

without seeing a single specimen, and have only seen three. One, in my possession, resembles the Venetian manner of Vandyck, but has the peculiar grey back ground, afterwards adopted by, and distinguishing the Seville school. Another was a Magdalene, imitating Rubens, but in chaster style than the subject would have been treated by that master. His best work was in the cathedral at Granada, whence it was carried off by the French. Murillo beyond doubt learned his inimitable mode of painting children from him. At Granada where his portraits were said to abound, I could not find a single specimen.

JUAN DE SEVILLA Y ESCALANTE.

A native of Granada. There are two manners; in one of which the pictures at the cathedral are, a heavy, dark red tone of colour; and the other, an imitation of Rubens or of Moya, with a mixture of the Andalusian grace. The pictures at the cathedral are the only public works I have seen by him, his paintings being quite dispersed. He is generally known by the name of Juan de Sevilla, but had little to do with that city, to which his name does not refer.

ALONZO CÁNÓ.

Was born at Granada, but removed afterwards with his family to Seville, where he was placed with Juan de Castillo. His early manner is quite different from any others of the school, being a deep impasto and most powerful colour. He left this from the want of effect of the style, and adopted the manner in which he generally

painted. His colour is like Guido, but more fluid, and often with a reddish tint. His forms were acquired from Montañes, especially of his women, with a mixture of the antique. His drawing is generally faultless, correct and grand, especially his draperies. His industry was unwearied, although of a hard and morose temper. His drawings are numerous, and excellent. They are chiefly in bistre, and perfectly finished. There is a want of expression frequently in some of his works. Besides the early and the Guido manner, there is one resembling Caravaggio, or Spagnoletto, but it is rare. He painted portrait admirably and landscape, but the latter very seldom. His trees are massy, without the leafage, as the English school have since used, and there is often a resemblance to the style of Gainsborough. The ravages of the war of independence have borne more heavily on his works than on most others of the school from their resemblance to Guido. Seville and all Andalusia abounded with his paintings, as did Madrid. At present they are comparatively scarce. The principal are the seven over the great altar at the cathedral of Granada; and four in the chapel of Jesus Nazareno; two in a chapel near S. Miguel, and some others. At Malaga one of his finest and most finished works is in the cathedral, of the Virgin in clouds of glory, supported by angels and saints underneath. At Seville there is hardly any thing left which is public. Eleven of his finest works which were at the Cartuxa, are gone. At the cathedral is a beautiful Madonna and child. At the church of the university in the retablo mayor, the two St.-Johns. At San Alberto are some small pictures left, and a few others may be found. In the Capuchins of San Lucar near Cadiz, is a large picture, probably

his best, which is not mentioned in the books, and probably owes its not being lost, to that circumstance. It represents the Virgin seated in clouds; underneath are monks in adoration in a beautiful landscape, and it is in the finest preservation. Every part is admirable, perhaps the finest is the monks below, which may equal any thing of the Bolognese school. At Madrid in San Isidro, in the chapel on the left are four small pictures by him, and in the sacristy a large Conception, ruined by cleaning. In the parroquia of San Gines in a chapel, the Christ seated whilst they are making the cross, with the Virgin, Magdalene, St.-John in the distance, and a beautiful effect of landscape. It is in perfect preservation, and is one of his finest productions. At the Museum are some excellent specimens.

JUAN NIÑO DE GUEVARA.

The scholar who imitated his manner the most perfectly. In the cathedral at Malaga in the chapel, are two paintings, which would be taken for works of Cano, but he worked chiefly in a style acquired from Manrique, a pupil of Rubens who came to Malaga. In the chapel of la Caridad at Malaga, are several good paintings in this manner

PEDRO ANASTASIO BOCANEGRA.

One of the principal masters of this school. His only public works which now remain are at the cathedral. There are two large pictures in what are called the collaterales, the ends of the capilla mayor, in the

middle of the church, with two others of Juan de Sevilla; they are of a dark red tone, and rather heavy.

The others are the heads of the church, which are painted in the basement of the capilla or altar mayor, above a gallery, and below the works of Cano. They are larger than life, designed in a grand manner, and coloured like the Venetians. I have seen other works in private hands, more like Cano, and his works have been sold for those of that master. In general his hand is much heavier, and the red tone distinguishes them.

THE CIEZAS.

Father and two sons, who imitated Cano, and Murillo. I am ignorant of the distinction of the three, whose style resembled each other. Some of their works might pass for Murillo, for whom they have been sold, and are now very scarce.

JUAN LEANDRO DE LA FUENTE.

I am ignorant of any works of this master, remaining at Granada, unless it be some in the archiepiscopal palace at Viznar, where are several paintings extremely like those of Orrente, who wrought after the same models, imitating the Bassans. It is probable they may be by him, but it is difficult to determine as they are placed there. In the sacristy of San Lorenzo at Seville, is a picture by him; as fine as Rubens, whose best manner it resembles.

JOSE RISUENO.

The last of the school of Granada. He studied under Cano, but the only works I have seen by him, which are at the cathedral, are rather in the style of Moya or of Vandyck. He died in 1721.

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JUNTA DE ANDALUCIA

P.C. Monumental de la Alhambra y Generalife
CONSEJERIA DE CULTURA

CHAPTER XXIII.

NATURAL HISTORY.

Introduction.

The sketches of natural history will be rendered more intelligible, by observing that Spain is divided by nature into three grand divisions, which are separated, not by harsh and abrupt lines, but melt into and amalgamate with other; the productions of each extending respectively into those adjacent. The first is the northern zone, which includes Galicia, Asturias, the free or Basque provinces, upper Navarre, and the maritime part of old Castile. This is the region of humidity and moisture, and possesses, especially the parts which adjoin the coasts, a remarkable equality of temperature throughout the year. It is a country of verdure, of pastures, of luxuriant vegetation, where the traveller, after toiling over the worst roads in the world, is occasionally refreshed by feeling the green turf under his horse's feet. It is in fact a southern Devon, with a climate yet milder, and productions still finer, with copious streams, abounding in fish, watering every valley. It is the only dairy country in Spain; which

branch of industry, as well as that of breeding horses and other domestic animals, are as yet in their infancy, although capable of almost indefinite extension. The natural limits to this region, inland, are the ranges which separate it from Castile, and bear up the great table land which forms the centre of Spain, and the termination of the western Pyrennees in the uplands of lower Navarre and old Castile.

The vegetation of this division is characterised by the *quercus robur*; *quercus ilex*, the true ilex; the *menziesia daboeci*, Irish heath; common fern; *ulex stricta*, and Europea; and other plants of a northern and moist climate. The forests are now not extensive, but it contains more valuable and available timber, than any other part of Spain. It produces little or no oil, and wine only in small quantity and of inferior quality.

The second is much the more extensive division, as it includes the Castiles, Estremadura, Aragon, and part of Catalonia, with the upper parts of Valencia, Murcia, and Andalusia; thus embracing a large portion of all Spain. The peculiar characteristic of this region is, the dryness of the atmosphere during the greater part of the year. Copious winter and vernal rains, acting on a soil generally tenacious of moisture, impart a fertility peculiarly suited to the cerealia, leguminosæ; and the vine, which are finest in the world, with the least skill and attention bestowed on them. This wide range extends over the varied climates, elevations and soils, which maintain the *mesta* or flocks of merinos, in their wandering life. The olive is abundantly grown in some parts, but less so than in the southern region. The silk worm, which now can hardly be said to exist,

ought to enrich the greater part of what is now one of the poorest countries in Europe:

Upper Aragon and Catalonia are referred to this division. The situation of these countries, at the foot of the Pyrennees, would seem to ensure them humidity, but it is by means the case. On their western side the high Pyrennees break the flow of vapour from the Atlantic, and cause it to be precipitated on the northern division, leaving nearly the whole region, included in these provinces, comparatively dry. I passed the puerto de Benasque into Aragon, in October. At that season, winter had appeared on the French side of the high Pyrennees. All there was fog and mist and sleet and rain, and I had great difficulty to repass the mountain, from the quantity of snow which had fallen, and made it nearly impracticable. At Benasque, which is immediately below, the sun of Spain was shining with unclouded brilliancy, and no rain had fallen. The vegetation is in exact ratio. The artemisias and other plants of a drier climate, which are not seen on the northern side, are common, and the whole face of nature is changed. In the higher regions it is the same. When I visited the southern side of Mont Perdu, with my friend Mr. Lyell, in the month of August, the upland pastures were so dried up, that it seemed incredible their flocks of sheep should find subsistence, and the Spanish shepherds told me their goats were habitually dry in July, from the want of succulent pasture; and this in the highest part of the range, immediately under the glaciers and eternal snow, where the rays of the sun are comparatively powerless. The same phenomena extend into Catalonia, the only difference from the dry and parching climate being, that the sum-

mer heat is modified by occasional storms of thunder and partial deluges of rain, which refresh the sultry air in that part of the principality.

This region contains the vast pine forests of Aragon, of the Sierras de Cuenca, Segura, and the Guadarrama, and of the central range of Castile. It is characterised by the Spanish ilex; the quercus tosa; and quercus prasina, or a species presumed to be so, which is widely spread over its middle elevation; by the white cistus, which grows in prodigious quantities in some of the middle parts, and by the absence of those which are enumerated, as marking the divisions on either side of it.

The third region is that which lies along the coast of the Mediterranean, at the foot of the ranges which extend in a parallel direction to it, and protect it from the piercing cold of winter, to which the middle division is exposed. The coast of western Andalusia, and the valley of the Guadalquivir, as far as Cordova or Andujar must be referred to this division. It is characterised by a dry and burning atmosphere during part of the year, and a temperate winter which succeeds; a portion of it having abundant rains, whilst others depend on irrigation for the produce of their culture. The productions are, sugar; cotton; rice; the *batata*, (sweet potatoe); and other fruits of southern climes; and it is the favoured country of the lemon, orange, and palm. In it, at present, is almost exclusively found the scanty production of the mulberry. It is difficult to assign arbitrary lines to the vegetation, or to affix the limits of it, as some species, properly belonging to it, spread into the upland region above it; the aloe and cactus, for instance: and the palm, will, in sheltered situations, resist the cold of Madrid, although

its fruit only matures in this region ; but the *ceratonia siliquastrum* (algarroba), which is a delicate tree, nearly all those in Catalonia being killed to the ground in the winter of 1829—30, or the beautiful oleander, might serve as general boundary marks. The *salsolæ*, which produce the barilla, and the liquorice root, are the exclusive produce of its soil. This division now contains no extensive forests, and timber is but scantily spread over its surface. It produces wine and oil in the greatest abundance, and of the best qualities. This region may be appropriately named after one similarly situated in another hemisphere, the *Tierra Caliente*.

These divisions which are founded on the arrangements of nature, will be occasionally referred to, and there is little doubt that when the natural history of Spain is more known, by the attention of the people being called to the investigation of it, it will be found that both the animal and vegetable kingdoms are materially connected with the classification now suggested.

In these sketches, the botanical department is omitted, excepting the important and neglected branch of the forests. It is clear that to treat the subject regularly, would have required more time than the period occupied in these travels alone would have permitted, in a country, the most interesting portions of which have only a brief period allotted for the display of their vegetable riches. Nothing is easier than to fill up a few pages with a catalogue of plants, as practised in books of travels, but that conveys little information to the professor, and none to the general reader. Another reason is that the work has already been done by the natives, in great part of the Peninsula. Government are in possession,

if they chose to use them, of materials; and of men able to put them together, of a nearly complete Spanish Flora, which it is ardently to be hoped may be done before the materials perish, and the men, who are now in the later period of human existence, have the door closed on their labours. Cavanilles, in his magnificent work, has made known a large portion of the botany of Valencia. Roxas de San-Clemente employed many years in the active and ardent investigation of the vegetation of the important range of the Sierra Nevada, where in a few hours you pass from a tropical region to that of Siberia or Nova Zembla, particularly in assigning limits or zones of vegetation. His materials collected, when he was seized by premature death, are at Madrid, but unfortunately are under charge of a Junta, the operation of which in Spain, is equivalent to civil death in some modern codes of law. The important district of Murcia, especially the sea coast, in the region of the Salsola, or Barilla country, has been examined, and a vast herbarium collected, by the director of the alum works at Almazarron, which is in the centre of it. I was informed by the naval officers at Orcera, in the Sierra de Segura, that in a village seven leagues from that place, of which I have forgotten the name, but it is in the forest; there was a very good botanist, in a district highly interesting and quite unknown. The ablest and most experienced botanist who has ever studied the Pyrennees, by general admission is doctor Bolos, who resides at Olot, in upper Catalonia, and has devoted the greater part of his life to the study of the science in a locality exactly suited to the investigation of the southern side of that chain, of which very little, comparatively, is known. His herbarium is stated by himself to contain nine thousand species. The central

region is known I believe perfectly to Lagasca, the eminent professor, of Madrid, who is amongst the exiled, having unfortunately quitted his botanical occupations, and engaged too warmly in the sistema constitucional. Although he was forbidden to return to Spain when I was there, he had a pension from the government, and was employed in London on a work upon the *cerealìa*, intended to be published, in the vain and useless hope that such means will raise the depressed agriculture of Spain.

The northern region has no doubt been equally examined, but it is of less importance, as the Flora assimilates very much to that of the finer parts of Devon, of the south of Ireland, and of the French Pyrennees.

The southern and middle districts contain the most interesting botany in this vast range. They realise what an eloquent modern writer said of Italy, which is naturally far inferior to it, that "her waste is more than the fertility of other countries." This is literally true of Spain, where in the most wild and uncultivated parts, the air is perfumed with delicious scents; the ovens are lighted, and the ores smelted with the most aromatic shrubs; and in cases of epidemic, in many districts, they would send out to the Sierras for the brushwood to burn in the streets, confident that the aroma would ward off or disperse the pestilence. The syngenesious plants alone would reward a botanist for a toilsome journey. No country in Europe can compete with them in this class of vegetable production. The iridaceæ, and the cistinixæ are equally varied and abundant. It is very much to be regretted that some use should not be made of a station, so conveniently situated as Gibraltar, to forward the view of science in that most interesting locality, where with comparative ease, and at a trifling expence, most

valuable information might be obtained. The noble library, which is conducted with the liberality characteristic of the profession to which it belongs, is available for consultation, and there is every facility now given by the Spanish government for the examination of their soil. It has excited surprise amongst foreign officers who have gone there, and been received with a style and hospitality they had little idea of, that not a scrap of any thing in the shape of collections or Museum is to be found, under a government with the largest resources in the world in its hands, and which are never refused for any purpose of real national utility or ornament.

FORESTS.

Notwithstanding the bare and treeless appearance of the country which the traveller passes over, in the long lines of road through the Castiles, Andalusia, Estremadura, and most other parts, he is at no great distance from the remains of magnificent forests, which have been nearly unnoticed by both foreigners and natives. Even the botanists of the country, who have applied themselves so successfully to examine the vegetable productions of these interesting regions, have attended almost exclusively to the species under their feet, and have left unheeded the lordly tenants of the Sierras, of which fortunately sufficient remain to enable the series of native forests, over hill and dale in the greater part of Spain, to be satisfactorily ascertained. A sketch will now be offered of these, with the zones or elevations at which they are successively found in the wide range of the Spanish territory.

The peasantry in nearly every part of Spain have from time immemorial waged a barbarous, destructive and unceasing war against the woods, which has been after enactments and exhortations and predictions of the consequences without end, been carried on with unremitting activity to the present period, and is still in daily operation. The chief reasons of this seem to be the idea that land is more productive under tillage or in pasture; an ignorant and fatal prejudice in many districts; and another even more so, that the trees harbour birds, which eat the corn. As the peasantry are masters of the rural districts, and pursue their plans good or bad unmolested, they have the law entirely in their own hands, and the decrees issued from time to time on this important subject, are never read, much less obeyed by them.

The destruction of the woods had made such progress, that it attracted the attention of Philip the second, and strict orders were given by that monarch for their preservation. A code of decrees and forest laws are in being, which are excellent, and quite sufficient for the purpose, but they remain inoperative from the habit of evading their execution so universal in the country.

In the maritime districts, the ancient law by which the king was proprietor of every tree which his officers judged fit for any purpose of naval construction, completely barred the planting in those parts. The absurdity of this law has long been pointed out with the greatest boldness by several writers, especially by Cavañilles, who describes its operation in Valencia, where, as in other parts it was converted into a source of jobbing and bribery by those who were charged with its execu-

tion. It was abrogated by the Cortes, restored, I believe, and then again abrogated, but has been left lately in that glorious state of uncertainty which appears to constitute at once the delight and the emolument of the learned profession by which these difficult causes are litigated. The judgments are now given sometimes on one side, sometimes on the other; "*ma sempre bene*", like those of the Venetian tribunal. I was witness to the practical working of the present state of law. The director of a mining establishment in the Sierra Morena had obtained the grant of a tract of waste and unproductive common land, covered with the beautiful shrubs of that region, but wholly valueless otherwise. This was cleared, and planted with chesnut and oak. The man who commenced such a system where it is most wanted, ought to have received a public reward or honorary recompense. Whilst I was with him, a process was served, demanding the instant payment of about sixty pounds, for trees said to have belonged to the king, which had been demolished in the operation of clearing. This process had been carried on without the knowledge of the party, and the first information he received was the *expediente*, claiming payment, but there was no alternative except submission, or engaging in hopeless and expensive litigation. Not a *real* of this money would reach the treasury, but the whole would be divided amongst the authorities, *escribanos* and others, down to the bearer of the notice. They would answer, if remonstrated with, that they had no other means of living, and that the kings' officers must be paid, and the laws of the kingdom executed. Nothing can be done until the government resolutely put an end to this system, by sweeping away every impediment, and enforce the exe-

cution of the laws, and the appropriation of common and waste lands to the purpose of planting, In many districts they may be said to be entirely without wood for any purpose, whilst the country around is in a state of wild and unproductive waste. This is the case in various parts of the Castiles, of Aragon, and of Andalusia and Estremadura. In the mining districts they are compelled in many places to burn the aromatic shrubs of the country which are rapidly consumed, and even now are becoming scarce, and are only suited for certain purposes, whilst the more solid fuel must be brought coast wise from distant parts. In the cities, the fuel is becoming more and more scarce, and must generally be fetched from great distances. The increase of population is retarded by a system which deprives the tender child or the sickly adult of the means of resisting the severe winter cold which prevails over the greater part of Spain, and is the more felt after their burning summer. The destructive habit that has bared those plains, which more than any other require shelter from the ardent sun, is confined to no part or race in the country. Immediately after the conquest of the southern provinces from the Moors, who were careful protectors and cultivators of trees, the work of destruction commenced, and their extensive woods are now scarcely to be traced. The feeble remains of former habits are to be seen in some villages of the kingdom of Granada, where an ancient tree of large dimensions, which has stood for centuries, may be observed as in the villages in England, the object of respect and veneration to the people. The reader of Cervantes may look for the woods of La Mancha, where the adventures of the knight took place. They are gone, but some of them only recently, and the

copse springing from the last labours of the peasants may be observed, indicating a fall of a few years back. The French invasion has fearfully increased the destruction, by the wanton havoc always made by soldiers in time of war. The only people who are exempt from it in some degree, are the people of the northern provinces, and the Catalans and Valencians, but in those provinces it is little better, and the mode of pruning or polling them, especially the pines, is ruinous to the growth of these trees. In Biscay they now cultivate scarcely any other than the beech, the worst and most unprofitable of trees, under whose shade no vegetation thrives. In the maritime part of the free provinces, their building timber is the miserable pin de Landes, brought from the French, which is valueless, whilst their mountains would produce the finest timber.

To give the most clear idea of the forest vegetation, especially in the important bearings of the successive elevations, or zones, two sections will be given, one extending across the Pyrennees to the west, and following the line of the Sierra de Cuenca, Sierra de Segura, Sierra Nevada, and Serrania de Ronda, to Gibraltar. The other, from Valencia, by the Sierra de Cuenca, the Sierra de Guadarrama, across old Castile, by the Puerto de Pajares in the elevated range of Asturias, to the bay of Biscay. These two lines intersect each other, and by filling up the parts which they do not touch, will give a general idea of the natural forest system through the country.

The northern side of the high Pyrennees affords a complete example of successive zones or lines of superposed vegetation, which can be traced along the flank of the higher range, by threading the mountains between

Bagneres de Bigorre and of Luchon, and the country east and west of these places. In the ascending series, the vine, chesnut, and oak of various species, are succeeded by the beech, the silver fir, and a few of the *pinus sylvestris* or Scotch fir; and the highest and most inclement range up, to the limits of congelation, and the habitat of lichens and other Siberian plants, exclusively by the *pinus uncinata*, the most interesting tree of these regions. In descending, on the southern side, the *pinus sylvestris* is again met with amongst the *uncinata*, and considerably lower, another species, first described by Lapeyrouse, as the *p. laricio*, but in the supplement to his flora of the range, as *p. Pyrenaica*, a name most improperly applied to a tree which scarcely belongs to it, but is placed on its southern foot. This species is first met with below the Peña de Ventimilla, a magnificent gorge, about three leagues lower down than Venasque, in Aragon, and extends to the neighbourhood of Campó, where it forms extensive forests, covering the district between the Cinca and the Essera, which are the main streams of the south side of the high Pyrennees, and are fed from the glaciers of Mont Perdu and the Maladetta. This habitat is a temperate and dry region, at a moderate elevation above the plains of lower Aragon.

This section must be understood to be carried over the *flanks* or sides of the chain, and not as following the gorges or sinuosities of the water courses, which afford a regular but somewhat different succession, including the lime, elm, beech, oaks, alder, birch, mountain ash, various salices, and other shrubs, amongst which is the beautiful *sambuca racemosa*, an elder with clusters of bright scarlet berries, like bunches of grapes;

the yew and holly, which are found in the beech region near Bagnères de Luchon, and the box, which occurs in tolerable quantity in ascending to Gavarnie. In the high vallies, the last trees and shrubs correspond with those of the north of England, and above them, where it has not been destroyed, is invariably found the *pinus uncinata*. The once magnificent beech forests of Bagnères de Luchon, the destruction of which commenced before the revolution, and was deplored by Arthur Young, no longer exist but in the form of copse, in which that tree is of no value. When it was too late, the government took measures to preserve these valuable domains. The peasantry then formed parties, somewhat in the manner practised in some parts of Ireland, and went about disguised in white frocks, which caused the absurd name of *demoiselles* to be given to them. In this mode they ranged the forests in bodies, armed, and cutting down every tree which answered their purpose, converted it into charcoal which was sold in the villages. The government were at last obliged to send troops, to prevent these disorders, some of whom were still quartered in a village of the beech zone, which I passed in 1830, between Vicdessos and Bagnères de Luchon.

The *pinus pectinata*, silver fir, need not be described, as it is so well known. The principal forests now remaining of it are in the country between the two Bagnères, in the Spanish valley of Aran, and in the western Pyrennees, where it ranges on both sides of the chain.

The *p. sylvestris*, which grows above it, but now in small quantity, is equally unnecessary to be described. They may be seen in going to the lake of Gaube, where a scrap of native forest yet exists, owing to its having remained in possession of the government. In it the

three species of pine, some of them of great antiquity, may be seen growing together, the uncinata gradually taking the higher place. The upper zone of this chain is formed entirely of the p. uncinata, which is a species hitherto almost unknown or unattended to, and which is certainly one of the most valuable trees in the European flora. The name was given in consequence of a peculiarly hooked form of the scales, which is extremely marked, especially just before maturity. This character has been disputed, but a very little practice and observation will enable any one to pronounce without hesitation, on seeing the different colour and character of the tree from those of its congener the sylvestris. The cone is rougher, and of a different and more rugged texture, than that of the sylvestris, or any other I am acquainted with. An additional proof of the hardness of the tree is afforded by the early ripening of the cones. I gathered some in the valley of Andorre in July, which were full formed, at a season when those of southern climates are yet far behind in vegetation. The reason of this admirable arrangement is evident. In these elevated regions the season of vegetation is so short that the operations of fructification must be proportionably accelerated, to ensure their completion. The seed from these cones vegetated, and it is of great importance to be aware of this fact, because the collecting the seed of this species is difficult in many seasons, from the early falling of the snow. The rule I followed was to select the cones when they had assumed a brown green, and cut dry to the knife. On opening them in this state the seeds will be found quite formed, in the state of a green almond when it is eaten. It is of the last importance that they should not be taken out of the