A MONOGRAPH

ON THE

POTTERY AND GLASS-WARE

OF THE

BOMBAY PRESIDENCY

BY

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MONOGRAPH ON THE POTTERY AND GLASS INDUSTRIES OF THE BOMBAY PRESIDENCY.

I.—Pottery.

"And these are ancient things. These were the potters....."

So long ago as the days of the Hebrew Chronicler the potter and his works were numbered amongst ancient things, and evidence might be adduced at infinite length to prove the extreme antiquity of the craft. Since man became a cooking and tool-using animal, or at any rate since the Neolithic age the potter has had his place in society. He appears in the mythology of nations and has furnished poets and philosophers of every age with images for song or sermon. In the Egyptian paintings Ptah the creator fashions the mundane egg on a potter's wheel, and in his creative character the potter has always appealed to the imagination of men. Clay is the most widely spread and abundant of all mineral substances and its plastic possibilities would early appeal to the most limited intelligence.

Potters.

Potters or Kumbhárs are to be found in every village of any size throughout the Presidency. They take their name no doubt from the Sanskrit *kumbh*, a water pot, though some would refer the origin of the caste to a sage of the name. Their numbers in the Bombay Presidency, including Native States, were returned at the census of 1891 at 330,126 or rather more than 1¼ per cent. of the total population. The distribution is as follows:—Gujarát 210,163; Deccan 49,604; Konkan 26,330; Karnátac 30,507; Bombay Town and Island 3,310, and Sind 10,215. In the Presidency proper 11,615 are returned as Musalmáns and 48 as Jains, the remainder being Hindus, classified as *Ghâti, Gore, Konkani, Lád, Lingáyat, Marátha, Pardeshi* and Unspecified. The first three divisions are apparently peculiar to the Konkan, *Láds* and *Maráthas* are found throughout the Deccan and Konkan, *Lingáyats* in the Southern Marátha Country, and Pardeshis throughout the Presidency. Of the Sind Kumbhárs 10,035 or practically the whole number are Musalmáns. It is difficult to give any general description of their customs as they vary from district to district. They appear to worship the usual local and Bráhmanic gods and goddesses, and the Kumbhárs of each district hold certain deities in special reverence as household gods. The Sátára Kumbhárs visit the shrine of Mahádeo of Singnápur and Jagadamba in the fort of Sátára, their Dhárwár brethren those of Basavana, Ishwar and Virabhadra whose high places are in North Kánara and Bellári. The goddess Satvái is the object of special devotions on the 5th day after a birth. The Konkan and Kannad Kumbhárs of Kánara appear to have held a position as a priestly caste before the advent of Bráhmins. They still officiate in certain local temples and perform burial rites known as *Kumbhár kriya* or potters' rites. Nor is it only as priests that potters have figured, for was not Shálivâhan, the conqueror of Vikram, a potter, whose era is recognized all over the peninsula to the south of Baroda to this day? The race of kings is however extinct and the modern potters are generally described as an orderly inoffensive people, industrious and fairly thrifty, but not as a rule overburdened with intellect; in one district at any rate Kumbhár is a synonym for dullard. As is conceivable from the nature of their calling they are dirty to a degree that is proverbial. They are hospitable and kind to strangers and according to one authority great eaters and poor cooks. Their dwellings are generally of a humble description of the class common to the poorer cultivators, though in cities such as Poona there are amongst them men of means inhabiting large substantial houses. They keep donkeys for carrying earth and litter, and very occasionally cattle and ponies. The ass is the indispensable servant, almost as much so as the wheel. The importance of their services to society Government has always recognized. Under the old régime the potter was one of the 12 *balutedárs* or hereditary village servants. In most parts of the Presidency they hold land from Government free of all but a quit-rent. In addition they have the privilege of taking materials from river beds, and other unas-

sessed Government waste, and are exempt from the fines leviable for the appropriation of occupancies to non-agricultural purposes. In the villages transactions are chiefly in kind. The potter receives grain allowances from the villagers in proportion to the size and means of each household with additions on special occasions such as feasts and marriages. In towns and cities they sell their wares for cash like other tradesmen.

Potters as a rule are not travellers. Gujaráti potters, however, visit Thána in considerable numbers during the dry season and occupy themselves with the preparation of bricks and tiles. In the wilder parts of the Panch Maháls and Rewa Kántha where potters have not settled locally, travelling Kumbhárs are to be met with. They bring all their belongings, settle themselves in huts of grass screens in some village where materials are to hand, stay as long as there is work to do, and then move off elsewhere, returning to their homes usually in Ahmedabad for the rains.

In spite of the indispensable nature of their services, their industry and assured position, potters do not appear to be progressing either in education or material condition. They have no notion of adapting their work to any other market than that for which their fathers wrought. They seldom send their children to school, and are content themselves to go on turning out the same old forms as have been handed down from time immemorial. Admirable in their simplicity and adaptation to household necessities as these forms are, they are beginning to be elbowed from the market by the more durable cheap metal vessels. The Collector of Bijápur notes that many families of potters have already been driven by the competition of metal ware to other trades or cultivation. The absence of any evolutionary progress in the craft, in all but the few cases where there is either direct European supervision or European demand for objects of art, does not promise well for its future. The general stagnation cannot be ascribed to any deficiency of materials. Gujarát and Sind at any rate have all the advantages in the way of alluvial, silicious and alkaline deposits that enabled the Egyptian potters to attain to excellence. It is perhaps worth remark that within the limits of the Bombay Presidency it is in Sind alone, a country that most closely resembles Egypt in its physical features, that there is any knowledge of the more elaborate processes of enamels and colouring. If, as Sir G. Birdwood says, none of the fancy pottery made in India with the exception of the Sind and Madura wares is equal in beauty of form to the primitive pottery thrown from the wheel in every Hindu village, the absence of imagination from the mental equipment of the Bombay potter is perhaps not greatly to be regretted. It is, however, hard to believe that there is no inspiration to be drawn from the rising and falling clay by our latter-day Kumbhárs, and that their ancestors, the contemporaries of the Buddhist sculptors, and of those who furnished wares for the Etruscan tombs, exhausted all the possibilities of beauty and simplicity of form combined. The difficulty that every villager finds in separating in his mind the ideas of education and Government service is a standing obstacle to the growth of a race of educated artisans. As regards pottery, even a technical education appears to fail in this respect. In the Naushahro Táluka of Hyderabád (Sind) a pottery class has existed for the last 8 years in connection with the industrial schools founded by Khán Bahádur Kádirdád Khán. To induce pupils to attend the class, wages from Rs. 2 to Rs. 12 per mensem are paid. But the Assistant Collector says in the present year that, so far as he is aware, not a single pupil has on the completion of his course made any attempt to earn a living by the trade he has learned. The absence of any general demand from an æsthetic and cultivated public is no doubt the chief cause of stagnation. Nor must the effect of caste rules such as forbid the use of earthen pots for cooking food more than once, and enjoin the destruction of all such vessels after an eclipse be forgotten. If a vessel has to be thrown away immediately it is used, the cheaper and less elaborate the make the better. Until therefore caste rules are relaxed and the standard of taste reaches far higher levels than the present, the potter will confine his energies to turning out vessels which, whatever their suitability to the needs of purchasers, and their interest to students of antiquity, can scarcely be regarded as the visible expression of a vigorous and progressive industry.

(*i*) *Rude Unglazed Pottery.*

Common unglazed ware is made in almost every village. It varies in size from grain jars 6 or 8 feet high down to the most diminutive vessels. The material and method of manufacture, though differing in minor details, are much the same in all districts, and the description hereafter given may be taken as generally applicable to the whole Presidency. The principal tools are the wheel, a convex stone and a series of flat bat-like mallets for tapping the vessel after its removal from the wheel, and sometimes a string of glass beads for polishing.

Wheel.

The wheel consists as a rule of a wooden nave from a foot to a foot and a quarter in diameter, about a dozen spokes and an outside rim 7 or 8 inches broad and about 4 in thickness made of clay mixed with goat's hair or coir. In the centre of the nave on the under side is fixed a stone with a hole to take the point of the peg on which the wheel revolves. The peg in question is usually of *kher* or other hard wood set in the centre of a circular slab of stone. The wheel is sometimes given extra weight by means of lumps of clay placed on the rim. It is revolved by means of a stick some 3 feet in length. A few small holes are made in the rim to take this stick, and sufficient impetus is obtained to keep the wheel revolving for five or even ten minutes. The woodwork and other durable portions of the wheel last as long as 20 years, but the clay rim must be renewed every year or two.

Materials.

The ordinary materials are puddled clay from the beds of tanks, alluvial clay from river and nála banks and beds, earth from village sites, horse, ass or cow dung, sand, and ashes. These are obtainable everywhere but amongst specially good local earths may be mentioned the white clay of Cutch, the black mud of the Narbadda used for Broach pottery, the blue shale of Ratnágiri, the red earth of the Dápoli Táluka in the same district, and of the Sávantvádi State, the natural clays of Ahmedabad and Pattan, the yellow earth of Sankheda Bahádurpur in the Gáikwár's territory and the red earth of Mujláo in the Mándvi Táluka of Surat. The last two earths are chiefly used as colouring matter.

Process of manufacture.

Clay is brought to the potter's house as dry as possible. It is placed in the sun and when thoroughly dry pounded into small particles. It is then mixed with horse dung and ashes or sand, the proportion being usually two parts of clay and one part each of the other ingredients. The horse dung is sifted fine before mixing and is used to give binding quality to the clay. Chaff or husks are sometimes used for the same purpose. Water is now added and the whole compound thoroughly mixed and worked. This process is carried out in the shade usually in the verandah of the potter's house, sometimes on the surface of the ground, sometimes in shallow pits. The clay when thoroughly worked is made into balls or lumps, placed on one side and allowed to dry slightly. It is then ready for the wheel. A small quantity of clay is smeared over the nave of the wheel and on this the ball is placed. The potter sets the wheel going and moulds the vessel with his thumb and fingers wetting them from time to time from a pot of water at his side. In the case of some vessels a tape is placed round the extreme circumference to prevent bulging, and the mark left by the tape is used for calculating the contents of the jar. When complete the vessel is removed either by the fingers, or by means of a string. It is then placed in the shade to dry. The period of drying lasts from an hour, as in the case of the coarsest pottery, to several days. The vessel is then thoroughly tapped with the flat mallet, a convex stone shaped something like a dumb bell being held inside to support the clay. The object of the tapping is to consolidate the clay, and also in certain cases to modify the shape and size of the vessel. This operation is performed usually in the early morning, as the clay is then cool and flexible and less liable to crack. The vessel is then placed in the sun till completely dried, when it is ready for firing.

Kilns.

Kilns are of all shapes and sizes. Sometimes they are cut in the slope of a bank so as to have a wedge shape, or they are built on the level surface of the ground or take the form of a domed pit. The pots are placed within in layers with pot sherds between each layer. The crevices are filled in with sticks, cow-dung and stable litter for fuel

and the whole is covered with ashes. The kiln is fired from one end where three or four openings are kept. A proper circulation of air is of the highest importance to ensure proper combustion of the fuel and even baking, and it is obtained by means of pots or jars with the bottoms knocked out laid on their sides at intervals. If a light or red-coloured ware is required, the smoke is allowed to escape. To obtain black pottery, after the fire has burnt for a certain time, the kiln is entirely stopped up and the smoke retained. The kiln is generally lighted in the afternoon and burns through by dark. It is then allowed to cool during the night.

Polishing.

The final operation is the polishing, which is effected by rubbing the pot with a string of glass beads and a little sesamum oil. Berries of the Ritha (soap-nut tree, Sapindus trifoliatus) are used for the same purpose. The Kumbhárs of Ahmedabad and Katárgám near Surat have a method of coating toddy pots and pickle jars with sealing wax so as to render them impermeable. After the pot is baked it is heated before a fire and the *lákh* is rubbed on inside and out. *Sindur* (oxide of lead) is used to give a red colour to the wax, *hartál* (sulphuret of arsenic) for yellow, and oxide of copper for green.

Grain Jars, &c.

The larger jars 6 feet or more in height are built up in layers. The bottom is first beaten out flat, and on this is placed a strip of clay of sufficient length to go round the base and about a foot in height, which is moulded with the hands till it becomes a solid ring. On this another strip is placed and so on until the necessary height is reached, the whole being beaten together by the hands and a piece of wood which is held inside to support the clay.

Bricks and Tiles.

Very fair bricks are made throughout the province. They are made in the usual wooden moulds and the process calls for no special description. The price varies from Rs. 6 to Rs. 10 per 1,000. Some superior *terra-cotta* tiles resembling the Mangalore tiles are made in the Morvi and Sávantvádi States, but the industry does not appear to have attained any great dimensions. The ordinary tiles are either flat or semi-cylindrical, the former are made in wooden moulds, the latter on the wheel in the form of a cylinder, which is afterwards divided by a wire or razor.

General.

A list of the articles most commonly manufactured is given in an appendix. Ornament when applied to the ruder ware is generally of the simplest description, a few rough lines cut on the neck with a bit of Kerosine tin or any other cutting instrument that may be handy, or a few daubs of chunam is usually the extent of the decoration. The potters of Shelu, a village of Karjat in the Kolába District, decorate their vessels with a circlet of fishes, but design of this description is quite exceptional. It is curious that whilst red ware is most commonly used in Gujarát there is a prejudice against it in the Deccan, where the black pottery is almost universal. In addition to vessels for domestic use rude images of men, elephants, horses monkeys and peacocks are made throughout the Presidency. These are in great demand amongst the wilder tribes as votive offerings and in connection with household worship and ceremonies. In former days in the Southern Marátha Country and elsewhere people used to bring clay to the potter's on certain days, together with a small present of food, clothes and turmeric. The potter used to prepare pots and images of the particular deity who was to be honoured, and after he had worshipped them they were carried home in procession. Of late years, however, the Jingars and goldsmiths have supplanted the potters in the preparation of these images. Toys are not made anywhere on a very large scale. Little earthenware whistles are made in Gujarát, and at Katárgám near Surat flat bowls are manufactured for use as kettle drums. An ingenious little toy consisting of a little drum of the sort, two earthenware wheels and an arrangement of sticks and catgut which beats the drum as it is drawn along by a string, is hawked about Surat at the Mohurram.

(*ii*) *Finer Unglazed Ware.*

Of the better class of unglazed ware, which finds a market outside the immediate neighbourhood of its manufacture, may be mentioned the Broach

khujas, the ornamental ware of the Málvan and Dápoli tálukas of Ratnágiri, of Haliyál in Kánara and of Pattan in Baroda territory, Ahmedabad ware, the Laxmeshvar pottery of Kolhápur and the *terra-cotta* of Morvi and Sávantvádi.

Broach Khujas.

The Broach *khujas* or water-pitchers are in demand throughout the Presidency on account of their water-cooling properties, and elegance of shape and ornament. The former are due to the lightness and porousness of the ware which causes rapid evaporation, and the latter is the inheritance of a single family of Musalmán potters. The materials used in their manufacture are—

1. Ordinary black clay ... ... } in equal
2. Alluvial clay from the Narbada river ... } parts.
3. Sand, one-sixth of the above.
4. Ashes, one-third do.

These are mixed and worked in the usual manner, and the clay when ready is made into cakes of sufficient size to fill the moulds. These are of baked clay and are two in number, and more or less hemispherical in shape, the mould for the upper half which contains a hole to receive the neck being slightly smaller than the lower one.

The former is ornamented with various patterns, the latter is usually relieved only by a few perpendicular lines. The moulds are sprinkled with fine sand to prevent sticking, the clay is pressed into them and they are then placed in the shade for a day, after which a ring of clay is placed round the lower mould, and the two hollows are joined together. When they are properly fixed, the superfluous clay is removed with an iron scraper. The inside is then gently polished with a wet cloth through the hole in the upper mould. The whole is then turned upside-down and the lower mould (which is now uppermost) is removed, the upper being left for another day whilst the drying is continued. It is then removed and the whole sprinkled with powdered talc (*abhrak*) to make it glisten. It is then ready for its neck, to receive which it is placed on the wheel, on the nave of which is a small cup or mould to receive the vessel. The neck is sprinkled with talc, and the *khuja* is then placed in the sun to dry for a whole day, after which it is placed in the kiln for a similar period. Two men are said to be able to turn out 125 ready for the market in 5 days. The average price is Re. 0-0-9. To increase the cooling properties saltpetre is sometimes added to the clay, and it is generally believed that *khujas* made in the cold weather cool better than those made at other seasons. It is not impossible that the temperature has some effect on the texture. Black is the favourite colour, but *khujas* are also coloured with a yellow earth known as *khadi* imported from Sankheda Bahádurpur in Baroda territory. No Hindus make these *khujas*, the art of preparing the moulds being known only to a few Musalmáns descended from a single potter.

Ratnágiri Ware.

At Kumbhár Math, Chindar, and Masura in the Málvan Táluka and at Jalgaon in the Dápoli Táluka more or less ornamental flower pots, water jugs and chatties are turned out. They command a good sale, and a considerable quantity goes to the Bombay market.

Haliyál Ware.

Three or four potters at Haliyál in Kánara make tea-pots, cups and saucers, *khujas*, ink-pots, and sand-holders of good quality and can, it is said, copy any model that may be given to them.

Ahmedabad Ware.

Very good ordinary pottery is made at Ahmedabad. To colour the clay red ochre (*geru*), white earth (*khadi*) and talc (*abhrak*) are used. White earth keeps its colour in baking if the smoke be allowed to escape. Red ochre always keeps its colour and when mixed with white earth gives a pink tint. Toys and the ordinary vessels, *hookas* and pipe-bowls are made but have no special artistic value. Ahmedabad pipe-bowls are in considerable demand.

Kolhápur Ware.

The Laxmeshvar ware of Kolhápur is of a rich black colour and fine close texture. Figures, ornaments, and all kinds of vessels are made, the shapes and decorations being simple and pleasing.

Bijápur Jars.

At Bijápur one artizan, a Kamáthi by caste, ornaments ordinary pots with designs copied from the Bijápur buildings. The pigment is made of chunam and other ingredients and the finished article is purely ornamental. The man is a mistri in the Public Works Department and does the work in his spare time. The architectural designs are well copied and the artist deserves encouragement.

Terra-cotta.

Terra-cotta of good quality is made in the Morvi and Sávantvádi States. Tiles, pipes, figures and ornamental mouldings are manufactured but do not seem to be much known or in general demand. Judging by the specimens in the Reay Museum at Poona the industry is worth development.

Pattan Ware.

Pattan in North Gujarát is well known for its pottery, glazed and unglazed. The former will be described later. Of the latter, vessels of all shapes and sizes are made for use, for ornament, or for both. The ware is either black or red. Vessels made for ornament only or not required to hold water are coloured with a sort of paint or enamel either red or white, which is not fired. It presents a surface soft enough to be scratched with the finger nail and is quite useless from any practical point of view, as it does not render the ware impermeable. The Pattan potters select their clay very carefully, mix it with water, strain it through coarse cloth and prepare it for the wheel in a clean vessel, working and beating it with a mallet. They dig the kiln knee-deep and close the top with wet clay. From 4 to 6 holes are kept open for firing and the escape of smoke. When the fuel is burnt and the smoke ceases, the holes are closed and the kiln is allowed to cool. The firing and cooling occupy 24 hours. The colour is prepared with common whiting from the bazár, and red ochre (*geru* or *sana geru*), and is smeared on with bits of woollen blanket. The black ware after being fired is put back on the wheel. A mixture of black earth and oil is smeared on a rag and applied to the vessel after which it is polished with an agate. It is then put back in a kiln with one opening only. For fuel a mixture of goat and cow dung is used, and when this has been lighted the opening is closed and the kiln left for a day and night. The shapes and ornamentation are often artistic and as often bad and meretricious. Pattan ware is in considerable demand throughout Gujarát.

(*iii*) *Glazed Pottery.*

Glazed pottery is manufactured at Hála and Nasarpur of Hyderabad Sind, and in the Nausháhro Táluka of the same district, at the J. J. School of Art, and the Perozeshaw Pottery Works in Bombay, and at Pattan and Ahmedabad in Gujarát.

Sind Pottery.

Of all the glazed pottery manufactured in India the Hála ware has long held pre-eminence both for beauty of design and richness of colour. The Hála potters or Kashigars are said to trace their descent from some pre-historic Chinaman who was induced by one of the Amirs to settle in Sind. Sir George Birdwood, however, would give the art a Saracenic origin, and whilst dating Sind pottery from the period of the conquests of Chinghiz Khán A.D. 1206—1227, he traces in it the influence of traditions surviving in Persia of the ancient civilizations of Niniveh and Babylon. The ware "is found in the shape of drinking cups and water bottles, jars, bowls, plates and dishes of all shapes and sizes, and of tiles and pinnacles for the tops of domes, pierced windows and other architectural accessories. In form the bowls and jars and vases may be classified as egg-shaped, turband, melon, and onion shaped, in the latter the point rising and widening out gracefully into the neck of the vase. They are glazed in turquoise of the most perfect transparency or in a rich dark purple or dark green or golden brown. Sometimes they are diapered all over by the *pâte sur pâte* method with a conventional flower the *sevanti*, or lotus of a lighter colour than the ground. Generally they are ornamented with the universal knop and flower

pattern, and in compartments formed all round the bowl by spaces alternately left uncoloured and glazed in colour. Sometimes a wreath of the knop and flower pattern is simply painted round the bowl on a white ground."*

Process of manufacture.

At Hála the work is carried on separately by two families, that of Nur Mahomed, and that of Usif son of Kabil. The earth is obtained from the local tank and the colours come from the Panjáb. The favourite articles of manufacture are tiles which are used largely as head stones for graves and ornamenting mosques as well as for floors and ceilings. The method of preparing the tiles is as follows. The tile is cut into shape in the rough clay by means of a standard tile and is then sun-dried. A coating of fine white clay is then spread over the tile and on this the pattern is painted. Metallic pigments of manganese, cobalt and copper are used. Over the painted pattern the glaze is placed in a pulverized state and the whole is then fired. The glaze is of three kinds, colourless, green and brown. In the process of firing the body of the tile becomes earthenware, the finer clay porcelain, the patterns take their proper colours of purplish black, azure and green, and the glaze becomes transparent glass. The glazes are composed of the base of sand and litharge, 6 of the former to 20 of the latter. The green colour is obtained by the use of oxide of copper, brown by *karmaji* or oxide of iron, mixed with a little cobalt (*auria*). The sand used for the glaze comes from Sehwán, and the flint for the porcelain clay from Mount Anjar. The annual value of the pottery manufactured in the town is estimated at Rs. 10,500, of which Rs. 6,000 worth is despatched to Hyderabad, Rs. 2,000 worth to Karáchi, Rs. 2,000 to England and abroad, and Rs. 500 is disposed of locally.

Nasarpur Ware.

The Nasarpur industry is an offshoot of the Hála work and is carried on on the same principles though not with similar success.

Nausháhro Ware.

A class for instruction in pottery is held at Kandiáro in connection with the industrial schools of that táluka founded by Khán Bahádur Kádirdád Khán some eight years ago. There are about 12 pupils, and they are chiefly occupied in manufacturing tiles of different sorts, plain or coloured, glazed or unglazed, according to requirements, these being the only articles for which there is any local demand. Vessels of various patterns are also turned out, but owing to the difficulty of finding a market the output is strictly limited. Several thousand tiles have been supplied to Government for the construction of the new Mukhtyárkarates of Nausháhro and Kandiáro, the Central Jail at Hyderabad, and in 1894 when the repairs of the Juma Masjid at Tatta in the Karáchi District were undertaken the services of the pottery class were, at the instance of the Commissioner in Sind, utilized in replacing missing or damaged tiles. The ornamented tiles find a ready market amongst wealthy inhabitants of the subdivision, and the class is likely to be engaged for some time in turning out tiles and bricks for the railway buildings on the proposed Kotri-Rohri chord line.

Bombay School of Art Pottery.

The Bombay glazed pottery owes its development to the disinterested labours and perseverance of Mr. G. W. Terry, formerly Superintendent of the Bombay School of Art. It represents a new and improved phase of the Hála ware and the head potter who looks after the glazing is usually a Sindi, though the man who holds the position at present hails from Multán. Much difficulty was experienced in the first instance in inducing a trained potter to come from Sind. But one Nur Mahomed was at length prevailed upon to come to Bombay. Mr. Terry employed him on his own private account and for several years bore all the expenses of the experiment. A mixture of Cutch, Málvan and Bombay clays has been found to give the best results, Cutch clay being the basis of the compound. It is stiffened with quartz from the Bhor Ghát between Bombay and Poona. Water is added till the mixture is of about the consistency of custard, and the heavier particles are allowed to settle, the finer being drawn off and again stirred and allowed to settle. The fine clay is dried, kneaded and passed on to the potter who is responsible for the shape. The potters are local men and their implements those already described. The pot when shaped is put

* Sir George Birdwood's Industrial Arts of India, pp. 305—306.

aside to dry for a day or two and is then smoothed and reduced to a uniform thickness on another wheel. It is then dried in the sun and baked in the kiln. The next process consists in covering the pot with a preparation of silica which gives a creamy white surface on which the designs are first drawn in pencil and then coloured. The painters are selected from the School of Art and the work is carefully supervised to keep out any European or foreign motive from the design, Mr. Terry having found "that the Indian designer of the present day, if left to himself, invariably mixes European antique or modern shapes with those from India and produces a hideous combination without harmony, colour, or shape."* The head potter prepares the pigments which produce the glaze in his own rooms, the colours being procured from Multán. The designs are usually conceived from scenes in the Mahábhárat or Rámáyan, and from copies made by Mr. John Griffiths, the late Superintendent, from the frescoes in the Ajanta Caves, painted from 200 B.C. to 600 A.D. "The favourite tints are white and blue, or turquoise and dark-blue, but dark green, gold, and flesh colour are also much appreciated. At the annual Poona Art Exhibition, the Calcutta International Exhibition, the Amsterdam Exhibition, the Antwerp Exhibition, and the Colonial and Indian Exhibition of London, the Bombay pottery was always sold in the first week after the opening day, and the ware is so popular that the staff is insufficient to meet the ever-increasing demand."† To allow of Mr. Terry compensating himself for the heavy loss he incurred in starting it, the department was worked as a private concern up to May 1894, when it was handed over to Government.

* Journal of Indian Art, No. 17, p. 3.

† Journal of Indian Art, No. 17, p. 3.

The Perozeshaw Pottery.

The Perozeshaw pottery works were opened in 1877, at Náigaum, near the Dadur Station by Messrs. Perozeshaw Pestonji Meherhomji and Danjibhoy Cursetji Ratnaghar, after studying the industry in England, America, and elsewhere. The firm turns out hospital requisites of white glazed ware, jars, and gallipots for the Medical Stores Department, special bricks for telegraphic purposes, filters, *khujas*, flower pots, &c., &c. They also produce a certain amount of glazed art ware on the lines of that made at the School of Art. The chief material is white clay from Cutch, whence also most of the workpeople come. The process of manufacture is the same as described in the foregoing paragraphs.

Pattan and Ahmedabad Glazed Ware.

"Pattan in Gujarát," to quote the article in the *Journal of Indian Art* before referred to, "seems to be the only place where glazed pottery in the most primitive style exists as an independent indigenous art, where green and brown are the only shades that can be produced, and where no designs are yet painted on the pots, the only attempt at decoration being to give a rough coating of one or other of the two glazes." This rough glazing is also practised at one or two places in the Ahmedabad District, and is chiefly applied to pipe bowls. The glaze is made with litharge or *mudírsing*, a semi-vitrified oxide of lead. The brown colour is produced by mixing red earth (*geru*) plaster of paris (*ghápan*) and red-lead (*sindur*); the green by oxide of copper, *ghápan* and *sindur*. The kiln is prepared as follows:—A pit is dug a cubit in breadth and depth, and as long as is required. This is filled in with wood, bricks are placed on the wood and the pots or ornaments with the glaze applied are placed on the top. The kiln is then built up with mud and bricks, so that the bricks meet overhead in a sort of dome. A hole is kept open at one end, the wood is fired, and the hole roughly closed. The kiln is allowed to burn for six hours. Pipe bowls, dishes, and rough figures of men and animals are the most common articles of manufacture, and are sold throughout Gujarát.

II.—Glass.

Kapadvanj in the Kaira District has the distinction of being the only town in the Presidency where the manufacture of glass is carried on as an indigenous industry. The táluka of Kapadvanj is rich in alkaline deposits, which have long been utilized in the manufacture of soap and glass. Both industries have suffered of late from European competition and are more or less on the decline.

The glass industry of Kapadvanj is in the hands of Sunni Musalmáns. The materials are alkali (*us*) and impure carbonate of soda (*sájji khár*) and a dark-coloured flinty sand from Jeypur. The two first ingredients are obtained in any quantity in the táluka, the right to collect them being sold as a farm annually. The materials are mixed together and melted in large earthen furnaces "shaped like huge slipper baths." When ready the molten mass is allowed to run into a trench where it remains till cool. It is then broken up into small pieces and remelted as required. It is made into bangles, and sometimes into rough bottles and glasses. A very favourite article of manufacture is glass fragments for embroidery. A lump of molten glass is taken from the furnace and blown into the form of a globe of thin glass. At one pole of the globe a small hole is broken and a small quantity of molten lead is poured in. The globe is revolved rapidly, the lead runs over the glass leaving a slight film of metal as it goes, and producing the appearance of looking glass. The globe is then broken into fragments which are ready for use in embroidery.

Bangles.

Glass bangles are manufactured in almost every district from the fragments of broken bangles, bottles and lamp chimneys. A small round furnace consisting of a pit 3 or 4 feet deep and a domed clay top and an iron or earthen pan for holding the molten glass are the chief necessaries. A small quantity of molten glass is taken from the furnace on a pointed iron rod, a spinning motion is given to the rod which causes the glass to take the shape of a globe. A blow to the rod forces it through the glass which takes the form of a ring. The blows are repeated until the ring is of the proper size when it is slipped over a cone called "*sáncha*" or mould, on which it is given its final shape. The whole process only occupies half a minute. One man turns out about 700 bangles a day which are sold for one rupee per thousand.

Ahmedabad Glass Manufactory.

A company has been started in the present year by the Honourable Mr. Runchodlál Chhotálál, C.I.E., for the manufacture of glass vessels and lamp chimneys. The company has a capital of Rs. 70,000, and the object is to make articles such as lamp chimneys for which there is a large local demand from municipalities. The services of a skilled European with a practical knowledge of glass work have been secured, and it is hoped that under his instruction the native workmen will be able to turn out simple articles that will be able to compete with European articles of the same grade. An attempt was made to utilize the Kapadvanj ingredients, but the glass produced was so brittle as to be useless. At present materials are being obtained from England, but it is hoped in time to procure all or almost all the ingredients locally. Some difficulty has been experienced in the matter of the crucibles, which were obtained from England, arrived broken and had to be remade.

Apart from the enterprize just referred to, there is no glass industry worthy of the name in the Presidency. The Kapadvanj glass is little better than the molten stuff that according to tradition astonished the eyes of the ancients cooking their food on the sea shore. The defect lies apparently in the impurity of the alkali, and until alkali can be procured locally in a comparatively pure form there seems to be little likelihood of any improvement. Possibly the Ahmedabad Company will find it worth while to start Chemical Works in connection with the Glass Factory and utilize the Kapadvanj deposits. So long at any rate as the materials have to be brought from Europe there is little prospect of any vigorous development of the industry.

Vessels commonly manufactured by Bombay Potters with their Maráthi, Gujaráti and Kánarese names.

No.	Maráthi.	Gujaráti.	Kánarese.	English Description.	Remarks.
1	रांजण ... ... Bánjan ...	કોઠી ... Kothi ...	ರಂಜಣಗಿ. ... Ranjangi	... Large standing water jar or pitcher with a wide mouth.	
2	माठ ... ... Máth ...	માટલું ... Mátlun ...	Do ...	... The same with a narrow mouth.	
3	डेरा ... ... Dera ...	ગોળો ... Golo ...	ಹರವಿ. ... Harawi	... Somewhat smaller vessels for keeping water and grain ; used by poor people.	
4	घागर ... ... Ghágar ...	ગાગર ... Gágar ...	ಕೊಡ. ... Koda	... Vessel used for drawing and holding water.	
5	बिंदगी ... ... Bindagi ... कळशी ... Kalshi	ઘડો ... Ghado ...	ಬಿಂದಗಿ. ... Bindagi	... Small Ghágar.	
6	शेगडी ... Shegadi ...	સગડી ... Sagadi ...	ಅಗ್ಗಿಷ್ಟಿಗಿ. ... Aggishtigi	... A receptacle for fuel ; "a chafing dish" (Molesworth) used as a portable stove ; also as a warming pan.	
7	हंडी ... Handi ...	હાંલ્લી ... Hánlli ...	ಹಂಡೆ. ... Hande	... A wide mouthed vessel smaller than a Ghágar used for holding water ; also by dyers for holding dye.	
8	नांद ... Nánd ...	કુંડી ... Kundi ...	ಮಣ್ಣುಡೋಣಿ. ... Mannudoni	... Similar to the above, but larger.	
9	गाडगे ... Gádge ...	ઘાડવો ... Ghádvo ...	ಮಗ. ... Magi	... A lota-shaped vessel. Small sizes used for holding drinking water ; larger sizes for grain.	
10	मडके ... Madake ...	માટલી ... Mátli ...	ಗಡಿಗಿ. ... Gadigi	... A stoutly made vessel similar in shape to a Gádge and used for cooking.	
11	न्हाणा ... Nhána or ... कळस ... Kalas ...	ઘડો ... Ghado ... કળશ ... Kalasha ...	ಕಲಶ. ... Kalasha	... Pots placed at the four corners of the platform used in marriage ceremonies.	
12	टोप ... Top ...	હાંલ્લું ... Hánlun or ... પાટીઉ ... Pátiun ...	ಟೊಪ್ಪು. ... Topu	... A largish wide mouthed vessel used by the poor for storing grain ; also by dyers for their colours.	
13	झांकण ... Jhánkan ...	ઢાંકણી ... Dhánkani ...	ಮುಚ್ಚಳ; ಪರಿವಾಣ, ... Muchchala or Pariwána	... A flat cover with rim for placing over the mouths of pots.	
14	सुरई ... Surai ...	સીરોઇ ... Siroi ...	ತತ್ರಾಣಿ. ... Tatrani	... A long necked flask for carrying water on travels.	
15	तस्त Tasta ...	તસ્ત ... Tasta ...	ತಸ್ತ. ... Tastá	... A vessel for ablutions with a very wide brim; used also as a spittoon.	
16	तवा ... Tawá ...	કલેડુ ... Kaledu ...	ರೊಟ್ಟಿ ಹಂಚು. ... Rottchanchu	... Flat dish used for baking bread.	
17	ठिल्या ... Thilya ...	ગોરસીઉ Gorasiun or ... દોહોણી Dohoni ...	ಕುಡಿಕೆ; ಚಟಿಕೆ. ... Kudaki ; chataki	... A small earthen vessel used for curdling milk.	
18	परळ ... Paral ...	ઠોબલું ... Thobalun ...	ಪರಿವಾಣ. ... Pariwána	... A shallow dish with raised rim used for eating out of ; also made of brass.	
19	परात ... Parát ...	પરાત or કથરોટ ... Paránt or Katharote ...	ಪರಾತ. ... Paráta	... Similar to the above with a brim 3 or 4 inches high, used for preparing cakes.	
20	कुंडा or कुंडी ... Kundá or Kundi ...	કુંડું ... Kundu ...	ಬಾನೆ. ... Báne	... A flower-pot shaped similarly to the English flower-pot but with no hole.	
21	खुजा ... Khujá ...	કુજો ... Kujo ...	ಕೋಜ. ... Koja	... A water pitcher for cooling drinking water.	
22	कौल ... Kaul ...	નળીઉ ... Naliun ...	ಹಂಚು. ... Hanchu	... Tile.	

No.	Maráthi.	Gujaráti.	Kánarese.	English Description.	Remarks.
23	वीट Vit	ઈંટ Int	ಇಟ್ಟಂಗಿ. Ittangi	Brick.	
24	चिलीम Chilim	ચલમ Chalam	ಚಿಲಮಿ. Chilmi	Pipe bowl.	
25	वाटी Váti	વાડકી Vádki	ಬಟ್ಲ. Batlá	Saucer-shaped eating dish.	
26	पणती Panati	કોડિયું, શકોરું, બટેરું Kodiun, Shakorun, Baterun	ಪ್ರಣತಿ ಪಣತಿ. Pranati or panati	Earthenware lamp.	
27	नळ Nal	નળ Nal	ಹರನಾಳಗಿ. Harnálgi	Water-pipe to carry water from roof.	

Tools and accessories of Potter's craft.

No.	English.	Maráthi.	Gujaráti.	Kánarese.
1	Wheel	चाक, चक्र Chák, Chakra	ચાક Chák	ತಿಗರಿ. Tigari.
2	Nave of wheel	माथा Mátha	થાળુ, પુઠીઉ Thálu or Puthiu	ಗಡ್ಡಿ. Gaddi.
3	Pivot of wheel	खुंटा Khunta	ખીલ Khil	ಮೊಳೆ. Mole.
4	Spokes of wheel	पाळका Pálka	આરા A'rá	ಹಲ್ಲು. Hallu.
5	Wooden mallet for tapping	फळ, चोपणें Phal, Chopane	ટિપણી Tipani	ಕೊಡತಿ. Kodati.
6	Convex stone used with mallet.	गंडा Gandá	પિંડો Pindo	ಬಡಿಯೊಕಲ್ಲು. Badiyokallu.
7	Stick for turning the wheel	चाकदांडा Chákdánda	લાકડી Lákdi	ಕೋಲು. Kolu.
8	Glass beads for polishing	काचेची माळ Káchechi Mál	માળા Mála	ಕಾಚಿನ ಮಣಿ. Káchinmane.
9	Ritha nuts used for polishing	रीठी Rithi	*અરીઠાના ઠળીયા Aritha seed	ಅರಟಕಾಯಿ. Artakái.
10	Kiln	अवा Avá	ભઠ્ઠી Bhatthi	ಭಟ್ಟಿ. Bhatti.

* In parts of Gujarát (Surat District) Cæsalpinia Bonducella nuts (કાંચકા Káchka) are also used in polishing.

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