"A Girl's Head," J Sant, is a study of a head which, in character and expression, vibrates between Reynolds and Murillo. It is not finished with a glaze, on which everything is made dependant, as were Reynolds's works, and necessarily all those of his followers; but with a "float" of colour suspended in vehicle, through the body of which every trail of the brush is apparent. This is a retrograde movement: but it refers immediately to Gainsborough and Reynolds. The latter allows us only the sight of that peach which he prescribes in his lectures; but Mr. Sant professes the apricot, and allows us to taste the luscious fruit.

Of the works which we have seen elsewhere there are Ansdell's "Toad-hunter;" "Undine," F. Wyburd; "The Picnic," D. Pasmore, &c. "Low Tide," G. E. Hicks, shows a party being carried ashore by the waterman from the boat in which they have been sailing: a very bright picture. "Contentment," C. Baxter, is a girl seated at work with her back to the light. The delicacy of the painting of the head and neck, with all their beautifully managed tones, shows a command of means attainable only by study concentrated in a particular direction. Other striking instances of head painting are "The Letter," and "Doncellita," J. H. S. Mann, both of which are finished with a transparent surface of charming quality. In these heads the portions of reflected shade exemplify the utmost power of material. "Schevelling Sands," E. W. Cooke, A.R.A., is an old subject with this painter; but there is a freshness about his North Sea subjects much more agreeable than those he has of late culled from the waveless lagunes of Venice.

"View in Arran," G. Hering. We feel at once the assertion here of the difference between the aspect of the Scottish isles and that of the Italian lakes to which Mr. Hering has so successfully devoted himself. This is the true complexion of that "grey-eyed morn," in her mantle of rain-cloud, that, with an almost timid light, rises on the Scottish hills. "Evening in Greece," by the same artist, is another phase of nature, that of the sudden twilight fading rapidly into night. It touches the sense, insomuch that we listen for the far-borne sounds to which twilight seems more favourable than any other time of the day or night. "The Marauding Chief," R. H. Roe. This is an eagle clutching a dying mallard in his talons, and rising to his eyrie from the lake. The eagle is well drawn and life-like, but the calm and mellow landscape is nearly the same that Mr. Roe always paints. "Jenny's first Love-Letter," J. Craig,—the work, perhaps, of a young painter,—at least, the elaborate crowding of the composition is the error of a "prentice han'." "The Bird Minder," G. Smith, is a version of the old story,—the rooks plunder the corn-field while the watcher sleeps. It is a small picture of infinite sweetness. "Cross Roads," and a "Lane at Albury, near Guildford," by V. Cole, have everywhere the fragrance and verdure of the reality. The trees are painted with a masterly power, that deals suitably with every passage of the scenery. These views have been painted on the spot. "Wild Flowers," E. J. Cobbett. These wild flowers are field poppies, wherewithal two cottage girls are bedecking their hats. "A Mill Stream," N. O. Lupton, is a study of a rivulet shaded by trees, through which are peeps of a second distance. The lower part of the work is detailed with extreme nicety, but in the colouring of the foliage the opaque yellow tints are rather colour than lights. The lights of foliage are always grey, at least yellow will not represent them. "The Eddystone Lighthouse," Melby, is rather a large picture, with a near view of the lighthouse; the sea is too green. There are some other sea-subjects by E. Hayes, A.R.H.A. "Evening—Beechy Head," "The Pigeon House Wall, Dublin, during a Gale of Wind," and "The Hill of Howth, from the New Slip," all very spirited productions; as are also two small landscapes by Niemann, the subjects being "Richmond, Yorkshire," and "Near Buxted, Sussex." Gilbert's "Bright Day on the Thames," is, on the contrary, studiously careful. "One more Unfortunate," C. Rolt, is a subject of a class of which even a few are too many. It shows the "unfortunate" as about to cast herself into the river from the steps of Waterloo Bridge. It is enough that our sympathies are moved day after day by newspaper details; supplementary illustrations on the walls of Art-exhibitions can well be spared.

Inasmuch as the difficulty is considerable of effecting a selection of works according to a determined scale, the collection is highly creditable to the authorities of the society.

VISITS TO ART-MANUFACTORIES.

No. 10.—A VISIT TO THE LEE MOOR PORCELAIN CLAY-BRICK AND ARCHITECTURAL WORKS.

THE visitor to the West, in his progress by the South Devon Railway, from Exeter to Plymouth, passes through a country singularly varied in its geological character, and in its physical aspects. Running down the valley of the Exe, in the first instance, over a purely alluvial stratum, he reaches the strange masses of the Red Sandstone Conglomerate, which give many picturesque groups of rocks to the coast between Star Cross and Teignmouth. Passing these, the traveller comes upon a series of picturesque undulations, often spread out into extensive valleys, which consist mainly of the Slate formations. At various points the picturesque character of the country is greatly improved by the Limestone rocks, which at first appear in detached masses, but which gradually assume a more important character, and become, indeed, around Torquay the prevailing rock, giving to that locality the peculiar beauty for which it is celebrated. It is curious and instructive to notice how the Green Sand formations, which occupy so prominent a position in some of the more eastern counties, gradually thin out, as the phrase is, and around Newton Abbot are found as isolated patches remaining on the tops of the rounded hills, which, with their woody knolls, are so much admired. From these we pass into a district which may be said to consist entirely of the older rocks. The Carboniferous Slates, the Clay Slate (known locally as *killas*), with Trap rocks forcing their iron way through them, and the Granite hills, which form the outliers of the Dartmoor range, become peculiarly prominent, furnishing frequently the most picturesque landscapes.

The valleys which form the watershed for the extensive district of Dartmoor, are amongst the most charming spots to be found in England. A volume might be written on the physical causes which have been at work to produce them, and the geological phenomena which continually present themselves to the intelligent student of nature, are well deserving of the most attentive observation. Passing, however, all these points of interest, we arrive at last at the railway station at Plympton; and, leaving the iron road, we proceed to that point of Dartmoor upon which the extensive and remarkable works we are about to describe are situated. From Plympton, by a constant ascent of six miles, we arrive at Lee Moor, an elevation of nine hundred feet above the sea-level, and consequently commanding an extensive prospect in every direction. The yet higher hills of Dartmoor, with their curious Granite tors, stretch away to the north as far as the eye can reach, and they completely enclose the moor around the eastern side. To the south and west a series of hills and valleys lie beautifully arranged, with the sea opening upon us in Plymouth Sound, and the River Tamar exhibiting little spots of light, marking the sinuous course of its channel.

We are on Dartmoor—a wild and desolate region, distinguished by its sterility, marked by rude boulders of granite, scattered in profusion over the surface, looking like the wrecks of an ancient civilization, and clearly exhibiting the wreck of an ancient world—a world on the surface of which those granite masses formed portions of more exalted mountains, over which, in all probability, rolled for ages the mighty waters sweeping from the north, which have spread similar evidences in the Drift and other formations, of the force with which the mighty current swept over.

Here, in the very centre of nature's wildest works, appear the labours of man; and those labours are marked by many striking peculiarities. The buildings which rise around you are distinguished by their substantial, and by their simple, but correct architectural character. Ascending the last hill to the moor, the visitor sees a viaduct spanning a valley, proclaiming the presence of a railway, and a steep incline, upon which the carriages are travelling,—the descending set laden with porcelain, clay, bricks, tiles, &c., while the ascending ones are freighted with coals for the works. At the head of this incline are two round towers, connected with the mechanism employed for working it, which, with the almost cyclopean wall, forming the embankment on which they are built, give to the whole the appearance of a citadel of strength. Supposing—which, as the carriages were travelling, we might have done—we ascended by the incline instead of by the road, when we arrive at the platform, we have some idea of the extensive arrangements which have been made. First, we see the kilns for burning the bricks, tiles, mouldings, &c., with the houses in which they are manufactured; and beyond them are the drying-houses, reservoirs, canals, mills, and accessory shops, necessary to the preparation of the porcelain clay. But it is necessary, now that we have reached the circle of industry, that we describe the peculiarities distinguishing those works from the commencement.

Nature has, up to a certain point, provided the article which man requires for the elaboration of the most perfect production of the potter's art. The clay—China Clay, as it is commonly called, or *kaolin*, as the Chinese have it—is quarried from amidst the granitic masses of this region. We are not at all satisfied with any of the theories which have been put forward to account for the formation of porcelain clay. It is commonly stated to be a decomposed granite. Granite, as is well known, consisting of mica, quartz, and felspar, with sometimes schorl and hornblende. The felspar is supposed to have decomposed; and, as this forms the largest portion of the mass, the granite is disintegrated by this process. We have, therefore, the mica, quartz, and the clay, forming together a soft mass, lying but a short distance below the surface, but extending to a considerable depth. It is quite evident that this stratum is not *deposited;* had it been so, the particles constituting the mass would have arranged themselves in obedience to the law of gravity, towards which there is not the slightest attempt. But we do not know by what process the decomposition of the solid granite could have been effected to a depth from the surface of upwards of one hundred feet, and then, as it often does, suddenly to cease. This, however, is a question into which we cannot at present enter. Here we see a quarry of this decomposed granite, shining white in the sunshine, and at the bottom of this quarry are numerous workmen employed in filling trucks placed upon a tramway. This native material is now carried off to a house, distinguished by the powerful water-wheel, which revolves on one side of it, and here it undergoes its first process in manufacture. The trucks are lifted, and the contents discharged into a hopper, from which the clay falls into inclined troughs, through which a strong current of water passes, and the clay is separated from the large particles of quartz and mica, these being discharged *over* a grating, *through which* flows the water charged with the clay and the finer matter, the coarser portion sliding off the grating, and falling in a heap outside the building. The water contains, not only the pure clay, but the finer particles of silica, mica, schorl, or of any other matters which may be mixed with the mass. To separate these from the clay, very complete arrangements are made. Large and deep stone tanks receive the water as it comes from the mill, in these the heavier particles settle; and when each tank becomes full, the mica, &c., is discharged through openings in the bottom, into trucks placed to receive it on a railway, and this, the refuse material of the clay works, elsewhere is preserved for other uses, to be by-and-by described. The water, charged with its clay, now flows slowly and quietly through a great length of stone channel, and, during its progress nearly all the micaceous and other particles subside; the water eventually flowing into very large pits, in which the clay is allowed slowly to deposit. The water enters in a thin sheet at one end, and gradually diffuses itself over the large area. The clay, in an impalpable powder, falls down, and perfectly clear water passes away at the other end. When a thickness of about eighteen inches is obtained, the water is stopped, and evaporation promoted by a graduated artificial temperature. After a little time, the clay

is sufficiently hard to be cut out, and subjected to its final drying. The clay is cut out in squares of about eight inches, so that they form parallelograms when removed from the bed. These are then placed in heated rooms, and, being still further dried, are fit for the market.

In the *Art-Journal*, August 1st, 1850, will be found, in a paper on the chemistry of pottery, much information respecting clays; and to that article we would refer our readers who desire to know more of the physics and chemistry of clay. The clay prepared at the Lee Moor Works is amongst the finest varieties which are obtained in this country, and it is consequently employed in the manufacture of the best kinds of porcelain. The Lee Moor clay, being ready for the market, is carefully packed in the trucks on the railway, which is brought under a very ornamental shed, and is transported in a short time to Plymouth, where it is shipped for the potteries, or some other destination. It should here be stated, that large quantities of the commoner kinds of china-clay are now used in the manufacture of the best earthenware, the fine varieties being reserved for porcelain. It is not generally known that china-clay is largely used in giving body and weight to paper; and especially is it employed in the preparation of paper-hangings; besides this, calicoes are sometimes stiffened by means of this clay, its peculiar whiteness adapting it for this purpose.

We have now passed through the extensive premises which are devoted to the preparation of the porcelain clay. Every visitor to these works will be struck with the solidity of the structures around him, all of them being constructed with a very close-grained granite, and bricks which, in colour, harmonize admirably with that stone. The granite is raised and worked on the spot, the quantity of this valuable stone being here unlimited. It is, as we have stated, of a very close texture, the crystals of quartz and felspar in it being of a very uniform size; and it has a peculiar and very pleasing warm tint, which is a relief from the ordinary cold grey colour. A church-window was in process of construction: in workmanship this was of the highest character, and the purity and perfection of the stone very striking. This window is intended for the neighbouring Church of Plympton, a small town rendered memorable to all lovers of Art, from its being the birthplace of Sir Joshua Reynolds.

But we must pass on. In all the porcelain-clay works which we have visited, the clay only is made commercially valuable, the quartz and mica being rejected as useless material. Not so here; from the mill, in which the natural product is washed, as we have described, the refuse matter is received in trucks, and conveyed on a tramroad to the brick, tile, drain-pipe, and architectural works; and here it is utilized, in a way which completely entitles this place to be quoted as one example of the economy of manufactures.

The sand, consisting of quartz and mica, has but little coherent power; but when it is united with some alumina, and subjected to a properly conducted process of firing, nothing can be firmer than the resulting mass. In such extensive works as these, there is of necessity a large quantity of clay,—such as is found near the surface in the quarry, and such as is soiled in the processes of manufacturing the superior kaolin,—which is applicable to the purposes of preparing a brick or artificial stone. Such clay as this is received in large tanks prepared for the purpose, and as these are very long, the clay is in different degrees of fineness, accordingly as it is taken from the end at which the water enters, or from the extreme end of the pit. In fact, three qualities of common clay are thus obtained, and they are used respectively as they may be required for the production of finer or coarser materials. In the first place, fire-bricks, of a very superior quality, are manufactured. It is not necessary for us to give any description of the manufacture of a brick; suffice it to say, that the mixture of quartz, mica, and clay, being made in the proportions considered the best, they are thoroughly kneaded together, and then handed over to the brick-maker. The composition of these bricks may be stated as nearly pure silica and alumina, the small quantities of other substances which may be found in them being such as is found in the mica and clay employed. Taking them, however, as to the main features of their composition, we have the following proportions:—

	1.	2.	3.
Silica . . .	82·86	74·71	61·68
Alumina . .	17·18	24·78	38·34

It will be evident to every one, that since the mixture is artificially made, that any proportion can be adopted, and any material required can be introduced; consequently, whether these bricks are desired for iron furnaces, copper furnaces, chemical works, or for the gas manufactory, they can be made to suit each special requirement.

Bricks of this composition can be, and are, made of any colour, from almost pure white to red or black, as may be desired. The white bricks, which may be, from their composition, regarded as an artificial granite, are much used for building purposes; and as they are moulded by pressure into any form desired, much very pleasing ornamental work results from their employment. Numerous architectural decorations are manufactured from this waste of the china-clay works: and when the economy of production, and the elegant character of the manufacture is taken into account, we can well understand the advantages offered by its employment. It is needless here to enumerate the variety of articles manufactured, our object being chiefly to direct attention to one of the most striking examples of the value of persevering industry with which we are acquainted. The Lee Moor Works may be quoted in illustration of the German tale, of the old man who bequeathed to his sons vast treasures, which were buried somewhere in the desert country which was their visible heritage. They set to work digging the ground over to find their treasure, but their search for gold was without avail; at last, however, they discovered, from the productiveness of the soil upon which they had expended their industry, that the buried treasure was the harvest they would reap from reclaiming the waste.

So was it here. But a few years since this division of Dartmoor was a waste moorland, covered with granite boulders, and in every respect putting on the most unpromising appearance. Its present proprietor, Mr. William Phillips, discovering the value of the china clay which existed here, obtained from the Earl of Morley leases and privileges, such as would enable him, fully and fairly, to develop the buried treasure; and the result of his untiring energy has been that really, not figuratively, he has caused the desert to blossom with the rose. Hundreds of acres of land have been reclaimed. In connection with the works which have been described, about two hundred people are employed; a large number of these are furnished with houses, gardens, and small patches of ground. These cultivated spots are increasing yearly, and a perfect hive of industry has been created upon a once desolate wilderness. A railway, eight miles in length, with two self-acting inclines, and viaducts spanning the beautiful valleys, connects the works with the port of Plymouth. The granite rocks, which prevented the use of the plough, have been used in the construction of the railway and the works, and that implement has developed the old man's hidden treasure; so that the railway now carries from the moor, clay, fire-bricks, ornamental bricks and tiles, granite, and farm produce. The moor was, and is now in many parts, a peaty morass. Water was abundant, but it was of little use. This has been trained into channels, and rapidly flowing streams are now rendered useful in the works already constructed, and an enormous amount of mechanical power is still available. There are large reservoirs, and one is now in process of construction which will have an area of seventeen acres. These appliances—all of them the work of one man—proclaim a master-mind; and his own dwelling, in the midst of his labours, displays, indeed, the charm which industry exerts over nature. Within its sheltering belt of fir-trees, exists a garden which exhibits on every side indications of the most refined taste; and here, on a soil so naturally barren as to become proverbial for its wildness, flowers give, but do not waste, their sweetness on the desert air.

Here are schools provided for the young, and classes established for the workmen; instruction is given in many things which are useful to the working man, lectures being occasionally delivered, and music, as a source of enjoyment, is not forgotten amongst those dwellers on Dartmoor. There are not many places in these islands, or in Europe, where nature looked less promising than on this division of Dartmoor; and certainly the inhabitants were even wilder, in their untrained habits, than the moorland on which they dwelt. One man, by the power of a well-regulated mind, has produced a vast revolution: where formerly the winds only broke the silence of nature, the healthful sound of manufacture is heard; and the semi-civilised people who dwelt in scattered huts, few and far between, have, by him, been brought together, and trained into a simple, gentle, honest, Christian people. Such an example is worthy of all honour.

ROBERT HUNT.

OBITUARY.

MR. THOMAS CRANE.

WE are indebted to a correspondent for the following particulars of the career of Mr. Thomas Crane, a portrait-painter of considerable provincial celebrity, and not altogether unknown and unappreciated in London.

He was born in Chester in 1808; his father was a man of education, but of means totally inadequate to afford his son the pecuniary assistance necessary for the prosecution of those studies in Art for which the boy showed a decided predilection. Through the kindness and liberality of a gentleman at Manchester, the late Edward Taylor, Esq., young Crane came up to London in 1824, and entered the schools of the Royal Academy, where he continued two years, gaining, in 1825, the medal for his drawings from the antique. Returning to Chester, he commenced his profession as a miniature-painter, and not very long after his settlement he published, in conjunction with a brother, who is also deceased, some sketches of celebrated characters in North Wales, among whom were Lady Eleanor Butler and Miss Ponsonby, the eccentric ladies of Llangollen. Mr. Crane by his refined taste and winning manners ingratiated himself with many of the most distinguished families in Cheshire, Lancashire, and North Wales, and was always a welcome visitor at their mansions, where he was sometimes accustomed to pass weeks, and even months. Many of those whom he visited remained his friends till death separated them, such as the late Earl of Stanford, Lord Stanley of Alderley, the late Sir W. W. Wynne, &c. &c.

In 1832 Mr. Crane made his first appearance as an exhibitor at the Liverpool Academy, and continued to contribute to the institution for many years: in 1835 he was elected an associate, and in 1838, a full member of the Academy. In the following year he married, and came up to London, where he resided for some time, but found the metropolis prejudicial to a constitution predisposed to pulmonary disease. After trying Leamington and other places, he took up his residence in Liverpool, and in 1841 was elected treasurer of the Academy of that town. But the delicate state of his health would not permit his continuing there, and, in 1844, he removed to Torquay, the mild air of which proved so beneficial that he made the place his permanent residence for twelve years, visiting, as occasion required, Manchester, Liverpool, and Cheshire, where he procured commissions, such as could not be obtained within the limited population of Torquay and its vicinity.

His health being apparently re-established, and feeling desirous of giving to his children the benefit of a better education than that afforded by the provincial schools within his neighbourhood, Mr. Crane removed to Bayswater in 1857: but though disease had been arrested for a time, it broke forth again soon after his arrival here, and, advancing by slow steps, resulted in his death in July of the present year. He has left a widow and four children, whose only support had been his professional labours.

Mr. Crane's portraits, of females and children, both in oils and in water-colours, were his principal works: he treated these with so much elegance of treatment and so much fancy, as to render them almost ideal works, yet without compromising their identity as portraits. Among his subject-pictures the more important are—"The First Whisper of Love," "The Deserted Village," "The Cobbler," "The Old Romance," "The Bay-Window," "Masquerading;" most of these were exhibited at the Royal Academy.