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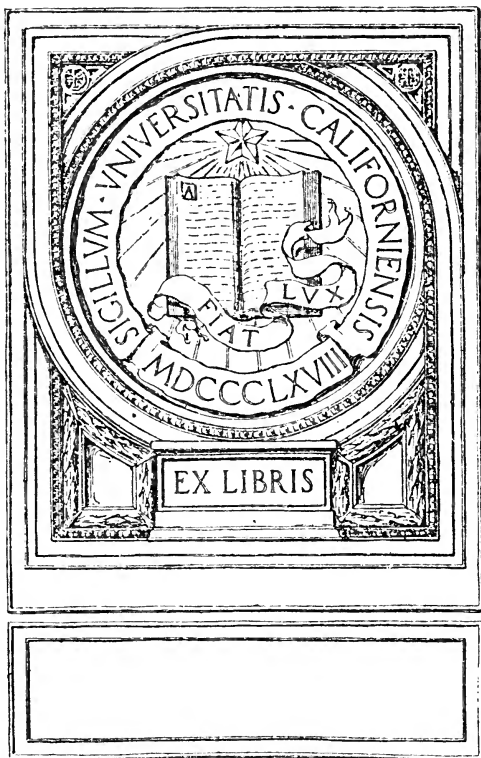
ART PRIMER

CERAMIC SERIES, No. 9

HARD PASTE PORCELAIN

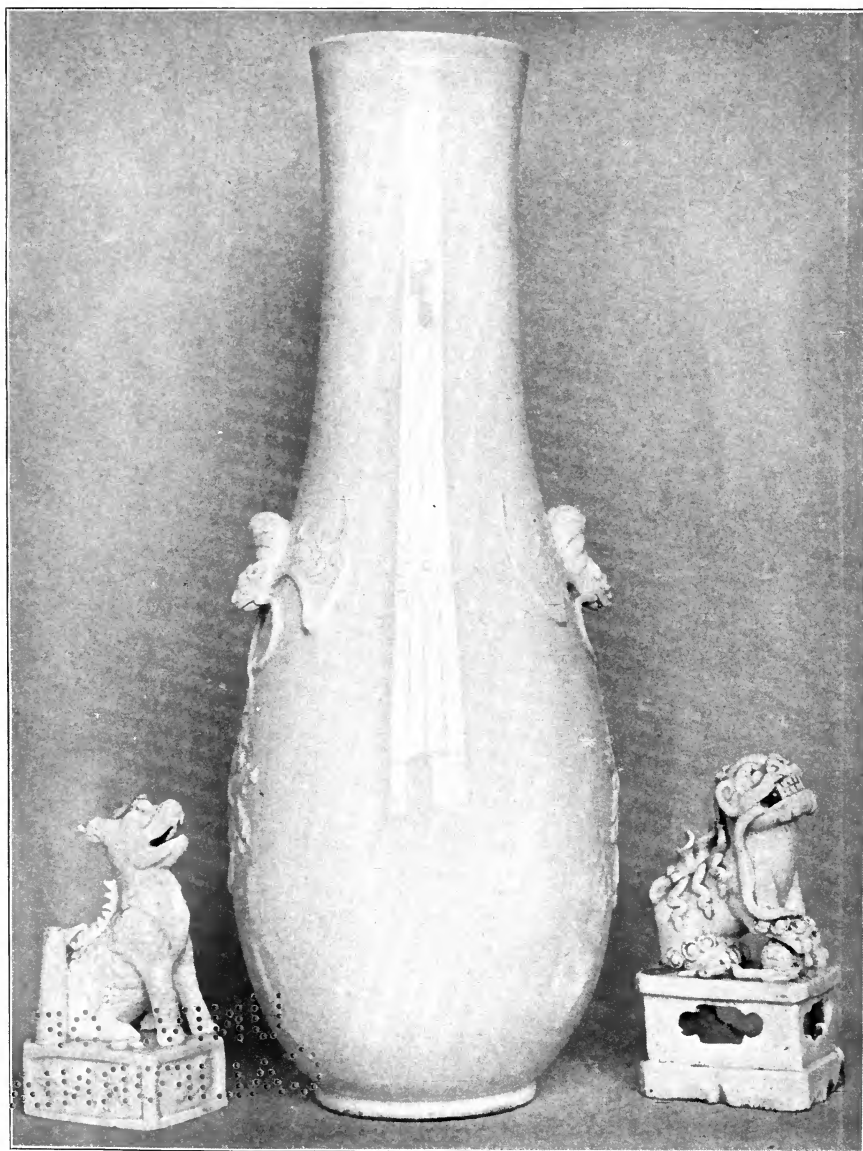
PART FIRST (ORIENTAL)

PHILADELPHIA, 1910



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VASE AND FIGURES OF LIONS (Vase 17 inches in height).

Fuchien White Porcelain.

K'ang-hsi and Ch'ien-lung Periods.

Museum Nos. '82-1517, '93-105, '02-800.

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HARD PASTE PORCELAIN

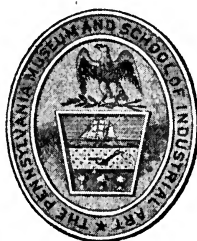
(ORIENTAL)

CHINA, JAPAN, SIAM, KOREA

BY

EDWIN ATLEE BARBER, A.M., PH.D.

DIRECTOR



PRINTED FOR THE MUSEUM

PHILADELPHIA

1910

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THE PENNSYLVANIA MUSEUM
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TO THE
MUSEUM

PREFATORY NOTE.

The *Art Primers* of the Pennsylvania Museum and School of Industrial Art are designed to furnish, in a compact form, for the use of collectors, historical and art students and artisans, the most reliable information, based on the latest discoveries, relating to the various industrial arts. Each monograph, complete in itself, contains a historical sketch, review of processes, description of characteristic examples of the best productions, and all available data that will serve to facilitate the identification of specimens. In other words, these booklets are intended to serve as authoritative and permanent reference works on the various subjects treated. The illustrations employed, unless otherwise stated, are reproductions of examples in the Museum collections.

In reviewing the various branches of ceramics, the geographical arrangement used by other writers has given place to the natural or technical classification to permit the grouping of similar wares of all countries and times, whereby pottery, or opaque ware, is classified according to *glaze*, its most distinctive feature, while, on the other hand, porcelain, or translucent ware, is grouped according to *body* or *paste*.

Hard Paste Porcelain may be divided into two groups:

- a. Hard Paste Porcelain of China and Japan.
- b. Hard Paste Porcelain of Europe and the United States.

In preparing the material for a Primer on Oriental Hard Paste Porcelain, the author has consulted the numerous reliable authorities on the subject, but he has drawn more particularly from the works of the late Mr. William M. Laffan, of New York, and the late Dr. Stephen W. Bushell, the eminent sinologues, for the most recent information, which is incorporated in these pages. To Dr. Bushell's investigations in China, covering a period of some twenty-five years, while connected with the British Legation at Peking, we are indebted for the readjustment of the chronology of Chinese porcelains, which has cleared up many disputed points and fixed the correct places of the different classes of porcelains, some of which had, previous to the appearance of his authoritative and exhaustive work on *Oriental Ceramic Art*, in 1899, been thought to be much older than they are now known to be.

E. A. B.

HARD PASTE PORCELAIN (ORIENTAL).

The hard paste porcelain of China is composed of two materials, kaolin, or white clay, which is infusible, but imparts plasticity to the paste, and petuntse (feldspar), which produces translucency. In addition to these requisite elements, other substances often enter into Chinese porcelains, in varying quantities, such as powdered quartz and certain kinds of sand. The white porcelain glaze is composed of the best quality of petuntse, to which a considerable proportion of lime is added, which latter imparts the greenish or bluish tinge peculiar to Chinese porcelain. The greater the amount of lime in the composition, the coarser is the glaze.

All Chinese porcelain is hard paste. Until recent years collectors believed that the variety of porcelain which possesses a creamy white glaze was soft paste, but this supposition is now known to be erroneous.

CHARACTERISTICS.

Oriental Hard Paste Porcelain is a close grained, vitrified substance, opaque when thick, but translucent in its thinner parts. It is so hard that it cannot be scratched with a steel point. The glaze, when compared with soft paste porcelain, is of a distinctly bluish tint and when pressed with the palm of the hand it is perceptibly colder, being a more perfect conductor of heat. When undecorated, it closely resembles French and other hard paste porcelains, but shows its origin in its forms and general treatment. When decorated it can readily be distinguished from European hard pastes by the marked peculiarities of the paintings and often by the distinctive colors used.

On account of the difficulty in separating the Oriental stone-ware from the porcelains, we shall include under the latter head

all of the kaolin pastes, both opaque and translucent, since in external appearance there is a close resemblance between them, and it is next to impossible, owing to the thickness and opacity of the coarser pastes, to determine just where Chinese stoneware ceases and porcelain begins, both being covered, as a rule, with the same porcelaneous glaze. The earlier porcelains of the Ming dynasty, which extended from 1368 to 1643 of the Christian era, were more vigorous and barbaric in form and coloring, and heavier and coarser in paste than those of the present dynasty, from 1644 to the present time, which latter, in respect to translucency, fineness and thinness of paste, and exquisite color, reached their highest perfection in the last third of the seventeenth century and through the eighteenth, a period represented by the K'ang-hsi and following two or three reigns.

THE PORCELAIN OF CHINA.

ANTIQUITY.

During the seventeenth and eighteenth centuries the exquisite products of the Chinese potters influenced the ceramic art of the entire civilized world and we find that the pottery and porcelain of Europe made at that time strongly reveal the Oriental methods in the forms of vessels and their decorative treatment. The Delft of Holland and England; the stanniferous, or tin-enameled faience of France, Sweden, Germany and other Continental countries; the maiolica of Spain and Mexico; the frit paste porcelain of France, of Chelsea, Derby, Bow and Worcester, in England, and the hard paste porcelains of Germany and France, all reveal a marked attempt to imitate the porcelain of the Celestial Empire. At first these efforts resulted only in a superficial resemblance, but soon after the beginning of the eighteenth century, through the discoveries of Böttger, of Dresden, and other investigators, true hard porcelain bodies and glazes were perfected, which in composition and appearance closely simulated the Chinese wares.

The tendency to antedate the production of Chinese porcelain by many centuries has been general among ceramic writers, and

some of the foremost sinologists have attributed to this product a fabulous and impossible antiquity. The consensus of opinion among conservative students at the present day, however, after divesting the subject of all sentimental considerations, is that true porcelain first appeared during the Ming dynasty, which would not carry it back of the fourteenth century. No examples of actual porcelain, that can with certainty be referred to an earlier date, are known to collectors, and it is reasonable to suppose that had such ware been produced before that period some few pieces at least would have survived. Indeed it is extremely doubtful whether any actual examples antedating the fifteenth century can be found. Specimens of Chinese pottery and stoneware of considerably greater age, however, may be seen in European and American collections, and celadon wares (known to the Chinese as *ch'ing-t'zu*—"green porcelain") of the Yuan and Sung dynasties are comparatively abundant, but these coarse survivals of an earlier art, being composed of heterogeneous and impure materials, cannot properly be grouped with translucent white pastes. The Chinese themselves have classed all wares which possess great hardness and resonancy (which latter is an indication of vitrification) with porcelain, to which many of them, however, bear little resemblance, either in body or glaze. It is true that a porcelaneous glaze was used to some extent before the general introduction of semi-transparent bodies, and the external appearance of the ware doubtless led the earlier authors to those erroneous conclusions which have been perpetuated by later writers. It has only been in recent years that students have investigated the composition of these wares sufficiently to enable them to differentiate between the pseudo-porcelains of earlier times and the refined products of the Ming and Ch'ing dynasties.

The approximate ages of Chinese porcelains may usually be determined by their forms, their glazes, the character of their workmanship and degree of finish, the peculiarities of decoration and the colors used therein. Through these characteristics it is possible to assign the majority of pieces to a particular reign or period.

While porcelain has been made in China through most of the reigns of the Ming and present (Ch'ing) dynasties, that is to say

from the fifteenth century, there are several reigns which stand out in greater prominence, on account of the excellence and extent of their ceramic productions.

The reigns of the Ming and Ch'ing dynasties, in the majority of which porcelain was produced in China, to a greater or lesser extent, are as follows:

MING DYNASTY.

PERIODS.

Hung-wu	1368-1398
Chien-wen	1399-1402
Yung-lo	1403-1424
Hung-hsi	1425
Hsüan-tê	1426-1435
Ch'eng-t'ung	1436-1449
Ching-t'ai	1450-1456
T'ien-shun	1457-1464
Ch'eng-hua	1465-1487
Hung-chih	1488-1505
Cheng-te	1506-1521
Chia-ching	1522-1566
Lung-ch'ing	1567-1572
Wan-li	1573-1619
T'ai-ch'ang	1620
T'ien-ch'i	1621-1627
Ch'ung-chen	1628-1643

CH'ING DYNASTY.

PERIODS.

Shun-chih	1644-1661
K'ang-hsi	1662-1722
Yung-cheng	1723-1735
Ch'ien-lung	1736-1795
Chia-ch'ing	1796-1820
Tao-kuang	1821-1850
Hsien-feng	1851-1861
T'ung-chih	1862-1874
Kuang-hsu	1875

MING DYNASTY.

HSÜAN-TÊ PERIOD (1426-1435).

The porcelain of this reign was celebrated for the brilliancy of its underglaze copper reds, and the depth and purity of its blue, which was brought from abroad and was usually of a pale tone.

CH'ENG-HUA PERIOD (1465-1487).

This period was distinguished for its artistic decorations in colors, the blue cobalt ores being native and not imported.



1. EARLY MING VASE (14 inches in height).
Pierced Outer Shell.
Museum No. '82-329.



2. MING PLAQUE (15 inches).
Three-color Decoration.
Museum No. '76-1487.



3. MING JAR (15 inches in height).
 4. MING VASE (19 inches in height).
 Dark Blue Decorations.
 Wan-li Period (1573-1619).
 Museum Nos. '82-325, '82-727.



5. THREE VASES (Central one 11 inches in height).
 Blue Decorations.
 K'ang-hsi Period (1662-1722).
 Museum Nos. '02-721, '76-1479, '02-734.

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CHIA-CHING PERIOD (1522-1566).

This reign was noted for the brilliancy of its ceramic decorations. Among the colors used was a rich, dark blue, almost approaching black, which was first brought from abroad in the preceding (Cheng-te) reign, called Mohammedan or Mussulman blue, the Chinese name being *hui-ch'ing*. This beautiful color is so distinctive that it can be recognized wherever seen. Among the most characteristic forms of vessels on which it is frequently found are the double gourd (No. 4), and the broad, jar-shaped vase of the type shown in No. 3.

WAN-LI PERIOD (1573-1619).

During the Wan-li reign porcelain was made in large quantities. Enamel colors were first introduced, in combination with underglaze blue, the enamel or overglaze colors being usually red, green and yellow. Numerous pieces of this variety may be seen in the Museum collection. Blue and white porcelain was also produced abundantly, the blue underglaze color being as a rule thinner and weaker than the Mohammedan blue, although the latter was also used to a limited extent. The majority of Ming pieces found in collections belong to this period.

CH'ING DYNASTY.

K'ANG-HSI PERIOD (1662-1722).

The most brilliant period in the ceramic art of China was the latter half of the seventeenth century and the first quarter of the eighteenth, known as the K'ang-hsi period. Among the special triumphs of this reign are the dazzling monochrome and transmutation glazes, including the beautiful red sang-de-boeuf, or ox-blood (the copper-red, or ruby-red, of Hsüan-te which re-appeared in this period); the peach-bloom; the exquisite *clair de lune* of the French collectors (Chinese *yueh-pai*, or "moon white"), of pale grayish blue tint; the enamel colors, including the rich greens, known as the *famille verte*; the powder blue, and the mirror black.

The vases of this reign are distinguished by the regularity and exactitude of form, the sharp separation of colors and the

abrupt termination of the glaze in a straight line at the top and just above the base. This period was also noted for the five-color decorations,—a combination of cobalt blue, green, yellow, red and black, the blue being overglaze and not underglaze, as in the Wan-li period. It was also the finest period of underglaze blue painting. The majority of the best examples of Chinese porcelains, found in collections, were made during the sixty-one years of this reign.

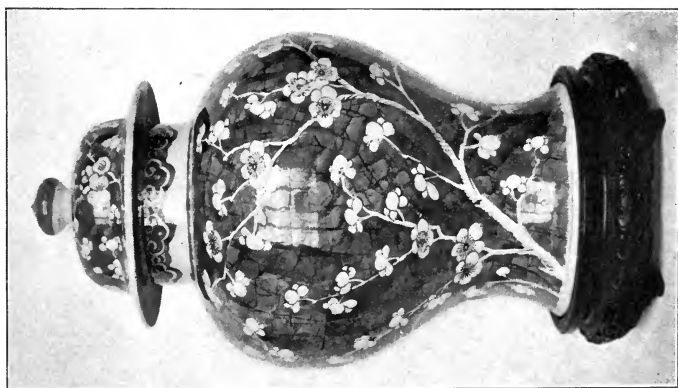
YUNG-CHENG PERIOD (1723-1735).

The porcelain of this short reign is usually grouped with that of Ch'ien-lung, but it is in reality a connecting link between the latter and that of K'ang-hsi. During the Yung-cheng period the colors and decorations of the K'ang-hsi reign were gradually toned down into the paler and more even greens of the Ch'ien-lung period, and the beautiful rose pink or ruby enamels were developed.

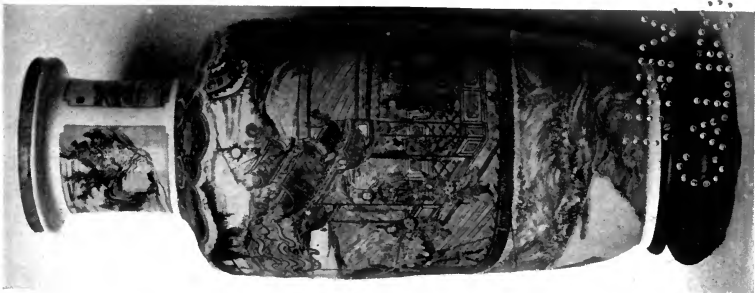
CH'IENT-LUNG PERIOD (1736-1795).

The porcelain of this period is characterized by the exquisite whiteness of the paste, perfect technique, elegance of shapes, delicacy and symmetry of decoration, and the development of several new colors and styles of decoration. The pieces are, as a rule, most carefully potted and exquisitely painted. The transmutation, or flambé, glazes flourished in great variety and abundance. The coral red is more prominent and greatly improved over that of the preceding reigns. Crackled glazes were produced at will and reached their highest degree of perfection. Overglaze carmine and pink enamels, derived from gold, predominated in the paintings—a style of decoration which has been called the *famille rose*, by Jacquemart. In this reign the rice-grain and highly valued “Lace Bowls” are believed to have been first produced, since no earlier marks have been found upon them than those of this period. The “tea dust” and “iron rust” glazes were also developed.

It was during the latter part of the Ch'ien-lung reign that the coarse heraldic and so-called “Lowestoft” porcelains, with undulatory or irregular surface, were produced in vast quantities for the European and American markets (Nos. 38 and 39).



6. COVERED JAR, "Hawthorn" Decoration (16 inches in height).
Apocryphal Ch'eng-hua Mark. Late K'ang-hsi Period.
Museum No. '02754.



7. ENAMELED VASE (*Famille Verte*), 18 inches in height.
Two Views.
K'ang-hsi Period (1662-1722).
Museum No. '76-1486.





8. HEXAGONAL VASE (*Famille Verte*), 19 inches in height.
Immortals and Twin Merry Genii, in High Relief.
K'ang-hsi Period (1662-1722).
Museum No. '95-186.



9. TWO VASES (17 and 17½ inches in height).
Powder Blue Ground, Gold Over-Decorations.
K'ang-hsi Period (1662-1722).
Museum Nos. '76-1484, '02-747.



These wares were made in the white state at Ching-tê-chên and Shaou-king Foo, west of Canton, and afterwards decorated in Canton. Much of this product was painted to order with armorial bearings, mythological and Biblical scenes and European and American designs which were sent to China to be copied on porcelain. While this class of porcelain was shipped to many foreign ports, the markets of Holland, Sweden, England, the United States and Mexico appear to have received especial attention. Some of this heraldic ware is attributed by Dr. Bushell to the K'ang-hsi and Yung-cheng periods, but the greater part of it was made in the Ch'ien-lung and Chia-ch'ing reigns.

William Chaffers, the author of "Marks and Monograms," was responsible for the erroneous statement that this heraldic porcelain was produced at Lowestoft, England, and dealers and collectors have called it by this name down to the present day. The late Sir A. W. Franks, of the British Museum, was the first to explode this theory, and his conclusions have been fully supported by recent discoveries, which prove that no hard porcelain of this character was ever made in England, the porcelain made at Lowestoft having been the ordinary soft paste of the other English factories.

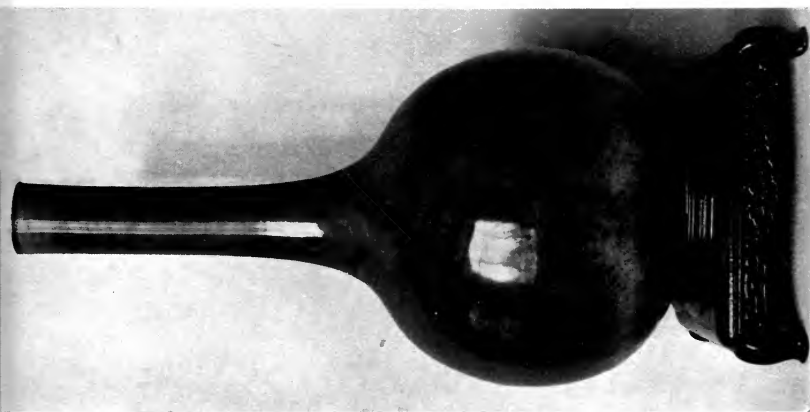
In the large collection of Chinese porcelain in this Museum, decorated in the so-called Lowestoft style, are numerous heraldic designs (No. 37), some interesting pieces painted in imitation of European engravings (No. 40), and others decorated with Biblical and mythological scenes, such as "Rebekah at the Well" and the "Judgment of Paris" (No. 36). Plates were decorated for the royal palace at Gripsholm, Sweden (No. 37), and services painted in brown with a memorial design of General Washington was made for American purchasers, after Washington's death. The Martha Washington table service, painted with the name of the original States, each enclosed in a link of a chain, which was presented to her by Captain Jacob van Braam, and the porcelain services imported for the use of the members of the Order of the Cincinnati, examples of which are preserved in the National Museum at Washington, and in various private collections, are of this variety of porcelain, made and decorated in China.

LATER PERIODS.

After the close of the Ch'ien-lung period the decadence set in and the porcelain made during the nineteenth century is, with comparatively few exceptions, unworthy of special notice.

CLASSIFICATION OF CHINESE PORCELAINS.

The classification of Chinese porcelains has always presented apparently insuperable difficulties to students and collectors. On account of a lack of sufficient knowledge of the ingredients which enter into the composition of the different varieties of ware, no serious attempt has yet been made to group them according to pastes or glazes. The practice of marking Chinese porcelains with the names of the dynasties and reigns, instead of with the names or trade devices of the makers or factories, has made it impossible to follow the system of classification that has been used in the study of European porcelains. Grandidier proposed a chronological arrangement which separated the wares into five consecutive periods. This, as adopted by Bushell, is as follows: 1. The Primitive Period, Sung (960-1279) and Yuan (1280-1367) dynasties; 2. Ming Period (1368-1643); 3. K'ang-hsi Period, from close of Ming to end of K'ang-hsi (1644-1722); 4. Yung-cheng and Ch'ien-lung (1723-1795); 5. The Modern Period, from beginning of Chia-ch'ing to the present day. Jacquemart resorted to the defective and trifling system of grouping them according to the color, or other peculiarities, of the decoration, dividing the polychrome vases into families, such as the chrysanthemo-paeonian family, the green family (*famille verte*) and the rose family (*famille rose*). This latter scheme has been generally followed, so far as it goes, in grouping porcelains for exhibition. Sir A. W. Franks divided Chinese porcelains into five classes: I. Unpainted porcelain; II. Crackle porcelain; III. Porcelain with white slip decorations; IV. Painted porcelain; V. Porcelain with pierced ornaments filled in with glaze. None of these groupings, however, is entirely satisfactory, and we therefore suggest the following, as the one most suitable for the installation of collections, which combines and simplifies those which have already been proposed,



10. PEACH BLOOM VASE (16 inches in height).
K'ang-hsi Period (1662-1722).
Museum No. '82-1654.



11. BLACK LACQUERED VASE (21 inches in height).
Mother-of-Pearl Inlaid Designs (*Laque d'Écaille*).
K'ang-hsi Period (1662-1722).
Museum No. '82-1896.



and which we believe will cover all varieties of Chinese porcelain and their distinctive styles of ornamentation:

CLASS I. UNPAINTED PORCELAIN:

- A. Plain White.
- B. Carved Decoration.
- C. Applied Decoration.
- D. Pierced Decoration, open, or filled with glaze.
- E. White Crackles.

CLASS II. PAINTED PORCELAIN:

- A. Blue Underglaze Decoration.
- B. Monochrome or Polychrome Decorations in other flat colors, including Imitations of Agate, Wood, etc., Harlequin and Tiger Skin.
- C. Enamel Overglaze Colors, on white or colored grounds, alone or combined with Underglaze Colors.

CLASS III. PORCELAIN WITH MONOCHROME GLAZES:

- A. Cèladons.
- B. Uncrackled Grounds.
- C. Crackled Grounds.
- D. Soufflé Grounds.
- E. Carved Turquoise and Cinnabar Grounds.

CLASS IV. PORCELAIN WITH POLYCHROME GLAZES:

Transmutation, or Flambé Glazes, including Sang-de-boeuf and Peach Bloom.

CLASS V. PORCELAIN LACQUERED AND INLAID (*Laque Bur-
gautée*).

In this classification, as will be noticed, no provision has been made for gold or white slip embellishments, which by some authors are grouped alone. As these over decorations are

usually applied to wares which possess more important features, and fall naturally into one or other of the above classes, they may properly be regarded as varieties of these groups.

Foreign designs painted in blue, or enamel colors, should not be treated separately but should be placed with similar wares in Class II.

CLASS I. UNPAINTED PORCELAIN.

A. PLAIN WHITE.

The white porcelains produced by the Chinese potters are of three distinct varieties, as follows:

I. THE PORCELAIN MADE AT TÊ-HUA, in the province of FUCHIEN, is known as *blanc-de-Chine* by the French collectors and *Chien T'zu* by the Chinese. The paste is of smooth, fine grained texture, the thickly applied glaze of a mellow ivory or creamy white tone, resembling the surface of European fritted, or soft paste, porcelain, although of great hardness. It occurs principally in statuettes of Buddhist divinities, such as Kuan-yin (Goddess of Mercy), figures of sacred animals, such as the lion and kylin, incense burners, tea pots, libation cups, and flower vases, either plain or with incised and applied ornamentation. Occasionally the names of the potters are etched in the paste beneath the glaze. It was made in the Ming and Ch'ing (present) dynasties. The majority of pieces found in collections belong to the K'ang-hsi and Ch'ien-lung periods (see Frontispiece and No. 12).

Mr. William Burton, in his work on "Porcelain," states that this white Chinese porcelain corresponds exactly with the Parian ware (hard paste) of the English potters, being fired to a biscuit condition and then glazed with lead.

II. FEN-TING PORCELAIN possesses a dull chalky white glaze, compared with the velvety ivory-toned gloss of the white porcelain of the province of Fuchien, and is less translucent. Pere d'Entrecolles, writing in the first quarter of the eighteenth century, states that the paste of this porcelain is composed of *hua-shih* (steatite), used sometimes alone but more frequently with a small proportion of petuntse (feldspar). It is fine



12. TEA POT AND WINE CUPS (Tea Pot $3\frac{1}{4}$ inches in height).
Fuchien White Porcelain.
Yung-cheng Period (1723-1735).
Museum Nos. '02-814, '02-790, '02-815.

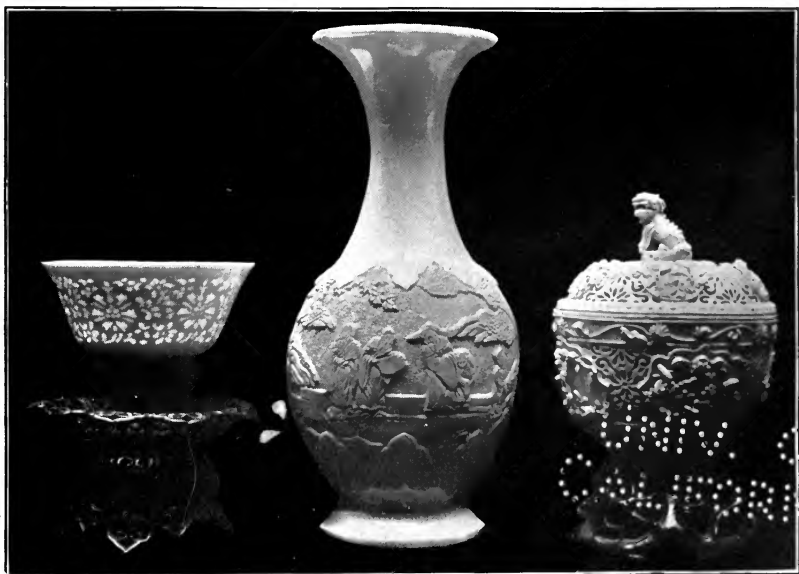


13. TEA POT ($3\frac{1}{2}$ inches in height).
Fen-ting White Porcelain, Blue Decoration.
Yung-cheng Period (1723-1735).
Museum No. '02-788

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14. CHING-TÊ-CHÊN WHITE PORCELAIN (11½ inches in height).
Figure of Kuan Yin (Goddess of Mercy).
Yung-cheng Period (1723-1735).
Museum No. '02-780.



15. RICE-GRAIN BOWL.
16. CARVED VASE (10½ inches in height).
17. BOWL WITH APPLIED ORNAMENTS.
Yung-cheng and Ch'ien-lung Periods (1723-1795).
Museum Nos. '02-824, '02-750, '02-793.

no and
unpainted

grained, light in weight, and more fragile than the ordinary Chinese porcelain, with a tendency to crackle. During the present dynasty all the Fen-ting ware, plain white and decorated in blue, has been produced at Kiangsi. Fen-ting porcelain includes the blue and white crackled (*sha-t'ai*), the so-called "soft paste" of American collectors. While it possesses a creamy white glaze with a soft appearance, it is in reality intensely hard and cannot be scratched with steel. Pieces of this variety are rarely marked, but a little water pot, of tea pot form, in the Dr. Francis W. Lewis collection (No. 13) is marked in blue with the yü (jade) character, resembling the letter E or TE, TF, and belongs to the K'ang-hsi period. A similar water pot, so marked, is in the Walters collection, in Baltimore.

When dated, pieces of this ware bear the mark of the Hsüan-tê reign (1426-1435), of the Ming dynasty. The majority of pieces in collections belong to the K'ang-hsi, Yung-cheng and Ch'ien-lung periods (1662-1795).

III. THE WHITE PORCELAIN MADE AT CHING-TÊ-CHÊN is of a pure white, or bluish white, tone. It occurs in statuettes, figures of animals, vases, tea pots, cups and saucers, etc., belonging to the K'ang-hsi and later reigns. In forms it resembles the Fuchien porcelain, but the glaze in appearance is hard, cold and of a skim-milk, or bluish white, tint. Such pieces are principally reproductions of the earlier Fuchien wares (No. 14).

B. CARVED DECORATION.

In collections of Chinese porcelain are occasionally found white pieces which have been carved in low relief while in the clay or unbaked state. The carved work may cover almost the entire surface, or is confined to an encircling zone, or to panels or medallions placed at intervals around the circumference. The carved portions are usually left unglazed (in biscuit) while the surrounding portions of the piece are covered with the white porcelaneous glaze. A fine example of this style of decoration may be seen in the Dr. Francis W. Lewis collection. Around the central part of the vase extends a figure scene surrounded by honey-comb diapering (No. 16). It belongs to the Yung-cheng or Ch'ien-lung period.

C. APPLIED DECORATION.

The process of decorating white porcelain with designs applied in relief was employed by Chinese potters in the K'ang-hsi and Ch'ien-lung reigns. Slender rolls of porcelain clay were attached to the surface of the ware in various patterns and in some instances figures of men and animals, made separately in moist clay, were applied to complete the decoration. A covered bowl of this character, in the Dr. Francis W. Lewis collection, is shown in No. 17.

D. PIERCED DECORATION.

A variety of thin white porcelain, known as "rice-grain," was produced in China in the reign of Ch'ien-lung (1736-1795). The body of the ware was pierced, before glazing, with little windows of various shapes and patterns, and afterwards filled with transparent white glaze. The name rice-grain is derived from the shape of the perforations, which usually resemble grains of rice. The rare and highly valued "lace bowls," made in this reign, are of this character. There are in the Museum collections several fine examples of rice-grain porcelain, consisting of cups, bowls, and plates, some of which are ornamented with pierced designs arranged in stars and other combinations. The most elaborate piece is a beautiful little cup or bowl, in the Dr. Francis W. Lewis collection, the punched patterns being in the form of conventionalized flowers (No. 15). The manufacture of this ware was continued in the following, Chia-ch'ing, period (1796-1820).

Another variety of pierced decoration, belonging to the K'ang-hsi and Ch'ien-lung periods, was that in which the cut designs were left open, the glaze only covering the solid parts. Some of these pieces are exceedingly delicate and beautiful. Two cups of this character are shown in No. 18.

The third variety of this class is that in which the openwork is cut through an outer shell in honey-comb patterns, the inner one being solid. Tea pots, bowls, cups and other objects were made in this style (No. 19), but as these reticulated pieces are usually decorated with painted designs, they should be grouped with the second class (Painted Porcelain). The best of these were made in the K'ang-hsi reign.



18. WHITE PORCELAIN CUPS (the larger $2\frac{1}{2}$ inches in height).
Pierced Decoration. The Larger One Decorated in Blue.
K'ang-hsi Period (1662-1722).
Museum Nos. '04-804, '93-155.



19. RETICULATED BOWLS AND BOTTLE (Bottle $5\frac{3}{4}$ inches in height).
Blue Decorations.
Ch'ien-lung Period (1736-1795).
Museum Nos. '04-605, '04-599, '04-600.

E. WHITE CRACKLES.

Under the head of unpainted porcelain we group the white pieces with crackled glazes (No. 20), the white porcelain and white glazed stoneware with black, gray, red, rose and brown crackling, which was colored by rubbing pigments into the crevices. The red and rose crackle, obtained from gold, are of a later period than the black. The cup at the right of the group is covered with apple green glaze.

The Chinese produce artificially the phenomenon of crackling in the glaze by the use of a certain kind of rock, known as "crackle petuntse" (feldspar), which is found at San-pao-p'eng. When prepared as a fine powder it produces the ordinary crackled effect. When coarser, the crackling appears at greater intervals, and is known as "giant crackle." Several large vases in the Museum collections are of this character, the black, hair-line cracks being in some instances several inches apart. A group of these crackles is shown in No. 21.

CLASS II. PAINTED PORCELAIN.

By far the largest division of Chinese porcelains is that which includes the several varieties of painted wares. The colors used to decorate Oriental porcelains are of three varieties, as follows:

- A. Grand Feu Colors.
- B. Demi-Grand Feu Colors.
- C. Moufle Colors.

A. BLUE UNDERGLAZE DECORATION.

Underglaze colors, applied on the raw clay, are known as *grand feu*, or sharp fire colors, because they are subjected to the most intense heat of the kiln. They were cobalt blue, copper red, sea green celadon and dark brown, the latter two being obtained from iron and applied as glazes, previously prepared. The earliest underglaze color used by the Chinese potters was the blue of cobalt. In the Chia-ching reign of the Ming dynasty (1522-1566) a dark, rich, purplish blue, almost approaching black, known as Mohammedan, or Mussulman blue, was employed to decorate the white glaze, and this continued to be used to some extent in the Wan-li period (1573-1619). Several fine

examples painted in this color may be seen in the Bloomfield Moore collection. One of these is a double gourd-shaped vase, about twenty inches in height, with circular medallions enclosing five-clawed dragon and phoenix motives. The irregular form, the archaic style of the painting and the color tone are characteristic of the Wan-li reign (No. 4). A pair of vases of similar form and coloring, with figure decoration, in the Metropolitan Museum of Art, are attributed to the Chia-ching period.

A second piece in the Moore collection is a large, ovoid, eight-sided vase, of opaque stoneware body, with figure designs representing the eight Taoist Immortals, in the same dark blue. This piece also belongs to the Wan-li period (No. 3).

The blue color used in the K'ang-hsi reign (1662-1722), while not so dark, was of a rich, deep tone and was more carefully handled. During this period the blue and white porcelain was noted for its elegant and perfect shapes, while the paintings were more accurately and artistically executed (No. 5). The large jars and vases of this period, painted with the mei flower (*Prunus mume*), or wild plum, known as the hawthorn pattern, are among the most beautiful examples of blue and white decoration. In the Museum collections are numerous vases and bottles of the K'ang-hsi period, illustrating the best style of blue painting (No. 6). In the succeeding reigns the blue color became paler and weaker in tone.

Toward the end of the Ch'ien-lung period (about 1780), foreign designs, principally for the European and American markets, were executed in underglaze blue. The so-called "willow pattern" and "Fitzhugh pattern" (No. 41), frequently known as India china, for the reason that they were brought from China by the East India Company, belong to this class. The "Fitzhugh pattern" has a central design of four pomegranates split in half, and four Hand-of-Buddha citrons, surrounded by four groups of flowers and symbols.

B. MONOCHROME OR POLYCHROME DECORATIONS IN OTHER FLAT COLORS.

Underglaze colors, applied on the biscuit, or fired body, before glazing, are known as Demi-Grand Feu colors, because they are fired in the more temperate part of the kiln, near the chimney



20. GROUP OF WHITE CRACKLES (Central Vase 10 inches in height).
 The Cup at the Left Shows Giant Crackle.
 The Cup at the Right is Glazed in Apple Green.
 K'ang-hsi Period (1662-1722).
 Museum Nos. '02-794, '82-1582, '02-817.



21. GROUP OF COLORED CRACKLES (Central Vase $6\frac{3}{4}$ inches in height).
 Vase to Left, Camellia Leaf Green. Central Vase, Café-au-lait Brown.
 Bottle to Right, Mustard Yellow.
 K'ang-hsi and Ch'ien-lung Periods.
 Museum Nos. '82-1579, '82-1566, '93-87.

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at the back. They are turquoise blue, obtained from copper, manganese purple, or aubergine, and yellow from iron ore containing antimony. Aubergine, or bishop's purple, is a color resembling that of the fruit of the aubergine (*solanum melongena*), called by the French *violet d'évêque*. The "three-color" decoration (called by the Chinese *San-ts'ai*), of the K'ang-hsi reign, is of this character.

In this group may be placed those Ming pieces which possess a mellow, waxy, ivory-tinted paste, of antique appearance, decorated in red, yellow and green flat colors. By some authors they are attributed to the potteries of Southern China. They belong to the sixteenth century (probably Wan-li period). Several jar-shaped vases of this type may be seen in the Museum. A large plaque (No. 2) is painted with a four-clawed dragon in dark greenish blue, surrounded by nebulae. The border design is red, green also appears and yellow is sparingly used.

The names of "Harlequin" and "Tiger Skin" have been applied to those pieces with variegated colorings, red, yellow, blue, purple and green, applied in dappling, or large spots over the white glaze. Sometimes only one or two colors are used on the white surface, as brown and green or brown and yellow. This style of decoration originated in the K'ang-hsi period.

To the same group belong those pieces which are colored in imitation of agate, marble, tortoise shell, grained wood and other natural substances. The colors are applied on the biscuit, under the glaze.

C. ENAMEL OVERGLAZE COLORS, ON WHITE OR COLORED GROUNDS.

Overglaze, or Enamel, colors are known as mouffle colors, because they are fixed at a low temperature, in the muffle stove. They first appeared in the Wan-li period of the Ming dynasty (1573-1619), but they were then used only in combination with underglaze blue. They are greens, obtained from oxide of copper; crimson and pink, from gold; blues, from oxide of cobalt; yellows, from oxide of antimony; coral red, from oxide of iron; black, from impure oxide of manganese, and white, from arsenious acid. The "five-color," or polychrome decoration (known to the Chinese as *wu ts'ai*), consists of blue, green, red, yellow

and black. Among the earliest examples of enamel color decoration are those jars and vases, which have been attributed by some ceramists to the early part of the Ming dynasty and by others to the preceding dynasty, but which we conservatively assign to the Wan-li reign. The body of these pieces is a hard kaolinic stoneware of a dark gray color, sometimes cut or perforated in ornamental designs, but more frequently possessing a solid surface. The decoration is usually outlined and filled in with enamel colors in which the blues, greens, purples and yellows predominate. A large globular vase-shaped jar, in the Bloomfield Moore collection, belonging to the early Ming dynasty, possesses double walls, the outer shell being ornamented with unglazed figures, flower blossoms and cloud bands carved in low relief, on a pierced ground, which latter is glazed in dark purplish blue and light blue ('82-329). The interior of the mouth is covered with a green glaze (No. 1).

In the K'ang-hsi reign enamel colors reached their greatest perfection and several new colors were developed, such as the brilliant greens of the *famille verte*. A tall, cylindrical vase, which was purchased from the Chinese commissioners at the Centennial Exhibition in 1876, is a noble example of this class. The design, which extends around the entire circumference, is a good example of "five-color" decoration, and represents an enormous dragon-shaped barge bearing the imperial pavilion and drawn by numerous handmaidens. Two views of this vase are here shown (No. 7).

In this reign vases decorated with high reliefs of human figures, vases and symbolical objects were made. A fine hexagonal vase of this character, in the Museum collection, belonging to the *famille verte*, is shown in No. 8.

Black and green hawthorn vases, which have been so extensively imitated in the nineteenth century, were then first produced. The so-called black hawthorns have a black ground, the color being applied and fired after the decoration was fixed. The green ground of the green hawthorns was applied and fired with the reserved decorations. There is in the J. Pierpont Morgan collection a black hawthorn vase decorated with red flowers, and one of the rarest examples of the hawthorn class, in the same collection, is painted with a red ground. These vases all belong to the K'ang-hsi period.



22. GROUP OF SOUFFLÉ GLAZES (Central Vase 15½ inches in height).
Tea Dust Vase on Left. Robin's Egg Blue in Centre and at Right.
Ch'ien-lung Period (1736-1795).
Museum Nos. '93-92, '82-1647, '93-165.



23. ROSE-BACK EGG-SHELL PLATES (8 inches).
Ch'ien-lung Period (1736-1795).
Museum Nos. '99-688, '02-842, '99-694.

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24. EGG-SHELL SAUCER-DISHES ($8\frac{3}{8}$ inches).
 Decorated in Enamel Colors.
 Imperial Ch'ien-lung Porcelain.
 Museum Nos. '99-693, '99-692.



25. FAMILLE ROSE; Relief Decorations.
 Ch'ien-lung Period (1736-1795).
 The Lotus Tea Pot in Centre, K'ang-hsi Period,
 Museum Nos. '02-816, '93-68, '02-792.

In the latter half of this reign a great variety of overglaze colors was used. Toward the close of this reign rose color first appeared. This beautiful color was also produced extensively during the Yung-cheng period and was brought to the greatest perfection in the Ch'ien-lung reign (1736-1795). In this latter period the reds and pinks predominate in the decorations which form a group that has been designated by Jacquemart as the *famille rose*. While this color, in all shades, from a pale pink to a deep purplish red, takes a prominent place in the painted decorations of Ch'ien-lung porcelain, it is most beautiful when used alone as a solid color on vases and the backs of egg-shell plates, cups and saucers.

Belonging to the class of plates with so-called seven borders is a deep plate of rose-back egg-shell porcelain in the Museum collection (No. 23), which was exhibited at the London Exhibition of 1851. It is profusely decorated in brilliant enamel colors and gold work. In a large, white, six-pointed, star-shaped reserve in the centre is a beautifully painted figure scene. A seated lady holds a feather fan in her left hand. By her side stands a lady attendant, while at her feet, two boys, one holding in his hand a gilded ju-i sceptre, the other a toy, are playing with two rabbits. The inner border, of turquoise blue, is diapered in black Y-pattern. The next border is decorated with gilded scroll work. The third border is pink with quatrefoil diapering. On the flat rim is a broad border containing irregular medallions enclosing gilded ornamentations, and butterflies and flowers in enamel colors, on a pink ground of honey-comb diapering. The edge is tipped with a narrow belt of robin's egg blue, with sections of other colors. While this example may be classed with the seven-border plates, it possesses in reality but five distinct border patterns. It belongs to the Ch'ien-lung period (1736-1795). There are numerous other egg-shell ruby-backed plates, cups and saucers in the collection which will rank, in point of decorative execution, with the best wares of the same reign. Two of these, one in the Lewis collection, and one in the Bloomfield Moore collection, are exquisite examples of the same period (No. 23). Two egg-shell plates from the imperial Ch'ien-lung factory are shown in No. 24.

The ground patterns found on pieces decorated in enamel colors are of various designs, among which are the Y diaper, the key (or meander), the swastica, the quatrefoil, the octagon and square, the star and cube, the diamond, the ju-i head, the honey-comb, the fish-roe, the scale, the curl, and the T pattern.

White porcelain pieces of various forms, such as vases, and articles belonging to tea services, with a profusion of relief ornaments, painted in enamel colors, were made extensively in the Ch'ien-lung and Chia-ch'ing reigns (No. 25).

A distinctive style of enamel color decoration was made for trade with countries to the south of China, suggesting in their treatment the work of the Siamese potters. A large temple censer of octagonal form, in the Dr. Francis W. Lewis collection, is a notable example of the lavish use of enamel colors and gilding (No. 32). It is irregular and angular in outline and measures twenty inches in height and thirteen inches in greatest width, being supported by eight low cylindrical feet. The prevailing color is yellow. The body, or bowl, is decorated at the top with a band of sunken gadroons, bronzed and gilded, each bordered by a heavy black enameled line on a green ground. Around the central part extends a series of relief ornaments, touched with green and red, on a canary yellow ground. The under part of the body is encircled by another band of gadroons, solidly bronzed and slightly raised, each surrounded by an inner black and an outer green line. The sloping top of the foot, or plinth, is elaborately decorated with relief ornamentation, a conventionalized vase at each angle, from which branches out scroll-work in red, green and blue enamels on a yellow ground. On each of the eight sides of the base is a sunken rectangular panel containing relief ornamentation, the framework being decorated with gold scrolls on a dark red ground. The interior of the mouth is lined with turquoise blue. At opposite sides, on the angles of the body, are two flattened, upright, pierced, ear-shaped projections for suspension by silken cords and tassels. The whole is surmounted by a perforated bronze cover, with lion sporting with ball, modeled as a knob. While this piece has been attributed to the Yung-cheng period (1723-1735), we conservatively place it in the following reign (Ch'ien-lung, 1736-1795). A temple garniture of this style is shown in No. 33.



26. GROUP OF VASES (Central one 8½ inches in height).
 Painted in Enamel Colors on Yellow Ground.
 The Central Vase has Apocryphal Ch'eng-hua Mark.
 Ch'ien-lung Period (1736-1795).
 Museum Nos. '93-103, '04-685, Z. 81.



27. GROUP OF FLAMBÉ (KUANG YAO) VASES (Central one 17 inches in diameter).
 Blue, Purple and Red Glazes.
 Ch'ien-lung Period.
 Museum Nos. '04-777, '04-630, '09-263.

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Among the export wares produced in China during the eighteenth century was a coarse porcelain, or stoneware, coated with a porcelaneous glaze and decorated in bright enamel colors, in which red and yellow are conspicuous, and blue, green and black are intermingled (No. 34), which has been erroneously attributed to Siam (see remarks under "Siam").

It is to the latter part of the eighteenth century, in this same reign, that we ascribe those Chinese pieces decorated in enamel colors and showing a marked Persian influence, both in form and design. A wine-ewer and water-pipe of this character are painted in green, yellow, pink, purple, blue, red and black (No. 35). They date from about 1800.

A variety of Chinese porcelain covered with deep imperial yellow glaze, in some instances approaching orange, was produced in the K'ang-hsi and Ch'ien-lung periods. The pieces usually met with are bottle-shaped vases with engraved designs in low relief, of imperial dragons, and lions sporting with brocade balls, covered with enamel colors, which are exceedingly vivid, green, blue, claret and purple, or aubergine. A group of vases of this variety is shown in No. 26. The central one bears an apocryphal mark of Ch'eng-hua. In the J. Pierpont Morgan collection, in the Metropolitan Museum of Art, is a large, flattened vase of this type, covered with an iridescent brownish-yellow glaze, with dragons and cloud scrolls painted on the sides in green enamel, which is attributed to the Ch'ien-lung period.

CLASS III. PORCELAIN WITH MONOCHROME GLAZES.

A. CÈLADONS.

The French word "Cèladon" has come to be generally used to indicate a sage-green or sea-green color, resembling the tint of pale green jade, which is found on stoneware and porcelain produced in China, and pottery made in other eastern countries. The Chinese name for this peculiar green glaze is *ch'ing t'zu*, while the Japanese call it *seiji*. Cèladon stoneware was produced extensively at several places in China during the Sung (960-1279) and subsequent dynasties: At K'ai-fêng-fu in

Honan; Lung-ch'üan-hsien; Ch'u-chou-fu, in the province of Chekiang; Liu-t'ien; also in Corea and Siam, and more recently in Canton and Ching-tê-chên, China, and in Japan.

The earliest examples of Chinese cèladon stoneware always show a dark-red ferruginous color on the basal rim, which is not colored with the green glaze, produced by the intense heat to which the ware was subjected in the kiln, acting on the impure materials of the paste. When this color is not present the ware is not of the oldest period. Two varieties of old cèladon were made at Lung-ch'üan in the Sung dynasty, one having an uncrackled, the other a crackled, glaze. To simulate the great age of the excessively rare pieces, the modern Chinese potter resorts to the trick of placing on the exposed parts of the bottom a superficial coloring. The genuine old specimens are frequently fluted on the under, or outer, sides and are usually decorated with incised designs of conventional flowers, fabulous animals and simple geometrical devices. We know of no archaic pieces in American collections, although there are many which pose as such.

Cèladon pieces of more recent date are of three varieties, those of plain form and surface, entirely covered with the peculiar greenish tinted glaze; those with relief, etched and pierced decorations, and those with zones or panels of cèladon glaze in combination with painted decorations.

Several pieces of cèladon glaze, in the Museum collections, are here figured (No. 28).

B. UNCRACKLED GROUNDS.

Among the single color glazes are the blues, turquoise, purples (aubergine), greens and yellows. The imperial yellow, a K'ang-hsi color, reserved for the use of the sovereign, is a deep tint approaching orange. Other shades are known, as citron, lemon, canary, eel-skin and mustard yellow. The variations of this color are produced by using combinations of antimony and lead.

Iron red, of coral or brick-dust hue, known to the Chinese as *fan hung*, is derived from iron combined with lead. It first appeared in the Chia-ching period of the Ming dynasty, but was not used as a ground color until the eighteenth century. It



28. GROUP OF CÉLADON VASES.

The Central Vase is Decorated with Iron Rust Leaves (12 inches in height).

Yung-cheng and Ch'ien-lung Periods.

Museum Nos. '82-1543, '82-1541, '82-1542.



29. GROUP OF BRONZE LUSTRE PORCELAIN (Vase 11 inches in height).

White Medallions with Enamel Color Designs.

Ch'ien-lung Period (1736-1795).

Museum Nos. '04-782, '04-670, '93-145.

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was employed extensively in the K'ang-hsi reign in painted decoration, combined with other colors. In the following reigns it was often used alone, as a solid ground color. It is a product of the muffle kiln, applied over the glaze.

Mirror black, called by the Chinese *wu chin*, is a brilliant, polished black of great depth and intensity. It first appeared in the K'ang-hsi reign. It is frequently used alone as a solid ground color, but is sometimes overlaid with gilded decoration. Occasionally white spaces are reserved in the black, in which designs are painted in enamel or other colors. Such pieces should be classed with painted porcelains.

Chocolate or coffee-colored glaze (the *tzu-chin* of the Chinese potters) is a brown or bronze glaze, more or less iridescent. It is the *fond laque*, or *café au lait*, of the French collectors. It was invented in the Ming dynasty (Chia-ching period) and developed to great perfection in the K'ang-hsi reign. While it sometimes occurs as a solid ground color, it is more frequently used in conjunction with white reserves in which are painted designs in underglaze blue, or in overglaze enamel colors (No. 29). These pieces may properly be grouped with painted porcelain. Occasionally the brown ground is overlaid with white slip tracteries, when it is sometimes erroneously attributed to the Persian potters. The great majority of bronze lustre pieces in collections belong to the K'ang-hsi and Ch'ien-lung periods.

Eel-skin yellow, a brownish yellow, somewhat iridescent, glaze, and snake-skin green, a brilliant color with prismatic sheen, and the exquisite *clair-de-lune*, of pale, grayish blue tint, were developed in the time of K'ang-hsi.

C. CRACKLED GROUNDS.

Single color glazes, particularly the lapis-lazuli blue, mustard yellow, purple and camellia-leaf green, are frequently covered with a net-work of fine crackling (No. 21). Otherwise they are similar to the pieces with uncrackled grounds. The finest crackle is called by the French *truité* (fish-roe), from its fancied resemblance to the scales of the trout.

To the K'ang-hsi reign belongs the apple green crackled glaze, which is paler and more thinly applied than the deep green of

a later date. The apple green crackle was reproduced in the Ch'ien-lung period (see cup on right of group No. 20).

Camellia-leaf green was produced under K'ang-hsi and during the following two reigns. Sapphire blue, fish-roe green (with fine crackling), mustard yellow and pink crackle reached their perfection in the Ch'ien-lung period.

D. SOUFFLÉ GROUNDS.

Speckled monochrome glazes are known as soufflé, from the process of insufflation employed to produce them. The liquid color is blown upon the ware through a bamboo tube on the farther end of which has been stretched a piece of fine gauze, and being projected in a fine spray or rain bursts into minute bubbles on the surface of the ware.

Tea dust glaze (called by the Chinese *Ch'a-yeh-mo*) is produced by the insufflation of green enamel upon a yellowish-brown ground which owes its color to the presence of iron. This glaze is of olive green tint, nearly approaching the color of powdered tea leaves. Tea dust glazes were brought to great perfection in the Ch'ien-lung period (see vase to left of group No. 22).

Powder blue glaze (known to the Chinese as *Ch'iu-ch'ing*), obtained from calcined cobaltiferous ore of manganese, is of a grayish-blue color. The process consists in blowing the preparation through gauze on the raw white body and subsequently glazing it. By the French it is called *bleu fouetté*, from its whipped aspect. It occurs either as a single color covering the ware, or is painted over with gold designs (No. 9). It is also used in combination with decorations in the same blue, or in enamel colors in reserved white medallions or panels. Pieces of the latter style should be placed with the group of enamel colors.

Soufflé glazes also occur in other colors, such as red, robin's egg blue (No. 22), and iron rust. In the Ch'ien-lung period soufflé glazes were produced in great variety.

E. CARVED TURQUOISE AND CINNABAR GROUNDS.

Snuff bottles and small vases were frequently carved with relief designs, coated with monochrome glazes, turquoise blue, cinnabar red and other colors (No. 30).



30. WALL VASE AND SNUFF BOTTLE (Vase 5 inches in height).
Carved Decorations, Turquoise Ground.
The Wall Vase has Reliefs in Enamel Colors.
Ch'ien-lung Period (1736-1795).
Museum Nos. '05-187, '99-1008.



31. SNUFF BOTTLES (Central one $3\frac{5}{8}$ inches in height).
Painted and Relief Designs.
Ch'ien-lung and Chia-ch'ing Periods (1736-1820).
Museum Nos. D. 37, '82-1002, '82-1003.

The small wall vase with flat back is cut in relief pattern covered with turquoise glaze, over which are raised symbols which are painted in enamel colors. This variety may be properly grouped here, or placed with the enamel color painting. These pieces are usually attributed to the Ch'ien-lung period. In No. 31 are shown three snuff bottles of this reign, two of which are painted in colors, the third being decorated with a figure scene modeled in high relief.

CLASS IV. PORCELAIN WITH POLYCHROME GLAZES.

TRANSMUTATION GLAZES.

Transmutation, or flambé (Chinese "*yao-pien*"), glazes are supposed to have been first produced on pottery and stoneware in the Sung dynasty. In the K'ang-hsi reign of the present dynasty the celebrated sang-de-boeuf, or ox-blood, a transparent copper red of ruby tone, often flecked with green, which belongs to the transmutation crackled glazes, first appeared. On the old sang-de-boeuf the glaze always terminates at the base in a line of mathematical precision, and as it did not overflow beyond the straight line of stoppage, the foot of the vase did not have to be ground by the polishing wheel. Modern examples of ox-blood glaze, however, reveal the fact that glaze drops have run down on the foot, which have been removed by grinding on the wheel. True old sang-de-boeuf glaze is always found on the finest quality of white porcelain. In common parlance, however, the deep red flambé glaze applied to coarse stoneware is known by the same name, but is of an entirely different character.

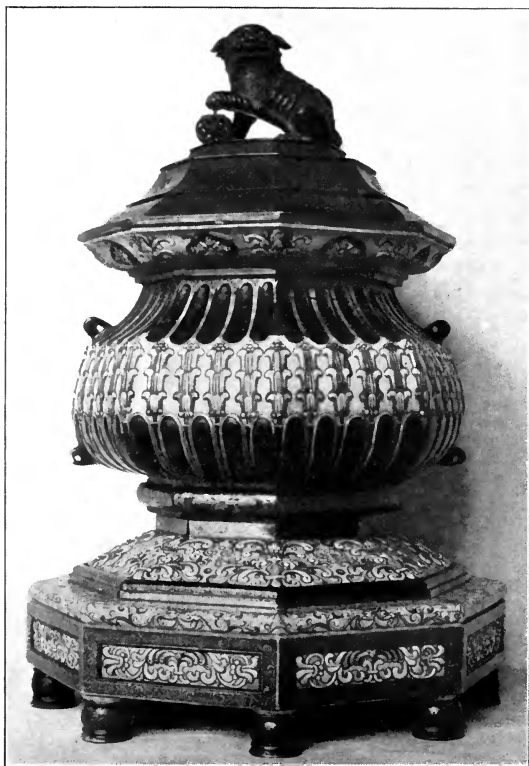
The invention of the highly-prized "peach blow," or, more properly, "peach bloom," glaze, of ceramic enthusiasts, belonging to the copper reds, has been accredited to Ts'ang Ying-hsüang, a member of the Imperial Commission which was appointed in 1680 for the porcelain works at Ching-te-chen. The "peach bloom" (or, as the French call it, "*peau de pêche*"), known to the Chinese by the name *p'ing-kua hung* (apple red), belongs to the transmutation glazes. The name was adopted because of a fancied resemblance in coloring to the variegated hues of the skin of a ripened peach. Vases of this character found in many collections rarely exceed eight inches in height.

While the colorings, however, are most beautiful, they are usually of a rich pink tone, very different from the purplish or yellowish hues of the fruit after which the glaze has been named. Examples of this type have been invested with an importance and fictitious value far in excess of their merits, some of which have been sold in recent years for prices ranging from \$10,000 to \$18,000. A "peach bloom" vase, in the Bloomfield Moore collection, is of globular shape, with long, slender neck, standing 16 inches high. The color of the glaze is a dark, rich, peach-skin red, blending into ashes of roses, with delicate cloudings of apple green and mottlings of crushed strawberry (No. 10). While some connoisseurs who have examined it have hesitated to place it with the class of peach blooms, because of the difference of its tinting from the glazes which go by that name, it in reality more nearly approaches the true peach skin color than the smaller vases which have brought such fabulous prices. It may be attributed to the early part of the K'ang-hsi period of the present dynasty, when the peach bloom glaze was first developed.

So-called transmutation, or flambé, colors are due to the varied degrees of oxidation of copper. The surface of the ware is mottled, flecked, streaked and splotched with various colors, ranging from brilliant reds, through every intermediate shade of purple to pale blue. Sometimes all of these colors appear on a single piece, while in other cases different shades of one or two colors are used. True transmutation glazes were perfected in the Yung-cheng reign (1723-1735) when what had previously been accidental effects were brought under complete control. During the Ch'ien-lung period they were developed to the highest state of perfection (No. 27).

CLASS V. PORCELAIN LACQUERED AND INLAID.

Porcelain coated with black or brown lacquer, encrusted with inlaid patterns of mother-of-pearl, is known to the French as *laque burgauté*, and called by the Chinese *Lo-tien-Tz'u*, meaning porcelain inlaid with shellwork. The finest vases of this character date from the K'ang-hsi period. "The decoration of the *laque burgauté* class," as described by Dr. Bushell, in his *Oriental Ceramic Art*, "is generally of a landscape character,



32. TEMPLE CENSER (20 inches in height).
Decorated in Enamel Colors.
Ch'ien-lung Period (1736-1795).
Museum No. '02-730.



33. TEMPLE GARNITURE (Vases 15 inches in height).
Decorated in Enamel Colors.
Ch'ien-lung Period (1736-1795).
Museum No. '09-58, 57, 58a.

70 2000
2000 2000



34. SINICO-SIAMESE BOWLS (Central one 9 inches in height).
Decorated in Enamel Colors.

Chia-ch'ing and Tao-kuang Periods (1796-1850).

Museum Nos. '82-1369, '05-204, '05-203.



35. WATER PIPE AND WINE POT (8½ and 14 inches in height).

Decorated in Persian Style in Enamel Colors.

Early Nineteenth Century.

Museum Nos. '02-756, '93-174.

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Appendix

executed in a mosaic mother-of-pearl, varied sometimes by thin plaques of beaten gold and silver, displayed upon a velvety background of ink-black lac. The pieces of shell, extremely thin, are tinted artificially, shaped with the knife, and combined cleverly by the artist to form the details of the picture. The patience of the workman is almost incredible, shaping one by one the leaves of the willow-tree, or a clump of bamboos, the feathers of a bird, the glittering morsels designed to represent the pebbly bank of a river, or the faults of a rock, and carving silhouettes for clouds and waves, fine and supple as the strokes of a pencil."

Dr. Bushell describes a large bowl of lacquered porcelain in the Sèvres Museum, "covered with a lake scene, with lotus-flowers, reeds and water fowl, which is a *chef-d'œuvre* of naturalistic art." He also refers to a large vase, "nearly three feet high, of the K'ang-hsi period, with the neck and swelling body filled in with black lac, exhibiting in delicately tinted mosaic the varied scenes of Chinese lily life, in their minutest details, each scene being labeled in tiny characters; the gilded disk of the sun was shining over all in pristine brightness; but the silver walls of the houses had become quite black from age."

A large vase, of the K'ang-hsi reign, in the Bloomfield Moore collection, bearing an apocryphal mark of the Ch'eng-hua period of the Ming dynasty, and entirely covered with black lacquer, gilded and inlaid with a landscape and figure design in mother-of-pearl, is a distinguished example of this type (No. 11).

MARKS FOUND ON CHINESE PORCELAINS.

As a rule little reliance can be placed on the marks found on Chinese porcelains. Many of them are apocryphal, or false, the early marks being extensively used on later productions. Dr. Bushell, in his *Oriental Ceramic Art*, states that the Chinese potters seldom attach a true mark of date, excepting upon pieces produced at the imperial manufactory. When older marks are copied it is believed by some writers that they indicate the period in which the original pieces which have been imitated were produced. While this may be true in rare instances, the practise was not general. While, on the other hand, many of the marks are genuine, it is difficult to lay down any rules by

which contemporary marks may be distinguished from their later forgeries. Correct dates are rarely found on porcelain from private kilns. Advanced students of Chinese porcelains, however, are usually able to decide when a mark is genuine by the clear sharp impression or the accuracy and peculiarities of penciling, taken in conjunction with the characteristics of the ware itself and its decoration.

Chinese period or date marks are usually composed of six or four characters, to be read downwards and from right to left. When the six character mark is used, the first two characters signify the dynasty, the next two the reign, and the last two represent the words "period" and "made." Thus the first two

characters of the Ch'eng-hua mark are 大明, standing for Ta Ming (Great Ming), the third and fourth are 成化, standing

for Ch'eng-hua, while the fifth and sixth are 年製, which mean *period* or year, and *made*. The complete mark reads, "Made in the Ch'eng-hua reign of the Great Ming dynasty," the charac-

ters being usually assembled as follows:

大 明
年 製

It may be noted here that the mark of this reign is frequently apocryphal, or false, being found on many pieces made in the K'ang-hsi and Ch'ien-lung periods.

When only four characters are used as a mark the first two, indicating the dynasty, are omitted.

Occasionally the characters of these marks are arranged in a horizontal line, to be read from right to left.

Numerous other marks are found on Chinese porcelains, such as hall marks, marks of dedication, pictorial and symbolical marks, and occasionally marks of potters, which are sometimes impressed in the Fuchien white porcelain. The reader is referred to the numerous works which contain full explanations of these various devices.



36. PLATES WITH EUROPEAN DESIGNS (9 inches).

"Rebekah at the Well."

"The Judgment of Paris."

Decorated in Enamel Colors.

Late Ch'ien-lung Period (about 1790).

Museum Nos. '82-1263, '82-688.



37. PLATES WITH EUROPEAN DESIGNS ($9\frac{5}{8}$ and $9\frac{3}{4}$ inches).

Made for Royal Palace at Gripsholm, Sweden.

Heraldic Design.

Painted in Enamel Colors.

Late Ch'ien-lung Period (about 1790).

Museum Nos. '82-1402, '82-261.

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THE PORCELAIN OF JAPAN, SIAM AND KOREA.

JAPAN.

Japan has been noted more for its artistic pottery than for its porcelain, yet the latter was produced at many places in that country in the seventeenth and eighteenth centuries, some of which will compare favorably with the Chinese wares.

Porcelain decorated with enamel colors was produced at Arita, Province of Hizen, in the first mentioned century. Before the close of that century porcelain decorated similarly to that of the Wan-li period, with overglaze enamel colors in combination with underglaze blue, was extensively manufactured at the Hizen potteries. The modern ware is known as Imari porcelain, the name of the seaport to which it is shipped for distribution. A Japanese artist, named Kakiyemon, originated a new style of porcelain painting at Imari about the middle of the seventeenth century, using enamel colors and gold. The peculiar style he adopted, which is now known by his name, was the painting of isolated motives, such as birds and flowers, sparingly scattered over the fine white surface of the ware. This style of decoration was extensively imitated in the eighteenth century on the porcelains and faience of Europe, particularly at Chantilly, France, Dresden, Germany, and Bow, Chelsea and Worcester, England.

Hirado porcelain, named after the House of Hirado, under whose patronage it was manufactured, was produced in the province of Hizen. The ware is often pure white and frequently ornamented with underglaze blue paintings of a soft, grayish-blue tone. It also occurs decorated in white slip, and with relief decorations and pierced designs (No. 42).

At Kutani, province of Kaga, the manufacture of porcelain was begun about the middle of the seventeenth century. The old ware is of milk-white color, and has a peculiar russet-red in the decoration, entirely different from the harsh brick-dust red of the old Imari, or Hizen porcelain. Kaga, or Kutani porcelain, of more recent times, is characterized by its thinness of paste and the prevalence of red and gold in the decorations.

Porcelain was first made in the province of Owari early in the nineteenth century. The old wares were decorated in underglaze blue, and this variety of porcelain is still a specialty of these kilns. It is also known as Seto ware, from the town of that name in this province.

At Kyoto porcelain was not made until the early part of the nineteenth century, although some of the most noted potters of Japan had made this place famous for its artistic pottery, for two or three centuries. Yeiraku Hozen, of the eleventh generation of the Zengoro family of hereditary potters, is supposed to have been the first to make true porcelain there. He was also noted as an imitator of many of the early Chinese wares. Prof. Edward S. Morse, in his great work on Japanese Pottery, refers particularly to his pure blue and white pieces and celadon glazes and his wonderful bowls decorated in red and gold. Mr. William M. Laffan, in his introduction to the catalogue of the J. Pierpont Morgan Collection of Chinese Porcelains, refers to this same artist in the following words: "There was a potter in Japan, who came of a long line of potters, and whose name was Zengoro-Riosen. He was born in the latter part of the eighteenth century, and he died full of years and ceramic honors at the end of the first half of the nineteenth century. He is handed down to posterity as a potter of the greatest distinction, and one who, in his time, was celebrated far and wide for the skill with which he imitated the pottery of others. It is told that the Prince of Arita was so pleased with his reproduction of a Chinese vase of the reign of the Emperor Yung-lo, that he forthwith named him Yung-lo and presented him with a seal bearing those characters, with authority to affix it thereafter to his pieces. Thus it came about that Zengoro-Riosen was thenceforward known as Yeiraku, the Chinese characters Yung-lo being pronounced in Japanese, Yeiraku. The white bowl in the collection, No. 6, Case F, is one of these celebrated objects, and bears, in old *k'uan* characters, the mark *Yung-lo-nien-chih*." This bowl, now in the Metropolitan Museum of Art, New York, is of the most fragile egg-shell porcelain. It is of the purest white paste and is decorated with engraved or impressed dragons, like water marks in paper, which can only be distinguished in strong sunlight. Professor Morse gives the date of Yeiraku's death as 1853.



38. GROUP OF SINICO-EUROPEAN PORCELAIN (Toddy Jug 10½ inches in height).
So-called "Lowestoft" Style.
Late Ch'ien-lung Period (about 1790).
Boston Museum of Fine Arts.



39. SINICO-EUROPEAN VASES (One on right 17 inches in height).
So-called "Lowestoft" Style.
Late Ch'ien-lung Period (about 1790).
Museum No. 1-I.

Figure 1 is a scatter plot illustrating the relationship between the number of children in the household (X-axis) and the number of children in the neighborhood (Y-axis). The X-axis ranges from 0 to 10, and the Y-axis ranges from 0 to 10. The data points are represented by black dots. A positive linear trend is visible, with a regression line drawn through the points. The correlation coefficient is noted as $r = 0.72$.

By some writers this potter has been confounded with another (Wagen) who was of the following (twelfth) generation of the Zengoro family of Kyoto. He left Kyoto about 1866 and established a pottery in the village of Yamashiro, where for some years he made porcelain in the Kutani style. He appears to have imitated some of Yeiraku's work, especially that variety having gold-brocaded decorations on a coral-red ground. There are several examples of his porcelain of this style in the Museum collection, including some small vases with reserved white medallions enclosing underglaze blue paintings, surrounded by coral-red ground, overlaid with gold designs (No. 43).

SIAM.

It is now generally conceded that porcelain was produced at one time in Siam, but it was of inferior quality and examples are rarely found in collections. What is generally known as Siamese porcelain is a rather coarse grade of hard porcelain more or less covered with Siamese devices in enamel colors, among which coral red, pale yellow, blue, green, black and white are prominent. The Siamese claim for this ware a great antiquity, but since vitrifiable colors of this character were not used in China until the K'ang-hsi reign, this style of overglaze painting could not have been employed until late in the seventeenth century. The best ceramic authorities are now agreed that the enameled ware which has been attributed to Siam was made and decorated in China for the Siamese market.

The body of this variety of ware varies from a true hard paste porcelain, translucent in its thinner parts, to an opaque white stoneware, but all of it is unmistakably of Chinese origin. An interesting collection of bowls of this type was exhibited at the Chicago Exposition in 1893. The Oriental exhibitor was fortified with certificates which stated that the pieces had been in the possession of one of the noble families of Siam for four centuries and that they were examples of the earliest porcelain made in that country. The exterior and interior surfaces of these pieces are entirely covered with enamel colors so that only the white glaze on the under parts is exposed. The decorations consist of Buddhist figures and quadrupeds with human fore parts and heads, in yellow and white enamels, in irregular medallions with

coral-red ground, surrounded by a jet black enamel ground bearing cloud bands or flame points in rose enamel, edged with white. Above and below are narrow turquoise blue and iron red bands, with overglaze ornamentation in rose and white. Bordering the medallions and surrounding the figures are scrolls in rose pink. The presence of this latter color establishes beyond question the approximate age of these pieces, since it first appeared in the early part of the eighteenth century, and they are therefore not earlier than the Ch'ien-lung period. A late bowl of this type, in the Bloomfield Moore collection of this Museum, bears an inscription on the base, which, as translated by Dr. Friedrich Hirth, the eminent sinologist of Columbia University, is as follows: "Made by Kwong Hing of Ma-ti, Hongkong." Since, as Dr. Hirth observes, Hongkong did not become a colony before 1841, this example cannot antedate the Tao-kuang period (1821-1850).

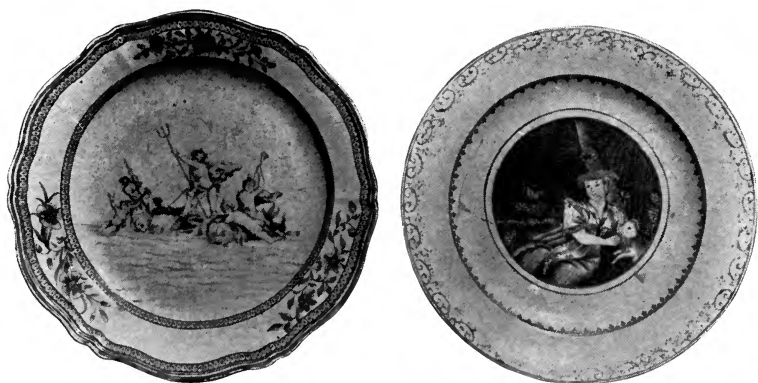
Good examples of this style of ware may be seen in the Museum collection, three of which are shown in No. 34.

In olden times a heavy, coarse celadon stoneware was produced to some extent in Siam, and some of the ancient kilns and deposits of fragments of the ware have been discovered in various parts of that country.

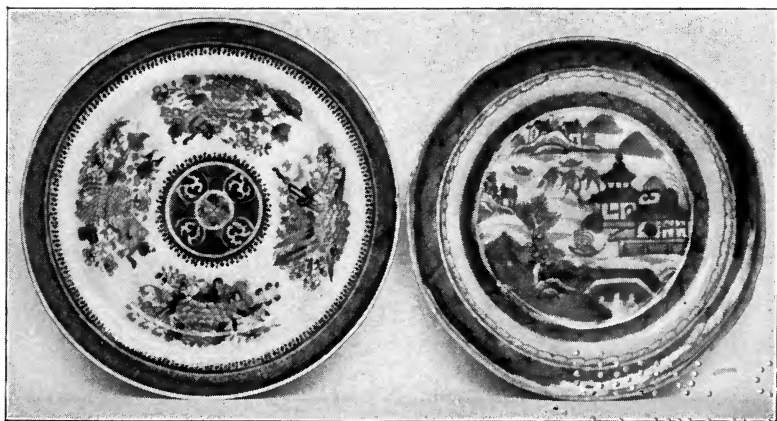
KOREA.

Little is known of the manufacture of porcelain in Korea, but it is believed that the earliest hard paste produced in that country was somewhat similar to the old Chinese celadon, the glaze being of a grayish-green color. A cream colored ware, sometimes attributed to Korea, is probably the Fuchien porcelain of China, and what is known to collectors as Korean porcelain usually proves to be Japanese.

The best examples of Korean wares found in collections are of a deep gray, or slate color, decorated with inlaid white designs, in the so-called Mishima style, which was introduced into Japan by Korean potters. Bushell, in his *Oriental Ceramic Art*, states that "one class of Korean tea-bowls is known to the Japanese by the name of *Mishima ware*, because the formal lines of its decoration resemble at a distance the printed columns of the almanac which is issued from a famous temple at Mishima



40. PLATES PAINTED WITH EUROPEAN DESIGNS (9 inches).
In Imitation of Line Engraving.
Late Eighteenth Century.
Museum Nos. '99-525, '82-768.



41. PLATES DECORATED IN BLUE ($8\frac{7}{8}$ and $7\frac{1}{2}$ inches).
Fitzhugh and Willow Patterns.
Late Eighteenth Century.
Museum Nos. '99-509, '99-515.

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on the Tokaido, the great route from Kioto to Yedo." The examples of Korean Mishima ware which we have examined are not porcelain, however, but a hard pottery, or stoneware.

FORGERIES OF CHINESE PORCELAIN.

Chinese porcelain has been extensively imitated and counterfeited at many places in Europe, but particularly in Germany, Paris and Budapest. The best reproductions were made in Hungary about 1840 to 1850. The poorest are those which have been fabricated in Germany. Many excellent imitations emanate from Paris, where several well-known establishments have for years been making them. Some of the forgeries are so cleverly executed that they are likely to deceive the average collector. Certain enamel colors used in the decoration, notably the pinks, are frequently so exact in tone and design as to escape detection even when subjected to the critical eye of the expert, but the spurious painting may usually be distinguished by the patchy appearance of the colors, which have been applied roughly by numerous touches of the brush, while in the genuine work the petals of flowers and other details of the design have been painted by a single stroke, which leaves the thick colors homogeneous and smooth. These characteristics can be plainly seen by viewing the surface obliquely in a good light.

The porcelain used by European counterfeiters is of a whiter color than the Oriental, and to remedy this defect a surface tint is often applied to imitate the bluish or greenish tone of the Chinese glaze. Frequently the artificially tinted glaze is over-colored, streaked or mottled, and on the bottoms of counterfeit pieces it is irregular and variegated, where it has been unevenly applied, ranging from a perceptible green to a pronounced purple.

The cock and peony patterns are frequently imitated, but some of the enamel colors, notably the yellows, are opaque and muddy. Plates, cups and saucers, tea-pots and small vases, are more frequently counterfeited than more important pieces. In the painting of human figures and animals, and the diapering of groundwork the careful touch and mannerisms of the Chinese artist are lacking. These peculiarities of drawing furnish the

surest test of genuine pieces. The delicate and firm outlining of human faces, the Oriental spirit revealed in the delineation of the human figure and the representations of animals, and in the few simple lines by which flowers and foliage are gracefully pictured, are at best only clumsily imitated by the European decorator.

A critical comparison of genuine and spurious pieces will soon enable the collector to distinguish between them. To the expert it is the *tout ensemble* which is the final test.

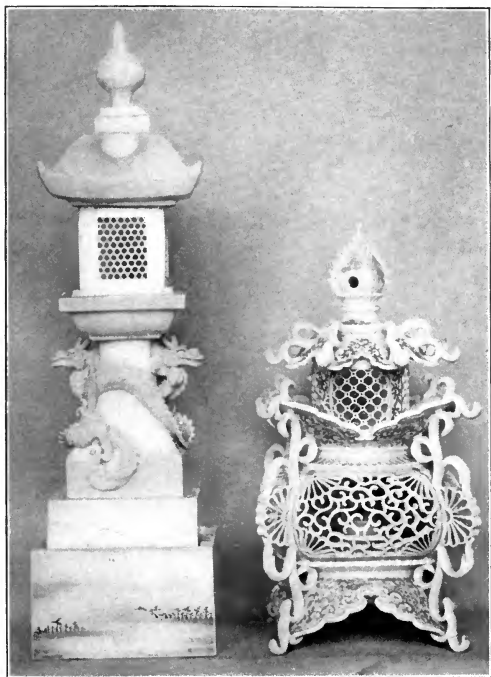
RECAPITULATION.

For the guidance of collectors in dating their Chinese porcelain, we append a list of the most striking characteristics which distinguish the productions of certain periods:

- | | |
|-----------------------|--|
| ARMORIAL PORCELAIN. | Produced in the K'ang-hsi, Yung-cheng, but principally in the Ch'ien-lung and Chia-ch'ing reigns, for the foreign markets; often improperly called "Lowestoft" porcelain. |
| AUBERGINE. | See "Purple." |
| BLACK (Mirror Black). | A lustrous jet black glaze which originated in the K'ang-hsi reign. |
| BLUE (Underglaze). | Imported color of great depth and purity and of pale tone; used in the Hsüan-tê period (1426-1435). Native blue cobalt ore, in artistic decorations used in the Ch'eng-hua period (1465-1487).

Imported "Mohammedan" blue, of dark tone first used in Cheng-te reign (1506-1521). "Mohammedan" blue decorations brought to great perfection in the Chia-ching period (1522-1566). The best pieces are of this reign.

"Mohammedan" blue also employed to a limited extent in the Wan-li period (1573-1619). In this reign the |



42. HIRADO RETICULATED LAMP AND LANTERN (Lamp 14 inches in height).
Lantern Decorated in Blue.
Japanese.
Museum Nos. Z. 53, '96-30.



43. YEIRAKU VASE AND BOWLS (Vase 6 inches in height).
Red and Gold Decorations.
Kutani, Japan.
Museum Nos. '04-794, '05-197, 02-723.

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blue underglaze color, however, was, as a rule, thinner and weaker than those of the preceding reigns.

Underglaze blue painting reached its greatest perfection in the K'ang-hsi period of the present dynasty (1662-1722), the color being strong and deep, but not as dark as the "Mohammedan" blue.

The painting is sharp and accurately executed. The underglaze blue of the Ch'ien-lung reign is somewhat paler than that of the K'ang-hsi period, but the painting is carefully done.

BLUE (Mohammedan).

A blackish blue used principally in the Chia-ching and Wan-li reigns, brought from abroad. Called also Mussulman blue (see above).

BLUE (Powder).

The grayish blue mottled glaze, known as Powder Blue, was first produced in the K'ang-hsi reign, to which the best pieces may be assigned. The blue ground was usually decorated with overglaze gold designs.

**BRONZE LUSTRE
OR FOND LAC.**

This brown glaze first appeared in the decorations of the Chia-ching period (1522-1566), and was used later as a ground tint in the K'ang-hsi and Ch'ien-lung reigns.

**CARVED PORCELAIN WITH
COLORED GROUNDS.**

Small snuff bottles and vases deeply cut into figure and floral patterns and covered with turquoise blue, cinnabar red and other glazes, usually attributed to the Ch'ien-lung period.

CÉLADON GLAZE.

First produced in the Yuan and Sung dynasties, but used in all of the Ming and Ch'ing periods. The oldest pieces show a dark-red ferruginous color on the under, unglazed parts.

CLAIR-DE-LUNE.

The pale gray-blue glaze, known as Clair-de-Lune, was invented in the K'ang-hsi reign.

- CRACKLE (Apple Green).** The best examples of this color are attributed to K'ang-hsi, but it was also used in the Yung-cheng and Ch'ien-lung reigns. The oldest apple green crackle is distinguished by its pale and thin, transparent, color.
- CRACKLE (Camellia-Leaf Green).** A deep emerald green crackle glaze, produced in the K'ang-hsi and following two reigns.
- CRACKLE (Fish-Roe Green).** A finely crackled green glaze of the Ch'ien-lung period.
- CRACKLE (Lapis-Lazuli Blue).** A rich, dark blue crackle glaze, of the Ch'ien-lung reign.
- CRACKLE (Mustard Yellow).** A greenish yellow glaze with fine crackling, made in the Ch'ien-lung and later periods. Known also as Fish-Roe Yellow, on account of the crackle.
- CRACKLE (Pink).** A white crackle glaze, filled in with rose or pink color. It was produced in the Ch'ien-lung period.
- CRACKLE (Sapphire Blue).** A deep purplish blue crackle glaze attributed to the Ch'ien-lung period.
- CRACKLE (Truité).** Fine crackle glaze, resembling fish roe, produced in the K'ang-hsi and Ch'ien-lung periods.
- ENAMEL COLORS.** Enamel colors, in combination with underglaze blue, were first introduced in the Wan-li period (1573-1619).
Enamel colors were used alone in the K'ang-hsi period (1662-1722), and following reigns.
- ENAMELED PORCELAIN.** Porcelain covered with enamel colors, for trade with Siam and other southern countries. Made principally in the Yung-Cheng and Ch'ien-lung periods.
- EUROPEAN SHAPES.** Tea cups with handles, plates with flat edges, tall coffee pots, large toddy jugs with lids, sugar bowls with

handles, oval platters, hollow hot-water dishes and other articles, intended for the foreign trade, were not made in China previous to the eighteenth century.

FAMILLE ROSE.

See "Rose Enamel."

FAMILLE VERTE.

See "Green Enamel."

FEN TING PORCELAIN.

See under "White Glaze."

"FITZHUGH" PATTERN.

A common design made for the European market, painted in blue, belonging to the Ch'ien-lung period.

FLAMBÉ GLAZES.

Same as Transmutation Glazes, which see. Transmutation and flambé glazes were brought to great perfection in the Yung-cheng and Ch'ien-lung periods (1723-1795). These mottled and variegated effects are caused by the varying degrees of oxidation of copper silicates.

FOND LAC.

See "Bronze Lustre."

FUCHIEN PORCELAIN.

See under "White Glaze."

GREEN ENAMEL
(*Famille Verte*).

Green Enamels were developed in the K'ang-hsi reign and used in great profusion, originating a style of decoration now known as the *Famille Verte*.

Green enamel colors, of paler and more even tone, belong to the Yung-cheng and Ch'ien-lung periods (1723-1795).

GREEN (Snake-Skin).

A brilliant green, somewhat iridescent, developed under K'ang-hsi.

"HAWTHORN" JARS.

The so-called "Hawthorn" decoration was developed in the K'ang-hsi reign and the spherical jars with bell-shaped covers, painted with plum blossoms in rich, deep blue, date from this period. Hawthorn decoration was also employed in the following reigns, but the blue is paler and weaker in tone.

- HERALDIC PORCELAIN. See "Lowestoft."
- INLAID PORCELAIN. See "*Laque Burgautée*."
- "LACE BOWLS." A variety of Rice-Grain porcelain, attributed to the Ch'ien-lung reign.
- LAQUE BURGAUTÉE
(Lacquered and Inlaid Porcelain). The vases covered with black lacquer and decorated with inlaid mosaics of mother-of-pearl, may be attributed to the K'ang-hsi period (1662-1722).
- "LOWESTOFT." Coarse porcelain decorated with foreign and heraldic designs in enamel colors, improperly known as "Lowestoft" china, was produced extensively during the Ch'ien-lung period. Some of the heraldic plates bear dates in the K'ang-hsi and Yung-cheng reigns, but the majority of examples were produced in the two following reigns.
- PEAR-SKIN SURFACE. A rough single color ground, resembling the texture of pear skin, produced by stippling the colored glaze with a brush, while wet.
- PEACH BLOOM. The so-called Peach Bloom, or Peach Blow, glaze originated in the K'ang-hsi reign, and the finest pieces are of this period.
- PIERCED DESIGNS AND ENAMEL GLAZES. Large jars and vases, of coarse, gray stoneware body, with outlined decorations filled in with colored enamel glazes, and frequently having pierced designs, were made in the Wan-li period.
- POWDER BLUE. See under "Blue."
- PURPLE (Aubergine). A rich, deep purple, which first appeared early in the Ming dynasty, and was used in later reigns as a ground color.
- RED (Copper). Copper red, of the *Grand Feu*, sometimes called ruby-red, was used in the Hsüan-tê period, and reappeared in the K'ang-hsi reign, in the sang-de-boeuf, or ox-blood glaze.

RED (Coral).

An iron red or brick-dust color, known as coral red, was employed to some extent in decoration during the Chia-ching period (1522-1566) and as a solid ground color in the K'ang-hsi and Ch'ien-lung reigns. It was used extensively in the K'ang-hsi period, in combination with enamel colors, particularly on the *famille verte* pieces.

RETICULATED PORCELAIN.

Designs pierced and left open. The best are K'ang-hsi. Also made in the three following reigns. See "Pierced Designs," etc., above.

RICE-GRAIN.

White porcelain with pierced decorations filled in with translucent glaze was first made in the Ch'ien-lung period.

ROSE ENAMEL
(*Famille Rose*).

Rose or pink enamel colors of the muffle kiln, derived from gold, were first used in the K'ang-hsi period, but the beautiful rose-back plates, cups and saucers belong to the Ch'ien-lung period (1736-1795). The extensive use of this color in decoration gave rise to the name of *Famille Rose*.

SANG-DE-BOEUF.

Ox Blood, or Sang-de-boeuf, glaze was first developed in the K'ang-hsi reign. The best examples belong to this period (see "Copper Red").

SEVEN-BORDER PLATES.

So-called Seven-Border egg-shell porcelain plates, with rose backs, were produced extensively during the Yung-cheng and Ch'ien-lung periods. The most artistically painted examples belong to the latter reign.

SOUFFLÉ
(Blue and Green).

Robin's Egg Blue, produced by the insufflation of blue and green glazes. Ch'ien-lung period.

SOUFFLÉ (Iron Rust).

A metallic brown glaze imitating iron rust, invented in the same reign.

- SOUFFLÉ (Tea Dust).** In the K'ang-hsi reign first appeared the olive green soufflé glaze, known as Tea Dust. The best pieces belong to this period, but it was also produced in the later Ch'ien-lung reign.
- SPUR MARKS.** The three scars usually found on the bottoms of Japanese plates, etc., rarely occur on Chinese porcelain.
- TIGER-SKIN.** A spotted glaze consisting of red, blue, green, yellow and purple, which originated in the K'ang-hsi period. Sometimes called Harlequin.
- TRANSMUTATION GLAZES.** First produced during the Ming dynasty but brought to great perfection, in the K'ang-hsi period, in the peach bloom and sang-de-boeuf glazes. Called by the Chinese *yao-pien*.
- WHITE GLAZE (Fen Ting).** Porcelain of a dull, creamy white tint, frequently decorated in blue and possessing a tendency to crackle, improperly known to collectors as "soft paste," is attributed to K'ang-hsi, and the following two reigns.
- WHITE GLAZE (Fuchien).** A cream white porcelain, of fine grained texture, resembling in appearance the soft fritted porcelain of Europe, was produced in the Ming and Ch'ing dynasties. The pieces usually found in collections are of the K'ang-hsi and the two following periods.
- WHITE GLAZE (Ching-tê-Chên).** A pure white porcelain, of bluish tone, produced in the K'ang-hsi, and later reigns. The forms are usually reproductions of Fuchien forms.
- "WILLOW PATTERN."** A well-known design, known as the "Willow Pattern," decorated in blue, was produced extensively at Canton in the latter part of the eighteenth century (Ch'ien-lung).
- YELLOW (Eel Skin).** A brownish yellow, somewhat iridescent, glaze, produced in the K'ang-hsi reign.

YELLOW (Imperial).

A rich, deep, orange color, of the K'ang-hsi period. It was also used in the Ch'ien-lung reign, but usually in a lighter shade.

YELLOW (Mustard).

See under "Crackle."

YELLOW
(Lemon or Canary).

A pale yellow glaze (uncrackled), which first appeared in the K'ang-hsi reign.

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