formed of red and variegated marles, associated with, resting on, and beyond all doubt belonging to the red sandstone, which forms the substructure of the whole. The Guadiela, which is the western branch of the Tagus, has its course deeply cut in this sandstone, and nothing is seen underneath it. The mass of marle is of considerable thickness, and forms hills of moderate elevations, deep and open vallies having been worn by the waters, leaving gentle undulations, and forming one of the most beautiful territories in the world. The summits of these heights across a considerable tract are invariably covered by a horizontal deposit of white limestone, similar to that of Arganda and Tarancon. These formations of marles, covered by thin courses of limestone, varying only in the indenture of the vallies, which in the tongue between the Tagus and Guadiela and near the course of the former river are more precipitous than in the other parts; extend from Priego across the Alcarria into the province of Guadalaxara, and east as far as the neighbourhood of Stera which is to the eastward of Alcolea on the road to Zaragoza, where they appear to rest on the sandstone formation which divides the waters of the Ebro from those of the Tagus. About this point I lost trace of the formation, but I do not give it as the real termination.



This long line is only broken by a mass of secondary limestone, evidently similar to that of the Sierra de Cuenca, which appears near Sacedon, and forms a range of considerable height, the Tagus passing through it. The extent of the sandstone formation to the north of Guadalaxara was not seen, but it probably rests on the great primary formation which is seen beyond the plain, and may no doubt be made out in the district of Cogol.

ludo, from which neighbourhood *terebratulæ* are brought and sold in the fair at Madrid as curiosities, and I have understood there are traces of coal near it.

On the side of Madrid from Guadalaxara near Alcala de Henares, the red marle which forms the soil of the rich plain of Guadalaxara is succeeded by white and gypseous clay which forms the dismal country immediately around the metropolis. At Colmenar, near Aranjuez, is a formation of white limestone exactly similar in appearance to that mentioned in this section, which is wrought for sculpture and other purposes at Madrid. This is no doubt the same formation, but I had not the opportunity of visiting it.

The limestone which is traced in this section in a triangular direction of which the apex is near Priego, a distance altogether of two hundred and twenty miles, appears to have been deposited horizontally on the marle belonging to the red sandstone which underlies the Sierra de Cuenca on its northern side. It is quite different in every respect from the secondary limestone which forms that Sierra, and which occurs again as mentioned in the middle of the section, near the confluence of the two branches of the Tagus in the neighbourhood of Sacedon. This deposit is not only different from that secondary rock, but from every other seen by me in Spain. It has apparently been very little disturbed since its deposition, the vallies having been swept out without deranging the remaining parts. It is spread horizontally over a large tract of country. I never discovered any organic remains in any part of it, but it has entirely the characteristics of a fresh water or lacustrine deposition, which would seem to have covered that extensive surface at a period subsequent to the raising of the Sierra de Cuenca,

and occupies a large territory between that Sierra and the primary range of the Guadarrama, both branches of the Tagus above and below their junction flowing through it. The thickness varies considerably, but in general it is only a few feet, and it is completely different from any of the numerous varieties of secondary limestone of the southern range.

It must be observed that this lacustrine deposit occupies a similar situation, geographically, with extensive horizontal deposits which I have reason to believe are both marine and freshwater, in old Castile, and which lie respectively between the secondary range or barrier of the north division of the great plateau, and the great dorsal or primary central range which separates the two Castiles. These interesting deposits would cause it to be inferred that both parts or divisions of the great table of Castile have been covered by water at a period subsequent to the occupation of their present position by the two flanking chains of the north and south, the great central range separating them respectively.

The Sierra de Cuenca on the northern side is little more than an elevated plateau with peaks moderately elevated above the great table of Castile. From information I have received, the sandstone on which it rests appears at its southern foot above the plain of Valencia to which the descent is more rapid. An opinion is held in the country that this limestone alternates with the sandstone, but I have doubts on this subject and believe that the whole mass of it rests on the sandstone.

I was informed by professor Garcia of Madrid that orthoceratites were found near Cuenca, but I know not the locality.

The sections of new Castile are now resumed from the neighbourhood of Madrid and carried to the west through Estremadura. Beyond Aranjuez the gypseous marles appear to the right of the Tagus and form the dismal country of Ocaña. The country intervening between the two roads of La Mancha in a direction from Albacete to Valdepeñas is limestone of the marly kind which occurs so much in the south, but it was not particularly examined. Beyond Valdepeñas the primary range of the Sierra Morena appears which divides this district from the regions of Andalusia. The immediate country of Valdepeñas is marly limestone resting on primary slate which I saw on descending into the deep cellars of that place in order to dip into the tinaxas. A detached mass, probably of secondary or tertiary formation is seen to the right of the road from Madrid, in which I have been informed fossils have been found. The whole of this must apparently be considered as detached or subordinate parts of the great southern secondary range, which covers the Sierra Morena in the neighbourhood of Alcaraz. In descending the Tagus from Aranjuez, the primary formation of the central range closes in, and soon forms a continuous mass, parts of it being thiuly covered by alluvions and transported materials. At Toledo the country is chiefly granite At the Puente de Almaraz are slates vertically thrown up, running north and south, and at the Puerto de Miravete quartzose and other rocks. At Truxillo is granite. The greater part of the wide range of Estremadura, from the Tagus to the Sierra Morena appears to be primary, covered by alluvions and transported materials, which no doubt form the country at the mouth of the Guadiana. At Merida, greenstone,

and at Badajoz, limestone, probably of the primary series, on which is built the fort of St.-Cristobal, are the prevailing rocks. The portion of the Sierra Morena between Badajoz and Seville is composed of rocks of many sorts, slates, granular limestone, hornblend, etc.

## OLD CASTILE.

The upper parts of old Castile from the right of the Ebro I have been informed are of sandstone, which in all probability covers the primary central range and is connected with the formation which is on the right of the Ebro in Aragon *.

In the neighbourhood of Burgos are sandstone and limestone, which appear to be connected with the bold limestone formation of Pancorbo and to stretch away to the lofty uplands of Soria, probably forming an uninterrupted series with that between new Castile and Aragon. The citadel of Burgos is on limestone covered by a more recent deposit, containing some marine remains.

Between Burgos and Valladolid are a series of horizontal beds which require, and would well repay examination. Some beds contain marine shells but in small quantities. They valley of the Pisuerga is bounded by and has apparently been excavated out of these beds. At Valladolid are beds of clay and sand, covered near Fuen Saldaña by a conglomerate. These beds of clay and transported materials extend to the flank of the great central chain which separates it from new Castile and rest upon it, near the range of the Guadarrama.

* I was indebted for this information to the Conde de Villafuerte, of Tolosa.

In the neighbourhood of Lerma is a white limestone bearing some resemblance in appearance to the interesting formation of new Castile, but it must be borne in mind, that the elevated central primary chain separates these deposits. The whole of the lower part of old Castile between Valladolid, Benevente, and Leon, is a continuous mass of clay and transported materials passing into sand or gravel, resting on the great range which separates it from Asturias. I was incapacitated by an accident which had happened to me from attending to the formations on the flank of this chain in descending from the Puerto de Pajares, but I observed fragments of limestone containing orthoceratites and nummulites on the way to Leon. The gypsiferous marles of new Castile are wanting in the parts of the other province I traversed, and the soil is generally more sandy than in the sister plain. I believe the sandy structure increases towards Salamanca, which district I had not the opportunity of examining.



NORTH COAST.

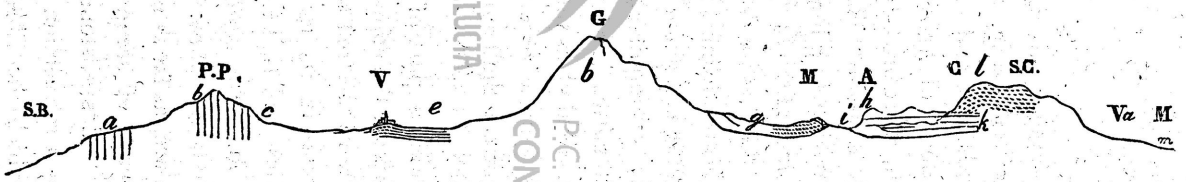
From the Pyrennees there is an uninterrupted succession of sandstone and limestone, metalliferous and carboniferous, extending to Asturias. The coast line is nearly parallel to these formations, and is formed, sometimes of one, sometimes of the other. The general form, direction and composition of these formations might cause it to be inferred that the chain is the prolongation of the western flank of the Pyrennees. A nummulite lime stone is seen near Riba de Cella between Santander and Gijon. West of Riba de Cella, the limestone forms bold

mountains, which close in upon the coast, after which is a vast field of sandstone, almost continuous, traversed by thin beds of limestone, and extending over the whole country of Oviedo from the central chain of the interior, which separates it from Castile, until it is lost in the ocean at Cape Peñas.

These formations continue uninterruptedly, and contain the remarkable deposite of coal of which mention is made in the visit to the province, and in the account of the mines. The beds are all vertical or nearly so, and in the route to the Puerto de Pajares near Campo manes, is a section with impressions of very large plants also upright. There are grits and conglomerates of various kinds in the usual style of coal formations, and the miners informed me they occasionally found impression of plants in the seams. With the exception of a coralline found near Cape Peñas in one of the bands of limestone, I did not meet with any organic remains in this most interesting formation. The coal strata are cut through by the deep course of the Nalon, which has precipitous banks on either side, in which the strata are seen, extending to an estimated distance of four leagues, seventeen miles. The quantity of coal is enormous, and scarcely any has yet been extracted. It is however a most blind country to the geologist, the rocks being covered up with luxuriant vegetation in almost every part, rendering continuous observation extremely difficult and almost impossible. In approaching the central chain, beds of slate appear, and are thrown up regularly to the centre, which is black and white limestone. On the southern side are a variety of beds quite different from those on the northern side, but I regret that an accident which wholly incapaci-

tated me from working, prevented my taking more than a hasty and imperfect view of this range. Notwithstanding the uninterrupted continuation of these sandstones and limestones along the north coast, there is great reason to believe, that the axis changes either near Santander or at the elevated range of Riba de Cella, leaving the younger beds nearer to the Pyrennees, and the older which include the great coal basin of Asturias, to another axis, possibly the primary formation of the west of Asturias. There is no reason whatever to suppose that the real coal formations of Asturias are otherwise than much older, and probably quite independent of the carboniferous limestones of the vicinity of Vittoria and Oyarzun, although the sandstone and limestone occur uninterruptedly between these distant points. See the desiderata at the end of the chapter.

## SECTION ACROSS THE CASTILES.




*S. B.* Sea of Biscay.
*a.* Coal Basin of Asturias.
*P. P.* Puerto de Pajares.
*b.* Beds of limestone.
*c.* More recent formations not examined.
*V.* Valladolid.
*e.* Recent formations salt and probably fresh water of the Pisuerga.

*G.* Guadarrama.
*b.* Primary range.
*g.* Detritus etc.
*M.* Madrid.
*i.* Gypsiferous marle.
*A.* Alcarria.

*h.* Thin limestone, supposed to be fresh water covering
*i.* Red Marle.
*k.* Redsandstone, passing under
*l.* Secondary limestone of
*S. C.* Sierra de Cuenca.
*V.* Valencia.
*M.* Mediterranean.

In this sketch the distance between the ranges on the flanks from the centre is shortened, in order to shew detail more clearly without extending the length.

## ARAGON.

On the route from Madrid to Zaragoza, the horizontal deposit of limestone, resting on red marle, as before mentioned, is succeeded by sandstone, and other beds which extend to the neighbourhood of Ariza. Below that place, in following the Xalon, there are appearances of a regular axis near Alhama de Aragon. This axis is of slates nearly vertical, and running in a line of bearing towards the great isolated mountain of the Sierra de Moncayo, near the Ebro, on the frontier of Aragon and old Castile, which I have been informed is also of slate. This formation is of great importance in the geology of the centre of Spain, and requires examination. On this account only is it noticed, as I passed it rapidly, and had no time for detailed observations, but it is too essential to be omitted in a region where there are so few landmarks to direct the course of the geologist.

It is extremely probable that this is part of a formation at Molina de Aragon, in which are the copper mines. It extends beyond Calatayud, where the red sandstone appears to rest on it, which seems in its turn to be covered by white gypseous marles, and that by a mass of transported materials, which form the country near Zaragoza, and the immediate vale of the Ebro.

In upper Aragon and Catalonia are, as far as my observations and information go, a series of secondary formations, principally limestone and sandstone, which may very probably be traced to a connection with the great limestone range through which the Ebro breaks

at Tortosa, and which from that point forms a nearly uninterrupted line to Gibraltar.

## ON THE SOUTH OF SPAIN.

### SIERRA DE SEGURA.

The great plateau, or table land of new Castile, is supported, on its southern side, by the vast limestone range, part of which has been mentioned as the Sierra de Cuenca. It forms the greater part of the kingdoms of Murcia and Valencia, ending abruptly in the magnificent cliffs of Cape St.-Martin, to the west of Valencia, and at Carthagena, where the harbour is an indenture into the secondary limestone. The greater part however, excepting in these places, is covered at its southern foot by recent formations, as will be mentioned hereafter.



In following the central part of this range from the Sierra de Cuenca to the west, we meet with the Sierra de Segura, which I followed from its commencement near Baza to the village of Segura de la Sierra, and Orcera. The whole formed nearly one unbroken mass of limestone, white and grey, but weathering blue in places. The part of it which terminates at Pozo de Alcon near Baza, is covered by various masses of recent gypsiferous sandstone and transported materials, which are to the north of the basin of Baza. There are however detached peaks rising like islands in the midst of these recent formations, and the Sierra de Baza, which is the largest of them, extends towards the Sierra Nevada. The main secondary range then turns or trends, in nautical language, away to the north from Pozo de Alcon,

forming the lofty range of Jaen, where it is nearly white, and passes by the Sierra de Loxa to Antequera, and by the Serrania de Ronda to Gibraltar, where it forms, without doubt, the Peñon or rock, and the opposite range of Ape's Hill, on the other side the straits. To return to the Sierra de Segura. At its southern commencement, near Baza, there is no appearance of the understructure, the whole mass visible being homogeneous. In the Sierra de Cazorla, a division of it, where the Guadalquivir has its source, it seen associated a brown steatitic slate in thin laminae, which is probably of the older series, or immediately connected with it. At the source of the Segura the limestone is milk white.

In this chain, the most rapid fall is to the western side, or to Andalusia, where are bold and precipitous cliffs. On the side of Murcia it is more regular and gradual, being inversely the order of the Sierra de Cuenca, where the rapid descent is on the southern face, and that on the north is little more than an elevated plateau, as before mentioned.



Below Orcera, in the bed of the Guadalquivir, granite appears, being the last visible line of the southern and lower part of the Sierra Morena, in the parallel of Alcaraz, where it is understood the higher part of it passes under the limestone of the same range. Lower down red and variegated marles and sandstones are seen, near Veas, and again at Linares, where the granite is immediately covered by thin beds of marle, over which is the sandstone.

These observations are of some importance in the determining the relative positions of strata, on a large scale. They were made in 1830, and confirmed subsequently by visiting the Sierra de Cuenca, where the

respective situation of the limestone is better seen, only that that of the marles is inverted, as in the last district they rest on the sandstone, of which the substructure is not visible. I never saw the junction of the limestone formation at Orcera, as it is covered up by landslips and luxuriant vegetation, but I have no doubt it may be found by following the line of the Sierra to the south and no reasonable doubt can exist, of the relative position being as here stated, and that this vast range rests on red sandstone with its marle, over granite.

It may be mentioned that I ascertained at Granada, where it is brought for domestic purposes, that an entire *cerro*, or mountain, of red sandstone exists near Cabrillas, between Ubeda and Granada, which will probably repay a visit to compare its position with that of the limestone of the more recent formation, now to be mentioned.

From Veas, near which the red sandstone and marles are seen, and which is in a small valley near the confluence of a stream, on the left of the Guadalimar, commences a series of beds of clay, forming hills of moderate elevation, and rising gradually to the Lomo or ridge of Ubeda, on which that city and Baeza are built. The summit of it is covered, at Torre de Ubeda, by a greenish friable sandy grit, precisely of the same character as the lacustrine formation of Alhama de Granada, and bearing strong evidence of a similar deposit having existed resting on these marles, which are geographically separated from that of Alhama by the secondary range of Jaen.

Below this ridge of Ubeda, in descending to Linares, is indurated white marle, which, with conglomerates, also extends in the direction of Jaen. These beds of clay, or marle, agree in character with the gypsiferous marles

of different parts of the north side of Andalusia, and, beyond doubt, rest on the sandstone and marles which cover the granite at Linares, in their turn supporting the lacustrine formation, if it prove to be so, of Torre de Ubeda.

At Jaen, the above mentioned formations are associated with, and appear to rest on the secondary range which is the prolongation of the Sierra de Segura, as before mentioned, united by the Sierra de Cabra. At Jaen it is of great height and the mass which is crossed in proceeding to Granada is of considerable breadth, reaching nearly seventy miles. I saw green stone appearing underneath in places, and probably near Campillo, from information I received, there is serpentine, with some graphite.

This secondary range passes quite clear to the north of the Sierra Nevada, from which it is separated by the recent formation of the plain in front of the city, although a connection might probably be found, to the east of the Sierra de Elvira, with the marles and secondary limestone, which rest on the north eastern shoulder of the mountain, in the line of Guadix.

From Jaen the secondary formation continues to Loxa, and thence to Antequera. On its northern side are marles, stones, and gypsiferous marles and clays, which form the country of Cordova, Ecija, and Antequera, in the plain of which are salt springs.

These beds of clay are broken off at Estepa, to the west of Ecija, by a formation of limestone, noticed in the marbles, and which has the appearance of a primary formation, but which I had no opportunity of examining.

## GRANADA.

The Sierra Nevada, the greater part of which on the northern side, is a mass of mica slate and serpentine, rises to a height estimated by Roxas de San Clemente to be greater than that of the highest points of the Pyrennees. It is however of comparatively small extent, soon disappearing under the secondary and recent formations which surround it on all sides. The southern flanks form the deep vallies of the Alpujarras, the summits of which I believe to be chiefly secondary limestone, resting on slates, greenstone, primary limestone and others of the older rocks. The slates, most of which are in a state of disintegration, hourly perishing by the weather, and are highly metalliferous, form the principal feature in the vallies of that district which I have traversed. Of unknown age, but probably of the older series, is the limestone of the Sierra de Gador, where are the lead mines. I missed the junction in the line I followed in search of it but it agrees very much in character with the mass which lies immediately on the mica slate, upon the opposite side of the range, and in its mineralogical character is quite different from any of the known secondary limestones of the country. The coast line will be mentioned with the general outline of that of the Mediterranean *.

* My stay in the interesting neighbourhood of Gador was extremely short, as I thought it better in that and other instances, to sacrifice localities, of which there is an absolute certainty that the superintendant of mines must arrive at the knowledge of, and give my time to the countries which were less likely to be examined. The same observations apply to the part along the French frontiers, on both sides of Catalonia, Navarre, and the Provincias.

## NORTHERN SIDE OF THE SIERRA NEVADA.

The north side of the Sierra Nevada, as is well known, supports the great table land of Granada, which may be taken at two thousand feet elevation above the level of the sea. The centre nucleus of the mountain is mica slate, which I believe forms the summit of it. Associated with it is the serpentine formation of the barranco de San Juan, near the sources of the Xenil. On this is placed a mass of limestone, which no doubt must, from its situation, be referred to the same ancient formation. The junction is seen in ascending from the city by the road of the barranco de San Juan, to the left of that of the Nieve, used for the supply of the city with that article, opposite to the village of Huejar.

This limestone ends abruptly at a comparatively small distance from the city, above the village of Monachil. Against it lies an enormous deposit of rolled and transported materials, the ruin of former formations, which descend with a rapid talus to the city. The Alhambra and upper parts of the city stand on the last elevation of it, above the Vega, which appears to be formed of the silt and finer materials of it. The highest point of this mass I estimated at three thousand feet above the Vega, and in an apex I noticed a small horizontal deposit of sand, proving, from its position, that there had been a tranquil deposition and a subsequent destruction of the surrounding parts. This mass is cut through by the Xenil; and the Monachil and Darro, its principal tributaries. There is a great difference in the deposit in the immediate vicinity of the city. That under the Alhambra is composed of primary rocks, almost if not quite exclu-

sively. The cement of this part weathers a blood red, and from it proceed the gold washings which the people imagine to be connected with that, instead of the true cause. To the east of the city the deposit is of much more recent rocks, consisting almost wholly of limestone, apparently secondary, and loosely held together, whilst the other part is extremely compact, and affords the numerous habitations of the troglodyte-Hispano-Moro-Egypto population of the place.

The lower part of this conglomerate ends abruptly at the point where the city is placed, in the immediate vicinity of which, near Azubia, is indurated red marle, and calcareous conglomerate. Below this is the Vega, the soil of which is sand and pebbles, passing into clay, beyond doubt composed of the finer parts of the deposit and ruin above mentioned. The sand is regularly stratified in places, and forms beds near the city, sufficiently compact to be wrought for inferior purposes, and it has been used in constructing the curious wall in the Alhambra, attributed to the Phœnicians. In other parts of this formation, the beds have been slightly raised since their deposition, possibly by the same operations that drained the waters of the lake of Alhama, which were not improbably the last great changes to which this curious region has been subjected. A league distant from the termination of this recent deposit, is the Sierra de Elvira, a secondary limestone, of dark grey with red veins, which is extensively worked, having been from all time the principal building stone for better purposes at Granada. The beds of this Sierra are in part regularly inclined to the north, as if they depended on the Sierra Nevada, from which it is detached by the short distance of about two leagues in a straight line. There

is strong presumptive evidence of the whole intervening mass, between the older limestone on the flank of the mountain and this secondary range, having been destroyed, and that its ruins, in part, form that division of the conglomerate, which is to the east of the city. In the illustrative sketch this is referred to by D. In beds of this limestone of the Sierra de Elvira, was found a new and beautiful ammonite, named *Gori*, after the Duke of Gor, to whom I was indebted for the information that fossils existed in that Sierra, and a great deal of other valuable intelligence respecting the province of Granada. It appears to be connected with the great secondary chain of Loxa which passes to the north of it. If it be a part of it, it is one of the older members, but it is by no means clear, that that chain belongs to the Sierra Nevada, which the Elvira very evidently does*.

To return to the recent formations of Granada. Beyond the Vega are vast beds of clay and sand, associated with which is gypsum and salt. Future observation must determine, whether these clays belong to the formation of the Vega, or are of older date. Associated with this gypsiferous clay is a recent marine formation, composed almost entirely of exuviæ, and containing pectens and no doubt other shells. It is seen near Escuzar, three leagues from Granada, where it forms an elevated ridge, descending in a line to Padul. I estimated the highest point of this marine formation at one thousand feet above the Vega, giving three thousand for its elevation above the sea. It is wrought for domestic use at Gra-

* By a communication made to me by my friend Colonel Silvertop, he has since found ammonites similar to those of the Sierra de Elvira, near Antequera, which might favour the supposition of this mass being of similar formation, although it does not prove it.

nada, where it is next in quality to the limestone of Elvira, being better than the sandstone of the Vega. This deposit is of great interest in this upland region. It is associated with, and lies geographically between, the gypsiferous and saliferous marles at La Mala, and the lacustrine formation of Alhama, which is probably the most recent of all the formations of the table land of Granada. The situation of this marine deposit makes it extremely difficult to ascertain its relations with the marle, as it is almost entirely covered up, but it is by no means unlikely, that both it and the basin of Alhama rest upon the gypsiferous formation. All this mass appears to rest on the secondary red sandstone, marly and other limestones, which form the Sierra de Tejeda, and that to repose on mica slate, the prolongation of the Sierra Nevada to the west.

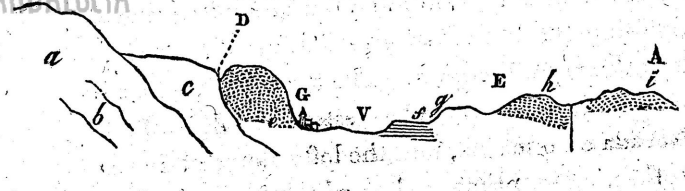
On the route to Motril and the Alpujarras, after leaving the sand, clay, and marles which form the Suspiro del Moro, you descend to Padul, a village situated at the head of a small marshy plain, drained in modern times, and exhibiting the last remains of the fresh water formations of this upland region. The approach to the sea is by an open defile, having the western shoulder of the Sierra Nevada on one side, and the lofty range of Tejeda on the other. The primary slate which forms the base is seen in a few spots near Tablarte. There are indurated marly limestones, and other features of the country, in this part, and the lower parts have been filled with vast deposits of transported ruin, which have been in their turn excavated by the torrents that descend from the Alpine region above, and form magnificent barrancos in the neighbourhood of Durcal. The deposits in these ravines bear evidence of having been transported simul-

taneously with the mass which has been in motion at the time of the formation of the Vega, and other operations of the uplands above it. It extends nearly to the precipitous ridge, or puerto, which conducts to the secondary vallies on the south side of the Sierra as before mentioned.

The recapitulation of this series ascending, gives the mica slate and serpentine of the central range; the limestone resting on the mica slate and in immediate contact with it; the secondary limestone of the Sierra de Elvira; the gypsiferous marles of La Mala, probably the older of the recent series; the conglomerate of Granada, and the formation of the Vega; the tertiary marine deposite of Escuzar, and the lacustrine formation of Alhama, presumed to be the youngest of this series, if the recent peaty formation of Padul be not considered to deserve a place amongst them. This will be made more clear by the accompanying sketch.



ENVIRONS OF GRANADA.




*a.* Primary range of Sierra Nevada of Mica Slate etc.
*b.* Serpentine of barranco de San Juan.
*c.* Limestone of older series.
*e.* Conglomerate of Granada.
*D.* Geological position of the Ammonitic limestone of Sierra de Elvira.
*G.* City of Granada.
*V.* Vega, clay, sand, Marle.
*f.* Horizontal beds of recent sandstone.
*g.* Gypsiferous and Saliferous Marles.
*E.* Escuzar village.
*h.* Recent marine formation with pectens etc
*A.* Alhama.
*i.* Lacustrine formation of Alhama.