleys around Kach and Kawás traverses the narrow gorge in the anticlinal range forming the northern side of the Harnai valley. The other is very little known, and is even more remarkable. The southern part of the Suliman range, south-west of Dera Ghazi Khan, terminates about 60 or 70 miles from that station in the neighbourhood of the Cháchar pass. A few miles to the north of this pass, where the range is at least 3000 feet high, it is cut through from west to east by a stream, the Kaha, which drains several hundreds of square miles to the westward of the range, and then, instead of making its way southward over fairly open country composed of soft rocks, it cuts through the hard sandstones of the Suliman range in a magnificent gorge, or what it is the fashion in these days to call a cañon, and debouches on the Indus plain about 50 miles south-west of Dera Ghazi Khan. There is no reason to attribute these gorges to fracture; in all the cases I have seen no evidence of dislocation or cracking can be traced. These wonderful chasms result from the slow but persistent action of the sand and gravel carried down by the streams; they are a magnificent effect of what have been termed "antecedent" rivers, and whether in the ravines of the Suliman or in the great valleys of the Himalayas, they bear witness to the same fact,—that the rivers which cut them are older than the mountains in which they are eroded.

Captain YOUNGHUSBAND: I should much have liked to engage in a political discussion on this question, but I think perhaps I had better confine myself to the scientific aspect of the lecture which has just been read. The point I should like to emphasize most is the great extremes which are to be noticed there, both in the climate and natural features of this country, and which are reflected in the character of the people themselves. The great extremes of climate, heat in summer and cold in winter, the rapid changes between day and night, winter and summer, are characteristic of the people, who are for ever in extremes. At one time you find them gay and jubilant, engaging in a game of polo, and talking to you in the most friendly way, and the next moment rising up against you without the slightest possible warning and without any apparent cause. This is characteristic not only of the Chitralis, but of most of the people of the frontier. It is due, I think, to the nature of the country and the climate.

I have been noticing lately the people of the Mohammedan state of Tonk, in Rajputana, who originally came from the frontier; they left Boner about 150 years ago, and formed part of the Rohilla bands who defeated the Mahratta and other chiefs of that period. But now, instead of being of a warlike, impressionable, and fiery character, I found them toned down into a mild and quiet people, and seemed to have lost all their manliness. I hope that in our future dealings with the frontier tribes we shall try to preserve this characteristic, but also take precautions that it may not be used against ourselves.

On the motion of Sir John Gordon, a cordial vote of thanks was passed to Sir Thomas Holdich for his paper.