

strong enough (what the French call *royant* and *criant*), but muddy withal; you cannot look into it. If a mottled, or flooded, or varied glaze be attempted, the result realises the mottling or other peculiarity of the Chinese original distinctly, but misses its easy, careless grace, whereby art conceals artifice. Of course all modern and all English work is not amenable to such criticism. For instance, Mr. W. De Morgan's Persian tiles are worthy of unqualified praise. On the red body beneath, a white slip or wash is placed, which, while illuminating the nearly transparent turquoise, puce, and blue glazes above, does not reveal itself, nor disclose the mechanism of the final success. Here, too, the design of the ornament, the quality of the hues, the degree of gloss, and the blending of contiguous colours are all just simply perfect. And it is not difficult to discover similar meritorious elements in the productions of other factories. Here is a specimen of modern Hungarian earthenware, in which, upon a softly mottled ground of dove-colour and crimson, a graceful network of golden foliage is spread. And these beautiful file-pictures, by Messrs. Simpson, of St. Martin's-lane, illustrating both underglaze and overglaze painting, show the association of high artistic power with the frank recognition of the nature of the materials, and the uses to which the objects are to be put.

A few words must now be said about the specimens of glazes and colours, which are on the table. Ferruginous glazes are shown in these Japanese bottles, and in this tyg of the 15th century, from the ruins of the Blackfriars monastery in Bristol. This English mediæval jug shows a green glaze, due to a silicate of lead, copper, and iron. This large mottled Chinese dish, and this octagonal old Staffordshire tortoise-shell plate, owe their colours to manganese, copper, antimony, and iron, the glaze in both cases being rich in lead. A milk jug, of about 1750, shows how a lead glaze brings out the colours of the two clays, one white, the other buff, from which the vessel has been fashioned. This old Staffordshire agate-ware sauce boat exhibits the softening, because solvent, effect of a lead glaze upon the irregular patches and strings of parti-coloured clays, tintured with cobalt and iron, of which it has been formed. A Japanese plate, by Kenzan, of about 1730, exhibits the effects of a vitreous glaze upon a rough clay, and also affords a good example of glaze upon a white slip. Another bit of Japanese ware, quite modern, is of buff clay on white; the simple decoration is in delicately pencilled white clay, the glaze just developing the colour of both body and design, and not obtruding itself by excessive gloss. Here is a bowl of old Kaga ware, where the brown body tones down the brilliancy of all the enamel colours, save the opaque blue, with which it is decorated. Here, again, is a tea bowl, where the one point noticeable is a rich brown glaze, free from lead, but of absolutely perfect gloss. Looking into this glaze, we see its tones are beautifully varied from base to lip, and that there is no monotony, as of textureless varnish, anywhere in its substance. A white, porous clay bowl, with cinque-foils in manganese, purple and dim undulatory lines of cobalt blue, both underglaze, shows the penetration of these colours into the body, and how the glaze has

softened and united the whole into harmony. Often, in these Japanese wares, we may notice the play of colour and texture obtained by such simple means as glazing with a colourless glaze, one part of a vessel, leaving another part unglazed, coating another part with a white enamel or slip, and tincturing a fourth part with some ceramic colour. This treatment has been adopted with this vessel, shaped as a leaf, and lends itself with peculiar appropriateness to the conventional representation of the texture, substance, and colour of veins, undulations, and margins. Of other glazes on Japanese wares, here are half a dozen characteristic examples, each capable of teaching a useful lesson to Western potters.

These examples of Persian and Rhodian wares and their imitations are most instructive; they show, above all things, how useless it is to attempt the imitation of an effect by means of processes and materials having wholly different physical and chemical characters. Does this modern attempt at Persian *faïence* realise any of the beauties of the original? Is it not a ridiculous caricature? Look at the carefully painted imitation of the flooding or spreading at the edges of the colours. Look at the opaque, uninteresting body. Here is no going downwards into the clay, and no dissolving upwards in the glaze.

The stanniferous enamels of Italy are seen at their best in such examples as this drugwase of Caffagiuolo; at their worst in this plate of Italian origin of about 1710. Bristol, Liverpool, and Dutch tiles of the eighteenth century may also teach us useful lessons, especially when we compare them with these works of Deck and Pinart (both of Paris), in which the stanniferous enamel and the enamel painting which it carries are fired at the same time.

MISCELLANEOUS.

REPORT ON TWO EXPEDITIONS TO MIDIAN.

By Captain R. F. Burton.

The following lines contain a concise account of the circumstances which, during the last three years, have connected me with the Egyptian province, El-Madyan. H. H. Ismail I., honoured me, through Mr. Frederick Smart, with an invitation to visit Egypt, and to lay before him certain details which I had collected concerning mineral wealth in N. Western Arabia.

I left Trieste on March 3rd, 1877. A small expedition was at once prepared: it set out for El-Muwaylah on April 2nd; and returned to Suez on April 20th. During these 18 days we found, by examining four sites, that the country had been extensively mined, while a larger area remained untouched. I brought home specimens of gold, silver, galena, zinc, copper, sulphur, iron, and other metals. H.H. was much pleased, and promised me, in presence of Mr. Smart and of other persons, either a concession or a royalty of 5 per cent. on gross produce.

Returning from the first expedition I had the honour to recommend:—1. Mr. Charles Clarke (of Zagazig) for the rank of Bey. 2. Lt. Hasan Effendi Haris and Lt. Amir Effendi Rushdi for a step in promotion. I also solicited a small life-pension for Haji Wali (El-Din)

of Zagazig, who had drawn my attention to the mines of El-Madyan.

On October 9th, 1877, I again left Trieste. After some delay at Cairo, the second expedition set out from Suez on December 11th; and returned on April 12th, 1879. During this journey of four months, Mr. Marie, the engineer sent out by H.H., collected some 20 tons of specimens; and I was directed to have them assayed in London, while Mr. Smart was charged, in my presence, with furnishing the necessary funds. The analysis was duly made and the printed report was forwarded to Egypt; but funds were not forthcoming, and the consequence was, that I was compelled to supply them.

Returning to Cairo I renewed my request touching the pension of Haji Wali; I again submitted for promotion the names of Mr. Clarke and Lt. Amir Effendi Rushdi; and I added to them that of Ahmed Kaptan Musallam. Moreover, for the better government of the province (El-Madyan), which is about to assume new relations with Egypt, I had the honour to propose—1. That Sayyid Abd el Rahim, accountant of the Fort El-Muwaylah, be raised to the rank of Nazir, or commandant. 2. That Mohammed Shuhadeh, Ex-Wakil of El-Wijh be made commandant of that fort. 3. That some token of H.H.'s favour be conferred upon Sheykh Alayin Bin Rabi of the Huwatat tribe, Sheykh Furayj of the Huwatat tribe, Sheykh Hasan ibn Salim El-Ukbi.

For the safety of Egypt and Europe I also recommended that the quarantine establishment be re-transferred from Tor harbour to El-Wijh.

Since leaving Cairo (May, 1878), I have repeatedly written concerning the administrative measures to be adopted before the country can be regularly exploited, but hitherto my representations have remained unnoticed.

I now return to the mines. The result of the assays made by three several establishments is so far encouraging that Dr. Percy, one of the highest authorities on metallurgy, declares "These indications of the presence of the precious metals certainly justify further explorations." Such exploration I am prepared to undertake.

I left Trieste on December 5th, 1879, and came to Cairo ready for a third expedition. This time the conditions of exploitation are more favourable, as I have no longer to seek for the sites which are best fitted for beginning operations.

It is, however, evident that no syndicate, no company, would risk capital upon a project, however promising, without the prospect of enjoying the fruits of success. Certain capitalists in London are willing to aid me, but it will be upon conditions that a formal contract or concession be granted to me.

The *Nouveau Règlement sur les mines de l'Empire Ottoman*, inserted in the *Tranzimat* (Constitution) and bearing date July 17th, 1861, authorises this concession, and lays down all the legal conditions regarding royalty and other matters.

An objection might be raised that the *Règlement* applies to subjects of the Porte. But, firstly, there are precedents for extending the privilege to foreigners; for instance, in the case of the minerals about Sidon. Secondly, this proviso, made for Turkey proper, is not applicable to Egypt, where there are now international tribunals. Disputed questions of royalty, jurisdiction, &c., could be settled by arbitrators, the latter nominated in equal numbers by the Government and the company.

The public will observe that I am not acting as one who seeks to receive favours from Egypt. On the contrary, I propose to develop a province which has been for centuries, and which still is, a howling wilderness, occupied by a few hundred Bedawin. I propose to benefit Suez and the adjacent parts of Egypt by creating an industry and a traffic where there is now nothing of the kind. Lastly, I propose adding to the resources of

H.H.'s Government, by making over to it the legal share of whatsoever profits may accrue from the exploitation of El-Madyan.

Under these circumstances I have a claim to expect the realisation of a project whose views are of the most legitimate. And the first steps would be—1st. A contract or concession drawn up in due form. 2nd. An authority to carry out the measures proposed for the government of the province; especially the rewards due to the military officers and the civilians who assisted in exploring El-Madyan.

THE NATIVE SILKS OF ASSAM.

By C. G. Warnford Lock.

The native silks of Assam, known as *Eria* and *Muga*, are the produce respectively of *Attacus Ricini*, and *Antheraea ussana*, and *Antheraea Mezankooria*.

The *Eria* worm is so called from the local name of the castor-oil plant (*Ricinus communis*), on which it is almost exclusively fed. It is reared entirely indoors. The duration of its life varies with the season: in the summer, it is shorter, and the product is both better and more abundant. At this season, 20 to 24 days elapse from the date of its birth to the time when it begins its cocoon, 15 days later the moth is produced, in three days the eggs are laid, and in five more they are hatched, making the total duration of a breed 43 days. In winter, its life extends to nearly two months. Seven breeds are reckoned upon annually. For breeding, the natives select cocoons from among those which begin to be formed in the largest number on the same day. Those containing males are recognised by a more pointed end. On the second or third day after the cocoons have begun to be formed, they are put into a closed basket, and hung up in the house, out of reach of vermin and insects. Twenty-four hours after the moths have been produced, the females are tied to long reeds or canes, 20 to 25 to each, and these are suspended in the house. The eggs laid during the first three days alone are kept; they are tied up in a piece of cloth, and hung from the roof till a few begin to hatch; these eggs are white, and resemble turnip seed in size. When a few of the worms are hatched, the cloths are put on small bamboo platters, and here they are fed with tender leaves. After the second moulting, the worms are removed to feed on bunches of leaves, suspended a little above the ground, and a mat is spread beneath to catch those which fall. When they have ceased feeding, they are placed in baskets filled with dry leaves, amongst which they form their cocoons. In four days, the latter are complete. A selection having been made for the next breed, the remainder are exposed to the sun for two to three days, to destroy the vitality of the chrysalis. The cocoons are next generally put into water containing potash (wood-ashes), over a slow fire; when removed, the water is gently squeezed out. At other times, they are massed together for some days with *amrita* (? *Carica papaya*) or *madhu* fruit. The object is the same in either case, viz., to facilitate the drawing of the silk. The cocoons thus treated are taken one by one, and the silk is placed within the thumb of the left hand, whilst the right is employed in drawing out the silk. Any inequalities that may exist are reduced by rubbing them down between the thumb and finger; the same process serves for joining on new cocoons. The thread is allowed to accumulate in quantities of about half-a-pound; these are afterwards exposed to the sun, or placed near a fire, till dry, when they are wound up into skeins. The silk is then ready for the weaver. It is the coarser of the two kinds, and none of it ever finds its way into Bengal.

The *Muga* moth is found wild in the jungle, but all the silk produced by it is from domesticated worms. They are reared on trees in the open air. There are