

jouch. After a few days more he was master of the city. In this arduous undertaking he was well supported by brigadier Stanhope and Mr. Methuen, whose prudence, fidelity, and valour procured for them those honours, which they have transmitted to their families.

Gerona, Tarragona, Tortosa, and Lerida, followed the example of the capital, and declared for Charles. Wherever the earl of Peterborough turned his arms, victory declared for him. It was sufficient for him to shew himself, and every city offered him its keys. Whilst he was in Valencia, the enemy laid siege to Barcelona; but he hastened to its relief, and compelled them to retire, not only from before the city, but out of the province, although he had only a few troops, and they had thirty thousand men. When he was superseded, a series of misfortunes too well known hastened the fall of the arch-duke's dominions; and the citizens of Barcelona, after an obstinate resistance, opening their gates to Philip, submitted, though reluctantly, to bear the yoke.

A spacious and airy walk round the walls, with the inclosed gardens, contributes towards making Barcelona one of the most delightful cities in the world. No one, who has been there in the spring, will be every weary of expatiating on the pleasures he enjoyed.

It is situated in a plain, open to the south east, but protected from the west by Monjuich, and from the north by a chain of mountains which are terminated to the west by Mont S. Pedro Martyr. The soil, from six to ten feet deep, is clay.

In this plain, near to the city, is a little stream, which, in summer, serves for watering the country; but to the westward, beyond Monjuich, is the Lobregat, the largest river between the Ter, which runs by Gerona, and the Segre, which, rising in the Pyrenees, empties itself into the Ebro.

One of the mountains opposite to the city, called S. Jeronimo, is famous for its convent, but more especially for the gardens, which are spacious, shady and well-watered. At the bottom of the hill is a quarry, in which the stone evidently contains much calcareous matter. Higher up is granite of a

loose texture, crumbling and decomposing, whilst the middle and the top to the south, and hanging to the sea, is altogether schist; but beyond the summit, descending to the north, there is only granite. We must always remember, that in the natural situation the granite is covered by schist, and the schist by calcareous rock. From this elevated spot Montserrat appears magnificent, and seems to be within two hours walk. The prospect every way is pleasing and extensive.

On the sides of this mountain they have quarries of limestone and marble.

My distant excursions were reserved for holidays, when the consul was at leisure to go with me. In one of these we visited Mont S. Pedro Martyr, from which you command a more extensive prospect than from S. Jeronimo. To the north of this stands Montserrat, and beyond it the Pyrenees appear sinking in the horizon, and looking only like a wall of snow. Turning to the south and to the east, we see the whole extent of the rich vale which supplies the city, and the numerous adjacent villages; and beyond this, the Mediterranean, bound-

ing the distant view. To the Westward flows the Lobregat, descending through the gorges of the mountains, from which it receives innumerable torrents, and having spent its fury, moves on slowly to the sea, winding its meandering course through the extended plain, which itself has formed.

The base and body of this mountain is granite; but as you rise towards the summit, you find the proper covering of schist breaking into thin white flakes, and, with the vitriolic acid, forming alum. It is evidently from the dissolution of the schist, which every where abounds on the tops of these high mountains, that the subjacent plain is covered to so great a depth with clay, not merely with such as the brick-makers prefer, obstinate and sterile, but such as, by the mixture of calcareous matter and of sand, approaching to a marle, is easily broken by the plough, and bears the most luxuriant crops.

These mountains are cultivated, and where the plough cannot go, even to their summits, they are covered with vines.

Here, for the first time in Spain, I found

the *quercus coccifera*, which bears the kermes; but on these no traces of that little animal appear.

We dined at a country house belonging to the Dominicans, to which those fathers go when they wish to breathe a purer air, or to retire for a season from the restraints of the monastic order. Here they have a hall of near sixty feet, many good bedrooms, and a gallery of ninety feet in length by eighteen wide, open to the east and to the south, commanding at once the plain, the mountains, and the sea, with the city, some villages, a few convents, and numberless farm-houses scattered in the valley. Above and below them, on the declivities, are stretched their vineyards, furnishing them with raisins and excellent wine. They received us with hospitality, and had we been inclined to stay, they would have given us beds. Here we remained until the setting sun reminded us that we must mount our horses and return.

I have seldom quitted any spot with more regret; and had I not soon after left Barcelona, I should have chosen this
for

for my retreat, in which, with the assistance of a father, I might have learned the Spanish language.

Having surveyed these elevated regions, which bound the prospect to the north, I was desirous of investigating with more minute attention the nature of Monjuich, which, hanging over the sea, commands the city to the west. For this purpose I walked upon the beach, clambered on the cliffs among the rocks, and either on horse-back or on foot I crossed its summit in all directions, that I might examine it in every part. The base and body of this mountain is sandstone, or silicious grit, of a fine grain, and either white, red, or gray, with some little sprinkling of mica. The summit, in some places, does not differ from the base, but in others it is covered with pudding stone, with schist, with clay, or with fuller's earth; and, which is most worthy of attention, both the schist and the clay carry fossil shells.

If I might venture to hazard a conjecture, supported by these facts, and by others similar to these, I should be much inclined to think that this whole mountain

is a deposit, and that the grit is only the decomposed granite either of those mountains, of which I have given the description, and which is of three species, white, red, and gray, or else of some other mountains, which exist no more.

This subject will be resumed when I come to treat of the environs of Salamanca; and I hope that the theory here delivered will then not only be confirmed, but help to throw a light upon some parts of natural history, which are now obscure.

If my conjecture be well founded, Monjuich must not merely have been covered with the sea, and this fact is beyond a doubt, but it must have been relatively lower, and much lower than the granite mountains by whose spoils it was composed, being accumulated at the conflux of two or more currents, as we see in miniature in torrents, or at the junction of two streams. Whoever is well acquainted with the external appearance, and with the internal structure of the country near Southampton, will see a striking example of this accumulation, not from matter brought by either of its rivers, for their beds are

too low for such an operation, but by the action of currents, when the surrounding hills of Suffex, Wiltshire, Dorsetshire, and the isle of Wight, were under the surface of the sea, as we must conclude from the fossil shells found in the chalk on every one of these hills.

From Monjuich we look down on the extensive plain formed by the Lobregat, which appears fertile, but by no means inviting, because every thing in it has a gloomy aspect, and the inhabitants have all the tokens either of agues, of dropsy, or of jaundice.

The fortifications on this mountain are reckoned perfect in their kind; they are highly finished, and for beauty do credit to the nation. These, in addition to the strong works round the city, and the citadel, must render Barcelona untenable by an enemy.

The appellation of Monjuich has never been properly explained. They anciently wrote Monjouy, but the pronunciation is Monjuique, which may possibly mean mountain of the Jews. Certain it is, that the Jews were numerous in this part of

Spain, and that on the hill looking towards the city there are monumental inscriptions on large hewn rocks in Hebrew characters. Many of the words are scarcely legible, but by those, which can be read, that spot appears to have been the burying place of the Jews.

The country around Barcelona is well cultivated, and abounds with vines, figs, olives, oranges, silk; flax, hemp, algarrobo fruit, wheat, barley, oats, rye, beans, peas, vetches, Indian corn, millet, with all kinds of lettuce, cabbages, colliflowers, and other vegetables for the service of the kitchen.

To plough their land they use only two oxen, or one strong mule, and no boy to drive. Their plough is light, and well contrived: the beam is long, and fixed to the yoke, if they have two oxen; or if they use one mule, they fix it to the collar by shafts. For stirring they use no coulter, fin, nor mould-board; but in its stead two ears. For breaking up their land, and when the soil is stiff, they drop the ears, and take coulter, fin, and mould-board, which they put on or off in three minutes time. They have

have two methods of setting the plough up or down, so as to go deeper or shallower at pleasure, notwithstanding the greatest variety in the tenacity of the soil. At the extremity of the beam there are three holes, about four inches apart, and by one or other of these they fix it to the yoke. If they want to set the plough deeper into the ground, they put the pin through the furthest hole, nearest to the extremity or point of the beam; but when they want the plough to go more shallow, they put the pin through the hole which is furthest from the point. When the land is so stiff, that they cannot by these means keep the plough shallow enough, they have an easy method to sink the beam, or in other words, to raise the point of the share, which a sight of my drawings will explain.

It is impossible to pay more attention to the construction and use of ploughs, for all the different purposes of husbandry, than they pay to this important subject in the country about Barcelona. The harrows have iron furniture. As for rollers, they are not to be expected where wood is so very scarce.

scarce. To break the clods they use a board, on which a boy standing drives the mule. Their hoe is almost as wide and as heavy as our spades, but set in such a manner as to form an angle of about thirty degrees with the handle, so that a man must stoop very low to use it. For my part I should prefer a spade; but this, perhaps, may be the prejudice of education.

The noria must be considered as one of their implements in husbandry. It is here constructed somewhat differently from that which I have before described. The noria of Barcelona is the original chain pump, or at least its parent, as having suggested the idea on which the chain pump is formed, and from its simplicity appears to have derived its origin from the most remote antiquity. It consists of a band or girdle, passing over a sprocket wheel, long enough to reach eighteen inches, or two feet below the surface of water in a well. All round this band, at the distance of about fifteen inches, are fixed jars of earthen ware, which, as it turns, take up water from the well, and pour it into a cistern fitted to receive it. A little as
going

going round his walk, with ease turns a trundle, which gives motion to a cog-wheel fixed on the same axis with the wheel on which the band is hung, and with which it turns, thus producing a constant and considerable supply of water at a small expence, and with very little friction. As the air would obstruct the entrance of water into these jars or bottles, each jar has a little orifice in its bottom, through which the air escapes, but then water follows it, and a certain quantity falls back into the well. It is true, as the jars rise in one strait line, the water which runs out of the superior jar is caught by that which is immediately below it; yet still there is a loss; and besides this inconvenience, the whole quantity is raised higher than the reservoir, at least by the diameter of the sprocket wheel, because it is only in their descent that the jars are emptied. The chain pump boasts undoubtedly many and great advantages over this machine; yet the chain pump itself is not free from imperfections. If the valves are not well fitted to the cylinder through which they move, much water will fall back; if they
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are well fitted, the friction of many valves must be considerable, besides the friction of the chain round the sprocket wheels, and of the wheels themselves. Chain pumps require a great number of men to work them, not in the open air, but under deck, where the heat is great, and the fatigue insufferable. The preference, therefore, which has been given to chain pumps over those which work by the pressure of the atmosphere, must have arisen from this one circumstance, that they have been found less liable to choke.

In point of friction, of coolness, and of cheapness, the sucking pump has so evidently the advantage over the chain pump, that it will not fail to gain the preference, whenever it shall be no longer liable to be choked with gravel, and with chips. Many and various have been the expedients thought of by mechanics to improve this pump; the one which caught attention and was adopted in our navy has, upon trial, been found defective. This was, instead of common valves with joints, to have cylinders with holes in the sides, but closed at top, moving in brass boxes, and known
by

by the name of canister valves. These have been found of all others the most liable to jam, and to become immovable by the introduction of sand between the canister and box. For this the public is indebted to Mr. Cole, who having acquired fame by executing the improvements of the chain pump invented by Captain Bunting, readily obtained the credit, which was by no means due to him, for more than common ingenuity in this invention of his own. In the model, and with clean water, his experiments succeeded, and gained the approbation of the admiralty board, who immediately gave orders for their introduction in our ships of war. To this hasty approbation has been attributed the loss of the Centaur, and of some other ships returning with her from the West Indies. It is, indeed, impossible to say how many ships have perished in consequence of this change in the construction of our pumps, as the most fatal accident which can happen to a vessel under the pressure of a storm is the choking of her pumps. The admiralty board can never be too cautious in the examination of improvements,

provements, nor too much upon their guard how they give credit to certificates in favour of any, which they have ordered to be tried. In the new edition of Chambers's Dictionary, lately given to the public by Doctor Rees, we have a description of Captain Bentinck's chain pump, the excellence of which will never be called in question; whilst credulity itself can by no means find it easy to believe the report of experiments tried on board the Seaford frigate, and signed by Rear Admiral Sir John Moore, twelve captains, and eleven lieutenants of his Majesty's navy. It is stated, that with the old chain pump seven men were seventy-six seconds raising one tun of water, whereas with the new pump two men raised the same quantity in fifty-five. Had Sir Thomas Slade, who was then surveyor of the navy, and Captain Bentinck, been upon better terms; this report had certainly been drawn up in a manner more agreeable to truth; or at least the experiments would have been conducted with that degree of caution, which would have done more credit to the integrity of those, who were to sign, and to the understanding

standing of those who were to receive the report. Notwithstanding the acknowledged and most undoubted superiority of the new pump over that, which had been previously used, it must have been evident to every one competent to judge between them, that this trial was not conducted fairly.

The imperfection of sucking pumps is prevented by a late improvement, which bids fair for universal approbation. Mr. Taylor, of Southampton, the same gentleman to whom not only England but all Europe is indebted for blocks, which, by long experience, have been found perfect both in point of strength and of prompt obedience; at the request of some naval gentlemen, applied himself to the consideration of this matter, and soon found a remedy, which, in all probability, will bring this pump nearer to perfection than any which has been hitherto employed. He began with taking away the lower valve, together with its box, and in its place he substituted a ball, falling down into a part of the same chamber, in which the upper piston works, contracted for that purpose; but as it was not easily extracted,
instead

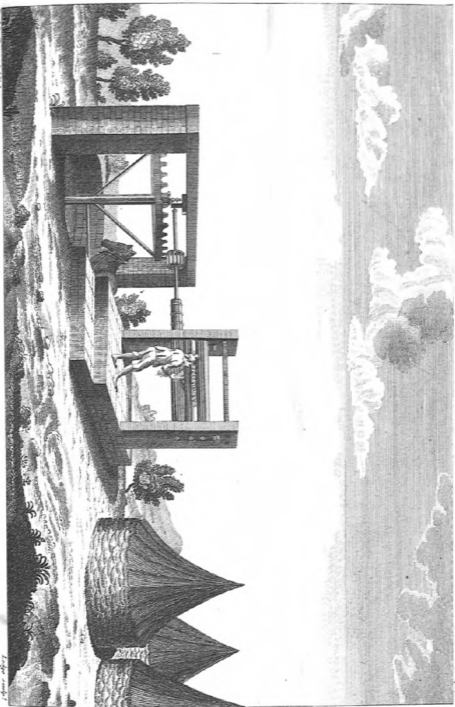
instead of this, he took the segment of a sphere, and in its centre he riveted a pendulum. By this simple contrivance, the chips and gravel pass without inconvenience, and the pendulum valve falls back into its place. Nothing can be more promising in its appearance; it remains for time and for experience to confirm the judgment, which has been formed of this improvement.

At Barcelona, some gentlemen who excel in mechanical invention, sensible of the peculiar imperfections of the noria, have studied how to avoid these in a machine which they have constructed, and which is not altogether void of merit. The beam, to which the traces of the horse are fixed, is near eight feet long; the diameter of the horse-walk is fifteen feet; and that of the horizontal lantern or trundle is near four feet. A vertical wheel, moved by this, is of the same diameter, and gives motion to a vertical lantern or trundle of two feet seven inches, and thereby to a water wheel of ten feet and an half diameter. The movements in this machine are too complicated, and thereby
both

both the expence and the friction are increased. Besides this, the horse walk is too small, and the beam being behind the horse, instead of being placed over his shoulders, the line of draught makes with it an angle of forty-five degrees, and thereby one half of his force is lost. These mistakes are not uncommon, and for that reason only they are mentioned in this place. That which fixed my attention, was the construction of the water-wheel. It is a cylinder divided into two portions by a septum parallel to its sides. In each portion there are chambers formed by four partitions, which make a square whose angles touch the circumference of the wheel, so that each chamber is the segment of a cylinder. The partitions on one side of the septum are not parallel to those on the other side, but are placed in a different direction, so that when, of those which are on one side, two are perpendicular, those on the other side make an angle of forty-five degrees with the horizon. In each of these chambers there is an opening to receive the water of one quarter of the arch. A leather collar embraces the wheel, where

it discharges the water, to prevent waste. The peculiar excellence of this wheel is, that no water is lost after it has been received into the chambers; but then with all this machinery the water is raised less than eight feet high. Round all the reservoirs they construct a parapet wall for washing linen, as I have described already.

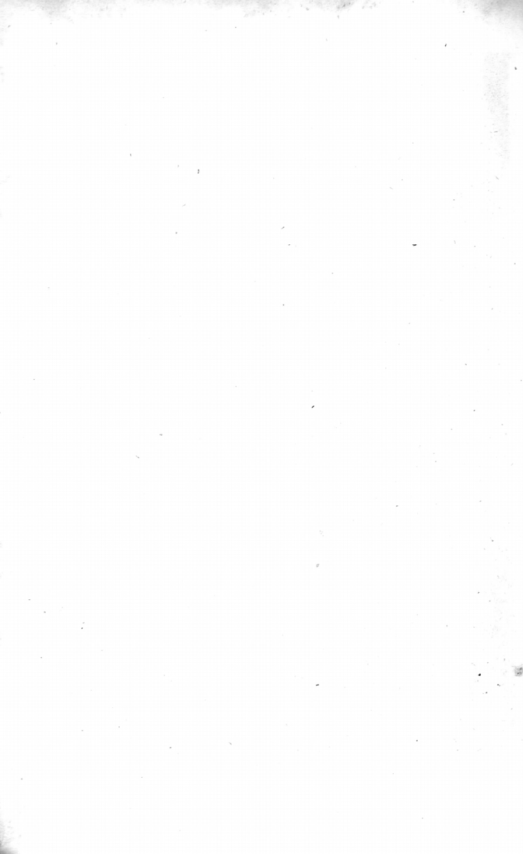
For hemp they have a machine similar in its form to that, which is used in all our sugar islands for bruising canes, but differing in its materials, and in the position of the whole. Here they place the three fluted rollers, made of oak, one above the other, causing them to act upon the hemp as it passes between them, not only by their weight, but by the pressure of two strong springs. A mule turns a wheel, which giving motion to the lowest cylinder, makes the uppermost revolve in a direction opposite to its own; and as behind them there is the section of a drum, or hollow cylinder, to stop the hemp, and direct it in its return, that which has passed between the uppermost and the middle roller comes back bruised between the middle and under rollers.



From the Illustrated London News and Atlas

Machine for threshing Stumps at Bawdona

Engraved by



The common course of husbandry about Barcelona begins with wheat ; which, being ripe in June, is immediately succeeded by Indian corn, hemp, millet, cabbage, kidney beans, or lettuce. The second year these same crops succeed each other as before. The next year they take barley, beans, or vetches, which coming off the ground before midsummer, are followed, as in the former years, by other crops, only changing them according to the season, so as to have on the same spot the greatest possible variety.

The common produce of wheat is ten for one, but in the rainy seasons they get fifteen. All these crops are watered, when water is to be had, either by some spring or by the noria.

April 24, they were ploughing for hemp, which they expected to cut the middle of July ; after which, they proposed to put in turneps, parsnips, and lettuce, for the autumnal market. The land will bear flax, but they find hemp more profitable.

I was much struck with their mode of filling the dung cart. For this purpose, they have three men, one in the cart, one

on the heap, and one between them to carry the little basket, after the latter with his three pronged fork has filled it. They smiled at my simplicity in thinking, that if all had prongs the cart would be filled much quicker; and it is only for expedition that they have hit upon this method.

In the country, at some distance from the city, they pay for wages in husbandry, from ten pence to one shilling sterling a day for men, and half as much for women; but carpenters will get sixteen pence, and masons two shillings.

The rigid parsimony of Catalans appears in their scanty provision for the day. When they carry their little basket to the market, together with their beef and garden stuff, they bring home two deniers worth of charcoal. This circumstance is so characteristic, that when they would reproach the rich miser for his penury, they say that notwithstanding his opulence he still continues to send to market for *dos dineros de Carbon*. Twelve deniers make a penny.

Their dress is singular. They have red
night-

night-caps over a black net which receives the hair, and hangs low down upon their backs. Their waistcoat or short jacket, with silver buttons, is close, and bound with a long silk sash, passing many times round their loins, and then tucked in.

In Spain, Italy, and Africa, all the inhabitants bind themselves up with sashes, as a preventative of ruptures. Certain it is, that these are very common; but when we consider, that the nations, who use no sashes, are not much subject to ruptures, we may perhaps be led to attribute this accident to relaxation, which must be promoted by the very precaution adopted to prevent it.

Their breeches are commonly black velvet; they have seldom any stockings, and sandals supply the place of shoes.

No people upon earth are more patient of fatigue, or, travelling on foot, can outstrip them. Their common journey is forty miles, but upon occasion they will run threescore. For this reason they make good guides and muleteers; being employed as such all over Spain, and trusted

without reserve, on account of their integrity.

The environs of Barcelona are friendly to botanical pursuits, and the city is not destitute of some, who cultivate this science. I received much assistance from Don Ignatio Ameller, an apothecary, whose library would do honour to the first botanist in Europe. To him I frequently resorted, and found him conversant with the best authors, who had written on this subject. There is also a young man, whose employment is to collect medical plants for the apothecaries. In him I found an excellent disciple of Linneus, and collected from his hortus ficcus such plants as I had not met with in my walks, all arranged according to their classes. Among these I found the following: *Canna*; *Salicornia*; *Blitum*; *Valeriana*; *Veronica*, both the vulgaris and the becabunga; *Syringa*; *Ligustrum*; *Olea*; *Phillyrea fl. lut.*; *Rosmarinus*; *Salvia* of several species; *Jasminum*; *Gratiola*; *Pinguicula*; *Verbena*; *Lycopus*; *Justicia*; *Crocus fativus*; *Nardus montana*; *Ixia*; *Gladiolus communis*; *Iris vulg. flor. Ceruleo,*

Ceruleo, & palustris fl. luteo & fæi-
 diffima, with the Iris bulbosa flore varie-
 gante; Cyperus rotundus; Plalaris; Arun-
 do; Gramen officin. dactylis; Holostæum;
 Scabiosa vulg.; Scabiosa specias; Globula-
 ria Dipsacus filv. Galium; Gallium lute-
 um & album; Rubia tinctorum; Cruci-
 anella; Plantago major vulg.; Coronopus
 vulg.; Pſyllium; Pimpinella; Cornus; Al-
 chemilla; Cuscuta; Potamogeton; Ilex;
 Heliotropon; Myosotis; Lithospermum;
 Anchusa; Buglossa vulg.; Cynoglossum
 vulgare; Onosma; Echium; Asperugo;
 Consolida major; Pulmonaria maculata;
 Borago hortensis; Cortusa; Primula veris
 & Auricula; Verbascum; Campanula;
 Convolvulus marinus; Scammonia; Pole-
 monium; Cyclaminus; Anagallis fl. rub.;
 Lyfimachia fl. lut.; Lonicera; Ribes; Co-
 ris; Physallis; Atropa Hyoscyamus; Cap-
 facum; Mirabilis; Datura; Solanum;
 Glycypitros; Lycopersicon; Melongena;
 Rhamnus; Frangula; Euonimus; Neri-
 um; Vinca; Asclepias; Salsola; Ulmus;
 Herniaria; Gentiana major; Centaurum
 minus; Echinophora; Eryngium; Sanicu-
 la; Bupleurum; Daucus; Caucahis; Am-
 mi;

mi; Bunium; Conium; Apium; Atha-
 manta; Crithmum; Lacerpifum; Sphon-
 dylum; Ligusticum; Imperatorium; An-
 gelica; Cuminum; Smyrnum; Thapsia;
 Anethum; Ferula; Sium; Oenanthe; Co-
 riandrum; Chærophylum; Carum Scan-
 dia; Rhus; Tinus; Sambucus; Parnassia;
 Linum; Drosera; Statice; Liliū cand.; Li-
 lium fl. nutante hemerocallis; Liliū fl. nut.
 martagons fl. purp. Liliū radice aspho-
 deli; Pancratium; Amaryllis; Allium fyl-
 vestre; Porrum; Cēpa alba; Leucojum bul-
 bosum; Ornithogalum fl. lutea; Narcissus;
 Scilla; Tulipa; Asphodelus; Liliū Con-
 val; Hyacinthus fl. cerul; Corona im-
 perialis; Fritillaria; Erythronium; Aspara-
 gus; Juncus; Tradescantia; Aloe; Berberis;
 Lapathum acutum; Rumex; Colchicum;
 Alisma; Æsculus; Tropæolum; Epilobi-
 um; Aethera Daphne; Polygonium; Fa-
 gopyrum; Bistorta; Persicaria; Herba Pa-
 ris; Laurus nobilis; Rheum; Butomus;
 Senna; Cassia; Dictamnus fraxinella; Ru-
 ta; Tribulus; Melia; Arbutus uva ursi;
 Rhododendrum; Pyrola; Saponaria; Saxi-
 fraga; Dianthus; Cucubalus; Arenaria;
 Stellaria; Sedum; Lychnis; Oxalis; Tri-
 dactylus;

dactylus ; Phytolacea ; Afarum ; Peganum ;
 Portulaca ; Lythrum ; Agrimonia ; Reseda ;
 Euphorbia ; Tithymalus pinea ; Sempervi-
 vum ; Cactus opuntia ; Cactus scandens ;
 Philadelphus ; Pfidium ; Myrtus ; Punica
 granatorum ; Cerasus ; Amygdalus ; Cra-
 tegus ; Sorbus ; Malus ; Pyrus ; Oxyacan-
 tha ; Mespilus ; Ulmaria ; Filipendula ; Ro-
 sa ; Rubus ; Fragraria ; Tormentilla ; Quin-
 quefolium ; Geum .

The Algarrobo (*ceratonia edulis*) near
 the sea, and to the south, is one of their
 most profitable trees ; tender, yet requiring
 no attention ; beautiful in its foliage ; luxu-
 riant ; and commonly loaded with fruit,
 which is given to their cattle ; not only to
 those which work, but to their oxen, when
 they are to be fatted for the shambles. The
 pod is long, and contains many seeds,
 abounding with saccharine matter. It is
 exceedingly pleasant and nutritious. It is
 ever green.

Barcelona, as a residence, is not only de-
 lightful, but healthy. There are indeed
 some days when all the inhabitants, but
 more especially strangers, are inclined to
 think it both unhealthy and unpleasant ;
 that

that is, when the east wind brings in the fog, which for many days before had been observed standing off at sea, as if watching and waiting for an opportunity to land. The pores are then locked up, and the temper becomes so irritable, that the best friends must be careful how they meet. But no sooner does the land breeze spring up, than the fog retires, the sun breaks out, and all nature wears a smile. In Barcelonetta, and the citadel, in which a garrison of five thousand five hundred men is quartered, intermittents never cease to rage, and to bring on in winter, dropfies and jaundice, and in summer malignant fevers. The same diseases reign beyond Monjuich, in the low country watered by the Lobregat; but although the prevailing wind in its passage becomes loaded with miasmata, yet, being diverted from its course by that high mountain, it has no baleful influence on Barcelona.

J O U R N E Y

F R O M

BARCELONA to MADRID.

WHEN I had nearly satisfied my curiosity, and had seen almost every thing worthy of attention, I began to think how I was to proceed in my tour through Spain. Not having as yet acquired the language, I was by no means qualified to travel alone; but as my intention was to go directly for Madrid, I was informed, that in the course of a few days some opportunity would offer to join with three others in the hire of a coach. In the mean time I continued my excursions in the country, and visited again those places which had struck me most.

At length having made a party with three officers in the Spanish service, two of them

them natives, the third a Frenchman, who were all going to Madrid, we hired a good coach with seven mules, and left Barcelona on Saturday, *May 6*, in the afternoon. That evening we travelled five leagues on the banks of the Lobregat, and lay at Martorel. This place is famous for Hannibal's bridge, with its triumphal arch. I should have been happy, had the time permitted, to have made a drawing of these venerable remains, with the high mountain which rises near them, to the east, and Montserrat, which is seen at the distance of three leagues, hiding its lofty summit in the clouds.

Martorel is one long narrow street, in which poverty, industry, and filth, although seldom seen together, have agreed to take up their abode. The inhabitants make lace, and even the little children of three and four years old, are engaged in this employment.

The next morning we came to Piera, at the foot of Montserrat, no longer appearing like a sugar loaf, but rather like a saw, rising almost perpendicular, and lifting up its rugged rocks like pyramids to meet the clouds.

clouds. Of all the countries I have seen, few have ever struck me like this in the vicinity of Montserrat.

The mountain is calcareous; but that which is most remarkable is, that the whole is pudding stone, composed of limestone gravel, formed into one hard mass by a calcareous cement, and yet of such stupendous height, that from its craggy summit are seen the islands of Majorca and Minorca, at the distance of fifty leagues. On the same mountain are found rocks of grit, or sand stone; and, according to Bowles, the lapis lidius is no stranger there. All the country near this surprising mountain would, if it were more distant, appear mountainous. It is every where torn by deep ravins, laid open to the depth of one hundred and twenty feet, and appears to be composed of broken schist, with clay and sand. The rocks, which here and there peep through the soil, are evidently tumblers from Montserrat, and serve to shew the nature of that mountain.

This singular phænomenon is rendered more remarkable by a stupendous mountain in its vicinity, described by Bowles; a moun-

a mountain of three miles in circumference; near the village of Cardona, which is one mass of salt; and equal in height to those of the Pyrenees, on which it borders. In a climate like our own such a mass had long since been dissolved, but in Spain, they employ this rock salt as in Derbyshire they do the fluor spar, to make snuff-boxes and vases, with other ornaments and trinkets. I carried a little fragment with me all through Spain, without the least sign of deliquescence; but when I came to England, I soon found it surrounded with a pool of water.

I shall not at present make any observations on the formation of these mountains; yet one circumstance I would wish to be remembered in the rocks of Montserrat, which is, that in some of the strata the gravel is smooth and rounded, like that which is found upon the sea beach.

After having travelled many leagues, with Montserrat constantly on our right, and rising above us like a wave when it is prepared to burst, we began to increase our distance from its base, and winding to the left, descended among the mountains
which

which border on the Noya, and which are composed of white granite. The ravins here are wider and deeper than those which we had seen the day before, and leave no room to doubt in what manner mountains acquire their form. But whoever travels through this country, and sees how nature has been convulsed, must look for some more powerful agent to account for the phenomena than water and the most raging torrents.

Having crossed the Noya, and keeping along its banks for about half a mile, through a narrow pass, with the river on our right; we had on our left, cliffs rising perpendicular to the height of near two hundred feet, composed of calcareous incrustations, by the French called tuf, inclosing snails and leaves, like that which is between Montpellier and Montferrier. It had happened opportunely, that as we were descending to the river, the coach was overturned, which gave me time to walk forwards, and not only to examine, but to make a drawing of the cliff, with its pendent rocks and caverns. Happily we received

ceived no other injury than a few trifling bruises, and a delay of about half an hour. At the end of this short interval we were jogging on again towards Igualada, where, after having three times passed the Noya, we arrived about the setting of the sun.

The country, which lies round this lovely village, is rich, highly cultivated, and well watered, hilly, and broken by ravins. The rock is schist, and the strata are horizontal; as we advance the schist whitens, and becomes mixed with calcareous earth, till by degrees we lose the schist; and after observing for some considerable space limestone rock covered with white earth and clay, we meet only gypsum. In the same progress we lost at first the vine, then the olive and the ilex, till nothing remained but the *quercus coccifera*, and the oak.

The ploughs of this country are the degenerate offspring of those near Barcelona, not so well executed, but constructed upon the same general principles, with this difference, that they have no mould-board, no fin, and no coulter to be occasionally used.

The

The gypsum soon gave way to a vast expanse of *chalk*, before we reached *Cervera*.

This city is in a most delightful vale, which is extremely fertile, and surrounded by hills, on one side of chalk, on the other of limestone. This part of the country, between the Noya, which runs into the Lobregat, and the Segre, which joins the Ebro, is the highest land in this part of Catalonia. The university in this city was founded by Philip V. and has commonly about nine hundred under graduates, chiefly designed for employments in the church and at the bar, with some few for medicine.

Having ascended from *Cervera*, the limestone rock appears; and the hills are covered near the city with vines, but at a greater distance with olives in vast plantations. As we advance, the limestone gives way to chalk, and, in the same proportion, barrenness succeeds to plenty; but when the *chalk* is again replaced by limestone, the face of the country improves, and the hills are once more covered with vines and olives.

At *Tarraga* we fared sumptuously, and had a good hall to sup in, with single bedded rooms, and glafs in all the windows.

This village is situate in a valley of great extent, bounded by distant hills; the soil is clay, yet the crops look sickly. The fields are all in tillage. They plough with mules.

Approaching *Lerida*, the valley becomes less fertile in its nature, being chiefly a hungry sand covering a bed of gravel, chiefly silicious, with granite of every species. This, from the situation of the country, might be well expected, considering the multitude of rivers which here unite their streams, all rising in the Pyrenees, and flowing from mountains which extend, east and west, more than an hundred and twenty miles.

Lerida is a pretty little city, with a cathedral, four parish churches, and sixteen convents, thirteen for men, and three for women. It is situated on the *Segre*, under the protection of a hill, on which are seen the ruins of a castle, now going to decay, but formerly of considerable strength.

The

The rock on which it stands is silicious grit with a calcareous cement. This city, called *Ilerda* by the Romans, was rendered famous by the distress to which Julius Cæsar was reduced when encamped in its neighbourhood. He had taken possession of a plain shut in between the rivers *Cinga* and *Sicoris*, and defended by a deep intrenchment, whilst Petreius and Afranius, Pompey's generals, were encamped on a hill between him and *Ilerda*. In the intermediate space, between the hill and the city, is a plain of no great extent, with an eminence, which, if seized, might be quickly fortified, and being fortified, would cut off all communication with the city. For this, during five hours, they maintained a doubtful conflict; but in the end fortune declared in favour of Afranius, and Cæsar retreated to his camp. Whilst revolving in his mind how he should cover this disgrace, word was brought, that by the melting of the snow upon the mountains his two bridges were broken down, that the country was laid under water by the overflowing of the rivers, and that all communication

was cut off with the provinces by which his army had been fed.

The immediate consequence was famine. Whilst he remained in this situation, messengers were sent to Rome, and all gave him up for lost. It was upon the news of this distress that Cicero left the city, and joined Pompey at Dyrrhachium. Cæsar, without loss of time, set his men to work, and having made a sufficient number of little boats, light and portable like those which he had seen in Britain, after a few days sent a party up the river in the night, who, with these boats, made good their landing, and having fortified a camp, secured his retreat.

The situation of Lerida is delightful, and the country in which it stands is one continued garden, covered with corn, with olive trees, and vines. For beauty few places can exceed it, but from the abundance of water, it is far from being healthy; and, since the year 1764, this city, with the villages of Tarraga, Igualada, and Martorel, and all the surrounding country, has been ravaged by a malignant fever, which was
spread

spread by the French troops in their return from Portugal,

Alarmed at the progress of this destructive fever, the king lately sent one of his physicians, Don Joseph Masdeval, to examine the symptoms, and to instruct the faculty in the best method of treating it. His practice is so remarkable, and the attestations in its favour are so respectable, that, in treating of Carthage, I shall lay them before the public. Previous to his arrival, notwithstanding every symptom of debility, and prostration of strength, the physicians had continued to order bleeding as long as there was any blood to flow. Whilst, however, we smile at their simplicity, we may too well remember when the same was the pernicious practice in our island.

The antiquities of Lerida, with its castle, and all that relates to the cathedral, are well described in a work lately published by D. Joseph Fenestres.

Being now at the extremity of Catalonia, it became necessary to lay in a stock of provisions sufficient to serve us till we should reach Zaragoza, or at least in aid

of those, which we might purchase by the way. Hitherto we had fared well; but now a little forethought became absolutely needful. In Catalonia, the traveller is under the protection of the magistrate, who settles the price of every thing he may want, and annually publishes his *arancel*, that is, a table of affize, which must be hung up in some conspicuous place of every inn. According to this, every guest occupying a bed-room with one bed must pay for that and his light three sueldos and nine deniers, or something less than five pence; but if there are several beds in one room, then each pays two pence halfpenny nearly, or two sueldos Catalan. If he does not occupy a bed, he must pay for shelter six deniers, or $\frac{2}{4}$ of a penny. Every carriage pays one sueldo per night for standing. The ordinary is regulated as to the number and nature of the dishes, both for dinner and for supper; and for these the prices are, including bread and wine for dinner, fifteen sueldos, or one shilling and seven-pence farthing, and for supper, fifteen sueldos three deniers.

	R ^s . d ^s .		Sterling.	
	s.	d.	s.	d.
For a moderate sized fowl - -	4	12	0	11½
Ditto small - - - -	3	20	0	10
Capon, if great - - - -	9	20	2	1
Ditto small - - - -	8	0	1	8½
Turkey, great - - - -	30	0	6	5
Woodcock - - - -	10	0	2	1½
A dozen of eggs - - - -	2	16	0	7
Mutton, per pound of 36 ounces	4	12	0	11½
White bread, ditto - - - -	1	12	0	4
Ditto second, ditto - - - -	1	0	0	2½
Flour, ditto - - - -	1	0	0	2½
Rice, ditto - - - -	1	6	0	3½
Maize, or Indian corn, ditto -	0	12	0	1½

The above is reduced into sterling by approximation, to avoid fractions of a farthing. It must be observed, that the reals in Catalonia are *ardites*, containing two sueldos, or twenty-four deniers, which I here suppose equal to $2\frac{1}{2}$ of a penny sterling.

From Barcelona to Lerida is twenty-five leagues, or nearly one hundred miles. From Lerida we came to Alcaraz, two leagues.

Here you turn your back upon Catalonia, and are reminded at every step that you have entered a new kingdom. The red cap and the black velvet breeches are no longer seen, but in their stead a black velvet bonnet peaked like the mitre, and

short white trowsers, called *bragas*, reaching more than half way down the thighs. The face of the country is likewise changed, more hilly, and broken by torrents, not altogether barren, but uncultivated, and left desolate. For many miles together there is neither house, nor tree, nor man, nor beast, except a few straggling carriers with their mules, and by the road side are seen wooden crosses, to mark the spot where some unhappy traveller lost his life. The passengers think it a work of piety to cast a stone upon the monumental heap; according to some, as a mark of detestation and abhorrence of the murderer, or, as others think, to cover the ashes of the dead. This, in all ages, and by every nation, has been considered as a deed of mercy, because, to remain unburied was regarded as the greatest misfortune and disgrace. The *inops, inbumataque turba* was supposed to wander on the banks of the Styx, excluded from the Elysian fields, restless and miserable, one hundred years, unless their bones were previously covered. Virgil, *Æneid* vi. ver. 325. Whatever may have been the origin of this practice, it is
 general

general over Spain, and round most monumental crosses is seen a heap of stones.

All the way from Lerida the deep ravins shew limestone rock in strata, which are separated by sand and clay.

Having crossed the Cinca, and passed through Fraga, which is built in one of these deep ravins, we begin to ascend the mountains, where we see the same horizontal strata of limestone, with clay between them. These mountains produce only aromatic herbs.

In traversing this barren country, a conjecture naturally arose, that Catalonia either acquired sovereignty before the establishment of Arragon, or that the people, by whatever name they were distinguished, were more warlike than their neighbours; for had the kingdom of Arragon, if, referring to distant periods, we may call it by that name, been founded first, or had the inhabitants excelled the Catalans in strength and courage, they would have left these mountains, and would have extended their dominion to the east. The Cortes of Arragon declares, in the preamble to one of its statutes, that such was the barrenness of their country and the poverty
of

of their inhabitants, that if it were not on account of the liberty, by which they were distinguished from other nations, the people would abandon it, and go in quest of a settlement to some more fertile region. V. Robertson, Charles V. p. 154.

The first night after we had crossed the Cinca we lay at Candanos, a miserable village without one convent, a circumstance which sufficiently bespeaks the extreme poverty of its inhabitants.

Round this village I observed abundance of flints, such as we find among the chalk in England, much limestone, and some gypsum. The inhabitants employ themselves in collecting and washing earth for the purpose of extracting the nitre and sea salt, which it contains in great abundance.

I was much diverted to see the astonishment, with which these aborigines viewed one of our fellow-travellers, a Frenchman, but a colonel in the Spanish service. They are a diminutive race, and he is six feet six inches high, stout, well made, and of a soldier-like appearance, yet he could scarcely make them keep their distance. These pigmies are no strangers to gallantry, as we all could testify; for, as ill-luck would have

it, opposite to us there lodged a fair one, for whom a desponding lover had prepared a serenade. No sooner had the village clock struck twelve, than he began to sing the praises of his mistress, beating time upon the discordant strings of his guitar. It is impossible to construct a scale of sensibility or taste, or to ascertain precisely to what degree the ear is tuned to harmony; but should such a scale be formed by any one who has never heard these ditties in some of the villages of Spain, like Fahrenheit with his thermometer, he will be inclined to place his lowest point abundantly too high.

By the time this lover had retired to his rest, we were obliged to rise, and to prosecute our journey.

From Candanos we traversed a barren plain of gypsum, twenty miles, without seeing either house, or man, or beast, or bird, or tree, or bush, except only in one spot, where, to my astonishment, on apparently the same kind of soil, the olive flourished.

At the end of this tedious morning we came to a single house or venta, in which we were to dress our dinner. Here we found a party of soldiers stationed to scour the country, and to pursue the robbers, who had

had been accustomed to consider this part of Arragon as abandoned to them, with full liberty to plunder all, who should venture to pass through it. The soldiers knew our colonel, and offered to escort us on our way; but as we had three officers, all well armed, we did not think it needful to accept their kindness.

Whilst the dinner was preparing, I took the opportunity of climbing a hill, at no great distance, which commands a most extensive prospect; but in that vast expanse, far as the eye could reach, nothing was to be seen but a naked gypsum rock. It is here that nature seems to sleep, and to have slept some thousand years; or at least it is here that she has either neglected or forgotten her accustomed operation in forming vegetable earth. Turning from the dreary landscape, I hastened back to dinner, satisfied that nature never appears so beautiful as when her face is covered with a veil.

Having dined, we proceeded on our way, and till we began descending to the Ebro, had nothing but the gypsum rock in sight, excepting for some short intervals, when we saw the more fertile limestone. The whole of this gypsum is crystalized.

When

When we had reached the plain, which is watered by the Ebro, we left that river to the left, keeping the gypsum mountains on our right, till we came near to Zaragoza, where the valley widens, and where very considerable hills, entirely composed of flints, interpose between the river and those barren mountains.

As we approach the city, the prospect brightens, the hills on our right shew the hanging clusters of the vine, and the margin of the Ebro is covered with luxuriant crops of corn interspersed with olives. Here the wines are excellent, more especially in dry seasons; but these do not yield as good brandy as the weaker wines of France. Indeed it is a pity that such generous wines should ever be distilled.

In long journies it is usual to give the mules one day's rest about the middle of the way. Happily for me this place of rest was Zaragoza, being fifty computed leagues from Barcelona, and fifty-two from Madrid. Each league is about four miles and a half.

Zaragoza, by ancient Spanish authors written Caragoça, and by the Romans called *Cæsarea Augusta*, is a wealthy city on the

the Ebro, at the conflux of two other rivers, one running from the north, the other a considerable stream descending from the mountains of the south, and contains more than forty thousand souls.

Immediately on my arrival I visited the cathedrals. Here I forgot all the hardships and fatigues, which we had suffered in this long journey; nay, had I travelled all the way on foot, I would have freely done it to enjoy the sight of these cathedrals. That which is called *El Afeu* is vast, gloomy, and magnificent; it excites devotion, inspires awe, and inclines the worshipper to fall prostrate, and to adore in silence the God who seems to veil his glory; the other, called *El Pilar*, spacious, lofty, light, elegant, and cheerful, inspires hope, confidence, complacency, and makes the soul impatient to express its gratitude for benefits received.

In the centre of this cathedral there is an edifice, which is strikingly beautiful. The principal front is a chapel of our Lady of the Pillar, who appeared upon this very pillar to St. James, and afterwards gave to him the image, which is worshipped at her altar. Over this there is a dome corresponding

sponding to the great dome, under which it stands, serving by way of canopy to the image of the virgin. The three other fronts of this elegant tabernacle are in like manner chapels. Besides the great dome, there are many smaller domes surrounding it, each with elegant paintings in compartments, the subjects of which are historical, taken from the sacred writings, or from the legends of the saints, to whom the chapels and altars are dedicated. These are executed by D. Francisco Bayeu, first painter to the king; and the architect, under the inspection of whom these domes have been constructed, is Rodriguez, of whose taste and judgment these decorations and improvements will remain a lasting monument.

The wealth of this cathedral is inestimable, in silver, gold, precious stones, and rich embroidery, sent by all the catholic sovereigns of Europe to deck its priests, and to adorn its altars. Many of these presents being modern, are worthy of attention for their elegance, as well as for the value of their pearls, diamonds, emeralds, and rubies. In a word, whatever wealth could

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command,

command, or human art could execute, has been collected to excite the admiration of all who view the treasures of this church.

Among the other objects worthy to be seen is the church called *Engracia*, whose patron saint is said to have walked a league, carrying his head in his hands, talking all the way, and in this manner to have presented himself at the gates of his convent. In this church they shew an original painting by St. Luke, with many other relics, equally authentic, and not inferior in their value.

Straitened for time, I could take only a cursory view of the environs. In a country like this no living rock is to be expected, nor any thing but what has been moved; the spoils of various mountains brought down by the rivers, and blended here together. The chief deposit in this place is limestone gravel, and on that the city stands. It is much to be lamented, that they have neither stone for building, nor good clay for bricks; hence all their churches, not excepting the beautiful cathedral, shew cracks from top to bottom. The cement is good, and abounds upon the spot, as may be seen by the bottom of the
river,

river, which is a bed of gypsum, commonly used here for making plaster.

Had the time permitted, I should have visited all the buildings recommended to my notice, the convents of S. Ildefonso, S. Francisco, the Dominicans: not to mention thirty-seven others less worthy of attention, with the Audiencia, the Torre nueva in the great square, built by the Moors, and Torre del Aseu, which was a mosque. Short as was our stay, I stood long contemplating the beauty of the bridge over the Ebro, of six hundred feet, with its centre arch of one hundred; and at last turned from it with regret.

I had brought a letter for general O' Neile, the governor, but unfortunately he was absent at Madrid. This loss was in some measure made up to me by the attention of my valuable friend, the young Spaniard, who had connections in Zaragoza. With him, when I had finished my excursions, I went to drink lemonade and chocolate at the house of the fiscal civil, and afterwards we supped together at don Philip de Canga's, the fiscal criminal, both

men of good understanding, and well informed.

Could I have known beforehand that so many objects worthy of attention were to be met with in this city and its vicinities, I would have laid my plan to have made a longer stay, and should have derived more advantage from the conversation of these gentlemen. From them I learnt, that the late sovereign, Ferdinand VI. had endeavoured to establish manufactures in this city, on his own account; but that the expence of administration, with the want of a market for their commodities, soon brought the whole to desolation, and the scheme was abandoned as impracticable.

Among other particulars, they gave me this account of their university: it contains near two thousand students, and for their instruction the doctors constantly residing are, forty in theology, twenty for the canon law, thirty-six for civil law, seventeen for medicine, and eight for arts. The foundation of this seminary was laid A. D. 1118, on the expulsion of the Moors; but the university was not incorporated till

A. D. 1474, and from that period it has constantly been cherished and protected by the sovereigns of Arragon.

Near this city passes the famous canal of Arragon, designed to form a communication by the Ebro from sea to sea, between S. Ander, in the bay of Biscay, and Tortosa, on the borders of the Mediterranean, a distance considerably more than one hundred Spanish leagues. This, perhaps, is one of the most arduous undertakings that ever was conceived. To make the communication through the whole extent by water is hardly possible, or, if possible, is by no means desirable; because, in passing the mountains of Biscay, which are a continuation of the Pyrenees, only from Reinosa, at the head of the Ebro, to the Suanzes, which flows into the bay near S. Ander, in the space of three leagues, the fall is three thousand Spanish feet. Establishing therefore magazines at Suanzes and Reinosa, with a carrying way between them, from Reinosa they will navigate the Ebro. They have a great command of water: the head of the Pelilla has more than forty large fountains in the space of one hun-

dred yards in length, by forty in breadth, spouting up to a considerable height. This river does not run four hundred yards before it enters the Ebro, which has only three fountains, but these considerable.

It is remarkable, that between Fontibre (Fons Ebri) and Reinosa, there is a salt lake.

The Ebro is navigable from Logroño to Tudela; and the canal, which begins at Tudela, is finished as far as Zaragoza; from whence it will be carried ten leagues lower before it enters again into the Ebro. At Amposta, below Tortosa, there is another canal, which opens into the bay of Alfarques, to obviate the inconvenience which arises from the frequent shifting of the bed of the Ebro, near its mouth. Not far from Zaragoza, the canal passes the mountain of Torrero by an open cast of forty feet the mean depth, for more than a quarter of a league, or about one mile in length. The twelve leagues which they have finished from Tudela, cost sixty millions of reals, which in sterling is six hundred thousand pounds; the twelve leagues are nearly equal to fifty-three miles English, upon

upon a supposition that they are statute leagues of twenty-five thousand Spanish feet; but if we suppose them to be ordinary leagues, of six thousand six hundred varas each, the twelve leagues will be only forty-two miles and a small fraction. On the former supposition, the expence will be found eleven thousand six hundred and eighty-two pounds four shillings per mile, or six pounds twelve shillings and eight pence per yard. This expence appears to be enormous; but if we consider that the canals in Spain are nine feet deep, twenty feet wide at bottom, and fifty-six at top; and if we consider the cutting through a mountain open cast more than a mile, we shall not think it unreasonable.

In a calculation which Mr. Whitworth gave for a canal to be made from Salisbury to Redbridge, A. D. 1771. he supposed the depth four feet and an half, and the width at bottom fourteen feet. In these circumstances he allowed three pence halfpenny for every cubic yard; but had the canal been deeper and wider, he must have made his estimate double, treble, or even more, not merely according

to the quantity, but in proportion to the distance to which that quantity must be removed, and the perpendicular height to which it must be previously raised. Mr. Whitworth's canal does not contain more than ten cubic yards in each yard in length, and a considerable proportion of this may be done merely by the spade, without the aid of either pick-axe or barrow; whereas the Spanish canals contain near forty-nine and one ninth cubic yards in each yard in length, the greatest part of which is to be moved to a great distance, and from a considerable depth, increasing commonly in hardness in proportion to the depth.

This however will serve to shew the wisdom of our people in the north of England, who by experience have learned to make their canals very narrow. With them three boats of thirty tons are preferred to one of ninety; and to carry thirty tons, they construct their boats about seventy feet long, seven wide at top, and six at bottom; drawing four feet of water. But such contemptible canals would not suit the ambition of a Spaniard, nor coincide with his ideas of grandeur.

As we crossed this canal near Zaragoza, on our way towards Madrid, we stopped to examine the works; and I must confess that I never saw any so beautiful or so perfect in their kind as the locks and wharfs; nor did I ever see men work with greater spirit, or in a better manner. The number of men employed is three thousand, of which two thousand are soldiers, the others peasants. To the former they give three reals a day in addition to their pay; but they work mostly by the piece, and receive what they earn.

As we increased our distance from Zaragoza, we quitted the flat country, and began to climb between the mountains, which at a lower level shew horizontal strata of limestone, whilst all the summits, both near us and at the greatest distance, are evidently gypsum. In the vallies we found clay, and flints, such as our chalk commonly produces. These circumstances lead to a suspicion, that the gypsum on these high mountains was once chalk, although now saturated with vitriolic acid.

We dined at *Muel*. In this little village are many potters, who turn their own wheels,

not by hand, but with their feet, by means of a larger wheel concentric with that on which they mould the clay, and nearly level with the floor.

Proceeding after dinner, we left the gypsum mountains at some distance, till we approached *Longares*, which is seven leagues from *Zaragoza*, where this ridge dies away, and leaves before us a wide extended plain, bounded by distant hills. The soil is clay, with gravel of flint, silicious grit, and white quartz, more especially along the middle of this spacious vale, in which there appears a bed of it all smooth and polished, as we see in brooks subject to strong land floods and torrents. This plain produces most luxuriant crops of corn, with vines, and abounds in sheep.

At eight in the evening we arrived at *Carinena*, one league from *Longares*, having travelled our eight leagues, which is the usual journey: this we may reckon six and thirty English miles.

Here one of our countrymen left a history behind him, written in English, on the wall, for a warning to those who may
 chance

chance to follow him. In the night, two men attempted to rob him in his bed; but he happily awoke, and starting up, knocked one down, and made the other fly. The one whom he knocked down was servant to a French officer with whom he was travelling, the other was one of the coachmen. From the observations I have had occasion to make in Spain, I am of opinion, that no gentleman should sleep in a room alone, unless he has made fast the door.

The wine which this country produces is of the finest quality, and I have no doubt will be much coveted in England whenever the communication shall be opened to the sea.

Cariñena contains two thousand and thirty-six souls, and has two convents. From hence we proceeded along a fruitful bottom, covered with vines and olives; then ascending among mountains, we found, at a lower level, schist with its lamina standing perpendicular, and soon after silicious grit, inclined to the horizon, then limestone rock.

In this country we pass vast tracts of land susceptible of cultivation, which, I have no doubt, will be one day covered with

with luxuriant crops, although at present we see little besides the *quercus coccifera*, and a few aromatic herbs.

Crossing the river Xiloca, at the distance of five leagues, we came to Daroca, where we dined.

This city, inclosing within its walls two thousand eight hundred and sixty-three souls, is built in a ravin, and would have been swept away by torrents, had not the inhabitants made a drift of six hundred yards through the heart of a mountain, to open a communication with the river. This work is worthy of inspection.

Daroca appears to have been always of importance, as the fortifications, although now decayed, sufficiently evince. It formerly occupied the hills for safety, but now it has crept down into the vale for shelter.

The rocks, which are here laid bare, are schist, covered with limestone.

Climbing among these, it is beautiful to look down upon the vale, which feeds the city, every where shut in by uncultivated mountains, itself well watered, covered with deep verdure, and loaded with the most luxuriant crops. To view such a strip
of

of land excites a wonder how the inhabitants can live.

The exquisite beauty of this spot, and the protection which it offered, were powerful attractives to the priests and to the religious orders, who in this city have no less than six convents and seven parish churches, of which, one is collegiate, although not a bishop's see.

After dinner we ascended to much higher mountains, in which the schist and the silicious grit appear in strata, inclined to the horizon in every angle, and in every possible direction. All nature here seems to have suffered the most violent convulsions.

These mountains must certainly abound with minerals, of which we see every mark but the mineral itself. Indeed, when the Romans settled here, it was with a view to mines. From the nature of the rock, and from the peculiar appearance of the schoerl, I have no doubt that tin is not far off.

We are here on the highest land in Spain, with the water falling behind us into the Ebro, whilst immediately before as it runs into the Tagus.

When we begin descending to the south
west,

west, we observe a deeper soil, fewer crags, and the strata more inclined to the horizon, than we found in the declivity to the north, and to the east. This circumstance will appear perfectly natural, when we consider that in the latter direction the water does not run much more than one hundred miles before it enters the sea; whereas in the former it must go nearly six hundred miles to find the ocean. Yet this circumstance alone will not account for the confusion which appears in all the strata as we ascended from Daroca; the sea shells which every where abound in the limestone, wherever it is found on these high mountains, prove sufficiently that this country was once covered with the sea.

Without entering at present on the different solutions which have been given of these phenomena, I shall only transiently observe, yet I wish it to be remembered, that these strata are not now in the same position in which they lay, when the whole peninsula was covered with the waters of the sea.

On these mountains, both in the morning and the afternoon, we observed many

monumental crosses, each placed near the spot on which the unwary traveller had been robbed and murdered, or had met with some fatal accident. At this, considering the nature of the country, I was not surpris'd; but I must own my blood ran cold, when I saw some crosses in the villages through which we pass'd. Their numbers sufficiently evince, not only a bad disposition in the inhabitants, but a bad government. No people can be more passionate than the Welch, yet in Wales we seldom hear of murder; they do not thirst for blood, and should any one feel himself provok'd to take away another's life, he would tremble at the laws. But in Arragon, this crime often pass'es with impunity, unless as far as one murder is the parent of another.

The escrivanos, who perform the office of coroner, are many of them poor, hungry, rapacious, and destitute of principle; and without them no evidence can be received. These venal wretches are commonly prepar'd with equal indifference to sell justice or injustice to him, who offers most; and all over Spain they have free scope in the
country

country towns, because few gentlemen live in or near a village, to protect the peasant, being mostly resident in cities.

We lay in the miserable village of *Uset*, the last in Arragon, and two leagues from Daroca.

Having neglected to lay in provisions before we left that city, we began, for the first time, but not the last, to suffer want, and to murmur at the inattention of our captain. When we left Barcelona, a common fund was made to pay the expences of the journey, and we immediately proceeded to the election of a treasurer. The parties were our colonel, a Frenchman, tall, handsome, elegant in his manners, sensible, well-informed, perfect master of the language, and well acquainted not only with the mode of travelling in Spain, but with the precautions needful to be taken by those, who would pass with any comfort from Barcelona to Madrid. Naturally our choice should have fallen upon him; but unfortunately there were objections, which every one felt, but which no one dared to name. As a stranger, and as ignorant of the language, I was out of the question.

question. Of the Spanish gentlemen, one was a cadet in the army, lively, sensible, and of the noblest disposition; but being not more than fourteen years of age, he likewise was rejected. The other gentleman, under whose wings the cadet travelled, was a Spaniard of a certain age, a captain in the army, and therefore accustomed to travel; of a grave deportment, and for integrity worthy of the confidence, which was to be reposed in him; but—(for in every character there is some but)—he was a bigot. Naturally austere, silent, and reserved, his religion taking its complexion from his temper, he became severe, morose, and seemed to cherish a cold indifference to all the comforts of this life both for himself, but more especially for his friends; yet in him all our suffrages met; he was to keep the purse, to pay all expences, to render an account, which he did with the most exact fidelity, and to make provision for the journey, where provisions were to be procured; but this he neglected, although his coadjutor, the colonel's valet, was active, and always ready to run at his command to the butchery for flesh, to the baker's for bread,

bread, and to the vintner's to purchase wine. With a good look out we might have had hares, partridges, rabbits, and poultry in abundance; whereas, by neglect, before we reached Madrid, we were half starved; and yet our journey cost much more than, with good management, would have made us comfortable.

In the morning, when we were ready to leave Uset, this was the manner of discharging the account. The mistress of the house, supported by some female, made her approach, at first with a low voice and with a modest air. The captain, supported by his colonel, who upon occasion could look very fierce, repelled the charge, and exclaimed against the exorbitancy of the demand. The mistress, appealing to the maid, who was prepared to defend her moderation, by degrees raised her voice, and became violent almost to fury. The captain sputtered, and the colonel sometimes put in a word to allay the storm, whilst the cadet stood laughing at a distance, till at the end of about twenty minutes the storm suddenly subsided, the landlady looked placid, and quietly accepted
 one-half

one-half of the original demand. If in the outset our captain had with calmness asked for the *grancel*, all this trouble had been saved, because every publican is obliged to have one hung up in his house, and in that the price of every article, with the *ruido de casa* (noise of the house) and beds, is fixed by the magistrate.

This business being ended, every one took his corner in the coach, the coachman clacked his heavy whip, and the moment we began to move, the cadet, looking upon his mentor, crossed himself.

Our way lay across an extensive plain, bounded by distant hills, in which the soil is sand and gravel, covering a limestone rock. The ascent to these hills is very easy, and the hills themselves are susceptible of cultivation; yet they are desolate, and for miles discover neither house nor tree, except the juniper.

At eleven in the morning we arrived at *Tortuera*, having travelled four leagues to dinner. This little village, the mansion of wretchedness and misery, is built upon a rock of marble, such as would not disgrace a palace. The sun was shining very bright;

not a cloud was to be seen; yet these poor peasants filled the church, each with his lighted taper, prepared to join in a procession.

The ploughs of this district are much degenerated from the perfection of those at Barcelona. The handle, the share, and the share iron, all pass through one mortice in the beam, which is made crooked for that purpose. All these are fastened by a wedge. It is scarcely possible to see a rougher implement, without coulter, fin sheets, or mould board; but instead of this, two pins, one on each side, driven into the heel of the share.

All the way over the mountains, till you come near to Anchuela, the limestone prevails, charged with fossil shells, such as oysters, entrochi, and belemnites, with terebratulæ and chamæ. A little to the south of this, near Molina, on the mountains between the Xiloca, which goes into the Ebro, and the Gallo, which joins the Tagus, under the limestone they find a red gypsum, containing also fossil shells. It is remarkable, that this gypsum, decomposing and losing its vitriolic acid, crystallises in hexagonal prisms

prisms of a red colour ; of these I collected many of different sizes, which ferment with the nitrous acid.

All the way over these desert mountains, with their interposing vallies, not one object presents itself to cheer the weary traveller ; no house, no tree, except the savin, the juniper, and a species of cedar, which is peculiar to this country ; but from time to time a monumental cross reminds him of mortality.

We, indeed, had little cause to fear, because we were well armed, excepting when we chose to walk, and to leave the coach behind us. Some officers, who passed this way, being at a distance from their carriage, in which, little suspecting danger, they had left their swords, upon entering a wood they were suddenly attacked and robbed by a banditti, who immediately escaped into the thicket, and were seen no more. One morning, when we had walked before the carriage, and I had got the lead, fearful of being too far a-head, I looked back from time to time, taking care never to be out of sight of our captain, who was following at a distance ; but finding myself entering

upon a forest, I shortened sail, and recollecting the story of the officers, I turned oftener than usual to look behind me, when suddenly, having lost sight of my companion, I soon discovered him again, but out of the road, and running very fast. Not being able to imagine why he ran, whether we had missed the way, or whether he was escaping for his life, I pursued him over the hills, and through the bottoms, where it was not possible to know which way I should direct my course to catch him, till I had the happiness to see him stop. When I came up to him, I found that our cadet had wandered from the way, and had taken another road. Fortunately for him, his good mentor saw him, pursued him, and brought him back again. When we were thus together, all my apprehensions vanished, and we leisurely returned into the road, which we had quitted; but here a new perplexity arose; for, from the summit of a hill, which had a commanding prospect, we could see nothing of the coach, nor could we determine if it were before us or behind us. At last, not being able to discover the track of the wheels, we walked half way back
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to the village, from which we had departed, where we found the coach sticking in the mire, and some peasants engaged with their implements, working hard to set it free.

The country contiguous to Anchuela, compared with the uncultivated mountains of Arragon, appears a Paradise. The limestone rock is covered with a deeper soil, and the little hills are cultivated to their summits; yet Anchuela is a most miserable village, and in the *posada* there is only one room, with two filthy beds. When beds are wanting, officers use their privilege, and are billeted by the *alcaldé* on some private family.

In walking out to view the country, I found on the ploughed land abundance of cockle-shells and *cardias*.

The plough is precisely the same as that last described. An English mechanic will not readily conceive how a plough can be made, not only without coulter, *drock*, ground-wrist, and mould-board, but without any sheets to support the handle and the share. To construct such a plough would puzzle their invention; yet nothing

can be more simple, for the beam itself being curved, supplies the place of sheets.

In leaving Anchuela, Tuesday, May 16, we sent the carriage forward, and walked by a much nearer way to meet it, winding through a valley, which is shut in by swelling hills, and directing our course by a rivulet, whose waters are as clear as crystal. The sides of these hills are shaded with savin, juniper, and the *ulex europæus*.

This would be a beautiful situation for a nobleman's seat. Here he would have plenty of wood and water, with corn, and wine, and oil, in great abundance, whilst the money, which he spent in the maintenance of a great establishment, circulating among his tenants, would cherish their industry, and animate the whole country for many miles around him.

Throughout the whole of Spain I cannot recollect to have seen a single country residence, like those which every where abound in England: the great nobility surround the sovereign, and are attracted by the court; the nobles of inferior rank or fortune are either assembled at Madrid, or establish themselves in the great cities of the

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the distant provinces. This desertion of the country has arisen, not as in other kingdoms, from the oppression of the great barons, and from the franchises enjoyed by cities, but from two other causes more extensive in their operation. The first of these was the distracted condition of the empire till the reign of Ferdinand and Isabella, divided into separate kingdoms of small extent, all engaged in never-ceasing wars against each other, which drove men of property into the cities; the second, was the jealousy of the court, which soon followed the expulsion of the Moors; a jealousy, which for more than a century and an half was merely political, lest the grandees, supported by the people, should endeavour to regain their consequence. To this fear, at the accession of the present family, succeeded one of a more alarming nature; from the attachment which many of the great families had discovered to the house of Austria. For this reason they were assembled round the throne, and kept constantly in fight. The condition of the French is certainly better, and some inhabited castles are to be found in every province.

vince. But, in this respect, no country can be compared to England. If the causes were to be assigned for this equal dissemination of wealth, which appears in the delightful mansions of the great, and the seats of country gentlemen, scattered over the face of the whole island; of that which is to be seen in all our cities, great towns, and even country villages; which meets the eye in every farm house, and which shews itself in the high state of cultivation, in our agricultural improvements, in the flocks, the herds, and the luxuriant crops, with which our fields are covered; the leading cause would probably be found in the constitution of our government, not merely as securing life, liberty, and property, but as making it necessary for the first nobility to cultivate their interest in the country, if they will preserve their influence at court. By residing on their own estates, they not only spend money among their tenants, which, by its circulation, sets every thing in motion, and becomes productive of new wealth, but their amusement is to make improvements by planting, draining, and breaking up lands, which would have remained

remained unprofitable. They try new experiments, which their tenants could not afford, and which, if successful, are soon adopted by their neighbours; they introduce the best breed of cattle, the best implements of husbandry, and the best mode of agriculture; they excite emulation; they promote the mending of the roads; and they secure good police in the villages around them. Being present, they prevent their tenants from being plundered by their stewards; they encourage those, who are sober, diligent, and skilful; and they get rid of those, who would impoverish their estates. Their farmers too, finding a ready market for the produce of the soil, become rich, increase their stock, and, by their growing wealth, make the land more productive than it was before; nay, their tradesmen, when they get money, which is not wanted to increase their peculiar stock, either lend it to the farmer, or themselves purchase land, and bury their treasures in the earth; yet not like that which is hid by the miserable slaves of a despotic government, to remain unprofitable,

ble, but to produce, some thirty, some sixty, and some an hundred fold.

The country, which we passed over between Anchucla and Maranchon, in its appearance and in its calcareous rock, resembles that, which is about Atford, in the road to Bath, or rather like that which is round Keinsham, between Bath and Bristol.

Maranchon, remarkable, like other villages around it, for the poetic fire of its inhabitants, is a little village situated on a declivity, sheltered from the north by high limestone rocks, but open to the south, and looking down upon the rich valley by which it is fed. The soil is dissolved limestone, with sand and clay, forming a most fertile marle. At this season it is all alive; I counted forty ploughs at work, all employed in preparing for their peas.

Having observed the resemblance between this country and that, which is to the east and to the west of Bath, I felt a peculiar pleasure in picking up on the ploughed land, belemnites, cockles, and cardias, with other bivalves, and fragments

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of the pisolite, of the same species and of the same colour with those, which I had formerly collected at Keinsham, Atford, Wraxal, Melksham, and on the adjacent hills.

After dinner we left Maranchon, and, in about three or four miles, lost the limestone, which was succeeded by filicious grit of a peculiar texture, somewhat like bran. This, however, did not continue, for at *Aguilarejo* we passed between two high rocks of fine grit, or sand stone, very white, with the strata inclined to the horizon, in the angle of forty-five degrees. The country we passed over between these two miserable villages, after quitting the rich valley of Maranchon, is little cultivated, and, excepting two woods, the one of oak, the other of ilex, is naked and unprofitable, although these woods shew sufficiently what the country could produce.

Near to *Aguilarejo* the crops of wheat appear half starved, and the fields are covered with the wild *ranunculus*.

This day we saw five monumental crosses, one coming out of a wood, one at a place where four ways meet, the rest on the summits

mits of the hills, from whence the robbers could see every thing that was passing on the road, and know which way to escape.

We slept at *Alcolea*, having travelled, according to the *Guia de Caminos*, only six leagues and a half since three in the morning. I should conceive that the leagues here, like the miles in distant provinces with us, are longer than the legal measure.

The country about *Alcolea* is covered with corn, excepting only some few hills, which, shaded by the ilex and the juniper, present a never-failing verdure.

As we proceeded, ascending among the hills, at the distance of a few miles from *Alcolea*, culture ceases, and the country is abandoned to the ilex, the *ulex europæus*, and the *quercus coccifera*, these last diminutive, but the first respectable.

The roads are here most detestable. The Spanish nation is tenacious of its freedom from the *Corvè*; but this appears to me bad policy. After feeding the peasant, who cultivates the soil, the first surplus of revenue should be applied in making roads to carry the crops to market. Farmers, if left to themselves, will never pay attention,

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nor expend their money, their labour, and their time, on this most important object; and in Spain, the gentlemen of landed property, being confined wholly to the cities, neither feel the want of roads, nor see their interest concerned in having them repaired. It is the landlord in every country who ultimately bears this expence, and it is he who principally reaps the benefit.

As we approach *Algora*, the filicious grit, or sand stone, which has continued all the way from *Aguilarejo*, gives place to limestone charged with fossil shells.

In this village the church is the only object, which can give pleasure; it is very pretty.

Beyond this the country becomes inclosed with limestone fences; but although inclosed, it seems to be left uncultivated, covered in general with stones, and abounding with oak, ilex, juniper, the *ulex europæus*, the *lavendula spica*, the common thyme, and the *genista*.

Here, for the first time since we left *Barcelona*, we saw horned cattle feeding.

We passed by three monumental crosses, all at the junction of four ways. In a
country

country where few people travel, a thief has little chance of passengers, unless where two ways cross.

As we drew near to *Grajanejos*, we travelled over an extensive plain of open field land, well cleared, and all in corn, bounded by a forest of the most luxuriant ilex, through which we passed, not without circumspection as we entered, and when we were about to quit it.

Grajanejos is built upon a rock of limestone, looking perpendicularly down upon a fertile little vale, above which it is elevated more than three hundred feet. The situation is romantic, and the valley has the appearance of a ravin.

They have here no beef. Mutton is eleven quarts, or a fraction more than three pence per pound of sixteen ounces. Bread three quarts and a half, or one penny nearly. Labour is four reals, or less than ten pence a day.

In conversing with the *padre cura*, that is, with the rector, I learnt that he had sixty houses in his parish, two hundred and forty communicants, beside one hundred children under the communicating age, which

which is eight. All above this age are compelled to confess, and to receive the sacrament. His living is worth eight hundred ducats per annum; a considerable benefice for Spain, being equal to £.87. 17 s. 8d. sterling.

May 18. From Grajanejos we crossed an extensive plain, and passing through a forest of ilex, entered upon a level country, in which, for many miles, we saw neither tree, nor house, nor any token of human existence, except one monumental cross. But after this, as we got within the influence of Guadalajara, we met with flocks of sheep, good corn, and sandy banks covered with vines, which to us had all the charms of novelty. Descending to a lower level, we discovered a vast expanse before us, bounded by snowy mountains to the north. In this fertile vale plenty seems to have established her dominion, and to be constantly replenishing her horn with corn, and wine, and oil.

Guadalajara is divided into ten parishes, and is said to contain sixteen thousand souls, with fourteen convents. It is rendered famous by the royal manufacture of broad cloth,

cloth, and is remarkable for the species of cloth made of the Vigogna wool. Here the king employs near four thousand people, to whom he pays monthly six hundred thousand reals, or six thousand pounds, besides about forty thousand spinners scattered in the surrounding villages.

This manufacture was first projected by the Baron de Ripperda, A. D. 1720, who brought workmen from Holland, but with very ill success; and Don Joseph de Carvajal, prime minister to Philip V. who attempted the same at S. Fernando, had in his day little more to boast of. During the war of 1740, the English government, with a view to distress the Spaniards, having prohibited the importation of their wool, the sudden stagnation had for the moment the effect desired; but new channels were soon opened, fresh markets were discovered, and the price of wool was considerably raised. To prevent such stagnation for the future, Mr. Wall, then in England, decoyed one Thomas Bevan, a skilful workman, from the town of Melksham, in Wiltshire, with many others, and established them at Guadalajara, where they contributed to raise the credit

credit of an expiring manufacture. Some years after this, Thomas Bevan, having met with ill usage, died of a broken heart; and in him this undertaking suffered an irreparable loss.

The conduct of the English, in refusing to purchase of their enemies this profitable article of commerce, reminds me of a measure equally politic adopted by the Spaniards with the same views, and on a similar occasion, when, during the *war of the succession*, A. D. 1704, they prohibited the sale of their wines, oil, and fruits, to the English and the Dutch, who, in consequence of this, formed connection with the Portuguese, so that now, more especially, in England Port wine supplies the place of sack.

A. D. 1755, government finding it impossible to derive a profit from this declining manufacture, delivered it over, together with the similar one established at S. Fernando, to the *Gremias*; but after a few years (A. D. 1768) the king once more undertook to manage both on his own account, and soon removed the sister manufacture from her former abode to *Bribuega*, still permitting her to retain the name of S. Fer-

nando, as being well known and much honoured in the market.

If we may believe Ustariz, the infant undertaking, in his day, swallowed up the whole of the provincial revenue, and yet was constantly in debt. This we may readily believe; because, if any individual were to conduct such an extensive manufacture on his own account, supposing him not to have been previously instructed in the business, although he should have been bred to trade, he would lose his money; a private gentleman would lose more, a sovereign most.

Considering what salaries must be paid, how little scope for diligence and parsimony, how much for negligence and rapine, and how very weak the inducement to excel; a sovereign can have no reasonable hope to multiply his gains. If he is to force a trade, and to establish a monopoly by the exertion of supreme authority, all these evils will increase against him, and the illicit trader will meet him to advantage. If he is fairly to stand a competition, the private tradesman, too active and too zealous for the sovereign, will seek out new markets, and by attentions, by civility, by acts of friendship,
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and by barter or reciprocal exchanges, gain the preference, whilst the sovereign, unless he sinks the price, will remain with his commodity unsold. Should the price be sunk low enough to force a market, the loss must be considerable, and no manufacturer will be able to rise up against the sovereign, whose capital is inexhaustible, or to stand the competition with him, who can afford to suffer loss without fear of bankruptcy.

Ustariz condemns all such establishments, and writes a chapter to prove “ que las fabricas de quenta de los soberanos no florecen;” that manufactures on the sovereign’s account can never prosper. Count Campomanes cannot approve them: the principles which this able statesman labours to establish, have all much higher views, and lay a more certain foundation for national prosperity. His principles are applicable to every nation, whether rich or poor. He would, in the first place, diffuse knowledge by free-schools, under the conduct of the best masters, to teach drawing, mechanics, mathematics, chemistry, agriculture, and languages, with the theory of commerce, and of political œconomy; he

would promote justice and sobriety, diligence and parsimony; he would encourage public spirit and œconomical societies; he would send young men, properly qualified, to travel, for the purpose of inspecting all the modern improvements in arts, manufactures, and commerce, adopted by more polished nations; he would render communication easy, by means of roads and canals; he would regulate the posts, and establish banks; he would provide plenty of fuel for manufactures, as being essential to their existence; he would honour the mechanic, the manufacturer, and the merchant; he condemns all monopolies, and all corporation privileges, as partial, oppressive, useless, and unjust; he would encourage strangers, and make naturalization easy to them; he would diminish the number of festivals, prevent the abuse of monastic institutions, encourage industry in convents, and employ in some profitable labour all who are confined in prisons; he would construct good harbours, quays, and wharfs, and cause sea charts to be formed with the most minute attention. To these wise regulations, recommended by that able politician,

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tician, if we might venture to suggest any additional provisions, they might be these few: suffer the demand for money to regulate the rate of interest; encourage insurance among merchants and manufacturers; tolerate all religions; protect persons and property from real tyranny by civil liberty, and from private violence by wise laws enforced by an active and vigilant police; make commerce free, and live in peace. With these provisions, there could be no occasion for the sovereign to be a manufacturer, much less would he have any inducement to become the chief monopolist. These provisions not having been adopted by the Spanish government, the manufacturers of other nations can purchase the raw material, pay freight, charges, and heavy duties, and importing them into Spain, make considerable profits where the monarch suffers loss.

From Guadalajara to Alcala, *Complutum* of the Romans, is four leagues. This city, watered by the Henares, and fed by a fertile and most extensive plain, is one of the prettiest in Spain. The buildings are of granite, of limestone, and of brick, and the pavement is of smooth round stones, mostly silicious, all

the spoils of distant mountains. The archbishop of Toledo has a palace here, the work of Covarrubias and Berruguete; in one front of which are eighty-two pillars, in the other fifty-two. The churches are thirty-eight, convents twenty-seven, the colleges nine. One of these I visited with peculiar pleasure, as may be readily conceived, when I say that it was founded by Cardinal Ximenes. The library is well furnished; the books are excellent and well arranged. Among these the original Complutensian Bible must command for ever the grateful remembrance of the christian world. In this apartment are preserved his letters, his ring, his bust, and his picture; but these, though beautiful, faintly express the greatness of his mind, and the goodness of his heart.

From Alcala to Madrid is six leagues, in which space three rivers, the Henares, the Jarama, and the Manzanares, diffuse their fertilizing streams over a vast expanse of level country, by which considerable cities, together with the capital, are fed.

The approach to this from Alcala is beyond description beautiful. The road is spacious, and the gate is elegant. On the left