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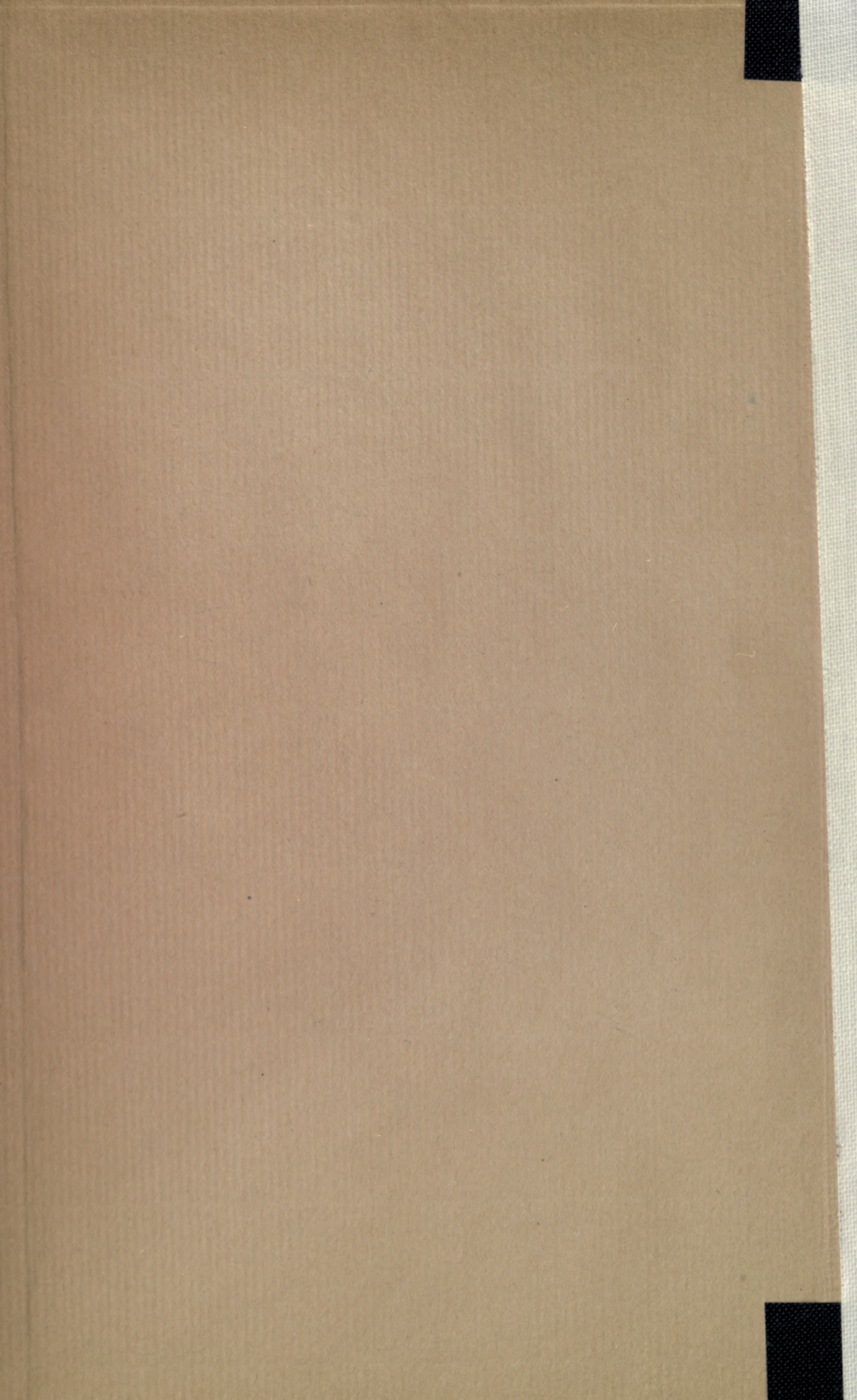


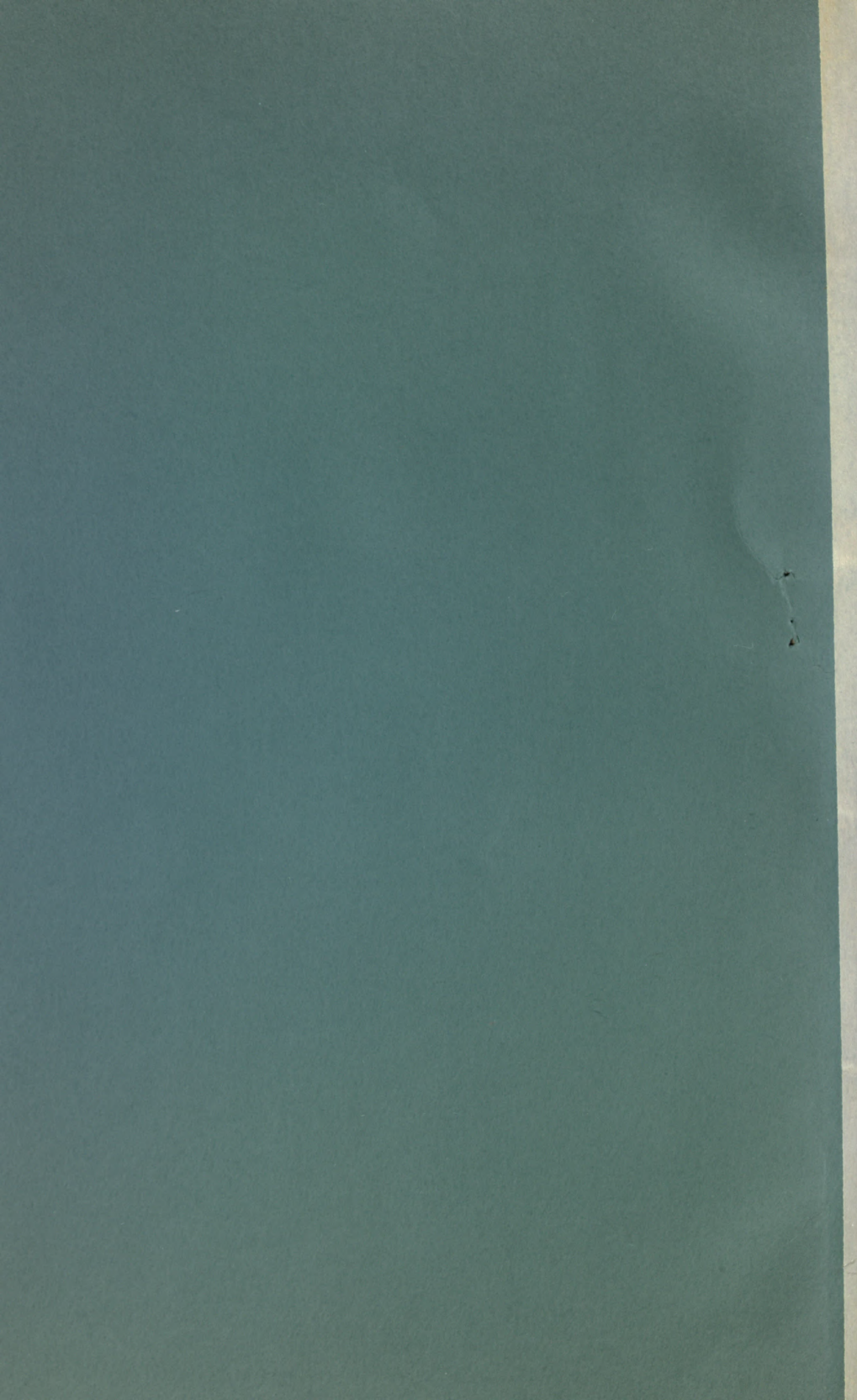
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A·MANUAL·OF
HISTORIC
ORNAMENT

    
R·GLAZIER


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Historic
Ornament.

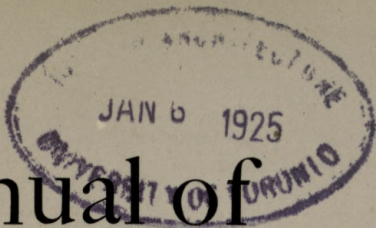
leup in psalmus medi
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 dno canamus dulacer
 fmnies. **U**t pio regi
 pariter canentes ai suis
 scis mereamur aula in
 gredi celi simul et brata
 du cer uita. **O** restre
 hoc nobis deitas brata pa
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 auis roborat in omni
 gloria mundo. **A.** ou p
 muer uaturae audene

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 et uerlez face ou dy men ch
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 usqz ala diuero demet. toz
 les lecons. les respns. et les
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 les liures des roys. et diceat
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 daoult. Six lecons seront
 leues du pmi liure des roys



Le pmi liure des roys.
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 uie mus
 et rama
 tha in so

Phuni de monte effraim
 et nomen eius helcaud
 filius iheroboam filij
 elyud. filij thau. filij
 suph effraim. filij
 it duas uxores. nome
 um anna. et nomen
 secunde phenanna. su
 eruntqz phenannu filij:
 anne autem non erat
 litera. respns. **O**re



A Manual of HISTORIC ORNAMENT

TREATING UPON THE EVOLUTION,
TRADITION AND DEVELOPMENT OF
ARCHITECTURE AND OTHER APPLIED
ARTS.

PREPARED FOR THE USE OF STUDENTS
AND CRAFTSMEN.

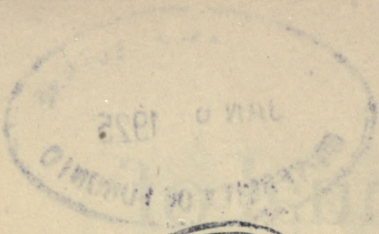
BY RICHARD GLAZIER,

Associate of the Royal Institute of British Ar-
chitects; Head Master of the Municipal School
of Art, Manchester.



With 470 illustrations by the Author.

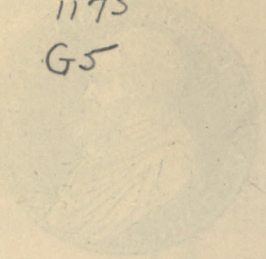
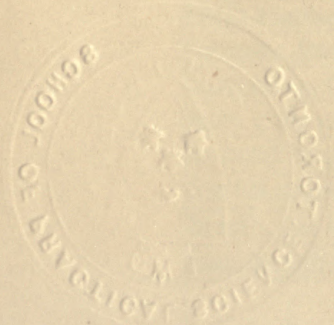
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1899.



MANCHESTER:

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Preface.

THIS manual has been prepared with the three-fold object of giving an elementary knowledge of Architecture and Historic Ornament, of awakening a responsive and sympathetic feeling for the many beautiful and interesting remains of ancient and mediæval civilization, and lastly of directing the attention of students and craftsmen to the beauty, suggestiveness and vitality of the Industrial Arts of the past, and their intimate relation to the social and religious life of the people.

The advantages to be derived by students and craftsmen from such a study are manifold, for, by a careful study of these arts, we may see the capabilities and limitations of material, the appropriateness and application of ornament, the continuity of line and form—yet with a marked diversity of enrichment and treatment—the interest and significance of detail, and the customs, myths and traditions of the past with their continuity of thought and expression.

The illustrations, which have been chosen expressly for this work, are typical examples of each period or style and are produced in line as being the method best suited to the requirements of students, giving definition, emphasis and the constructive qualities of design rather than pictorial effect.

In the appendix will be found a list of text books and works of reference, which may be studied with considerable advantage by students desiring further information upon this important subject.

RICHARD GLAZIER.

MANCHESTER,

1899.

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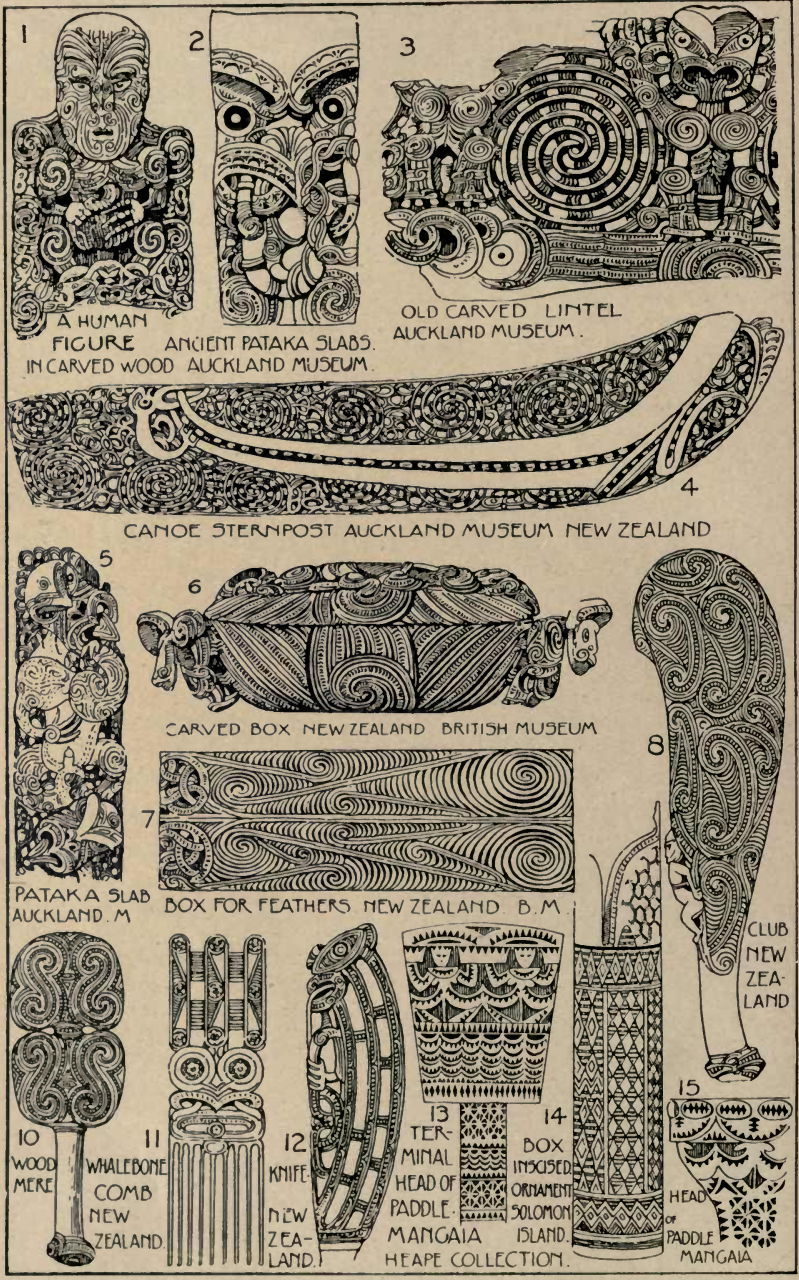
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ORNAMENT OF OCEANIA.

The ornamentation of the people of the Pacific Isles is full of interest and is remarkable for the evolution and perfecting of an ornamental style by a primitive people, with myths and traditions purely local and in no way influenced by other nations. It is a style of ornament full of meaning and symbolism, yet simple in detail and arrangement, not founded upon the beautiful vegetation and flora of their islands but upon abstract forms derived from the human figure, and arranged with a pleasing geometrical precision remarkable for a primitive people.

The ornamental art of these people may be broadly divided into provinces, each with its distinct ornamental characteristics and traditions, New Zealand showing the highest development and Australia the lowest in the ornament of Polynesia and Melanesia.

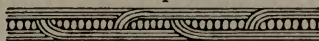
Much of the ornament is purely linear, consisting of parallel and zig-zag lines; that of Australia consists almost entirely of these lines incised in the ground and occasionally filled in with colour. In New Guinea a higher development is reached, the ornament, of straight and curved lines, being carved in flat relief. In the province of Tonga-Samoa, the surface is divided into small fields, and the linear ornament runs in a different direction on each of the fields. The Hervey and Austral Islands are distinguished by their remarkable adaptations of the human female figure, the illustrations given here showing the original type and its ornamental development. These examples, together with the circular eye pattern form the elements of

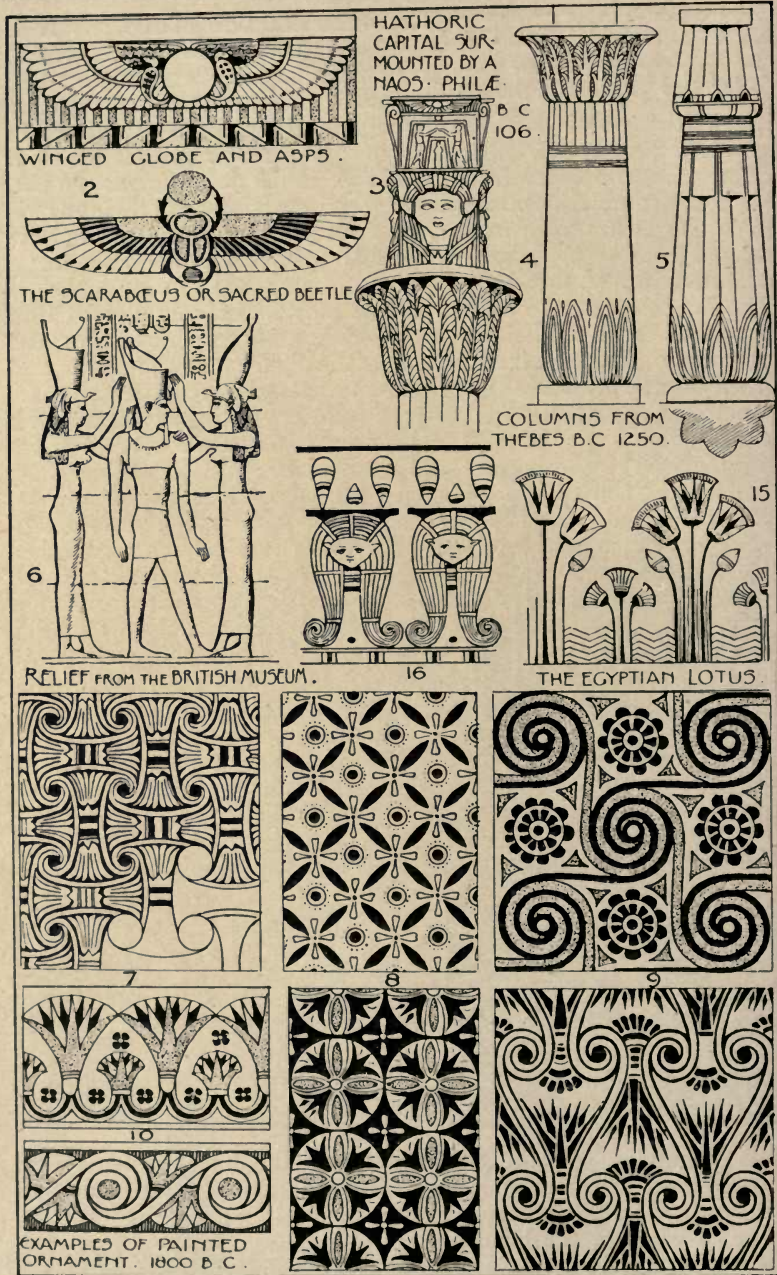


the Hervey province, of which the Heape collection contains many



fine examples. In the Solomon Island the linear ornament is occasionally interspersed with an inlay of angular pieces of mother of pearl. The New Zealand province is distinguished by its skilful pierced carving, the beauty of its spiral forms adapted from the human figure, fig. 1. 12., and the constant use of the border here given.





EGYPTIAN ORNAMENT

The history of Egypt, extending from 4400 B.C. to 340 B.C., during which 30 dynasties existed, is usually divided into three groups: (1) The Ancient Empire, I.-XI. dynasties, 4400-2466 B.C. (2) The Middle Empire, XII.-XIX., 2466-1200; and (3) the New Empire, XX.-XXX. dynasties, 1200-340 B.C.

The capitals of the Ancient Empire comprised Memphis and Abydos; of the Middle Empire, Thebes, Luxor and Tanis; and of the New Empire, Sais and Bubastes. The remarkable civilization of these early dynasties are attested by the many fine remains of architecture, sculpture and decorative arts that enrich our national museums. The Great Pyramids were built during the fourth dynasty, the largest by Kheops, 3733-3700 B.C., is 756 ft. \times 756 ft., and 480 ft. high; the second, by Kephren, 3666-3633 B.C., is 707 ft. \times 707 ft. and 454 ft. high; and the third, 333 ft. \times 330 ft., and 218 ft. high, was erected by Mykerinos, 3633-3600 B.C.

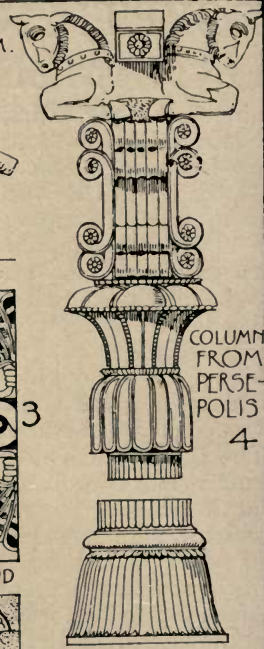
The Sphinx, half animal and half human, is the oldest sculpture known, and is probably of the 1st and 2nd dynasties, yet it is singular that all the earliest sculptures of the 3rd and 4th dynasties with which we are acquainted, were realistic portraiture, remarkable for its fidelity to nature. Kings, queens, and individuals of note, were finely sculptured, frequently of a colossal size. But the Deities, Amen Sckhet, Horus, Hathor, Iris, and Osiris, were represented in the later dynasties by small votive statuettes, noticeable for their number rather than for their artistic qualities, never reaching the excellence or vitality of the earlier period. Much of the architectural enrichment was in *Cavo Relievo*, a peculiarly Egyptian mode of ornamentation, the outline of the figures, birds, or flowers, being sunk into the surface of the granite or basalt, and then carved within this sunk outline, leaving the ground or bed raised, these reliefs being invariably painted red, blue, green, and yellow. The frieze, which, in the hands of the Greeks at a later period, became their principal ornamental field, was used by the Egyptians in superposed bands, showing, in *cavo relievo*, the industrial arts and pursuits, weaving, glass blowing, and the making of pottery; ploughing, sowing, and reaping, also hunting and fishing. The composition and sculpture of these incidents was simple, refined and purely decorative, with a *naïveté* and unaffection so appropriate to the architectonic conditions. Mingled with these incidents were the beautiful hieroglyphs, or picture writing of the Egyptians. Figs. 7-13 are examples of painted decorations showing the spiral construction of lines, together with the symbolic treatment of the Lotus, the latter being regarded by the Egyptians as a symbol of fertility and of a new life, hence the profusion with which it was used in their decorative work. Great fertility of invention was displayed in enriching their architectural capitals with the Lotus, the Papyrus, and the Palm. A singular feature introduced during the 18th dynasty was the Hathor Capital surmounted by a small Naos. During the Ptolemaic period, B.C. 300, the Hathor Capital was placed upon the vertical bell-shaped capital (fig. 3).

ASSYRIAN ORNAMENT.

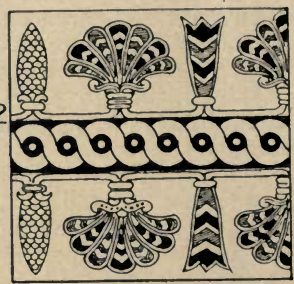
Plate 3.



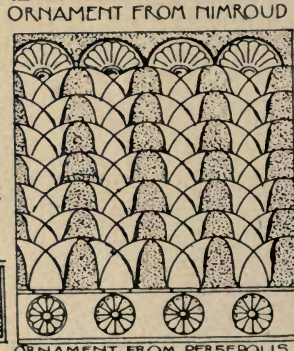
BAS-RELIEF.
BRITISH MUSEUM.



COLUMN
FROM
PERSE-
POLIS



SCULPTURED PAVEMENT
FROM KOWUNJIK.
BRITISH MUSEUM.



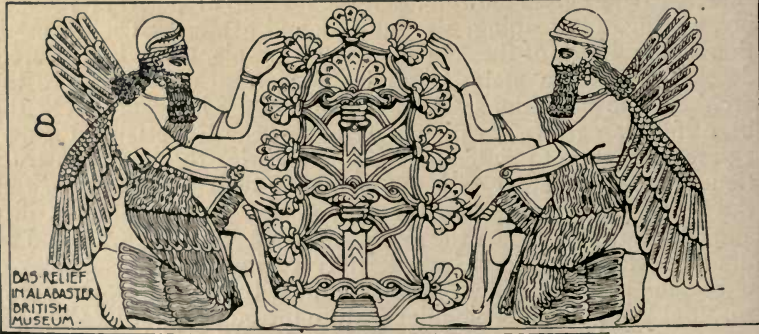
ORNAMENT FROM NIMROUD



ORNAMENT FROM PERSEPOLIS.



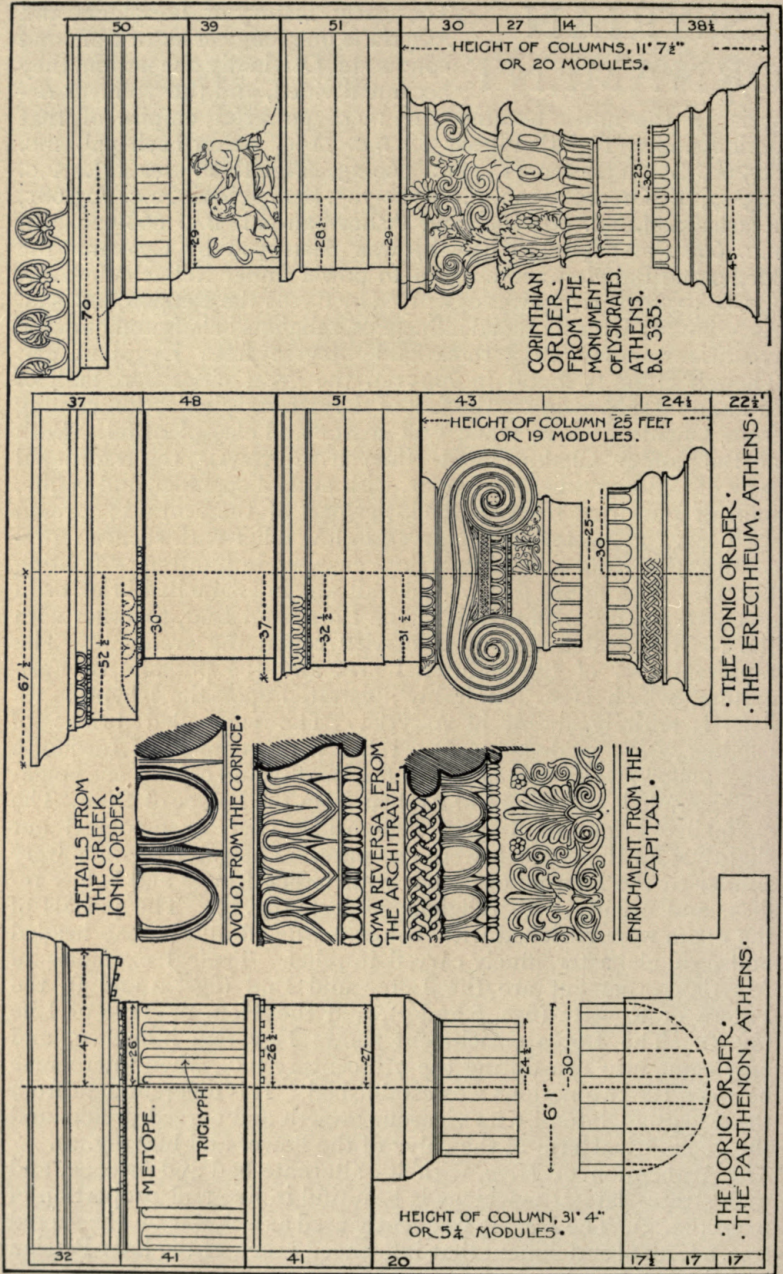
AN ASSYRIAN
PATERA.



BAS RELIEF
IN ALABASTER
BRITISH MUSEUM.

ASSYRIAN ORNAMENT

The early history of Babylonia and Assyria is one long series of wars and conquests. Originally one nation, they became divided, and the younger Assyria in the north became the most powerful empire of that period under Tiglath Pileser I., B.C. 1100, Ashur-nasir-pal, B.C. 885-60, Shalmaneser II., B.C. 860-25, Tiglath-Pileser III., B.C. 745-27, the Great Sargon, B.C., 722-705, Sennacherib, B.C. 705-681, Esarhaddon, B.C. 681-668, and Ashur-ban-pal, B.C. 668-626. In B.C. 609 the capital, Nineveh, was destroyed by Cyaxares the Mede, and Babylon arose again to power under Nebuchadnezzar, B.C. 604-562; this city was destroyed by Cyrus the Persian, B.C. 539. Assyrian art with its racial influences, religious beliefs and climatic conditions, differs in a remarkable degree from Egyptian art. Though stone is found in Assyria, the great cities were built of brick, no doubt owing to the fact of the arts and civilization coming from Chaldea, where stone was scarce and clay plentiful. Both at Babylon in Chaldea, and Nineveh in Assyria, the traditional type of building was rectangular, with arched openings and vaults, built of sun-dried bricks; the lower part of the wall was covered with large alabaster slabs, carved in low relief with scenes representing the King and his warriors engaged in hunting or fighting (fig. 1). The upper part of the wall was in enamelled brick or in coloured stucco, with details of the Lotus and Bud, together with the rosette, which was often carried round the archivolt. The representation of the industrial arts and the pursuits of agriculture, which is so admirably illustrated upon the Egyptian reliefs, is entirely absent in Assyria. The enamelled bricks of Chaldea, were modelled in low relief with enamels of turquoise blue, yellow, white and black, of fine quality and colour, one splendid example is the Frieze of Archers from the Palace of Susa. The enamelled bricks of Assyria were usually flat, or modelled but slightly, and the enamels were less pure. The external walls were similar to the internal ones, but with larger friezes and bolder reliefs, and usually with religious subjects (fig. 9). The portals of the doors were enriched with colossal winged and human headed bulls, of alabaster, finely carved in relief. Typical examples of Assyrian ornament are the Lotus and Bud (figs. 2 and 3), the Patern or Rosette (figs. 6 and 7), and the Hom or Tree of Life (fig. 8). The Lotus enrichment shows Egyptian influence, and only came into use during the 7th century B.C., when intercourse between the two nations was established. It is differentiated from the Egyptian lotus by its vigorous growth and curved profile, and the geometrical form of the calyx of the flower and bud (fig. 2). The Anthemion or *Hom*, with its alternate bud and fir-cone, and with strong lateral markings is beautiful in line and proportion of mass (fig. 3). The *Hom* is frequently used as a flower on the sacred tree, a form of enrichment that influenced much of the later Persian and Sicilian textile fabrics.

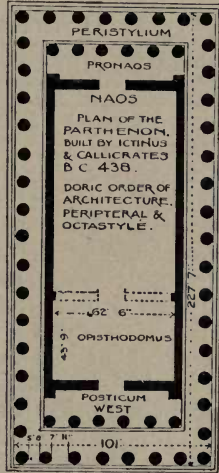


GREEK ARCHITECTURE.

Classic or columnar architecture is divided into the Greek and Roman styles, and each style comprises several orders of architecture; the Grecian orders are the Doric, the Ionic, and the Corinthian, and many examples of each of these orders are still extant in Greece and her colonies:—Asia Minor, Southern Italy, and Sicily. From a comparison of these buildings certain constructive and decorative features are observed to be present, and thence they are considered as the characteristics of the style or order, which comprises the base, (except in the Grecian Doric, which has no base) column and capital, and the Entablature, which consists of the Architrave, Frieze, and Cornice. The proportions of these orders are generally determined by the lower diameter of the column which is divided into 2 modules or 60 parts; the height of the column always including the base and capital. The DORIC order was used for the early Greek temples from B.C. 600 and culminated in the Parthenon B.C. 438. The COLUMNS in this order are $4\frac{1}{2}$ to 6 diameters in height with 20 shallow flutings with intermediate sharp arrises; the CAPITAL is half a diameter in height and is composed of an echinus or ovolo moulding with annulets or deep channellings below, and a large square abacus above. The ARCHITRAVE is plain; the FRIEZE is enriched by rectangular blocks, with 3 vertical channellings in the face, termed triglyphs, alternately with square metopes which were frequently sculptured. The CORNICE, composed of simple mouldings, and enriched with mutules over the centre of the triglyphs and metopes, projects considerably beyond the face of the frieze.

The IONIC order has columns of from 9 to $9\frac{1}{2}$ diameters in height, with 24 flutings divided by narrow fillets; the *base* is half a diameter in height and composed of a plinth, torus, fillet, cavetto, fillet, torus, and fillet. The CAPITAL is $\frac{1}{7}$ of a diameter high and consists of a pair of double scrolls or volutes, supported by an echinus moulding enriched with the egg and tongue, with an astragal below.

The ENTABLATURE is $\frac{1}{4}$ the height of the columns, the ARCHITRAVE of one or more fascias, the FRIEZE continuous and frequently enriched with sculpture in low relief; the CORNICE has simple and compound mouldings supported by a dentil band. Caryatides were occasionally introduced into this order; they were female figures clad in drapery having vertical folds which re-echoed the flutings of the Ionic column. These caryatides supported the entablature in place of the columns; a beautiful example of this feature is the south portico of the Erechtheum at Athens.



The CORINTHIAN order was not much used by the Greeks; the examples however show considerable refinement and delicacy of details. The COLUMNS are 10 diameters in height with 24 flutings; the BASE is $\frac{1}{2}$ diameter high; the CAPITAL is a little greater than a diameter in height and is enriched with acanthus foliations and spiral volutes. The ENTABLATURE is richer; and the CORNICE deeper and more elaborate than those of the other orders.

A table is here given showing the relative height in parts (a part is $\frac{1}{16}$ of the diameter) of the entablature in some typical Grecian examples.

		Architrave	Frieze	Cornice	Total Entablature
Doric	Parthenon	43	43	32	118
	Theseus	50	48	19	107
Ionic	Erechtheum	43	48	47	140
	Priene	37	49	47	133
Corinthian	Lysicrates	53	41	49	143
	Jupiter Olympius	40	26	46	112

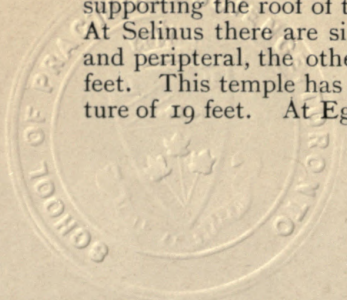
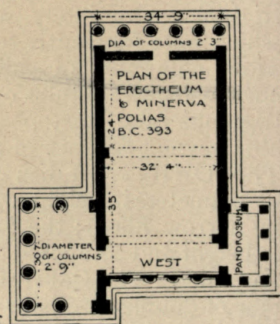
The principal Doric buildings in Greece are:—The Temples at Corinth B.C. 650, Ægina B.C. 550, the Parthenon and the Theseum B.C. 438, the Temples of Jupiter at Olympia, Apollo Epicurius at Bassæ B.C. 436, Minerva at Sunium, and the Propylæa at Athens B.C. 431. The Parthenon is the only octastyle temple in Greece.

Ionic buildings in Greece are:—Temples at Ilyssus, Nike Apteros, and the Erechtheum. In Asia Minor, the Temples at Samos, Priene, Teos, and of Diana at Ephesus, and of Apollo at Miletos.

Corinthian buildings in Greece are:—Monument of Lysicrates, the Tower of Winds, and Jupiter Olympius, all in Athens.

During the 5th century B.C. the Doric order was extensively used in the Greek colonies of Sicily. At Agrigento the remains of 6 fine hexastyle and peripteral Doric Temples are found, of which the Temple of Zeus B.C. 450 is the largest, being 354 by 173 feet. In this temple were found the Telemones or Atlantes, male figures 25 feet in height, with their arms raised, probably supporting the roof of the temple.

At Selinus there are six large Doric temples, five being hexastyle and peripteral, the other octastyle and pseudo-dipteral, 372 by 175 feet. This temple has columns 57 feet in height with an entablature of 19 feet. At Egesta, there is a hexastyle, peripteral, Doric



temple with the columns not fluted, and at Pæstum in Southern Italy there are two Doric temples, the temple of Neptune, and the temple of Vesta, of the usual hexastyle and peripteral form, but the Basilica is pseudo-dipteral and is remarkable for its two porticos of nine columns each. All these buildings in Sicily and Pæstum date between B.C. 500 and 430.

Classification of Classic Temples:—

- 1st. The arrangements of the columns and walls
- (a) When the side walls have no colonnade *Apteral*
 - (b) When there is a colonnade standing apart from the side walls *Peripteral*
 - (c) When the colonnade is attached to the side of the side walls *Pseudo-peripteral*
 - (d) When there is a double colonnade standing from the wall *Dipteral*
- 2nd. The relation of the ends of the temple
- (a) When the columns do not project beyond the walls *In Antis*
 - (b) When a portico stood in front of the temple *Prostyle*
 - (c) When there was a portico at each end... *Amphi-prostyle*
 - (d) If the portico was one column in depth *Mono-prostyle*
 - (e) If the portico was two columns in depth *Di-prostyle*
- 3rd. The number of columns in the portico
- (a) If of 2 columns *Distyle*
 - (b) If of 4 columns *Tetrastyle*
 - (c) If of 6 columns *Hexastyle*
 - (d) If of 8 columns *Octastyle*
- 4th. The Intercolumniation
- (a) If $1\frac{1}{2}$ diameters apart *Pycnostyle*
 - (b) If 2 diameters apart *Systyle*
 - (c) If $2\frac{1}{4}$ diameters apart *Eustyle*
 - (d) If 3 diameters apart *Diastyle*
 - (e) If 4 diameters apart *Ærostyle*



1

2

ANTHEMION ORNAMENT FROM GREEK TOMBS. ATHENS. B. C. 360

ORNAMENT FROM THE MONUMENT OF
LYSICRATES. ATHENS
B. C. 330.

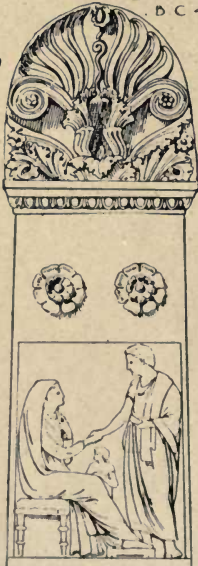


3
FIGURES FROM THE EAST FRIEZE
OF THE PARTHENON
B. C. 438.

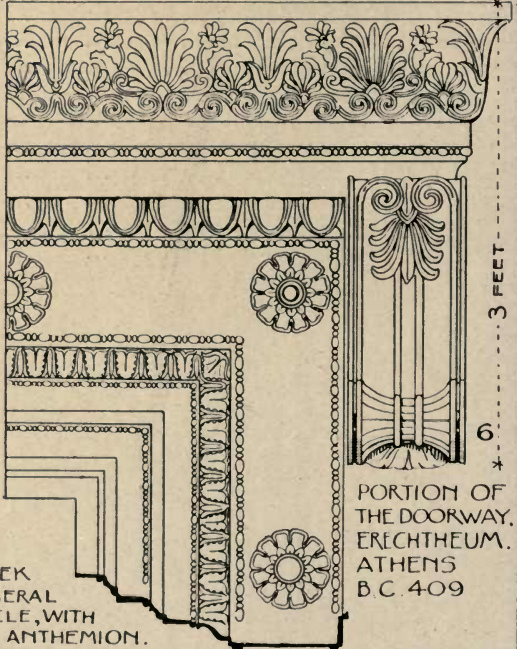
4



5



GREEK
FUNERAL
STELE, WITH
THE ANTHEMION.



PORTION OF
THE DOORWAY,
ERECHTHEUM,
ATHENS
B. C. 409

3 FEET

GREEK

ORNAMENT.

Greece, or Hellas, consisted of a number of small states, speaking the same language, and worshipping the same gods. Almost the whole of the Ægean coast of Asia Minor was occupied in early times by Greek Colonies, which supplanted those of the Phœnicians of Tyre and Sidon. The southern portion of this seaboard was occupied by the Dorians, and the northern by Ionians. In the course of time other Greek settlements were made on the Black Sea and Mediterranean Coast of Asia Minor; as well as at Syracuse, Gela and Agrigentum, in Sicily, and in Etruria and Magna Grecia in Italy. These colonies appear to have reached a higher state of art at an early period than Greece itself. The ascendancy in art in Greece was enjoyed by the Dorians Circa, 800 B.C.; after which Sparta took the lead, but was in turn excelled by the Ionians, when Athens became the focus of Greek art, and attained a degree of perfection in that respect that has remained unequalled to this day. Athens was destroyed by the Persians under Xerxes, 480 B.C.; but under Pericles (470-29 B.C.) Greek art reached its culmination.

The abundant, although fragmentary, remains of Grecian architecture, sculpture, and the industrial arts, show most vividly the artistic feeling and culture of the early Greeks, with their great personality and religious sentiment, in which the personal interest of the gods and goddesses was brought into relation with the life and customs of the people. Their myths and traditions, their worship of legendary heroes, the perfection of their physical nature, and their intense love of the beautiful, were characteristic of the Greek people, from the siege of Troy to their subjection by Rome, B.C. 140. The almost inexhaustible store of Greek art, now gathered in the British Museum, and in other European museums, furnishes one of the most valuable illustrations of the many glorious traditions of the past. The vitality of conception, the dignity and noble grace of the gods, the consummate knowledge of the human figure, and the exquisite skill of craftsmanship, are here seen in the greatest diversity of treatment and incident.

The work of Phidias, the most renowned of Greek sculptors, is largely represented in the British Museum by noble examples, showing his great personality, wonderful power, and his remarkable influence, upon contemporary and later plastic art.

The Parthenon, or temple of the goddess Athene, which was built upon the Acropolis at Athens by Ictinus and Callicrates, B.C. 454-438, was enriched with splendid works of sculpture by Phidias. Many of the originals are now in the British Museum, forming part of the Elgin Marbles, which were purchased from the Earl of Elgin, in 1815. The two pediments of the temple contained figure sculpture in the round, larger than life size. The Eastern group represents the birth of Athene, and the western group the contest of Athene and Poseidon for the soil of Attica.

The fragments of these pedimental groups are now in the British Museum, and, though sadly mutilated, show the perfection of sculpture during the Phidian age. An illustration of the "Fates" from the Western pediment is given here, showing a perfect mastery of the human figure, with rare selective power of composition. The appropriateness of line and mass for its position renders it singularly beautiful and architectonic in character. Of the 92 square metopes sculptured in high relief, that enriched the Doric frieze, 15 are included in the Elgin Marbles. The subject represented on these metopes was the battle between the Centaurs and Lapithæ, or Greeks, and are fine examples of composition of line and mass, and dramatic power of expression.



THE TWO "FATES" FROM THE
EASTERN PEDIMENT OF
THE PARTHENON.



DORIC FRIEZE. FROM THE PARTHENON. ATHENS.

The continuous frieze upon the upper part of the cella wall, under the colonnade or Peristyle, was 40 feet from the ground, 40 inches in height, and 523 feet in length. It was carved in low relief, the subject being the Panathenæic procession, the most sacred and splendid of the religious festivals of the Ancient Greeks. This frieze, with its rhythm of movement and unity of composition, its groups of beautiful youths and maidens, sons and daughters of noble citizens, its heroes and deities, heralds and magistrates; its sacrificial oxen, and its horses and riders are doubtless the most perfect production of the sculptor's art. Each figure is full of life and motion, admirable in detail, having an individuality of action and expression, yet with a unity of composition, appropriate to its architectural purpose as a frieze or band.

The Parthenon, however, was but the shrine of the standing figure or statue of the goddess Athene, which was 37 feet high, and formed of plates of gold and ivory, termed Chryselephantine sculpture.

NORTH FRIEZE
FROM THE
PARTHENON
ATHENS



Probably owing to the intrinsic value of the material, this work of Phidias disappeared at an early date.

Among the examples of sculptured marbles in the British Museum is the beautiful frieze from the interior of the Temple of Apollo at Phigaleia, erected by Ictinus, B.C. 450-430. This frieze, which shows an extraordinary vitality and movement, is 101 feet long, and consists of 23 slabs 25½ inches in width, the incidents depicted being the battle of the Greeks and the Amazons, and the contest between the Centaurs and the Lapithæ. The dignity and reserve of the Parthenon frieze is here replaced by activity and energy of line and an exuberance of modelling.

BATTLE OF THE
AMAZONS FROM
THE FRIEZE AT
PHIGALEIA



Some of the marbles in the British Museum are from the Nereid Monument of Xanthos, B.C. 372, so called because the female figures display moist clinging garments, and have fishes and seabirds between their feet. These sculptures show a high degree of perfection, and were probably the work of the Athenian sculptor, Bryaxis.

Among other examples of the Greek treatment of the frieze, is that of the Erectheum, B.C. 409, with its black Eleusinian stone background, and white marble reliefs. The Temple of Nike Apteros,

of about the same date is noted for the beautiful reliefs from the balustrade which crowned the lofty bastion on which the temple stands. An example of Nike or victory, adjusting her sandal is here given. These reliefs are remarkable for their delicacy and refinement of treatment, and the exquisite rendering of the draped female figure. Other friezes now in the British Museum are from the Mausoleum erected by Artemisia to her husband Mausolus B.C. 357-348. This tomb consisted of a solid basement of masonry, supporting a cella surrounded by a colonnade of 36 columns. The upper part of the basement was enriched with a frieze, illustrating the battle of the Centaurs and Lapithæ; the frieze of the cella was illustrated with funeral games in honour of Mausolus. Seventeen slabs of the frieze of the order from the colonnade are in the British Museum; they represent the battle of the Greeks and Amazons. In their composition these slabs show extraordinary energy of movement and richness of invention. This frieze differs absolutely from the Parthenon frieze in its fertility of incident and intensity of action. Bryaxis, the sculptor of the Nereid monument executed the north frieze, while the south was by Timotheus, the east by Scopas, and the west by Leochares.



BAS-
RELIEF.
FROM
NIKE APTEROS.



A remarkable building, where again the frieze was an important feature, was the great altar at Pergamos, erected by Eumenes II., B.C. 168. This had a basement of masonry 160 ft. by 160 ft., and 16 ft. high, enriched with a sculptured frieze 7½ ft. high. The subject is the Gigantomachia, or battle of the gods and giants; the treatment being characterised by passionate energy and expression, and daring skill in grouping and technique. Ninety-four of the original slabs of this frieze are now in the Berlin Museum.

The frieze was an important decorative feature with the Assyrians and Greeks. The continuity of incident and rhythm of movement that was possible with the continuous frieze, together with its functional use of banding, no doubt tended to preserve its traditional form, hence we have many remains from antiquity of this beautiful decorative treatment. An early and fine example is the frieze of Archers from the palace of Darius at Persepolis, B.C. 532, now in the

Louvre. This frieze, of which an illustration is here given, was executed in glazed and enamelled bricks. A dignity of conception and unity of composition were here combined with skilful modelling of relief work, and fine colouring of blue, turquoise and yellow. This treatment of the frieze no doubt influenced the later work of the Greeks, who so nobly carried on this tradition of the frieze.

Greek ornament is distinguished by simplicity of

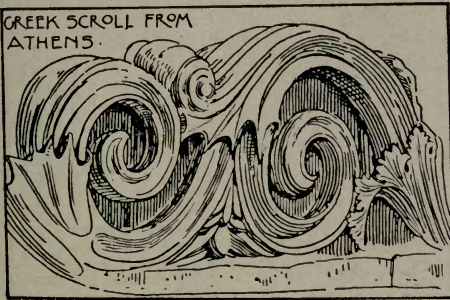
line, refinement of detail, radiation of parts, unity of composition and perfect symmetry. The anthemion, which is the typical form, is derived from the traditional lotus and bud of Egypt, Assyria, and India. It differs however in its more abstract rendering and its absence of symbolism, having a charm of composition and a unity and balance of parts, yet lacking that interest and deeper significance associated with many periods of art.

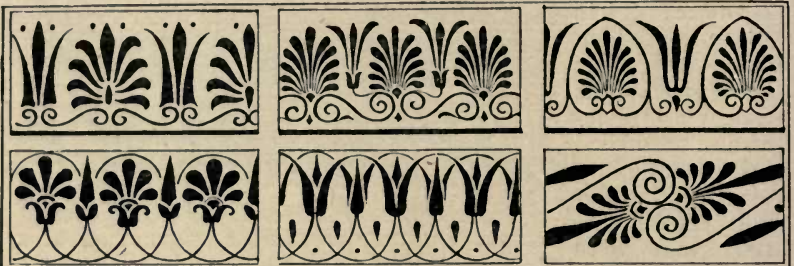
The anthemion was sculptured upon the top of the funeral stele, (figs. 1, 2, and 5, plate 4), upon the architrave of doorways (fig. 6), and above the necking of the Ionic columns (plate 6); or painted upon the panels of the deep coffered ceilings. It was also used in a thousand ways upon the many fine vases and other ceramic wares of that period. The simplicity and



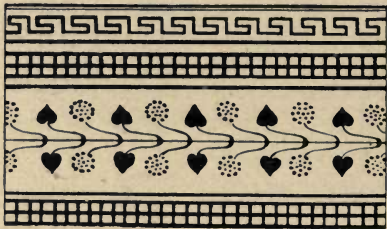
FRIEZE IN ENAMELLED
BRICKS FROM THE PALACE
OF SUSA 485^{b.c.} LOUVRE

GREEK SCROLL FROM
ATHENS.





EXAMPLES OF BANDS FROM GREEK VASES. OWEN JONES.



FROM THE MUSEUM NAPLES

ORNAMENT IN MARBLE. FROM THE ROOF APEX. MONUMENT OF LYCICRATES ATHENS B.C. 335

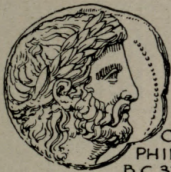


beauty of the anthemion and its ready adaptability, has doubtless rendered it one of the best known types of ornament. Like the Egyptian and Assyrian prototype the Greek anthemion is usually arranged with alternate flower and bud, connected by a curved line or more frequently by a double spiral. Illustrations are given on the opposite plate of a few typical examples, where the rhythm and beauty of composition are indicative of the culture and perfection of Greek craftsmanship.

Another feature, which at a later period received considerable development, was the scroll given on the preceding page, which is a fine example from the roof of the monument to Lysicrates. The scroll cut with V shaped sections, springs from a nest of sharp acanthus foliage, the same features being observed in the nest of foliage which supports the tripod upon the apex of the roof (plate 6). This scroll is formed of a series of spirals springing from each other, the junction of the spiral being covered by a sheath or flower; the spiral itself being often broken by a similar sheath.

This spiral form, with its sheathing, is the basis of the Roman and Italian Renaissance styles, and sharply differentiates them from the Gothic ornament, in which the construction line is continuous and unbroken.

The rosette, a survival of the traditional Assyrian form was frequently used upon the architrave (fig. 6), and the funeral stele (fig. 5 plate 5) where its circular and radiating form contrasts so beautifully with the functional straight lines of architectural design. The extraordinary vitality and versatility of the Greek craftsmen may be traced through a magnificent series of coins dating from B.C. 700 to B.C. 280. The interest of subject, beauty of composition and largeness of style, combined with the utmost delicacy of technique, of these gold, silver and electrum coins are a reflex on the artistic feeling for beauty of the early Greeks.



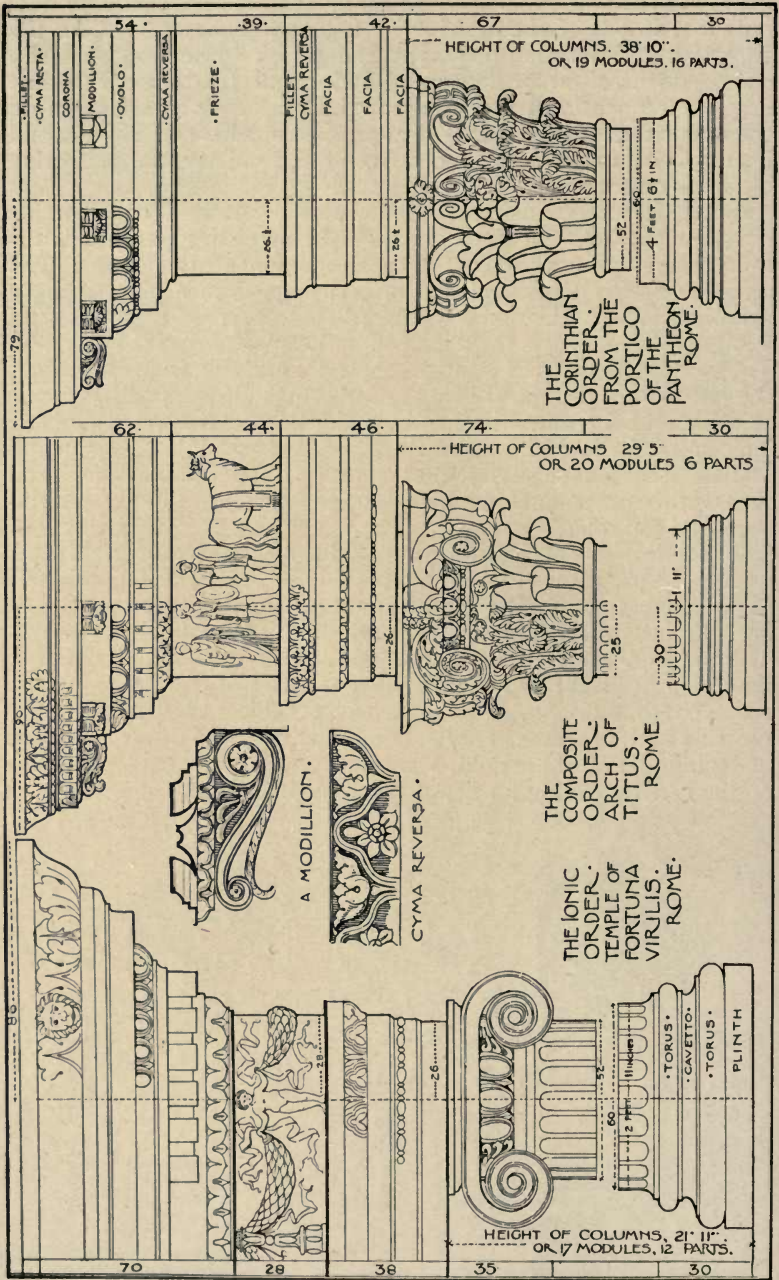
COIN OF
PHILIP II
B.C. 339-336.



COIN
OF TERIMA
B.C. 412.



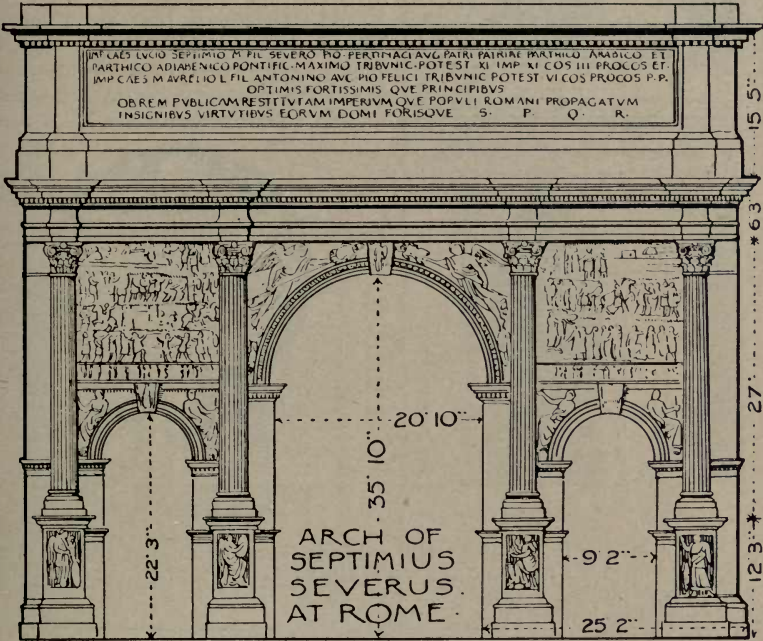
COIN OF
AGRIGENTUM
B.C. 412-406



ROMAN ARCHITECTURE.

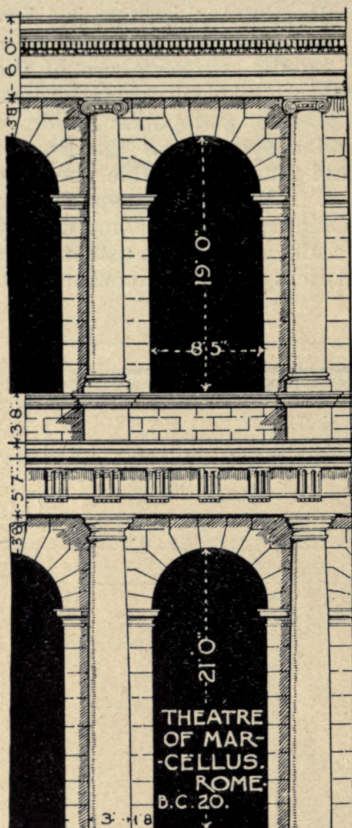
The many fine remains of Roman temples and public buildings show the extraordinary versatility and conception of the Roman architects, their constructive skill, and their remarkable power of assimilating the arts of other nations. The Roman temples were somewhat similar in plan to the Greek prototypes, but usually without the side colonnade, larger in scale, and with an ostentatious display of mouldings and ornament, less refined in contour and detail.

Roman Architecture is differentiated from that of Greece by the extensive use of the arch and of superposed orders.

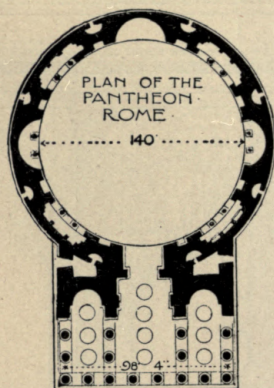


A typical example is given here of a triumphal arch, namely, that of Septimius Severus, A.D. 211. Other examples are the Arch of Titus, A.D. 79, and the Arch of Constantine, A.D. 326. Trajan's Arch, A.D. 114, was destroyed by Constantine, who used many of the reliefs for the building of his own arch.

The superposition of columns and arches is shown in the annexed illustration from the Theatre of Marcellus, where the lower order is of the Doric and the upper of the Ionic. The Colosseum has a third story, having the Corinthian order, and an attic story, with Corinthian pilasters; the whole reaching to a height of 156 feet.



One of the best preserved buildings of the Roman period is the Pantheon, with its fine domed ceiling of coffered panels, enriched with bronze ornaments. The portico, octastyle and di-prostyle, is of the Corinthian order, beautifully proportioned and enriched. The finest example of the Corinthian order was used in the temple of Castor and Pollux, frequently called Jupiter Stator; some 50 examples of this Corinthian order date from the Roman period. The *Tuscan* and *Composite* orders were added by the Romans to the Doric, Ionic and the Corinthian, forming the five orders of architecture.



The following table gives the relative proportions of the typical Roman orders, the columns in modules, and the capital, entablature, &c., in parts:—

		Columns.	Capital.	Architrave.	Frieze.	Cor-nice.	Entabla-ture.
Doric.	Theatre of Marcellus.	15½	24	31	46	37	113
	Baths of Diocletian .	16	22	32	45	46	123
Ionic.	Theatre of Marcellus.	18	31	43	36	66	145
	Temple of Virilis . .	17½	33¾	38	28	70	137
Corin-thian.	Jupiter Stator . . .	20	66	43	43	69	156
	Pantheon	19½	67	42	39	54	136

The Romans rarely used the peristyle temple, consequently the cella was of the same width as the portico. In the civic buildings and palaces the Romans show the greatest constructive skill and splendour of embellishment. The skilful planning and appropriateness of decorative treatment in their basilicas and amphitheatres are evidences of the practical nature of the Romans.

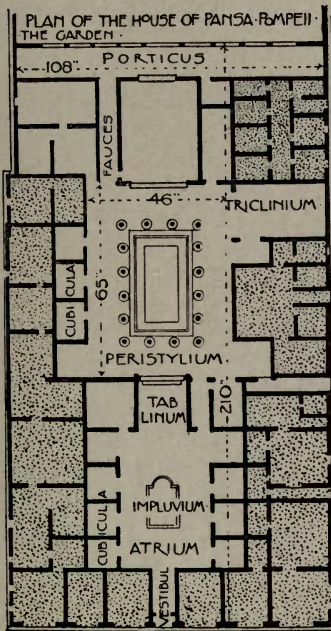
The Basilica or Hall of Justice was an important architectural feature, rectangular in plan, with a semi-circular apse at one end, where the Tribunal was placed; roofed with timber framing, or vaulted with concrete, and supported with rows of columns or biers. The remains of two typical Roman basilicas are still in existence: the Basilica of Trajan, A.D. 114, rectangular, 180×160 feet, five aisles, the centre aisle with a semi-circular wooden roof, and enriched with bronze plates, is typical of one class; and the basilica of Maxentinus, A.D. 310, with a width of 195 feet and a length of 260 feet, is typical of a vaulted Basilica, the two side aisles with an arched roof, and the centre aisle with an intersecting vaulted roof.

These Roman basilicas were adopted by the early Christians to their service, and the basilica church was the typical forms used up to the 12th century in the Romanesque provinces.

The Roman houses were of two types: the *Domus*, or houses clustered

together, and the *Insular*, houses which were surrounded by streets. Most of the finest Pompeian houses were of the *Insular* type.

The usual plan of a Roman house consisted of the *Ostium* or entrance, sometimes called the *Vestibule*, which opened into the *Atrium*, which was a large room or court partly roofed over, with an opening in the centre called the *Compluvium*, under which was the *Impluvium*, or cistern of water, placed below the level of the ground. Small chambers surrounded the *Atrium*, and at the further end was the *Tablinum* or private room, frequently leading to the *Peristylum* or private part of the house, with a colonnade surrounding a marble fountain, with flowers, shrubs and trees, forming a *Viridarium*. Surrounding the *Peristylum* were private rooms, one of which was the *Triclinium* or dining room. From the *Peristylum*, *fauces* or passages led to the *Porticus*, a colonnade which overlooked the garden.



sages led to the *Porticus*, a colonnade which overlooked the garden.

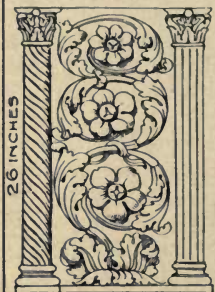
FIG 1



2

FRIEZE. FORUM OF TRAJAN. LATERAN MUSEUM.

3



ONE SIDE OF A SQUARE SEPULCHRAL CIPPUS



ROMAN SCROLL



4 & 5

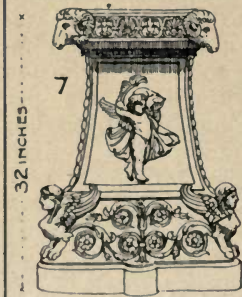
MARBLE PANELS - BRITISH MUSEUM



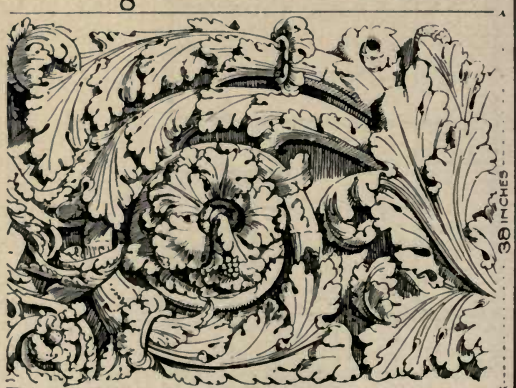
8



PANEL OF VOTIVE CIPPUS



TRIANGULAR BASE OF A MARBLE CANDELABRUM. BRITISH MUSEUM.



FRIEZE. FORUM OF TRAJAN. ROME. 110 AD

ROMAN ORNAMENT.

Rome, founded by Romulus, B.C. 783, became by successive wars and conquests the mistress of the world, absorbing the arts and the architecture of the Etruscans B.C. 567, the Samnites B.C. 340, and of Corinth and Carthage B.C. 146. From these varied sources arose the style termed Roman, assimilating and adopting the column and the horizontal entablature of the Greeks; the arch, the vault, the mural paintings and the decorative use of bronze and the terra-cotta of the Etruscans, with the sculpture, ornament, mosaics and coinage of the Greeks and Carthaginians. These varied arts were assimilated and perfected by the Romans during the period B.C. 100 to 337 A.D.

Roman ornament is the continuity of the Greek and Etruscan styles, consisting of the anthemion, the acanthus and the scroll; the Romans using these forms with greater exuberance and elaboration, together with bold and vigorous carving, yet lacking the simplicity, refinement and graceful contour of the Greek and Etruscan forms.

Roman ornament consists largely of continuous spiral lines clothed with cups and sheaths of acanthus foliage, the various spirals terminating in a rosette. These main spirals are frequently interwoven



with fine curved or spiral lines, clothed with acanthus or other foliage, such as the vine, olive and ivy. Birds and reptiles and cupids, and the chimera or griffin (fig. 1) are often interspersed with the ornament, thus giving that largeness of mass and contrast of form which is so characteristic of Roman art.

The Thermæ, or baths and public buildings, displayed fine decorative ceilings, having deep sunk panels called Lacunaria; or coffers, square, hexagonal or octagonal in form, with a centre rosette in high relief and the border mouldings of the coffers being enriched with the egg and dart or the water leaf. These exhibit an effective treatment of moulded surfaces. The ceilings of the tombs and palaces were in many cases ornamented

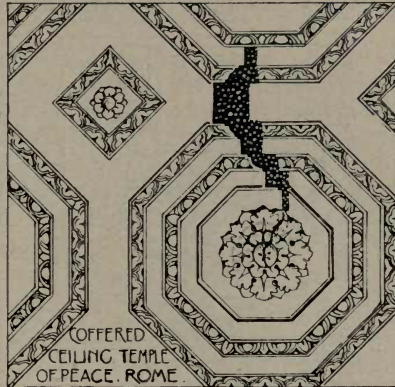
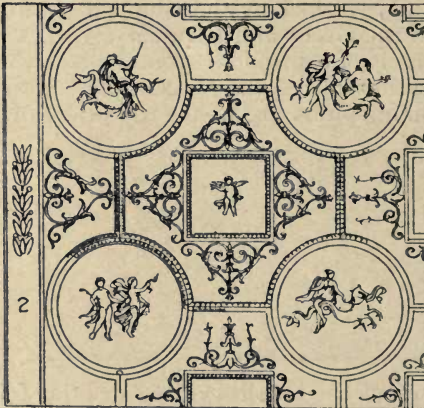


FIG. 1

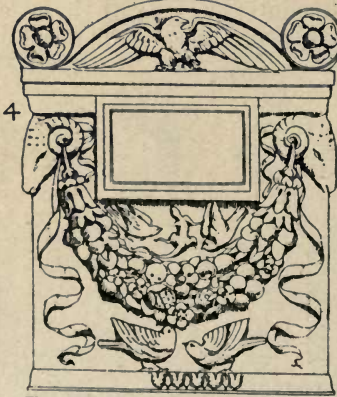


3

MARBLE RELIEF IN THE UFFIZI GALLERY
FLORENCE



STUCCO ORNAMENT IN LOW RELIEF UPON A CEILING IN TOMB VIA LATINA
ROME.



CINERARY URN. BRITISH MUSEUM.



RELIEF PANEL FROM THE INSIDE OF THE PORTICO OF THE
PANTHEON, ROME, A.D. 125.

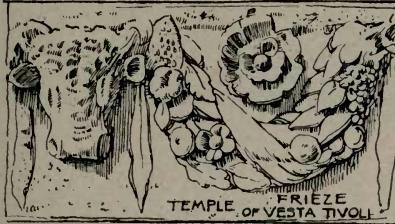


MARBLE URN. BRITISH MUSEUM.

55

with circular and square panels, richly decorated with arabesques or mythical figures, and cupids in low relief of fine stucco; the mouldings or divisions in higher relief, and having the water leaf or the egg and dart enrichment (plate 9.)

The architectural frieze and the sepulchral urn and sarcophagi of this



period were often decorated with festoons (figs. 4 and 5, plate 9), and were supported by cupids or by candelabra (plate 9), or by the skulls of oxen, as on the frieze from the Temple of Vesta at Tivoli, here given, which is no doubt a survival of the sacrificial custom of worship.

The architectural basilica and forum of Trajan, erected A.D. 114, by Apollodorus, a Greek of Damascus, was of the utmost magnificence, the remains attesting to the skill and artistic craftsmanship of the Romans. Apollodorus also erected the marble column of Trajan, having a rectangular pedestal 18 feet high, and richly sculptured with the dresses, armour and standards of the Roman army. This pedestal supports a column of the Tuscan order of architecture 97 $\frac{1}{4}$ feet high and 12 feet in diameter, enriched with a series of spiral bands, having bas-reliefs representing the successive events of the Dacian War by the Emperor Trajan.

This magnificent and well preserved relic of antiquity furnishes a complete epitome of the costumes and the arms and armour of that period. Another well-preserved column, similar to that of Trajan, was erected in Rome by Marcus Aurelius A.D. 174, the subjects of its reliefs being the war with the Marcomans. Large marble urns, or Tazzas, enriched with Bacchanalian figures, surrounded with foliage and birds and animals; magnificent tables, chairs, couches, and candelabra, of bronze, enriched with silver damascening, together with the choice remains of sculpture and mosaics, all indicate the luxuriousness and love of magnificence of the wealthy Roman citizens.

In Roman architectural ornament we see the most powerful modelling combined with the use of the continuous scroll growing from a nest of foliage, repeated in their painted decorations (see Pompeian). This elaboration of the typical Greek ornamentation and the rounded serrations of the Acanthus, forms the chief characteristic of Roman ornament, which is wonderfully bold, and vigorous in conception and execution, but deficient in the refinement and delicacy of Greek art.



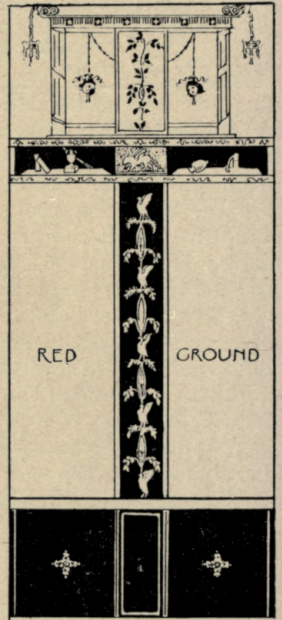
PAINTED PILASTER FROM POMPEII. ZAHN'S POMPEII.



FRIEZE FROM THE TEMPLE OF ISIS.



A PAINTED PILLAR.



WALL DECORATION IN THE CASA DEL LABIRINTO. POMPEII.



WALL DECORATION. FORUM OF HERCULES. POMPEII. 79. A.D.

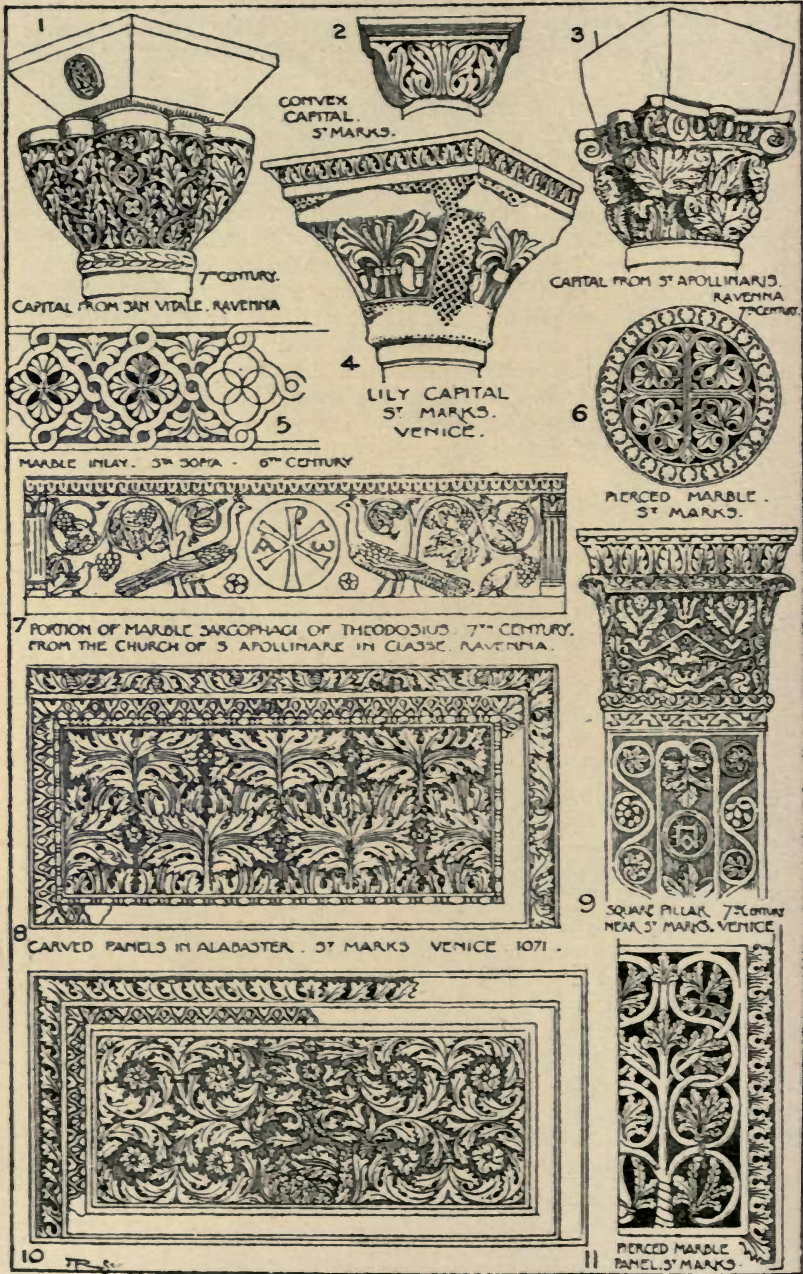
POMPEIAN ORNAMENT

Pompeii, Herculaneum and Stabia, Roman cities, were buried by an eruption of Vesuvius in the year A.D. 79. These cities had already suffered from an earthquake in A.D. 63, and were being rapidly rebuilt when they were finally destroyed by the eruption. The younger Pliny, the historian, was a spectator of the event at Pompeii, and wrote two letters to his friend Tacitus, describing the event and his flight from the doomed city, which remained buried for seventeen centuries, with the treasures of gold and silver, bronzes of rare workmanship, mural paintings on a most magnificent scale, and floors of mosaics of marvellous execution and design; everything affording a vivid glimpse of the domestic and public life of the Romans of the 1st century A.D. Herculaneum was discovered in 1709, and Pompeii in 1748 A.D., and from these cities many valuable remains of art have been taken. In the museum at Naples there are over 1,000 mural paintings, some 13,000 small bronzes, over 150 large bronzes of figures and busts, 70 fine large mosaics, together with a splendid collection of marble statuary.

A plan of a Roman house is given on page 23 showing the arrangement of and use of the rooms. The floors covered with mosaics, those of the vestibule, corridors, and small rooms having simple patterns enclosed with borders of the key pattern, or the Guilloche in black, red, grey, and white tesserie. The triclinium, or dining room floor was often a magnificent mosaic representing some mythological or classic subject. The walls were painted in colour, usually with a dado $\frac{1}{3}$ th the height of the wall, with pilasters dividing the wall into rectangular panels and a frieze above (plate 10). The general scheme of colour was, the dado and pilasters black, the panels red, and the frieze white; or black dado, red pilasters and frieze, with white or yellow panels. The decorations upon these various coloured grounds was light and fanciful, and painted with great delicacy. Representations of architectural forms, such as columns and entablatures, are often rendered in perspective upon the painted walls. A small panel painted with a classical subject usually occupies the centre of each wall panel.

The painted ornament has somewhat the same characteristics as the Roman relief work, but is usually much more delicate in treatment. The spiral form and the sheath are always prevalent and from these sheaths and cups grow the finer tendrils or delicately painted spray of foliage, upon which birds are placed.

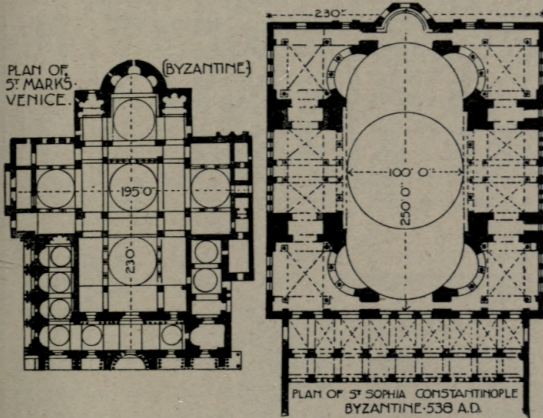
Stucco enrichments, such as ornamental string courses and mouldings, were frequently combined with the painted ornament; they consist of small details, such as the water-leaf, the egg and dart, and the anthemion, and are repeated in a regular series.



BYZANTINE. When the Emperor Constantine, removed the seat of Government from Rome to Byzantine, in the year A.D. 330, he inaugurated a new era in art, viz.: the Byzantine. The traditional Greek and Roman arts were now assimilated with the arts of Persia and Syria, but moulded and influenced by the new religion, giving the strong personal vitality, deep significance and symbolism which was so remarkable throughout the Byzantine period.

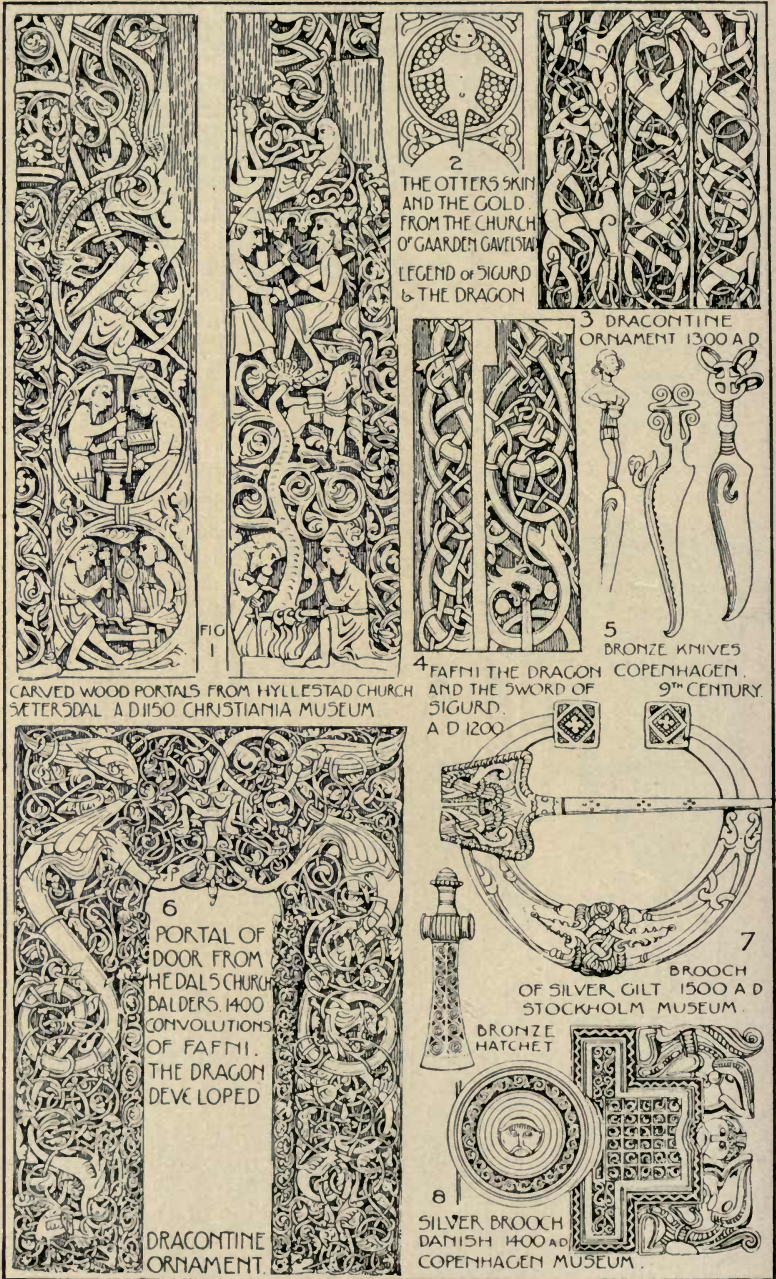
The change of style did not take place immediately, for most of the buildings erected by Constantine were in the traditional Roman style, but the arts were gradually perfected until they culminated in the building of S. Sophia by Anthemius of Tralles, and Isidorus of Miletus, during the reign of Justinian, A.D. 538. This building is remarkable for its splendid dome, supported by semi-domes and pendentives on a square plan, its embellishment with mosaics of glorious colours, and the great inventiveness and symbolism of the detail. The traditional sharp acanthus foliage of

the Greeks was united with the emblems of Christianity such as the circle, the cross, the vine, and the dove; the peacock also is frequently seen. Figure sculpture was rarely used, but groups of figures were used in great profusion in the gold ground mosaics that covered the upper part of the walls and the vaults



and domes of the magnificent Byzantine buildings. The churches of Ravenna in Italy, have somewhat similar characteristics; S. Vitale, the basilica churches of S. Apollinare Nuovo, A.D. 493-525, S. Apollinare in Classe, A.D. 538-44, together with the Baptisteries are rich in mosaics and sculptured capitals of the 6th and 7th centuries. In the cathedrals of Torcello, A.D. 670, and Murano and the beautiful St. Mark's at Venice, marbles and mosaics were used in great profusion. The two sketch plans here given are typical of Byzantine planning in which the symbolism of the circle and cross are used as constructive features. This symbolism is a marked feature in Byzantine ornament; interlacing circles and crosses mingle with the acanthus or the vine, and are cut with a peculiar V-shaped section. The circular drill is largely used at the sinking of the leaves, and but little of the background is visible in the sculptured ornament of this period.

SCANDINAVIAN ORNAMENT. Plate 12.



2 THE OTTERS SKIN AND THE GOLD FROM THE CHURCH OF GAARDEN GAVELSTA. LEGEND OF SIGURD & THE DRAGON

3 DRACONTINE ORNAMENT 1300 A D

5 BRONZE KNIVES

4 FAFNI THE DRAGON AND THE SWORD OF SIGURD. 9TH CENTURY. A D 1200

CARVED WOOD PORTALS FROM HYLLESTAD CHURCH SETERSDAL A D 1150 CHRISTIANIA MUSEUM

6 PORTAL OF DOOR FROM HEDALS CHURCH BALDERS 1400 CONVOLUTIONS OF FAFNI. THE DRAGON DEVELOPED

DRACONTINE ORNAMENT

7 BROOCH OF SILVER GILT 1500 A D STOCKHOLM MUSEUM

BRONZE HATCHET

8 SILVER BROOCH DANISH 1400 AD COPENHAGEN MUSEUM

SCANDINAVIAN ORNAMENT.

The beautiful bronze and silver jewellery, and implements of war of the early Viking period, found in Nor-

way, Sweden and Denmark, display no trace of plant forms in their ornamentation, the latter consisting wholly of interlacing animal forms, chiefly the dragon. The viking ship found at Sandiford in 1880, although destitute of ornament, shows traces of the "Bronze Dragon Prow," referred to in the early Scandinavian Sagas. At the commencement of the 12th century, plant forms are found mingled with the dragons, and figure sculpture became important in treating of the myths of the gods; Frey, Woden, Thor and Fyr, of the pagan period, being influenced by the newer cult in religion. This is shown by the Sigurd Overlap.

Hreiðmar had three sons, Otter, Fafni and Regan. Otter was killed one day by Loki, one of the three Scandinavian gods—Loki, Hœni and Woden—these being seized by Hreiðmar, who would only release them when the skin of Otter should be covered with gold. Thereupon Loki seized the dwarf Andwan, who was made to give up his treasure of gold, and a ring of magical properties, carrying with it a curse, that the treasure should be the death of those who held it. Loki then returned and covered the skin of Otter with the gold (fig. 3), after which the gods were set at liberty. Then Hreiðmar was slain by his sons for the treasure. Fafni, after seizing the latter, took the form of a dragon, and lay guarding the plunder at Gnita Heath. Regan, his brother, in order to obtain the treasure, prompted Sigurd, his foster son, to slay the dragon. Sigurd, in testing his sword, broke it in twain, thereupon Regan made him a magic sword, with which he lay in the trail of the dragon, and pierced it through (figs. 1-4). Then Regan took out the heart of the dragon, which Sigurd cut into slices and toasted while Regan slept. Sigurd, burning his fingers, places them in his mouth, and tasted the blood of Fafni, the dragon (fig. 1), and, lo! he heard the voice of birds saying that Regan was plotting to kill him. Then Sigurd killed Regan, eat the heart of Fafni, placed the treasure on the back of the noble horse Grani, and departed, only to be slain for the gold by Gunnar, who for this crime was cast into the pit of serpents (fig. 1).*

This myth explains much of the Scandinavian ornament, for in figs. 1 and 2 the story is told in a series of incidents remarkable for the fertility of invention and dracontine ornamentation. Halton Cross, in Lancashire, and a slab at Kirk Andreas, Isle of Man, illustrate the same subjects, dating from the 11th century. In later times the dragon becomes more pronounced in character, until in the 14th century it fills the whole portal with the beautiful interlacing ornament (fig. 6).

* "The Pagan—Christian Overlap in the North," by H. Colley March, M.D. (Lond.)



FROM THE GOSPELS OF
LINDISFARNE
END OF 7TH CENTURY
BRITISH MUSEUM.

FROM THE BOOK OF
KELLS. 8TH CENTY. BRITISH MUSEUM.

CAREW CROSS.

FROM THE BOOK OF
DURROW. TRINITY COLLEGE, DUBLIN.

CELTIC ORNAMENT

No period in the history of Art is more remarkable than the Celtic. The carved stone architecture and crosses, the bronzes, enamels and silversmith's work, the splendid illuminated books and manuscripts with capitals and borders, full of imagery and intricacy of detail, and the clear and accurate writing of the text, are all indications of the culture and love of ornament of the early Irish people. The incised ornament upon the stone tumuli of the 3rd and 4th centuries B.C. show simple forms such as chequers, chevrons, circles and spirals which are used by almost all primitive people, yet even at this early stage the Celts show a remarkable preference for the spiral and interlacing forms. The bronze shield (fig. 6), with its spirals and bosses of enamel enriched with the northern "Fylfot" is a typical example of the 2nd or 3rd century, A.D. Then comes the trumpet pattern or divergent spiral, which, seen in its infancy on the bronze shield, reached a great degree of elaboration in the 8th and 9th centuries (figs. 2 to 7), being typical of Celtic work up to the middle of the 11th century when all trace of this spiral is lost. The interlacing bird and animal forms used from the 8th to the 14th centuries are doubtless derived from Byzantine and Lombardic sources. The serpent or dragon, which is such a marked feature from the 7th to the 15th century must have been borrowed from the north, as Ireland had no traditions of dragons, and it is to Scandinavia, with its legend of Fafni, that we must look for the origin of the draconine treatment. It is this Zormorpic character that distinguishes the Celtic from all other styles of ornament except Scandinavian.



The illustrations given here from the Lismore crosier are typical examples of this Celtic draconine treatment. The early or Pagan period is noted for its bronze work, cast and wrought, and enriched with Champleve enamels. The fine chalice of Ardagh (plate 34) and the Tara Brooch (7th century) are splendid examples of the Christian period dating from St. Patrick, A.D. 440-460. The beautiful Book of Kells, A.D. 650-690, the Book of Armagh, A.D. 807, the Book of Durrow, A.D. 750 (Trinity College, Dublin), and the Book of Durham, A.D. 689-721, written by Eadfrith and illuminated by Ethelwald, are a tribute to the vitality, assimilation of ideas, and the culture and wonderful craftsmanship of the early Irish people.

NORMAN AND GOTHIC ARCHITECTURE.

English Gothic Architecture has been broadly divided into periods for the purpose of classifying the styles, the following being the most generally accepted.

By SHARPE.*

By RICKMAN.†

	A.D.	A.D.
Roman- { Saxon	1066.	Norman 1066-1189.
esque { Norman	1066-1145.	Early English 1189-1307.
Gothic {	Transitional 1145-1190.	Decorated 1307-1379.
	Lancet 1190-1245.	Perpendicular 1379-1483.
	Curvilinear . 1245-1360.	Tudor 1483-1546.
	Rectilinear . 1360-1550.	

French Classification by DE CAUMONT.

Romanesque {	Primordiale	5th to 10th century.
	Secondaire	10th to 12th „
	Tertiaire	12th „
Pointed {	Primitive	13th century.
	Secondaire or Rayonnant	14th „
	Tertiaire or Flamboyant .	15th „

Most of our magnificent cathedrals were founded A.D. 1066-1170 by Norman bishops, some upon the old Saxon foundations, such as Canterbury and York, or near the original Saxon buildings as at Winchester, or upon new sites such as Norwich and Peterborough, and were without exception more magnificent erections than those of the anterior period, portions of the older style still existing in many cathedrals, showing the fusion of Roman and Byzantine architecture with the more personal and vigorous art of the Celtic, Saxon, and Scandinavian peoples.

The plan, given on next page, of Lincoln Cathedral shows no trace of the apsidial arrangement so universal in Norman and French cathedrals, and is therefore considered a typical English cathedral. Each vertical division in the nave, the choir, and transept is termed a bay. On plate 14 is an illustration of four typical bays of English cathedrals, showing the development of style from the 12th to the 15th century. The general characteristic of each bay is given separately, but obviously it can only be approximate, as the building of each cathedral was influenced by local considerations, each period necessarily overlapping its predecessor, thus forming a transitional style. For instance, in the choir of Ripon Cathedral, the aisle and clerestory have semi-circular Norman windows and the nave arcading has pointed arches. In the Triforium and Clerestory arcading, round arches are seen side by side with the pointed arch.

The PIERS (sometimes termed columns) of these bays have

* "The seven periods of Church Architecture," by Edmund Sharpe.

† "Gothic Architecture," by Thomas Rickman.

distinctive features which are characteristic of each period of the Gothic development. Sketch plans are here given showing the



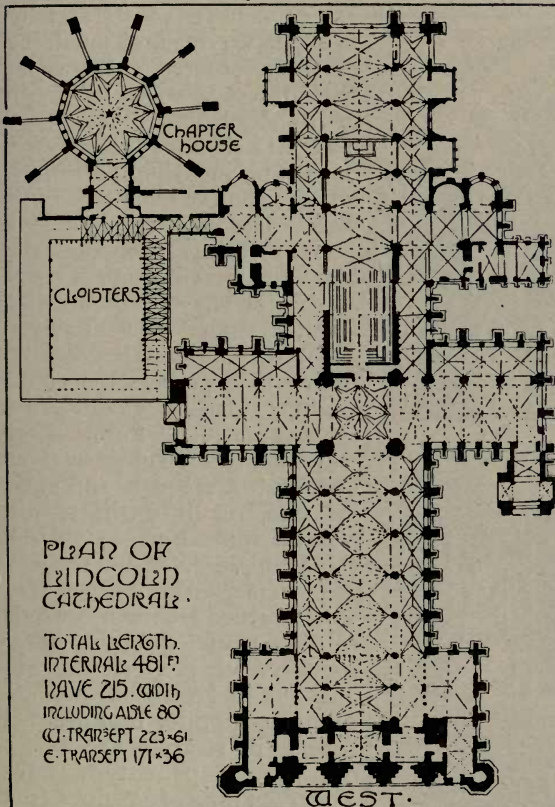
changes that took place in the shape of the pier from 1066 to 1500. The same general characteristics are observed in the arch

mouldings and string courses.

CHARACTERISTICS OF THE NORMAN PERIOD.

NAVE ARCADING. The universal use of the round arch, cylindrical or rectangular piers with semi-circular shafts attached to each face. Capitals cubical and cushion shaped. Arch mouldings enriched with concentric rows of Chevron and Billet ornament.

TRIFORIUM. In early work, of one arch. In later work, two or



four small arches carried on single shafts under one large semi-circular arch.

CLEARSTORY.

One window with an open arcading in front, of three arches, the centre one larger and often stilted. This arcade forms a narrow gallery in the thickness of the Clearstory wall. The roof of the nave, of wood, flat and panelled, roof of the aisles, semi-circular quadrapartite vaulting.

An arcading of semi-circular arches was usually placed upon the wall, under the aisle windows.

Early windows are narrow, flush with the external wall, and deeply splayed on

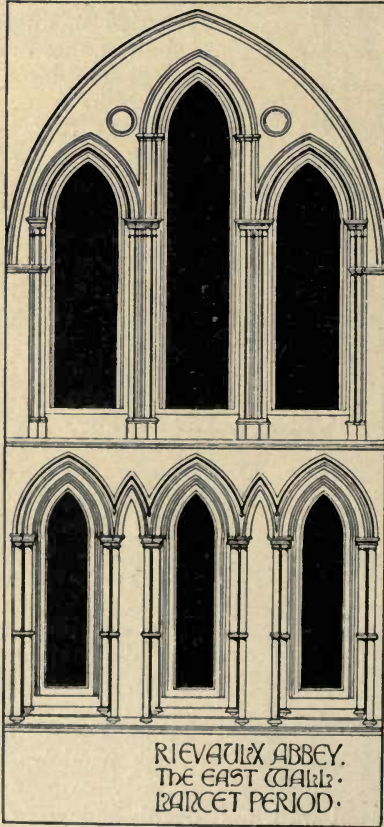
the inside. Later windows are recessed externally, with jamb shafts and capitals supporting an enriched moulded arch. A few semi-circular rose windows still remain, of which a fine example is to be found in Barfrestone Church, Kent.

EARLY ENGLISH OR LANCET PERIOD.

The Lancet or pointed arch universal.

CAPITALS, of three lobed foliage and circular abacus. The pier arch mouldings, alternate rounds and hollows deeply cut and enriched with the characteristic dog's tooth ornament. A hood moulding which terminates in bosses of foliage or sculptured heads invariably surrounds the arch mouldings. This moulded hood when used externally is termed a "Dripstone," and when used horizontally over a square headed window a "Label."

The **TRIFORIUM** has a single or double arch, which covers the smaller or subordinate arches, the spandrels being enriched with a sunk or pierced trefoil or quatrefoil. The Triforium piers are solid,



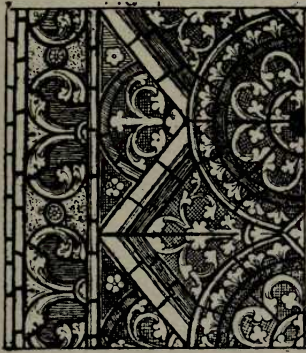
RIEVAULX ABBEY.
THE EAST WALL.
LANCET PERIOD.

having delicate shafts attached to them, carrying arch mouldings of three orders, and enriched with the *Dog's tooth* ornament or trefoil foliage.

The **CLEARSTORY** lancet windows are in triplets, with an arcading on the inner face of the wall. The vaulting shaft occasionally springs from the floor, but more usually from a corbel above the nave capitals, and finishes under the clearstory string with an enriched capital, from which springs the simple vaulting usually quadrupartite or hexapartite in form. Early windows in small churches were arranged in couplets and at the east end, usually in triplets, with grisaille stained glass similar to the example given on the next page from Salisbury Cathedral. The annexed example from the east end of Rievaulx Abbey shows a finely proportioned window and its arrangement.

Figure sculpture, beautiful and refined in treatment, was frequently used upon external walls. The figures of Saints and Bishops were placed singly under

triangular pediments and cusped arches, of which there are fine examples at Wells, Lichfield, Exeter, and Salisbury (fig. 5, plate 14).



Splendid examples of circular rose windows are to be seen in the north and south transepts of Lincoln Cathedral, also at York, but they are comparatively rare in England, while France possesses over 100 of the finest and most important examples of this type of ecclesiastical adornment. They are to be seen in the Cathedrals of Notre Dame, Rouen, Chartres, and Rheims.

DECORATED OR GEOMETRIC PERIOD.

In this, the piers have engaged shafts with capitals having plain mouldings or enriched with finely carved foliage of the oak, maple, or mallow. The pier arches have mouldings of three orders, also enriched, usually with the characteristic ball flower, or foliage similar to that upon the capitals.

The **TRIFORIUM** consists of double arches, with subordinate cusped arches, adorned with Geometric tracery.

The inner arcading of the **CLEARSTORY** is absent, the one large window being divided by mullions and geometrical tracery, or by equilateral triangles enriched with circular and bar tracery (fig. 3, plate 14). Above the pier capitals an enriched corbel is usually placed from which springs the vaulting shafts, terminating with a richly carved capital under the **CLEARSTORY** string.

The aisle arcading, as a rule, is very beautiful, having geometric tracery and finely proportioned mouldings, the aisle windows with mullions and bold geometric tracery. The circular rose windows of the transepts are typical of this period.

PERPENDICULAR AND TUDOR.

The **PIERS** of this style are lofty and enriched with shallow mouldings carried round the pier arch, where capitals are introduced, they frequently resemble a band round the pier at the springing of the arch, or occasionally they are octagonal in form, and decorated with an angular treatment of the vine. In some instances, the upper part of the plain octagonal capital is relieved with an embattlement. The latter is also frequently used as a cresting for the elaborate perpendicular screens, or for relieving the clearstory strings.

The **TRIFORIUM** is absent in this period, the bay consisting of two horizontal divisions only. The **CLEARSTORY**, owing to the suppression of the Triforium becomes of more importance. The windows are large and often in pairs, with vertical mullions extending to the arch mouldings of the window head. The aisle windows are similar, and when lofty have horizontal transoms, on which the

battlement ornament is displayed. The aisle arcading being also suppressed, all plain wall space was covered with perpendicular surface tracery. Enrichment of this type was used in the greatest profusion upon walls, parapets, buttresses, and arches, also upon the jambs and soffits of doorways. This, together with the use of the four-centred arch, forms the characteristic features of the Perpendicular or Tudor period. English cathedrals show a marked contrast in scale to contemporary French buildings. The English nave and choir is less in height and width but greater in length than French cathedrals. For instance, Westminster is the highest of our English cathedrals, with its nave and choir 103 ft. from floor to roof, 30 ft. wide, and 505 feet in length. York is next with 101 ft. from floor to roof, 45 ft. wide, and 486 ft. in length. Salisbury is 84 ft. from floor to roof, 32 ft. wide, and 450 ft. in length, and Canterbury 80 ft. from floor to roof, 39 ft. wide, and 514 ft. in length. Lincoln with 82 ft. and Peterborough with 81 ft. are the only other examples reaching 80 ft. in height; York with 45 ft. being the only one reaching above 40 ft. in width of nave.

The measurements of contemporary French cathedrals on the other hand, being as follows:—Chartres, 106 ft. from floor to roof, 46 ft. wide, and 415 ft. in length; Notre Dame, 112 ft. from floor to roof, 46 ft. wide, and 410 ft. in length; Rheims, 123 ft. from floor to roof, 41 ft. wide, and 485 ft. in length, while that at Beauvais reaches the great height of 153 ft. in the nave, 45 ft. in width, and only 263 ft. in length.

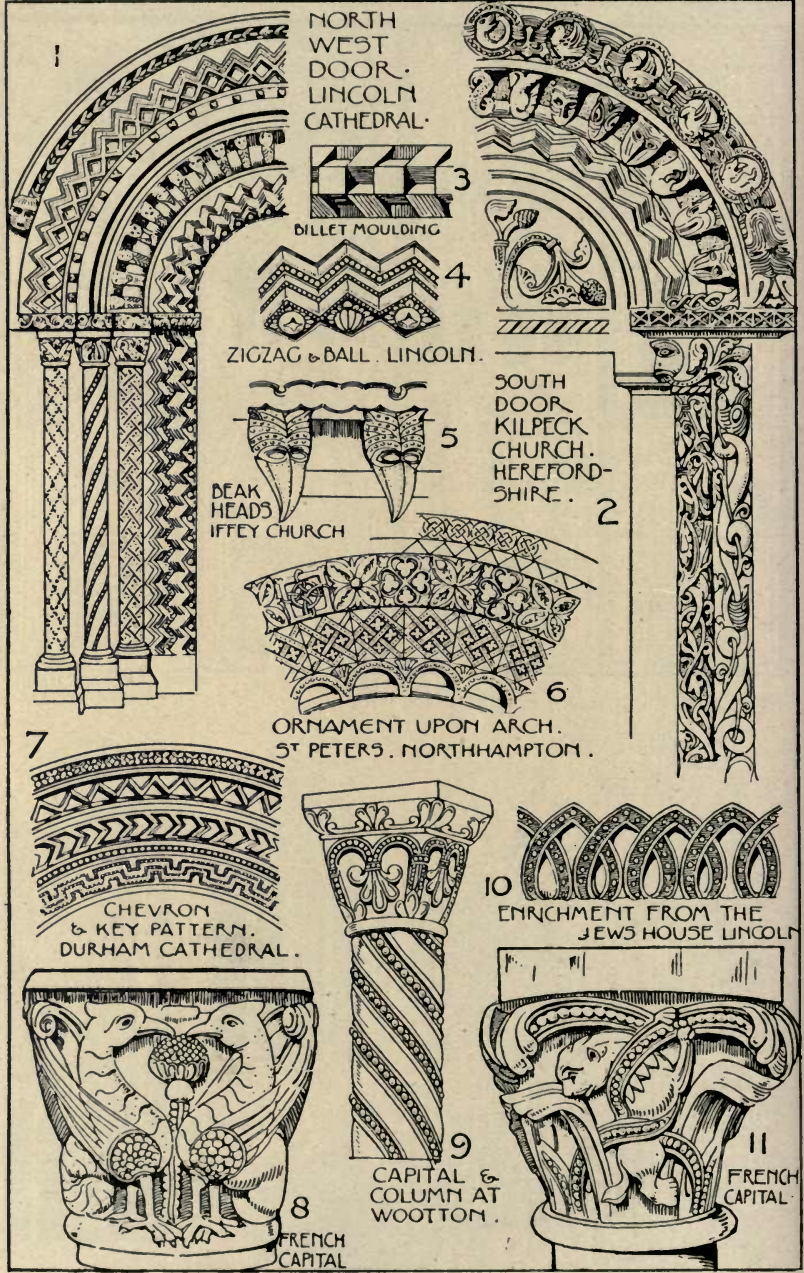
The remarkable growth of the Gothic style during the 13th and 14th centuries was contemporary in England, France, Flanders, Germany, and in a less degree in Italy. One of the most beautiful churches in Italy, is, S. Maria della Spina, at Pisa, with its rich crocketed spires and canopies, features which were repeated a little later at the tomb of the famous *Scaligers* at Verona. At Venice, the Gothic is differentiated by the use of the ogee arch with cusps and pierced quatrefoils. It was in France and England where Gothic architecture reached its culmination; the abbey and cathedrals, with pinnacles, spires, and towers, enriched with the most vigorous and beautiful sculpture; the arcadings and canopies with crockets, finials, and cusps, vibrating with interest and details, and the splendid windows filled with glorious coloured glass, are all tributes to the religious zeal and splendid craftsmanship of the middle ages.

On the opposite page are illustrations showing the modifications that took place in the evolution of church architecture from the 12th to the 15th century. The triforium in the Norman period was fundamental, but in the Perpendicular period this feature was absent. The change of style may also be observed in the windows of each bay, from the simple Norman one (fig. 1) to the vertical mullioned 15th century window, figs. 4 and 8.



1 NORWICH 2 LINCOLN 3 GEOMETRIC 4 PERPENDICULAR
FOUR BAYS OF TYPICAL ENGLISH CATHEDRALS - 12TH TO THE 15TH CENTURY





NORMAN DETAILS.

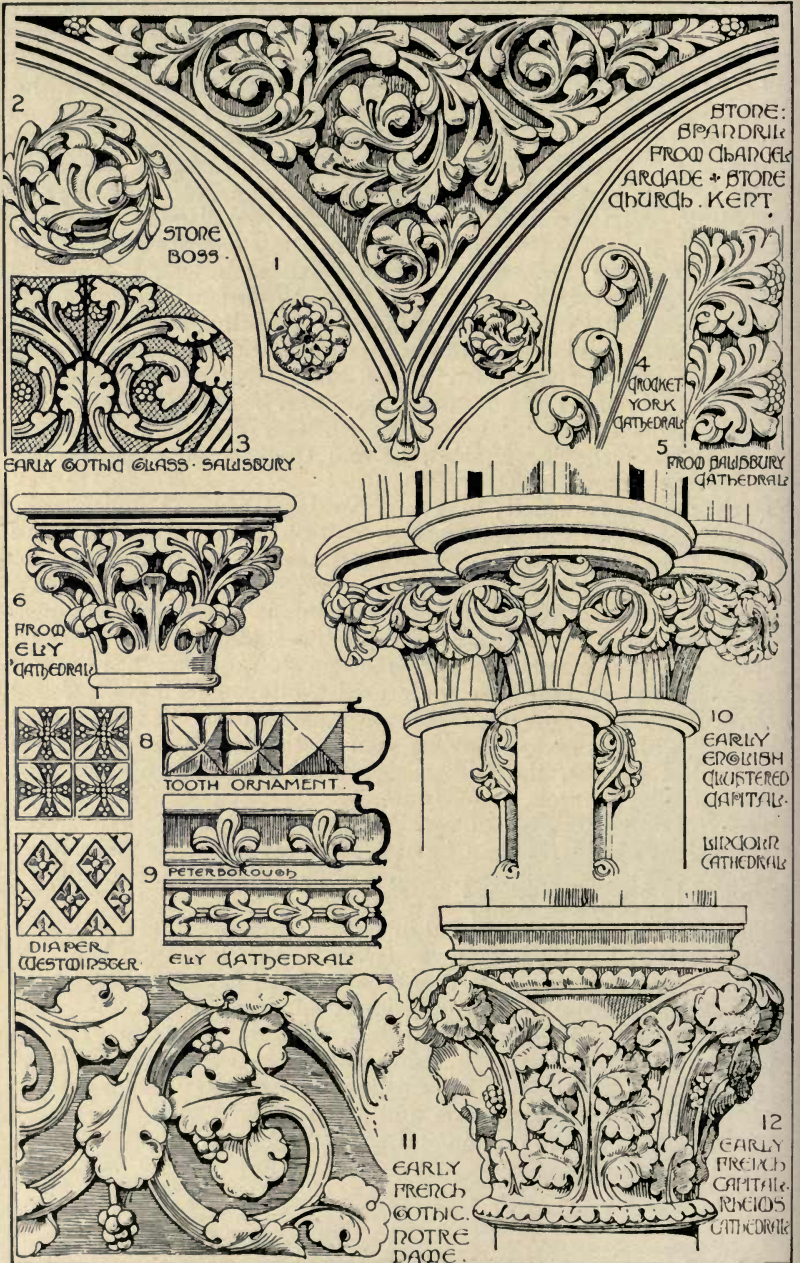
Norman architecture was distinguished by the use of the traditional semi-circular arch, superseded by the pointed arch of the early Gothic period. These semi-circular arches in the earlier dates were decorated with rudely executed carvings, cut or worked with the axe. Later Norman work is very rich, the mouldings being well carved with enrichments of the Chevron, the Cable Pallet, Star, Fret or Key Patterns; the lozenge and the beading or pearling. Characteristic features of this period also are the beak-head (fig. 5) and the corbel-table, which was a series of heads of men or animals, from which spring small arches supporting the parapet. Many rich examples of Norman surface ornament are still extant; at Christchurch, Hants, a beautiful intersecting arcading of semi-circular arches occurs, the enrichment above being a scale or imbricated pattern; at St. Peter's, Northampton, a very rich example of surface ornamentation may be seen (fig 6).

Floral forms are but rarely used in Norman ornament; instances are known of the use of the rose and the fir-apple, but they are the exception and not the rule.

Early doorways usually have a square head recessed under semi-circular arch mouldings, decorated with the Chevron, Key, or Beak head. The semi-circular Tympanum over the door was plain or enriched with rude sculpture in low relief. Later doors show a great profusion of ornament in the archivolt and arch mouldings, which are often carried down the jamb mouldings. The recessed columns are also enriched with the Chevron, or diagonal lines of pearling (fig. 1), and have sculptured capitals showing a classical tendency in the arrangement of acanthus foliage and the volute. Fine examples of this period may be seen in the west front of Lincoln Cathedral (fig. 1), the Galilee porch at Durham, and the west door of Iffley Church, Oxfordshire.

The Norman capitals are usually cushion-shaped, with a square abacus, enriched with the Chevron, star pattern, or the anthemion (fig. 9). The capital itself was decorated with the anthemion, or with rude volutes or segments of circles.

The architecture of this period in France, differing from contemporary work in England, shows a strong Roman influence, hence its name—Romanesque. St. Trophine at Arles is a fine example of this style, beautiful in its proportions and vigorous in detail. The west front of Angouleme Cathedral, with its profusion of semi-circular arcading, displays more affinity to contemporary work in England. In the two French capitals (figs. 9 and 10) a characteristic treatment of animals and birds may be seen, showing a strong vitality in the ornamental art of that period.



EARLY GOTHIC DETAILS.

The NORMAN style was succeeded by the pointed, or GOTHIC style, remarkable for its variety, its beauty of proportion, and

the singular grace and vigour of its ornament. Showing no traditions, beyond Sicilian and Arabian influence, it grew rapidly, and reached a high degree of perfection in France and England. The massive and barbaric character of the Norman style gave place to the light clustered shafts and well-proportioned mouldings of the early English Gothic, with its capitals characterised by a circular abacus, and the typical three-lobed foliage growing upwards from the necking of the shafts, thence spreading out in beautiful curves and spirals under the abacus. This tendency to the spiral line is peculiar to the early Gothic, and differentiates it from the Decorated and Perpendicular Period. The diagrams of the three crockets here given show the distinctive character of English Gothic ornament.



A



B



C

A. Early Gothic, three lobed leaves arranged in spiral lines. B. Decorated Gothic, with natural types of foliage, such as the oak and maple, with a flowing undulating line. C. Perpendicular Gothic, showing the vine and

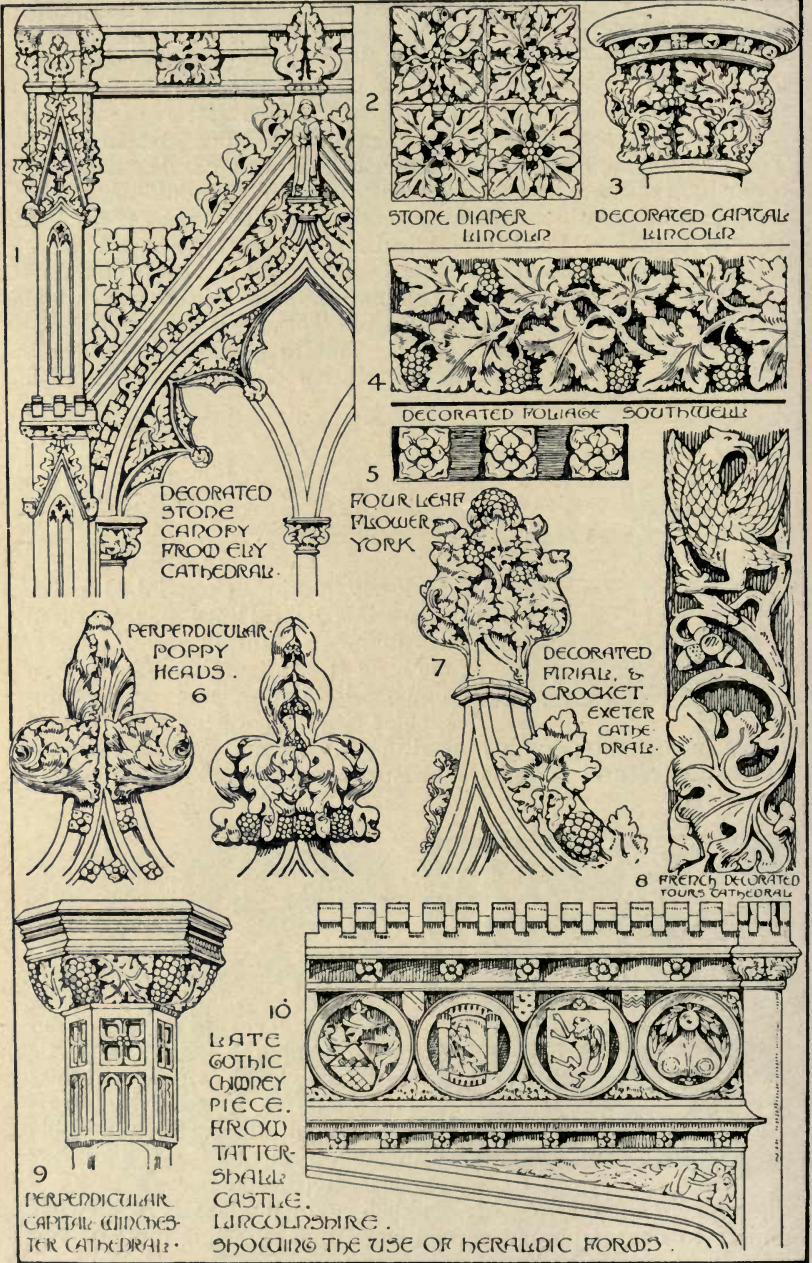
leaves as elements, and arranged in a square and angular manner. The same features and characteristics are observed in the borders here given.



The beautiful carved spandril from the stone church, Kent (fig. 1), is remarkable for the vigour and flexibility of curve, its recurring forms of ornamentation, and admirable spacing, typical of much of our early English foliage.

The type of foliage in early English stained glass is somewhat similar to contemporary carved work, but showing more of the

DECORATED AND PERPENDICULAR
GOTHIC DETAILS.



profile of the leaf, and it has a geometric or radiating arrangement in addition to the spiral forms of foliage.

Early French work (figs 7 and 8), with its square abacus, differs from the early English, in having less of the spiral arrangement, and a rounder type of leaf, together with the absence of the mid rib, which is so characteristic of contemporary early English Gothic. The plain moulded capitals so prevalent in this country are rarely found in France.



DECORATED & PERPENDICULAR GOTHIC DETAILS.

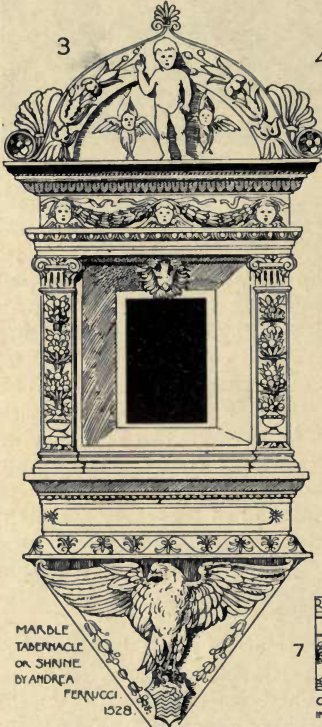
Decorated Gothic is remarkable for its geometric tracery, its natural types of foliage, and the undulating character of line and form in its ornamental details. The foliage of the oak, the vine, the maple, the rose, and the ivy were introduced in much luxuriance and profusion, being carved with great delicacy and accuracy. Lacking the dignity and architectonic qualities of the early Gothic foliage, it surpassed it in brilliancy and inventiveness of detail. The Capitals, enriched with adaptations from nature, carved with admirable precision, were simply attached round the bell, giving variety and charm of modelling, but lacking that architectonic unity which was so characteristic of early work.

Diaper work, crockets and finials, introduced in the early English, were now treated with exceeding richness, and used in great profusion. The ball flower so characteristic of the Decorated period replaced the equally characteristic tooth enrichment of the preceding style.

French Contemporary Work has similar characteristics, but displays more reserve and affinity for architectural forms.

This brilliant Decorated period reached its culminating point within half a century and then rapidly gave place to the Perpendicular Style, with its distinctive vertical bar tracery of windows and surface panelling, and the prevalent use of the four centred arch—of octagonal capitals enriched with the angular treatment of the vine,—of heraldic shields and arms, and of the four-leaved flower; all typical of the period.

A PORTION OF THE ARCHITRAVE FROM THE BRONZE GATES OF THE BAPTISTERY FLORENCE.
BY LORENZO GHIRICATI, 1425-52. QUATTROCENTO PERIOD.



FROM THE CHURCH OF S. GIULIANO AT PIESOLE

RENAISSANCE ORNAMENT.

The arts of Rome and Byzantium lingered in Italy until the 12th century, losing their vitality and vigour, except at Venice, where the Byzantine style reached a culminating point in the glorious buildings at Murano and of St. Mark's.

Lombardy, in the north, had witnessed a singular blending of the old classic art with the vigorous traditions and myths of the Longobards and the symbolisms of the old Byzantine, thus producing the architecture known as Lombardic, with its multiplicity of small columns and arches, quaint imagery of sculpture, and the frequent use of a lion or dragon as a support for the columns. These are features of the early art at Lucca, and at Bergamo, Padua, Verona, and other towns in Lombardy; a beautiful illustration from Lucca is given in the appendix to Ruskin's "*Stones of Venice*," Vol. I. Contemporary with this period came the Gothic influence with its clustered columns, pointed arches, its cusps and crockets, and its strong vitality, impressing the arts and architecture with this Gothic personality; hence, during the 12th and 13th centuries in Italy, this intermingling of styles, traditions, religious beliefs and myths, produced an art barbaric and vigorous in character, the imagery full of suggestiveness, and the detail rich and varied in conception. Yet it was but the herald of a style which culminated in the glorious epoch of the Renaissance, a style where symmetry was to play an important part, as in classic art, where refinement of line and detail, of culture and craftsmanship, are found; and which, though beautiful in proportion, unity of parts, and perfect adaptability, yet lacked that symbolism, suggestiveness, inventiveness, and rugged personality of the early Byzantine, Lombardic and Gothic styles.

ITALIAN Renaissance is broadly divided into three periods. Tre-cento, A.D. 1300 to 1400; Quattro-cento, A.D. 1400 to 1500; and Cinque-cento, A.D. 1500 to 1600. In the Tre-cento style this intermingling of the classic details with the Lombardic and Gothic constructions produced such remarkable buildings as S. Maria della Spina, and the Campo Santo at Pisa, by Giovanni Pisano 1240-1320; the Palazzo Vecchio, the Church of Santa Croce, and the Cathedral of Florence, by Arnolfo di Cambio (1232-1310), with its alternate courses of black and white marble, and its Gothic arches and tracery; the beautiful Campanile by Giotto (1276-1336) is a noble accessory to Arnolfo's Cathedral. A charming illustration of this Tre-cento period, from Giotto's Campanile, is the frontispiece to Ruskin's "*Seven Lamps of Architecture*."

The sculpture and decorative arts of this period are marked by dignity of conception, and a mingling of Gothic and classical traditions. Perhaps the earliest examples known are the hexagonal pulpit in the Baptistery at Pisa, a similar one in the Cathedral at Siena, and the fountain at Perugia, all by Nicolo Pisano (1206-76).

He was assisted in much of his work by his son Giovanni, who also executed the pulpit in the Cathedral at Pisa. Andrea Pisano (1273-1344), a pupil of Giovanni executed a beautiful bronze gate or door, cast in 1332, for the Baptistery at Florence.

A fine monumental work of this period is the tomb of St. Peter the Martyr, in the Church of St. Eustorgio at Milan, by Balduccio di Pisa, 1308-47.

The QUATTRO-CENTO period, of which Lorenzo Ghiberti (1381-1465), was the great master, is remarkable for its vitality and naturalism. Ghiberti's chief works are the two bronze gates for the Florentine Baptistery; the first gate is dated 1403-24, and the second 1425-50. Both have panels modelled in low relief, the first with incidents from the New, and the second from the Old Testament. The frame-work of these gates has a series of single figures in niches, with circular medallions between them. The bronze architrave round each of the Ghiberti gates, in addition to the one he placed round the earlier gate, by Andrea Pisano, are rich examples of Quattro-cento design. The details are natural fruits, flowers, and foliage, banded-together with ribbons, with the introduction of birds, squirrels, &c. The egg-plant and pomegranate portion (fig. 1) is a familiar example.



Other masters of this period were Jacopo della Quercia (1371-1438) who executed the beautiful monument here shown, to Ilaria di Carretto, in the cathedral at Lucca. The recumbent figure of Ilaria is sculptured in white marble with perfect simplicity and beauty; another famous work of Jacopo was the fountain at Siena.

Luca della Robbia (1400-82) executed a beautiful organ gallery in marble for the Cathedral at Florence, with admirable singing and dancing figures in relief. But beautiful as this work is, Luca's reputation rests upon his Enamelled Terra Cotta, which he perfected

to a remarkable degree. Modelled first in clay and coated with tin enamel (see Maiolica), he produced a marvellous series of these reliefs, which were invariably surrounded with the typical quattrocento border of modelled fruit and flowers, enamelled in bright colours. His nephew, Andrea della Robbia (1445-1525) continued the traditions, methods, and skill, with marked success; and also Andrea's son Giovanni (1524) who executed a beautiful frieze upon the façade of the hospital at Pistoja. Andrea's other sons, Girolamo and Luca carried the art into France under Francis I. (1531.) Donatello (1386-1466) was remarkable for the singular grace and sincerity of his portraiture, especially of children; the dancing figures in relief on the panels of the singing gallery of the Cathedral of Florence, are perfect examples of his art. Donatello also carried the art of low flat relief called "*Stiacciato*" to the greatest perfection. An illustration of Donatello's work, from the high altar of St. Antonio at Padua, is here given.



The art of the medallist, which had declined since the Roman period, now took its position among the arts of the quattrocento period, under Vittore Pisano, called Pisanello (1380-1451). The vigour of his modelling, and the individuality of his medals of the contemporary Princes of Italy, are exceedingly fine. Among other remarkable medallists were Sperandio of Verona (1423-90); Caradosso, of Milan (1480-1545); Vincentine, of Vicenza (1468-1546); Benvenuto Cellini, of Florence (1500-71); Lione Leoni (1498-1560); Pompeoni Leoni (1530-1610); and Pastorino, of Siena (1510-91). The great dome of Arnolfo's Cathedral at Florence was designed by Brunelleschi (1377-1446), who was a competitor with Ghiberti for the bronze gates of the Baptistery at Florence. Other names of this period were Desiderio da Settignano (1428-64), his masterpiece being



the tomb of Carlo Marzupini, in the Church of Santa Croce, Florence; Mino da Fiesole (1430-84); Andrea Verrocchio (1435-88); the author of the fine equestrian statue of Bartolommeo Colleone at Venice (see Bronzes); Matteo Civitali (1435-1501); and the Rossellini, a remarkable family of five brothers, of which the most famous

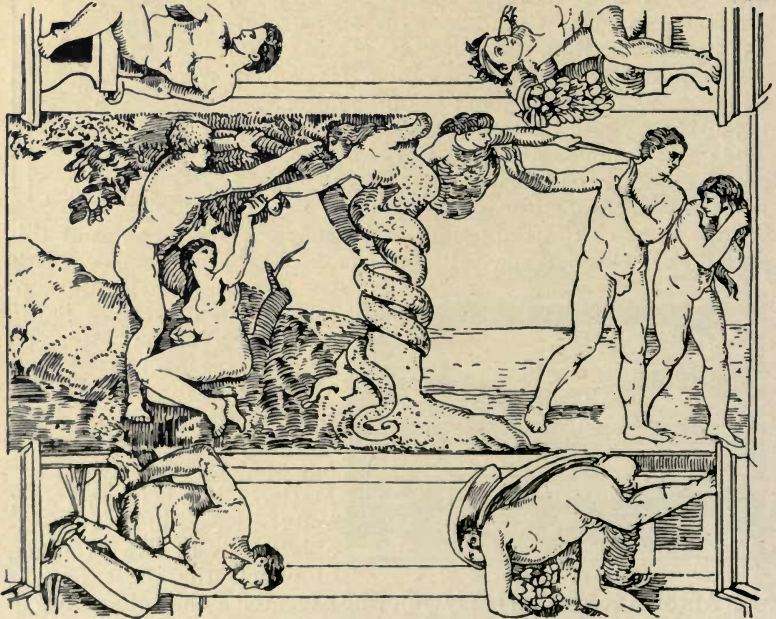
was Antonio Rossellini (1427-79), who executed a charming tomb to Cardinal Jacopo di Portogallo in the Church of the Nunziata, Florence.

The CINQUE-CENTO period was the culmination of the Renaissance, when architecture, sculpture, painting, and the decorative arts, were under the magnificent patronage of the Popes and Princes of Italy. Palaces, churches, and public buildings were completed and embellished with beautiful sculptures and decorations; hung with the most sumptuous fabrics of the Venetian, Florentine, and Genoese looms; decorated with altar paintings and mural decorations, by the most renowned of painters; and enriched with the magnificent productions of the gold and silversmiths' art, and the loveliest of intarsia or inlaid woodwork.



VELVET ITALIAN 16th CENTURY
MUSEE DES ARTS DECORATIFS PARIS

Michel Angelo Buonarroti (1474-1653), by his great intellect and power, stands above his many contemporaries. The colossal figure of *David*, and the *Madonna and Child* at Bruges, are familiar examples of this great artist's work. The magnificent tombs of Lorenzo and Giuliano de Medici at Florence, show his noble power and conceptions of art. The splendid decorative work on the ceiling of the Sistine Chapel in the Vatican is another example where unity of concep-



tion and marvellous execution are shown in a remarkable degree.



Two illustrations of this ceiling are given—one of the panels, with the expulsion from Eden, and one of the Sibyls or Prophets, both showing beautiful harmony of incident and composition.

Contemporary with Michel Angelo was Raphael (1483-1520), who displayed the highest capacity for grace and refinement in painting. His principal mural paintings are in the stanze of the Vatican, where four rooms are painted in fresco, almost entirely by Raphael. The Loggia of the Vatican, by Bramante, was also decorated by Raphael and his pupils. The then-recent discoveries

of the Baths of Titus and House of Livia, with their Roman mural painting, influenced in a remarkable degree the decorative painting of the Cinque-

Cento period. These arabesques (or, as they were termed, Grotteschi, being found in the supposed caves or grottos of Roman gardens), were utilised by Raphael in the decoration of the pilasters, piers, and walls of this Loggia. The designs were painted with a fine range of colour upon white ground, and enclosed within borders of modelled stucco ornaments. In the panels upon the ceiling, Raphael painted a series of 52 incidents of the Bible. These are spoken of as "Raphael's Bible."

Raphael was assisted in this work of the Loggia by many contemporary artists: Giovanni da Udine (1494-1564), Giulio Romano (1492-1546), Francesco Penni (1488-1528), Perino del Vaga (1500-47), and Prima-



ticcio (1490-1580), who completed much of the work after Raphael's death. These artists carried his traditions and methods to other parts of Italy. Giulio Romano executed some fine mural decorations at the Villa Madama in Rome; and for Federigo Gonzaga, Duke of Mantua, he enriched with beautiful decorative paintings and arabesques, the Palazzo Ducale and the Palazzo del Te. These arabesques were upon richly coloured or parti-coloured grounds (see plates 86-9 "*Grammar of Ornament*," by Owen Jones).

These arabesques of Raphael's, which were excelled by later ones of Giulio Romano, show a great inventiveness and skilful combination of parts, but they are not to be compared with the refined and beautiful modelling and harmonious composition of the contemporary carved work of Andrea Sansovino (1460-1528), Jacopo Sansovino (1486-1570), Agostino Busti, Pietro Lombardo (1500), and his sons Tullio and Antonio. These delicate reliefs have the traditional Roman acanthus, but treated with a fine feeling for relief

modelling, and beauty of line; vases, masks, shields, and similar accessories are found in profusion in some examples (fig. 3, plate 19).

The composition of the Cinque-cento ornament is symmetrical, the details being varied and most interesting in the best work, and whilst lacking the vigour and symbolism of the Lombardic and Byzantine styles, it excelled them in its absolute adaptation to architectural conditions, with perfection of design and craftsmanship.

Andrea Mantegna (1431-1517) executed nine paintings or cartoons in tempera upon linen, representing the triumphs of Julius Cæsar, which are a portion of the cartoons for a frieze

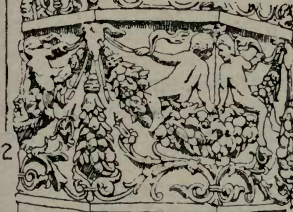
9 feet high and 80 feet long, painted for Lodovico Gonzaga's Palace of St. Sebastian at Mantua, they were purchased by Charles I., and are now at Hampton Court. An illustration of this frieze, from an engraving upon copper in the British Museum, is given on page 55; they were also engraved on wood by Andrea Andreani in 1599.

Many beautiful examples of the Cinque-Cento ornament may be found in contemporary printed and illuminated books. The advent of printing in Italy (1465) by the Germans, Conrad Sweynheym and Arnold Pannitz at the Benedictine Monastery of Subiaco, near Rome, gave a great impetus to Literature, and printing rapidly progressed in Italy, more especially at Venice, where in 1499 Aldus Manutius produced the *Hypnerotomachia*, or dream of Poliphilus





RELIEF ORNAMENT IN MARBLE. SCHOOL OF LOMBARDI. VENICE. 1500.



PORTION OF OCTAGONAL COLUMN WITH STUCCO ENRICHMENT IN THE COURTYARD OF PALAZZO VECCHIO



MARBLE PANEL IN THE CHURCH OF SANTA MARIA DE' MIRACOLI, VENICE 1500 BY PIETRO LOMBARDO AND HIS SONS, TULLIO AND ANTONIO.



MARBLE FONT BY PIETRO LOMBARDO IN THE CHURCH OF SANTA MARIA DE' MIRACOLI, VENICE



RELIEF PANEL FROM ST MICHELE, VENICE. SCHOOL OF LOMBARDI 16TH CENTURY.



PORTION OF TERRA COTTA PLASTER SOUTH KENSINGTON MUSEUM.



—EACH— 6 — 14 INCHES —

with illustrations ascribed to Mantegna. Good reproductions of



THE TRIUMPH OF
JULIUS CAESAR
FRIEZE BY ANDREA
MANTEGNA

Mantegna. Good reproductions of many of these early illustrated books are given in the "*Italian Book Illustrations*," by A. W. Pollard, No. 12 of the Portfolio, December, 1894; and in "*The Decorative Illustration of Books*," by Walter Crane.

The study of classical architecture was stimulated by the publication at Rome in 1486, of the treatise by Vitruvius, an architect of the time of Augustus; an edition was also published at Florence in 1496, and at Venice in 1511. In 1570, Fra Giocondo, at Venice, published "*The Five Books of Architecture*," by Andrea Palladio (1518-80). Another treatise upon architecture, by Serlio (1500-52), was also published at Venice in 1537 and 1540.

Beautiful types of the Renaissance decorative art were the Venetian well-heads, situated as they were in most of the public squares of Venice, and in many of the court-yards of her princely palaces. Designed with details of the most varied and beautiful character by such artists as Andrea Sansovino, Pietro Lombardo, and his sons Tullio and Antonio, the Venetian well-head became a type of beauty, diversified in its treatment, but never losing its characteristics or its usefulness. Venetian well-heads display a great variety of form and decoration. The earlier examples are square or circular, with enrichments of Byzantine character, consisting largely of interlacing, circular, and angular lines, enclosing quaint bird and animal forms. In the later examples the Renaissance treatment is used with singular richness and appropriateness, the grace, delicacy and diversity of detail being a tribute to the vivacity and artistic feeling of the Venetian Republic. These well-heads, worked mostly in white marble and evincing good judgment in the quality of relief, now show comparatively little injury after centuries of usefulness. Occasionally they were of bronze, of which two fine examples are still in position in the court-yard of the Doge's Palace.



FROM AN
ITALIAN
ETCHING
15TH CENTURY
BRITISH
MUSEUM

D · CIO XVIII · 19

Many of these well-heads are carefully treasured in our European Museums, teaching us that beauty of form, and perfection and delicacy of ornament are quite compatible with usefulness, when used by an artistic people.



The Renaissance in Italy was remarkable for the many magnificent secular buildings erected during the 15th and 16th centuries in the chief cities in Italy.

In FLORENCE the palaces have a severe dignity of

treatment, with bold rusticated courses of stone-work, circular-headed windows, and finely-proportioned cornices. The first Renaissance palace was the Riccardi (1430) by Michelozzi (1370-1440); and it was followed by the Pitti (1435), by Brunelleschi (1377-1444), the Rucellai (1460), by Leon Battista Alberti (1389-1472), the Strozzi (1489) by Cronaca (1454-1509), the Gondi (1490) by Giuliano Sangallo (1443-1507), the Guadagni and the Nicolini, by Bramante (1444-1514), the Pandolfini (1520) by Raphael (1483-1520), and the Bartolini (1520), by Baccio d'Agnolo (1460-1543).

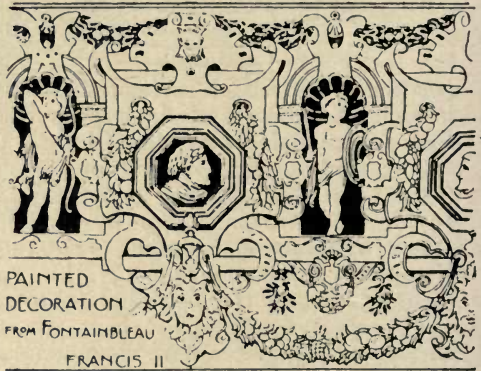
In ROME the palaces were characterised by largeness of scale and the frequent use of Ionic and Corinthian pilasters or columns, and square-headed windows with triangular or curved pediments. The chief palaces in Rome are the Cancelleria (1495) and the Giraud (1506) by Bramante (1444-1514), the Farnesina (1506), the Massimi (1510), and the Villa Ossoli (1525), by Baldassare Peruzzi (1481-1536), the Palma and the Farnese, by Antonio Sangallo (1476-1546), the Borghese (1590) by Martino Lunghi, the Laterano, by Fontana (1543-1610), and the Barberini, by Carlo Maderno (1556-1629), Borromini (1599-1667), and Bernini (1598-1680).

In VENICE the palaces were rich and varied; with the frequent use of pilasters, semi-columns and circular-headed mullioned windows suggested by the earlier Gothic palaces. The Renaissance period commenced here with the re-building of the court-yard of the Doge's Palace (1486) by Antonio Bregno, and completed in 1550 by Scarpagnino. Then came a beautiful series of buildings, the chief being:—the Vendramini, the Trevisani, and the Gradonigo Palaces, by Sante Lombardo (1504-1560); the Cornaro Palace and the Library of St. Mark's, by Sansovino (1479-1570), and the Grimani Palace by San Michele (1484-1559).

FRENCH RENASCENCE.

Towards the close of the 15th century, the vigorous and beautiful Gothic architecture of France, with its rich traceried and mullioned windows, its niches and canopies, its crocketed spires and varied treatment of floral enrichment, lost its vitality; and was succeeded by the Renaissance style, which at first was purely Italian, but afterwards, with the intermingling of Gothic traditions and craftsmanship, became a distinct phase of the Renaissance.

French Renaissance may be broadly divided into distinctive periods:



1st. The earlier or transitional, 1453-1515, when the influence of the Renaissance began to be felt. 2nd. 1515-47, FRANÇOIS PREMIER. This period is remarkable for the number of Italians engaged by Francis I. for the embellishment of the Château Fontainebleau, the principal being Rosso, painter; Serlio and Vignola, architects; Primaticcio and Penni, ornamentists, Benvenuto Cellini, with his beautiful goldsmiths' art; and Girolamo della Robbia, who produced enamelled Terra Cotta. The work of these renowned craftsmen necessarily had a marked influence upon the traditional French art. Of the architecture of this period, there is the south-west angle of the Louvre, commenced in 1548 by Pierre Lescot (1510-78), and enriched with sculpture by Jean Goujon (1515-72), who also executed the sculptures that embellished the beautiful Château Ecoen, by Jean Bullant (1515-60), and the beautiful fountain of the Innocents at Paris, of which an illustration of one of the panels is here given. The tomb of Louis XII., at St. Denis, by Jean Juste (1518), is remarkable for the purity of its enrichments.

3rd. HENRI DEUX and HENRI QUATRE period, 1547-1610, when the building of the Tuileries was commenced in 1564 by Philibert de Lorme (1500-78), the building of the Louvre being continued by De Carreau and Duperac; the Luxembourg being subsequently built by De Brosse, 1610. This period was also represented by the

exquisite Ceramics of Oiron or Henri Deux Ware, and the fine



geometrical interlacings and arabesques of the bookbindings of Grolier.

4th period, 1610-43, under LOUIS TREIZE, when considerable skill was shown in the carved and painted shell and scroll ornament, and in the bookbindings of Le Gascon.

5th. LOUIS QUATORZE period, 1643-1715, of which the palace of Versailles and the Château



Maison, by Francois Mansard (1598-1666), are typical examples of architecture. The decorative compositions of le Pautre (see annexed illustrations), and the richly-decorated furniture, with marquetry in tortoise-shell and brass, by André Boule (1642-1732); the magnificent Gobelins tapestry, so liberally encouraged by the Minister Colbert (1667); and the beautiful Rouen pottery; are characteristic

of the industrial and decorative arts.

6th. LOUIS QUINZE period, 1715-74, when the Rococo style was paramount, the vitality of the preceding periods being lost. The pastoral scenes by the painter Watteau (1684-1721), and the inlaid furniture of Jean François Ochen (1754-65), for Madame de Pompadour, are typical of this period.

7th. LOUIS SEIZE, 1774-89. The arts of this period are more refined and reserved in line, as evinced in the fine marquetry furniture of Riesener and David Roentgen with the ormolu mountings by Gouthière (1740-1810), for Marie Antoinette.

The last period, EMPIRE STYLE, 1804-70, when purely classical forms and Greek enrichments prevailed throughout the whole of the decorative arts.



WOOD CARVING.
PERIOD OF LOUIS XV,
S. K. M.

ENGLISH RENASCENCE.

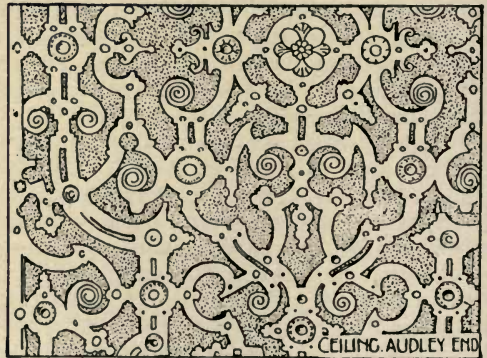
The English Renaissance period began during the reign of Henry VIII., and was contemporary with that of France under Francis I. It was Torrigiano, a contemporary of Michel Angelo, who about 1519 brought this new Renaissance style into repute by erecting the tomb of Henry VII., and that of the Countess of Richmond, in Westminster Abbey.



English Renaissance was further developed by Hans Holbein (1498 - 1554), who came into this country in 1526, followed by craftsmen from Flanders, Germany and Italy. This intermingling of Flemish, German and Italian styles with the traditional Gothic of our own country, distinguishes English Renaissance from that of France and Italy. The marked prevalence of interlacing strap-work, which is so characteristic of Elizabethan and Jacobean ornament, had its origin in Flemish sources.

Of English Renaissance architecture, Caius College, Cambridge, (1565-74), by Theodore Hare, of Cleves, and Longleat House (1567-79), by John Thorp, are the earliest examples extant. The Wonderful Palace of Nonsuch (of which no trace remains) was erected by Henry VIII. about 1530-40, doubtless in the Renaissance style, as we know that it was embellished with beautifully enriched stucco

ornaments and figures by Tolo del Nunziato. Robert Smithson built Wollaton House in 1580. Hardwicke Hall and Haddon Hall are of the later Elizabethan age (1592-97). Typical buildings of the Jacobean period are Holland House (1607), Hatfield (1611), Bolsover (1613), Audley End (1616), Crewe Hall and Aston Hall (1620). These are all enriched with many beautiful examples



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of modelled plaster work. That at Longleat and Hardwicke being executed by Charles Williams, and at Audley End, by Bernard Jansen (1615).

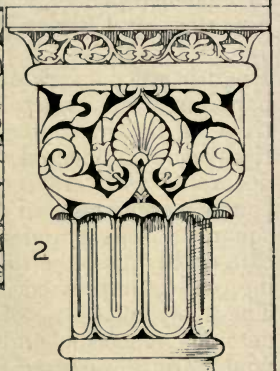
English stucco-work of this period often consisted of geometrical panelling similar in style to the Tudor fan-tracery and the pendentives of the preceding century. These richly-moulded pendentives were connected together by bands of pierced strap-work decorated with arabesques in low relief. From 1615 to 1650 the panels were composed of purely geometrical forms, such as circles, squares, lozenges and interlacing quatre-foils, enriched with delicate arabesques, the ribs or mouldings frequently having a repeating pattern impressed in the soft plaster.

The many fine friezes of this period were remarkable for their boldness of conception and their skilful craftsmanship; frequently a double frieze was used, the lower part consisting of delicate arabesques and interlacing strap-work, while the upper part was of boldly modelled cartouche and delicate arabesques. During the latter part of the 17th century, owing to French influence, the stucco enrichment usually consisted of acanthus foliage and festoons.

From Charles I., (1625), to Queen Anne, (1702), the purely Italian Renaissance prevailed; the Banqueting House at Whitehall, by Inigo Jones, (1572-1652), being a fine example of this period. St. Paul's Cathedral (1675-1710) by Sir Christopher Wren (1632-1723) and his many beautiful churches in London, mark a distinct epoch of English Renaissance; the tradition being carried-on by Vanbrugh (1666-1736) who built Blenheim Palace and Castle Howard. Other architects of this period were Hawksmoor (1666-1726), Kent (1684-1754), Gibbs (1674-1754), Chambers (1726-96), who built Somerset House, and Robert Adam (1725-92), who carried on the traditional method of stucco enrichment, but in a more rigid and formal classic manner. His geometrical panelling of hexagons, octagons, and ovals, was enriched with conventional renderings of the acanthus and olive leaf arranged in small units and repeated without variation over the whole of the surface. These enrichments were cast in plaster or *compo* and were mechanical in treatment, lacking the beautiful decorative quality of the modelled stucco of the early 17th century. The Wellington Monument in St. Paul's Cathedral, by Alfred Stevens, is distinguished from much of the modern work by its strong vitality and architectonic treatment of the composition, and the beauty and singular grace of its detail.



RELIEF ORNAMENT FROM THE WEKALA, CAIRO, ARABIA, 15TH CENTURY.



2

CAPITAL FROM THE COURT OF THE LIONS, ALHAMBRA



FRIEZE IN MOSQUE OF SULTAN HASAN, CAIRO, 14TH CENTURY. FROM THE ART OF THE SARACENS



CEILING DECORATION FROM THE ALHAMBRA, MORESQUE.



6



WALL DECORATION FROM THE ALHAMBRA, SPAIN. MORESQUE (OWEN JONES)

MAHOMETAN & MORESQUE.

Of mediæval history as associated with the decorative arts, the rise and development of the Arabs is the most remarkable. The wide appreciation and liberal patronage of the arts by the Khalifs; the influence of its religion and precepts upon contemporary and later periods of art; the distinct individuality and geometrical arrangement of its ornamentation; all had a most marked effect upon tradition and craftsmanship.

The history commences with Mohammed, A.D. 570-632, who founded and consolidated the empire, of which, under Omar, A.D. 635, Damascus became the capital; in A.D. 638 Kufa and Bassora were founded in Persia. In A.D. 641 Egypt was conquered and the Mahometan capital, Fustât, founded. Persia was conquered in A.D. 642, Spain invaded in A.D. 711, Bagdad in Persia became the capital of the Arabian Khalifs in A.D. 762, and in A.D. 827 Sicily was conquered; but it was not until the dynasty of Ibu-Tülün, A.D. 868-914 that the history of Cairene art begins, of which the mosque of Ibu-Tülün in Fustât, or old Cairo, is the earliest example. Under the Fatimy dynasty, A.D. 867-1171, Cairo was founded, and the arts, receiving further encouragement, were now introduced into Sicily and Europe. In A.D. 997 the Mahometan invasion of India took place. In A.D. 796-965 the mosque of Cordova was built, and in A.D. 1236 the kingdom of Granada was founded and the Alhambra was built by Mohammed ben Alhamar, A.D. 1248, and Mahometan art, as exemplified in the architectural decorations, arms and armour, woodwork, ivory, textile fabrics, and illuminated books, reached its culmination under the Mamlük dynasty, A.D. 1250-1516.

Thus the Arabs, from a roving tribe, became, by religious zeal and conquests, the most powerful and wealthiest nation of mediæval times, assimilating and influencing the customs and the arts of the different nations and provinces.

The term MAHOMETAN ART includes ARABIAN, MORESQUE, PERSIAN, INDIAN, and SICILIAN, all having the same characteristics yet distinguished by the racial influence and custom. The Arabian is marked by its flowing, interlacing, and symmetrical lines, geometrical arrangement (doubtless derived from Byzantine sources), and its prevalence of inscriptions or texts from the Koran. In Spain a more complex geometrical arrangement is found, intermingled with a flowing foliage or arabesque of a purely conventional type. This style is noticeable for its entire absence of any natural forms and its abundant use of inscriptions, and glazed and enamelled tiles, distinctly influenced of Persian tradition though purely geometric and formal. These tiles cover the lower part of the wall, the upper portion, as also the ceiling being decorated with arabesques of modelled plaster in flat relief, of two or more planes, enriched with red, blue, white and gold; this is typical of the Moresque style. The Sicilian work is remarkable for its beautiful fabrics of silk and the prevalence in its ornament of birds, animals, and heraldic forms, showing the continuity of the traditions of Persia.



PLATE
 SLICEOUS GLAZED EARTHENWARE RHODIAN 15 or 16th CENTURY.
 WHITE GROUND, RED FLOWERS, BLUE & GREEN POMEGRANES.



ROCKER BASE. GLAZED EARTHENWARE WITH
 ARABESQUE ORNAMENT 16th OR 17th CENTURY.



EARTHENWARE PLATE 16th CENTURY
 BLUE GROUND, WHITE & GREEN FLOWERS & POMEGRANES.



BLUE, WHITE & GREEN WALL TILES



RHODIAN TILE. WHITE ORNAMENT ON RED GROUND, THE DARK PART DEEP BLUE
 15th OR 16th CENTURY



TILE FROM CAIRO RHODIAN 16th CENTURY. BLUE GROUND.



BLUE AND GREEN TILES, FROM DAMASCUS

PERSIAN ORNAMENT

The early art of Persia was similar to that of Assyria and Babylon, having the same forms, materials, and traditions. With the accession of the Sassanides (A.D. 223) came the introduction of the elliptical dome, so typical of eastern architecture. This dome rested on pendentives which occupied the angles of the square base. These pendentives and the elliptical dome are distinctive features in Mahometan architecture.

The industrial arts of Persia were largely influenced by the traditional arts of Assyria and Chaldea; this tradition was carried on with rare skill and selective power by the Persians, culminating in the splendid period of Shah Abbas A.D. 1586 to 1625. The vitality, beauty, and interest of detail, combined with perfect decorative adaptation to material, are characteristic of the textiles, pottery, metal work, and illuminated manuscripts of the 15th, 16th, and 17th centuries.

The Mahometan conquest of Persia, A.D. 632 to 637, by Abu Bekr, the successor of Mohammed, largely influenced the development of the arts of the Persians, who adopted the customs and habits of contemporary races, yet preserved all the characteristics of their art; and there is no doubt that the art of the Arabs was founded upon the traditional arts of Persia.

Persian decoration is characterised by a fine feeling for form and colour, and for the singularly frank renderings of natural plants, such as the pink, hyacinth, tulip, rose, iris, and the pine and date. These are used with perfect sincerity and frankness, and are essen-



PERSIAN
PLATE. 16TH
CENTURY. S.K.M.

tially decorative in treatment, combining harmony of composition of mass, beauty of form, and purity of colour. It was doubtless owing to these qualities, together with the perfect adaptation of ornament to material, that the Persian style so largely influenced contemporary work, and especially the European textile fabrics of the 16th and 17th centuries. The illustrations given are of some familiar types of Persian adaptations of natural flowers, doubtless chosen for their significance, beauty of growth and form, and appropriateness of decorative treatment. Purely Arabian forms, as given in plate 21, are frequently associated with the Persian floral treatment, showing the influence of the Artists of Damascus. Many fine examples of lustred wall tiles, dating from the 10th and 11th centuries, are in the South Kensington Museum, of which the blue, brown, and turquoise colouring is of a splendid quality. They often have Arabic inscriptions interspersed with the floral enrichments. Examples of wall tiles of the 8th century have been found in the ruins of Rhages.

These lustred tiles are a remarkable instance of tradition or hereditary proclivity. This art, beginning with the enamelled bricks of Babylon, and the later frieze of Susa, page 16, with its brilliant enamel and fine colour, was continued by the Persians, and, passing to the Arabs, the tradition was carried to Cairo, Spain and Majorca; thence into Italy, where enamelled lustred ware was made, differing from the original Persian by its frequent absence of utility, which was fundamental to the art of the Persians.

Mahometan ornament has four broad divisions, viz.: Arabian, Moresque, Indian, and Persian; and they are characterised by strongly-marked compartments or fields which are filled with finer and more delicate enrichments. These compartments are most pronounced in the Moresque with its complex geometric interlacing and entire absence of natural forms (figs. 4, 6, 7, and 8, page 62). The Arabian style is somewhat similar, but less formal. The Indian has a conventional rendering of plants, and the introduction of the lion, tiger, and the elephant (fig. 2, plate 23); while in the Persian work there is a still less formal constructive arrangement, with floral forms clearly defined in line and mass, and the introduction of the human figure with the horse, the lion, the tiger and birds. Note the illustration in Textiles which is taken from a fine carpet in the South Kensington Museum. In this carpet, animal forms, chosen with rare selective power and judgment, are combined with the typical floral enrichment of Persia, with the wealth of colour, admirable spacing of detail and mass, beauty of incident and vigour, and appropriateness of treatment. These are features that distinguish the industrial designs of Persia, and it is doubtless due to the interest and vitality of their ornament that we owe the remarkable influence of Persian art upon the contemporary and latter craftsmanship of Europe.



WHITE PATTERN ON RED GROUND.
GENOISE FROM A PERSIAN DESIGN. S. K. M.

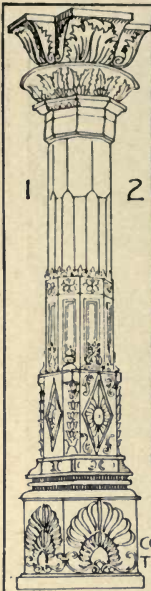
FROM A PERSIAN DRAWING
SOUTH KENSINGTON MUSEUM.

PORTION OF PERSIAN
CARPET
SOUTH KENSINGTON
MUSEUM

VELVET STUFF WITH
RAISED PATTERN OF VASES,
FLOWERS & FIR CONES IN
CRIMSON & GREEN, ON A
WHITE GROUND

ITALIAN (GENOISE)
FROM A PERSIAN
DESIGN 16TH CENTURY
SOUTH KENSINGTON
MUSEUM

PANEL OF TILES FROM THE SEHARYEH MOSQUE AT DAMASCUS. 1580 SOUTH KENSINGTON MUSEUM.
TILES 6 1/4 INCHES SQUARE



WOVEN FABRIC
BENARES. S. K. M.

COLUMN FROM
TEMPLE OF VISHA.
BENARES.



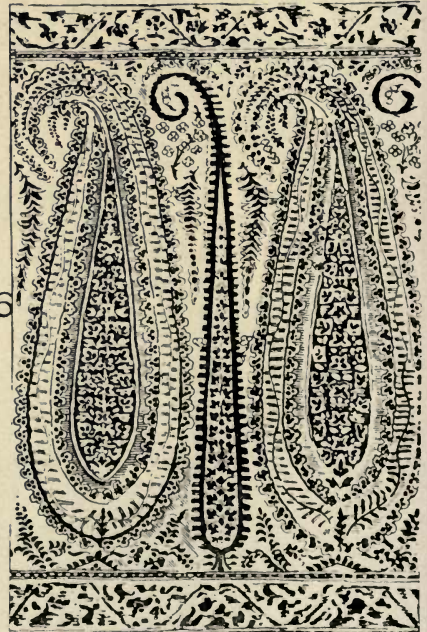
PRINTED COTTON BOCK COLLECTION.
MANCHESTER.



SILK DROCADE WITH PINE SHAPED
FLOWERS. BENARES. S. K. M.



COTTON PRINT WITH FLOWERS IN
THE FORM OF A LEAF. S. K. M.



CASHMERE SCARF. WITH THE PATTERN
FORMED OF PINES SCARLET GROUND. S. K. M.

INDIAN ORNAMENT

The civilization of India dates from the remote past, but the oldest remains of its art and architecture are connected with the Buddhist religion, introduced by the prophet Sakya Muni, B.C. 638. This influenced the arts of India till A.D. 250, when the Jaina style was adopted. The examples of Buddhist architecture consist of Topes (which were sacred or monumental temples, either detached or rock-cut), and monasteries. The rock-cut temples usually consist of a nave and aisles, and a semi-circular recess containing a statue of the seated Buddha. The hall has square or octagonal columns, with bracket capitals (fig. 1). The finest examples of these temples are those at Ajanta, which are richly-decorated in colour with incidents of Hindoo mythology. The fine temples at Ellora, which are cut entirely out from the rock, are of the Jaina period, A.D. 250. The pagodas at Chedombaram are of the Brahmin period, as is also the great hall of 1,000 pillars, which is 190 X 340 feet, containing the sacred image of the god Siva.

Alexander the Great conquered India B.C. 327, and doubtless left the influence of the Persian tradition in India. This influence was still further developed by the commercial intercourse of Persia and India, and by the Arabian invasion of India in A.D. 711, when a Mahometan dynasty was established, 711 to 1152. This largely controlled and influenced the arts under the Mogul dynasty, 1525-1837, when the decorative arts and the manufacture of the beautiful woven brocades and silks were fully developed. The splendid carpets and rugs, printed cottons, metal work, and fine enamels of this dynasty bear a remarkable tribute to the vitality, originality of ideas, and the practical utility of the industrial arts of India.

Indian ornament has the typical Mahometan division of spaces, but is more flowing and graceful than the pure Arabian style. These divisions are filled with fine conventional floral forms, as the lotus, the date or hom, the iris, the rosette and the pine. This pine is treated occasionally as a single flower, but more frequently as a cluster of flowers, which still retains the distinctive form of the pine (figs. 2, 4 and 6).

Typical also of this period is the judicious treatment of the elephant, lion, tiger, peacock, and the human figure, as accessories in the decorative arts of India. They were applied with rare knowledge and skill, combined with an artistic perception of applied art, showing a very strong affinity with contemporary Persian ornament.

Indian ornament has a more conventional rendering of natural forms, than the frank treatment of Persian ornament. Block printing upon silk and cotton fabrics reached a high degree of perfection during the last century. The inventiveness and significance of detail; the charm of composition of line and mass, and the beautiful colour of these printed fabrics are a reflex of the decorative feeling for beauty by the people of India.



1 WOVEN SILK CHINESE 18TH CENTURY
BOCK COLLECTION.
MANCHESTER.



2 WOVEN SILK CHINESE 18TH CENTURY
BOCK COLLECTION. MANCHESTER.



3 CHINESE
DRAGON.
EMBROIDERY



4 CHINESE DRAGON FROM A PORCELAIN
VASE MING DYNASTY.
A D 1338-1644.
S. K. M.



5 FROM A JAPANESE PRINT



DECORATION IN GOLD LAC. JAPANESE.



CHINESE EMBROIDERY.



FROM A JAPANESE PRINT.

CHINESE AND JAPANESE ORNAMENT.

The early bronzes, enamels, porcelain and textile fabrics of China are indicative of the perfection and luxuriance of the decorative arts of that ancient Empire. This perfection is shown by a splendid technic and a fine appreciation of colour and ornamentation, differentiated from the western nations by myths, traditions, and the remarkable persistency of a few typical forms through many centuries, doubtless owing to the profound ancestral worship and veneration for the past. The Dragon was represented under many aspects, frequently forming vigorous lines of composition (fig. 3, 4). The beautiful flora of the country largely influenced Chinese art. The peony and chrysanthemum (frequently highly conventionalized), are typical examples, forming the elements of decorative design. Geometric forms, such as the hexagon, octagon, and the circle, enriched with flowers or the fret, are largely used. The many splendid examples of bells, gongs, and incense-burners in bronze and iron:—the carvings in wood, ivory, and jade:—the beautiful woven silks and embroidered fabrics, and the richness and purity of their porcelain, all testify to the versatility and vitality of the Chinese decorative arts in the past. Their architecture was usually of wood, distinguished by complexity and quaintness of form rather than beauty of proportion and detail, but their pagodas or temples were of brick encased with glazed tiles, the most remarkable of these erections being the Nankin Pagoda of the Ming dynasty (A.D. 1412-31), with its imperial yellow tiles.

The arts of Japan, though doubtless owing their origin to China, are differentiated by a keener observation of nature and a more literal treatment of landscape, bird and animal life, and the beautiful flora of the country—the “kiki” or chrysanthemum, the “botan” or peony, the “kosai” or iris, the “yuri” or lily, the “kiri” or paulownia *imperialis* (somewhat resembling our horse chestnut), the “ume” or plum, the “matsi” or fir, and the “taki” or bamboo,—likewise the peacock, the crane, the duck, the pheasant and many smaller beautiful birds, together with reptiles, insects, and fishes; all are elements in the decorative arts, being rendered with remarkable fidelity and delicacy of touch, united with a fine feeling for composition of line. It is this literal treatment of natural types, the marvellous technic and especially the significance of the forms chosen that constitutes the charm of the earlier Japanese art. It is singular that the materials used by the Japanese should be of little intrinsic value. Having no jewellery, they use little of the precious metals; iron, bronze, enamels, wood and lac, being the chief materials utilised in the decorative arts of Japan.



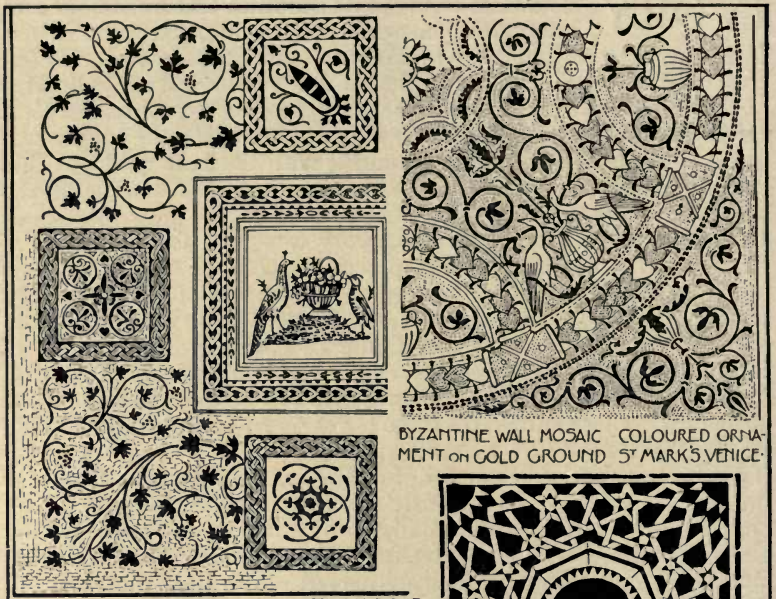
IVORY, doubtless owing to its beautiful texture, colour and adaptability for delicate carving, has been in use from a remote period. Egypt, Assyria, and India have each contributed many beautiful examples of fine craftsmanship, indicative of the artistic culture of the centuries preceding the Christian Era. Of Solomon we read in I Kings, 18, x: "Moreover the king made a great throne of ivory and overlaid it with the best gold." This traditional use of ivory was most probably derived from Egypt, the source of so many of the decorative arts.

In the Periclean age of Greece, ivory was used for the figure of Athene Parthenos by Pheidias, placed inside the Parthenon. This statue of the standing goddess, 40 feet high, was of gold and ivory (called *chryselephantine sculpture*), the drapery being of beaten gold and the exposed parts of the figure of carefully-fitted pieces of ivory. A seated *chryselephantine* figure of Jupiter, about 58 feet high, in the temple of Olympia, was also by Pheidias. Pausanias the Roman traveller enumerates some ten *chryselephantine* statues which he saw in his travels, A.D. 140.

The Roman period is noted for the many beautiful Consular diptychs, which may now be seen in our national museums. They consist of two ivory leaves usually 12 by 5 inches, the inside having a slightly sunk plane covered with wax for writing upon, the outside being enriched with delicate carved reliefs (figs. 7, 8, and 9). These diptychs were given by new consuls on their appointment, to their friends and officers of the state. The consul is usually represented seated on the cushioned curule chair, or chair of state, and his name is generally written across the top of one leaf.

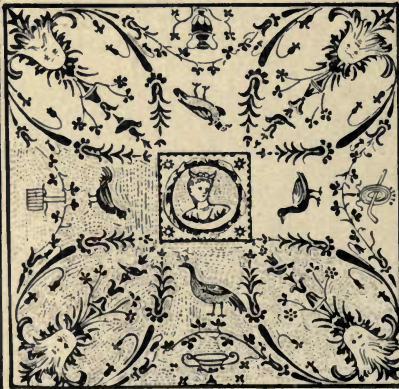
The Byzantines enriched the covers of their manuscripts with ivory, of which an illustration is given in fig. 6; the ivory throne of Maximian, Archbishop of Ravenna, A.D. 546-556, is also of this period. A beautiful treatment of ivory was used in the 13th and 14th centuries by the Saracens of Egypt; they frequently worked a fine geometric inlay of ivory upon ebony; in other examples ivory panels were pentagonal, hexagonal, or star-shaped, and carved with delicate arabesques, the framing of the panels being of cedar or ebony. In India ivory carving reached a high degree of perfection, especially in the many ivory combs, with pierced and relief work representing the figure of Buddha surrounded with foliage and richly caparisoned elephants.

In the Carolingian period, 8th to 10th centuries, ivory was largely used for coffers or small chests. During the early Gothic period in Italy and France, ivory crucifixes, pastoral staffs, croziers, statuettes and triptychs were made in large numbers; and the ivory combs and mirror cases of the Renaissance period have fine reliefs of legendary or allegorical subjects. Of pictorial ivories the modern Japanese craftsmen show the highest technical skill, combined with a keen perception of nature and movement, yet their ivories lack the beauty and dignity of composition and the decorative treatment of the early and Mediæval ivories.



BYZANTINE WALL MOSAIC COLOURED ORNAMENT ON GOLD GROUND ST MARK'S VENICE.

ROMAN PAVEMENT. 2ND CENTURY VATICAN ROME



MOSAIC FLOOR. ROMAN. FOUND AT ROME.



WALL MOSAIC, OF COLOURED MARBLES ARABIAN 14TH CENTURY S. K. M.



MARBLE INLAY ITALIAN. 15TH CENTURY CHURCH OF ST JACOPO. FLORENCE



ROMAN PAVEMENT IN RED, WHITE & BLACK MARBLE FOUND IN 1795 NEAR LINCOLN.

MOSAICS. The durability, range of colour, and appropriateness of material and treatment to architectural conditions, has placed the art of Mosaic as the chief decorative enrichment of architecture. Its antiquity is unquestionable, for in the Book of Esther, i, 6, we read "of a pavement of red, and blue, and white, and black marble."

Mosaic is the art of forming patterns by means of pieces of variously-coloured materials, fitted together, and is broadly divided into three classes: (1) *OPUS TESSELATUM*, or clay mosaic; (2) *OPUS LITHOSTRATUM*, or stone mosaic; (3) *OPUS MISERUM*, or glass mosaic. These divisions are again sub-divided into: (1) *Opus Figlinum*, or ceramic mosaic, formed of a vitreous composition and coloured with metallic oxides; (2) *Opus Signinum*, small pieces of tile; (3) *Opus Vermiculatum*, sub-divided into (a) *Majus*, black and white marble, (b) *Medium*, in which all materials and colours were used, and (c) *Minus*, of minute tesserae, principally used for furniture inlay; (4) *Opus Sculpturatum*, slabs of marble hollowed out and filled in with grey or black marble; (5) *Opus Alexandrinum*, inlay of porphyry and serpentine; and (6) *Opus Sectile*, formed of different laminæ or slices of marble of various colours.

It was in Rome that the art of Mosaic was brought to its greatest perfection, during the 1st and 2nd centuries, A.D., and many splendid examples of this period are now in the museums of the Vatican and at Naples. The finest example came from the House of the Faun, Pompeii, and represents the battle of Issus, between Alexander and Darius. This mosaic, of the 3rd century B.C., is probably a copy of a Greek painting.

Many fine Roman mosaics have been found in England at Cirencester, London, Lincoln (fig. 6), Leicester, and at Brading in the Isle of Wight.

The tradition was carried on in Italy at Ravenna and Venice, where the *Opus Miserum* reached its culmination. Of the Ravenna mosaics, those of the Baptistery, A.D. 450, and of S. Apollinare are typical examples of the earlier Byzantine mosaics, having dark green and gold back-grounds with tesserae about $\frac{3}{8}$ inch square. The beautiful frieze of male and female saints in S. Apollinare extends along both sides of the nave, and is 10 feet high. The vaulting and domes of St. Mark are entirely covered with the characteristic 11th century Byzantine gold ground mosaic, formed by fusing two pieces of glass together with gold leaf between. At Santa Sophia, Constantinople, other fine mosaics exist of the 6th and 7th centuries. In Italy under the Cosmati (a family of mosaicists of the 13th and 14th centuries), fine geometrical inlaid mosaics were used for the enrichment of marble tombs and altars; some good examples of this style are in Westminster Abbey on the tomb of Edward the Confessor (finished under Henry III, A.D. 1270).

GREEK CERAMICS.

TYPICAL FORMS OF GREEK VASES



HYDRIA
FOR CARRYING
WATER.



CRATER
FOR MIXING WINE
AND WATER.



CANTHAROS.
WINE CUP.



AMPHORA.
FOR CARRYING
WINE



OINOCHOE.
FOR POURING
WINE.



LEKYTHOS.
FOR POURING
OIL



KYLIX.
WINE CUP.



NO 2, 3, 4.
5, 6 & 7
FROM THE
MANCHESTER
COLLECTION.

DANCING FIGURES FROM AN AMPHORA B.C. 400.



OINOCHOE B.C. 600.



TWO HANDED
VASE. CEDIPUS,
JOCASTA, AND
THE SPHINX. B.C. 400.
RED FIGURED PERIOD



OINOCHOE, OR WATER JUG
B.C. 500.



AMPHORA
BLACK
FIGURED
PERIOD. B.C. 500



LEKYTHOS
RED FIGURED
PERIOD.



KYLIX
RED FIGURED PERIOD.
B.C. 400.

GREEK CERAMICS.

It is difficult in the 19th century to realise the importance of vases in ancient life. To the Greeks a vase was a receptacle for food, liquid, or storage, and for the adornment of the home. It was used in the daily life of the living and buried with the dead. Most of the finer Greek vases have been found in Etruscan tombs, but of Greek workmanship, imported from Greece or Grecian Colonies. Some black unglazed Etruscan vases have been found, but painted vases of Etruscan origin are rare.

Early Greek pottery, dating probably from the 10th century B.C., has been found in Greece, the Colonies of Rhodes, Cyrene in Africa, and Naucratis in the delta of Egypt—these, showing an historic development, are arranged in groups, each with its distinctive characteristic:—(1st) Primitive vases, simple in shape, handles small or absent, decorations in simple line, punctured or incised, or in raised slip. (2nd) MYCENÆ or COLONIAL (B.C. 900-700) vases, often covered with a creamy slip; the designs painted in brown and black, being derived from geometric patterns with marine and animal forms. (3rd) DIPYLON or GEOMETRIC (B.C. 700), with fret pattern enrichment, and panels with rude figures of men and animals in black and brown. (4th) PHALERON WARE (B.C. 700-550), with continuous bands of animals, probably derived from Phœnicia or Assyria (fig. 4). Among the animals depicted, are placed portions of the fret pattern, a survival of the previous style. The details are incised through the black or brown figure, showing the colour of the clay body. A development of this Phaleron Ware was the introduction of the rosette, taking the place of the fret pattern, between the figures or the animals. (5th) BLACK FIGURE PERIOD (B.C. 600-480), vases, fine in profile, and with good handles, the body of the vase, in red ware, being painted with subjects of Grecian mythology in black, and the details incised; the faces, arms, and legs of the female figures afterwards painted in white or red slip, and fired at a lower heat. The AMPHORA (fig. 5) was the chief form of this black figure period, some fine examples are signed by Exekias and Amasis. (6th) the Transitional period (B.C. 500-470), when the black silhouette figures on a red ground gave way to the RED FIGURE PERIOD on a black ground. Artists of this style were Epiktetos, Pamphaios, Nicosthenes, and Pythos. Many of the vases by Nicosthenes resemble contemporary metal work in their shape and handles. The 7th group (B.C. 470-336), also red figures on the black ground, was the period when Greek fictiles reached their highest perfection, the chief form employed being the KYLIX. A fine series of these *Kylikes*, signed by Cachrylion, Euphronios, Duris, Pethenos, and Hieron, are in the British Museum. A vase produced specially for funeral purposes was the ATHENIAN LEKYTHOS, the body of which was covered with white slip, then painted in polychrome with subjects of singular appropriateness.



CERAMIC ART.

The antiquity of Ceramic Art and its scientific and artistic qualities, render this subject one of considerable interest to art students.

The plasticity of clay and its hardening qualities under the influence of intense heat, its adaptability to the most refined and appropriate forms, its affinity for the beautiful glazes and enamels so often associated with pottery, and its splendid traditions of craftsmanship, of colour, form and decorations, so beautiful and varied in character,—all combine to invest the subject with a charm or fascination of its own. Intrinsically valueless in its natural state, it is capable of being rendered almost priceless by scientific workmanship and artistic skill. The history of this material, and of its easy adaptation to the most refined and intricate, as well as the simplest of forms, affords invaluable lessons for present day artistic students.

Pottery clay may be classified under three divisions or headings: (1) EARTHENWARE. (2) STONEWARE. (3) PORCELAIN. Under the first are grouped the largest number of Ceramic Wares. The pottery of Egypt, the faience of Assyria and Persia, the Greek and Etruscan vases, the famous red ware from the Isle of Samoa, and its counterpart the Roman Samian ware, the beautiful maiolica of Spain and Italy, the pottery of Rouen, St. Porchaire, Delft, and most of our English pottery are earthenwares; the paste or body consists of natural clays selected for their plasticity, their hardening qualities, their fusibility or their colour, and when burnt have a porous opaque body, usually dull in colour. This dulness was usually overcome by coating the ware with a slip of fine white clay, which, whilst not possessing inherent qualities to form pottery by itself, would adhere to the coarser coloured body of the earthenware, thereby forming a smooth white ground. The early Greek vases of Nancrates, the later Lekythos of the Greeks, the faience of Persia, the Mezza Maiolica and the Sgraffito of the early Italian Renaissance, and our English slip ware are examples of this method of giving a smooth white surface to coarse coloured earthenware. A similar result to the slip covering was also produced by the use of a silicious glaze, rendered white and opaque by the addition of oxide of tin. Early Assyrian faience, Della Robbia ware, the Maiolica of Spain and Italy, and the wares of Delft and Rouen are earthenwares coated with a tin enamel.

The silicious glaze here referred to is prepared by fusing silicious materials with soda or potash, and is known as Vitreous, or glass glaze. Plumbeous, or lead glaze, is produced by the addition of oxide of lead to the silicious glaze, rendering it more fusible, and still transparent. A white opaque enamel formed by using oxide of tin with the vitreous glaze, is termed Stanniferous, or tin enamel. These different processes of covering the porous body of the earthenware largely influenced the decorations and scheme of colouring.

The beautiful faience of Damascus and Rhodes is covered with the silicious slip or glaze, the colours being rich blues, produced by cobalt, turquoise and green, by cobalt and copper, and purple by the use of manganese; and then covered with an Alkaline glaze.

In the Rhodian Ware the same scheme of colour prevails, except that the purple is replaced by a fine opaque red of great body, called Rhodian red, produced from Armenian bole. On the Italian Maiolica, with its tin enamel and plumbeous glaze, there are fine blue, turquoise and green, but red is very poor in colour, and is generally replaced by rich yellow from antimony, and orange from iron. This white tin enamel was undoubtedly introduced into Europe by the Moors, as some tiles in the Alhambra date from 1273-1302.

A large number of bowls and dishes, called Samian Ware, of Roman importation, have been found in England. The paste is usually of a fine sealing wax red, with a good glaze. These bowls are enriched with a series of horizontal bands, containing the festoon, the scroll, birds, animals, and figures. The bands or friezes are often divided by the traditional egg and tongue moulding (fig. 1). Clay moulds, impressed with stamps, were made and then fired. The red paste having been pressed into the mould, the interior was smoothly turned in the lathe. A mould of this character was found at York in 1874, so it is possible that some of this ware was made in England, by Roman potters. Roman pottery has also been found at Castor, near Peterborough, doubtless made at the former place, kilns for firing having been found on the same site. This Castor ware is usually brown, with a black glaze, being ornamented with indented tool marks, and raised slip patterns of pipe clay (fig. 3). Many Roman dishes and vases of a dark grey colour, ornamented with incised lines and raised bosses of clay, have been found in the Upchurch Marshes in Kent. Little artistic pottery of the mediæval period however is known to exist. Early in the 13th century beautiful encaustic tiles were made for the great monasteries, abbeys and cathedrals.

About 1500, the production of tiles was introduced into Holland, quantities of small blue and white ones decorated with scriptural subjects, being made at Delft, and thence exported to England for the lining of fire places, &c. Some fine painted tiles or "Azulejos" were made at Valencia about the 17th century.

In the 16th century, the porcelain of China was introduced into Europe by the Dutch and Portuguese traders, and much of the Delft and Rouen ware subsequently produced, was in imitation of this oriental porcelain. "Delft" ware which takes its name from the small town of that name in Holland, dating from 1500 A.D., is a ceramic coated with stanniferous enamel, decorated with a full and liquid brush upon the absorbent enamel ground, and then glazed with a plumbeous glaze. Some of this Delft ware is very fine in quality, the cobalt blues under the glaze being remarkably soft and rich in colour. Early examples were decorated with historical

subjects, often containing numerous figures, the middle period being notable for its imitation of Chinese porcelain, and the application of coloured enamels on coloured grounds. Vast quantities of this kind of ware were manufactured up to 1760 and exported to all parts of Europe. The production of Delft ware was first introduced into England at Lambeth by some Dutch potters in 1676, being subsequently extended to Fulham, Bristol and Liverpool.

The use of stanniferous enamel was introduced into France by Girolama della Robbia, son of Andrea della Robbia, during the reign of Francis I., 1516, and enamelled ware similar to the later productions of Urbino was made at Nevers, where also was produced a fine ware decorated with Persian *Motifs* in yellow and blue. At Rouen, also, a fine earthenware covered with tin enamel was manufactured, the decorations consisting of the lambrequins or scallop pattern, symmetrical in arrangement, and converging to the centre of the plate or dish. The ornament was based upon Chinese examples, influenced by the contemporary woven fabrics of France. The decorations were usually in blue and with overglaze painting, i.e., after the white enamel was fired, finer and more delicate detail being obtained by this process, but at the cost of the purity and liquid softness of colour which is so characteristic of Delft and Oriental underglaze painting.

In Rouen ware, the ground is generally white, but some fine examples at South Kensington have a soft yellow ground, a rich Indian yellow being sometimes introduced with the blue decoration. It was under the directions of Louis Poterat, 1673, that this most beautiful faience was perfected.

Bernard Palissy, 1510-90, by repeated experiments discovered the stanniferous or tin enamel. His first productions were Jasper ware, warm and brilliant in colour and richly enamelled. In the second period, rustic dishes elaborately decorated with carefully modelled fishes, reptiles, and plants or natural foliage, covered with an enamel of great brilliancy and purity, were the chief productions. The later pottery of Palissy consisted of salt cellars, inkstands, ewers, &c., the elaborate figure decorations of which were probably executed by some contemporary artist.

Henri-Deux or St. Porchards ware, now more properly described as Oiron ware, originated at St. Porchard in 1524, perhaps by the hand, certainly under the patronage of Hélène de Hangest, widow of A. Gouffier, a former Governor under Francis I. This Oiron ware, of a pale straw colour, is enriched with inlays of yellow, blue, green, and brown coloured pastes, the interlacing and arabesque ornamentation carried out under the direction of Jehan Bernart and Francois Charpentier, being similar in type to the contemporary bookbinding of Grolier and was probably executed with similar tools.

Many early examples of Staffordshire slip ware are to be found in England, consisting chiefly of candlesticks, cups, tygs, posset pots,

piggins and plates, the slip decorations being in yellow, white and brown. This ware was made at Wrotham as early as 1649, and by Thomas Toft, at Shilton, 1660 (fig. 9). Marbled, combed and tortoise-shell ware were formed by using colour slips or clays. Agate and onyx ware were formed by layers of different coloured clays, crossed, cut, and pressed into moulds. These methods were perfected by Thomas Wheildon, 1740-98, and Josiah Wedgwood, 1730-95, who perfected both the Queen's and the variegated ware. Queen's ware of a creamy colour was made chiefly for dinner and dessert services, being decorated with painted flowers in enamel. In 1781, Wedgwood introduced his famous Jasper ware, and Jasper dip or washed Jasper. This latter ware was dipped into admixtures of metallic oxides, producing blue, lilac, pink, sage green, olive, yellow, and black colours as desired. The decorations in low relief, are of the purest white (fig. 10) and in the traditional classic style, the figures being arranged as cameo medallions, or in bands with the scroll, the festoon, and the vine in delicate relief. Many of these beautiful cameos were designed or modelled by Flaxman, 1755-1826; Pacetti and Angelini, 1787; Bacon, 1740-99; Hackwood, 1770; Roubiliac, 1695-1762; Stothard, 1755-1834; Tassie, 1735-99; and Webber, 1782.

Stone-wares differ from earthenwares, owing to the presence of a larger percentage of silicia in the plastic material, which, being fired at a greater degree of heat, vitrifies the body or paste into a kind of glass, thus ensuring a closeness and hardness of material not possessed by ordinary earthenware. Stoneware is usually glazed during the firing by throwing common salt into the kiln, which being volatilized, re-acts upon the silicia in the body, forming with it a silicate of soda or glass, having a minute granular texture. The usefulness and the artistic character of stoneware was perfected by the Flemish and German potters of the 16th century.

The principal varieties of this ware are the grey and white "Canette" of Siegburg, near Bonn, and the pale brown or grey ware of Raeren, near Aix-la-Chapelle, with its incised and stamped enrichments, sometimes with blue decoration. Frechen, near Cologne, probably supplied the "Bellarmine" or "Grey beards," largely imported into England under the name of "Cologne Pots." Examples of this Frechen ware were frequently ornamented with a raised scroll of oak leaves. Grenzhausen, in Nassau, produced a beautiful grey ware, having delicately moulded reliefs filled in with blue and purple. Many grey jugs ornamented with the initials of William III., Queen Anne, and George I., were imported into England from the Nassau kilns.

A peculiar kind of stoneware, also termed "Cologne ware" was produced at Fulham by John Dwight, about 1670. Some fine jugs and a few cleverly modelled unglazed statuettes, believed to have been made at this place, are to be seen in the British Museum (fig. 11).

Another peculiar red stoneware, porcelain, or Red China as it was called, was made near Burslem by the Brothers Elers, 1688-1710, the ornamentation being obtained by pressing sharp intaglio copper moulds upon pieces of clay attached to the shaped ware. Fine examples, characterised by beauty of outline and delicacy of enrichments are exhibited in the Museum of Geology, Jermyn Street. Astbury, 1710-39, continued the traditions of Elers, producing a fine white stoneware, which largely influenced the Staffordshire pottery of that period. A stoneware was also made at Nottingham from 1700 to 1750.

Porcelain is technically known under the terms "hard paste" ("pâte dure") and "soft" ("pâte tendre"). Hard porcelain is made from clays containing much alumina and felspar or decomposed granite, having but little plasticity, which necessarily influenced the shape or profile of the vessel. The beauty of form, which is so typical of the Greek earthenware vase, is absent in porcelain, where the cylindrical or octagonal form is principally used. "Pâte tendre" is a soft and vitreous porcelain, having a great affinity for the beautiful coloured glazes and enamels used in the early examples of Sèvres.

Porcelain was known in China about 200 B.C., and it was in common use during the 16th century. During the Ming dynasty, 1568-1640, porcelain reached its highest development in the perfection of its body, ornamentation, colour and glazes, blue and turquoise being the chief colours of this period; this limited range of colour was owing to the intense heat required to fuse the felspar glaze upon the hard porcelain.

It is uncertain at what date Chinese porcelain was first brought to Europe. Amongst the earliest known pieces in England are some bowls given by Philip of Austria to Sir Thomas Trenchard in 1506. But whatever the date, it was inevitable that attempts should be made to imitate this beautiful ceramic. Florentine or Medician porcelain was made 1575-80. It was not however until 1690 or 1700, that a similar manufacture was established at Rouen and St. Cloud. In 1709, Bottcher commenced making hard porcelain at Meissen, in Saxony, subsequently producing some excellent examples about 1715. This was the commencement of the well-known Dresden china. In 1768, the manufacture of hard porcelain was adopted at Sèvres, replacing that of "pâte tendre" which had been in use from 1670. Both "pâte dure" and "pâte tendre" were made at Buen Retiro in Madrid, A.D. 1759, all the porcelain manufactured for the first 20 years being kept for the exclusive use of the Royal family. There are some finely modelled Buen Retiro tiles in the Royal Palace at Madrid.

About the year 1740 the manufacture of porcelain was established at Bow, Chelsea, Derby, Plymouth, Bristol, and Worcester. The shapes and ornamentation of these English porcelains, having no traditions beyond the oriental influence, were of a low artistic order,

being simply copies of natural forms, without any controlling influence as regards design or harmonious arrangements. A lavish use of gilding was also characteristic of this period, the ornament being very largely misapplied. This continued to grow worse until the middle of the last century, when it reached its culminating point of absurdity and extravagance of form and decorations. The best examples of English porcelain of this period are obviously copies of oriental porcelain, chiefly Persian and Chinese. A great advance in the technic of the porcelain produced in this country took place after the discovery of Kaolin, in Cornwall, by William Cookworthy, 1755.

Transfer printing over the glaze was adopted at Worcester about 1757, the transfers being taken from copper plates engraved by Robert Hancock, a pupil of Ravenet, who was employed at the Battersea enamel works, about 1750. Sadler and Green in 1756 also adopted over glaze printing on the Liverpool delft. About 1770, under glaze printing on the biscuit ware superseded the over glaze process.

Of early English porcelains, those of Derby are, perhaps, the most refined in form and in treatment of decoration, the plates, cups, and saucers having borders of blue or turquoise, with enrichments of festoons, leaves, and flowers; many of the cups were pressed with fluted, ribbed, or imbricated patterns. The Derby works were founded in 1757 by William Duesbury, who in 1769 purchased the Chelsea works and carried on the two simultaneously until 1784, when the Chelsea plant was transferred to Derby. From 1769-73 the ware called "Chelsea-Derby" was produced, and between 1773-82 "Crown-Derby" was introduced.

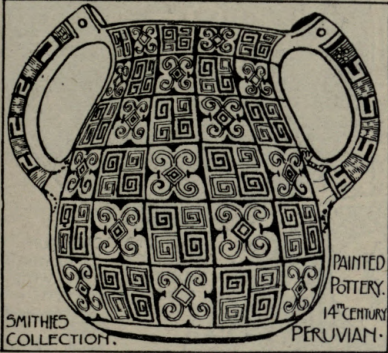
Porcelain of an excellent quality was made at Nantgaro about 1813, and at Swansea 1814-17, the decorations in enamel colours consisting of a natural rendering of flowers, birds, butterflies, and shells.

Porcelain was also made about 1800 at the Herculaneum potteries at Liverpool. Rockingham, in Yorkshire, produced during the years 1759-88 a brown china, which, however, was but a fine earthenware, of a hard and compact body, covered with a rich brown or chocolate glaze. In 1820, porcelain was made at Rockingham, comprising dinner and dessert services, richly enamelled and gilt, together with vases, flower baskets, and busts in white biscuit ware. In 1832, a dessert service of 200 pieces was made for William IV. at a cost of £5,000, the decorations consisting of natural fruit and flowers, with landscapes and the royal arms in enamel colours.

In some of the earlier Rockingham ware the outlines of the flowers and butterflies were in transfer printing, and the colouring was added by hand.

The illustrations given on plates 21, 27, 28 and 29, show the universality of the potter's art, which may be traced through many beautiful examples differentiated by racial customs and material.

The beauty of form in the Greek vase (plate 27) was but the natural outcome of a fine earthenware in the hands of an artistic people, with traditions and architecture of the highest order. In Persian pottery, form is subservient to colour, blue, turquoise and white being used in charming combination, together with a frank yet decorative treatment of natural forms.



The Hispano - Moresque and Italian Maiolica (plate 29) are remarkable for the technical excellence of their white enamel, rich blue, yellow and orange, the iridescence of their gold and ruby lustre, and their high technical skill in painting.

English earthenware of the 17th and 18th centuries, though traditional, showed a remarkable diversity in treatment and conception. The picturesque platter of the Toft school, with its quaint enrichment of trailing lines and heraldic forms in coloured slip, the fine red stoneware of Elers, with its graceful enrichments in delicate relief, and the varied and beautiful jasper ware of Wedgwood mark a distinct phase of the potter's art, and bear a tribute to the vitality and personality of the founders of the "*Potteries.*"



MAIOLICA. Maiolica or Italian faience is an earthenware, coated with a stanniferous or tin glaze, termed enamel. This is formed by the addition of oxide of tin to a silicious glaze or slip, thus rendering it white and opaque, hence its name, enamel.

The origin of this beautiful ceramic art may be traced to Persia. From Persia the art was carried by the Arabians to Fustat, or old Cairo, which was destroyed 1168 A.D., and amongst the ruins many fragments of gold and copper lustered ware have been found. This enamelled ware was introduced into Spain in the 13th century, and perfected there by the Moors, giving rise to the HISPANO MORESCUE ware. This ware was enriched with central heraldic arms, surrounded by concentric bands of foliage, arabesques, or inscriptions in blue, with a copper lustre. This Hispano-Moresque ware was manufactured chiefly at Malaga, Talavera, Triana and Valencia, and dates from the Moorish occupation of Granada A.D. 1235-1492.

In the island of Majorca, from which this beautiful ware derives its name, fine examples were manufactured at an early date by Persian and Arabian potters. After the conquest of Majorca by the Pisans, A.D. 1115, many of these examples were introduced into Italy, the art being subsequently cultivated in some of the smaller central states. The early ITALIAN MAIOLICA was usually covered with a thin white "slip" or engobe of clay which served as a ground for the coloured patterns. It was then coated with a lead glaze and was known as mezza or mixed maiolica. In some examples the design was scratched or engraved through the upper layer or white engobe, showing the darker body underneath. This type of ware, known as "sgraffito" was also glazed with the lead glaze, forming, when fired, the beautiful iridescent lustre.

No remains of a tin enamel of Italian workmanship have been found in Italy prior to the time of Luca della Robbia, 1400-1481, who discovered an enamel of peculiar whiteness and excellence. The secret of its composition was kept by him, his nephew Andrea, and his great-nephews Giovanni, Luca and Girolamo, until 1507. The Mezza Maiolica was then superseded by the true Maiolica or the tin enamelled wares of Caffaggiolo, Castel Durante, Urbino, Pesaro, Faenza, Forli, Diruta, Siena and Gubbio, with their remarkable brilliance of blues, greens, yellows and orange. The Gubbio ware is noted for its metallic ruby and golden lustre and was signed by Maestro Giorgio (Giorgio Andreoli, 1492-1537). The same artist also lustered many wares made by the potters of Urbino and Castel Durante. Other examples of Urbino ware are signed by Niccola da Urbino, 1490-1530, Orazio Fontano, 1540-70, Francesco Xanto Avelli, 1530-40. Faenza ware was produced at the Casa Pirota Botega, and Siena ware was signed by Maestro Benedetto.

The chief characteristics of Caffaggiolo ware are arabesques and figures in white, grey or yellow on a rich dark blue ground. Urbino has small medallions with figures and blue and yellow arabesques on a white ground, called Raffaelesque, being from designs by Raffaele del Colle. Faenza has a yellow ground with blue arabesques.

In brief, the number of colours that could be used on the absorbent tin enamelled ground with its lead glaze was somewhat limited, consisting of blue, turquoise, yellow and orange. These colours are of great depth and translucency, and are only equalled by the blues and turquoise of China, Persia and India.

Gubbio ware is frequently enriched with a raised curved fluting called "*Gadroons*," a most effective method of enhancing the beautiful ruby lustre of Maestro Giorgio. This Gubbio tradition was continued by Giorgio's son, Vincentio, called Maestro Cencio, and many beautiful lustre works are signed by him.

This lustre was produced by exposing the ware to the action of smoke during the firing in the kiln; the smoke, being carbon in a highly divided state, reduces the metallic salts of the pigment or glaze, forming a thin film of metal upon the surface, the beautiful iridescent lustre resulting from the relative thickness of the film.

Castel Durante was frequently enriched, on white or grey borders, with delicate raised scroll-work in white slip or enamel, a process called "*Lavoro di sopra bianco*" or "*bianco sopra bianco*."

Faenza Maiolica has, frequently, the whole surface of the ground covered with a dark blue enamel, enriched with dancing amorini and arabesques in blue, heightened with white "*Sopra Azzurro*."

A frequent form of enrichment upon plates was to have small medallions painted with portraits and appropriate inscriptions, and doubtless intended as lover's presents. They are known as "*Amatorii Maiolica*."

TERRA COTTA. Terra Cotta is usually made from pure clay, which will burn to a white or yellow colour, or from impure, which will burn to a red colour, owing to the presence of oxide of iron. Pure clay is a hydrous silicate of alumina, containing 47 parts per cent. of silica, 40 of alumina, and 13 of water. Clay, in this proportion, is the Kaoline or china clay. Fire clay, which is found in the coal measures, has a larger proportion of silica than Kaoline, and from it much of the terra cotta is made. When first dug out, it is hard and compact, and of a greenish grey colour, deepening to black. It is often weathered before using. This causes it to "fall" and facilitates grinding. Old fire clay, previously burnt ("grog" as it is called) is added to the new clay to counteract the excessive shrinkage to which all close-grained clays are liable. The coarser the clay, the less the shrinkage. The colour of the clay varies

according to the quantity of lime, iron, or bitumen it contains. Pure clay contracts as much as one-eighth from the size of the mould; one half of this contraction takes place in drying, the other half in burning. Clay mixed with "grog" will contract about one-twelfth.

The moulds for terra cotta are usually piece moulds, made of plaster of Paris, which absorbs much of the moisture of the clay. Sheet clay about two inches thick is used. This is carefully pressed into the mould and supported by webs of clay of the same thickness. It is essential to the clay to be uniform throughout, or the shrinkage would be unequal. It is then placed upon a flue to dry from two to six hours, when the clay will have contracted sufficiently to allow the mould to be taken off. It is then dried for a further period and burnt in a kiln. For fine work, the kiln is "muffled"—the "muffle" being a lining of bricks to keep the clay from actual contact with fire and smoke. The dry, or semi-

dry process, is the pressing of clay-powder into metal moulds, which obviates the excessive shrinkage of the wet process. Encaustic tiles are made in this way, the ornament being run into the incised pattern with "slip." Many tiles are decorated in the same way as ordinary earthenware, that is, painted and glazed.

Terra cotta was largely used by the nations of antiquity, especially by the Assyrians, whose clay tablets or books throw so much light upon Assyrian history. With the Greek, terra cotta was extensively used for "antefixa," and the many beautiful Tanagra figures now treasured in our museums show the exquisite modelling by the Greeks, in such a material as terra cotta.



TERRA COTTA BY ANDREA DELLA ROBBIAS.

This material was used by the Etruscans for their sarcophagi and recumbent figures. The Pompeians tiled their roofs with terra cotta. It was used for votive statues and offerings, and for lamps, some of which were dipped in molten glass.

During the revival of art in Italy in the 15th and 16th centuries, terra cotta was extensively used by the Della Robbia family. LUCA DELLA ROBBIA, 1400-82, produced many beautiful terra cotta reliefs coated with the white tin enamel and enriched with coloured enamels. Among his numerous works were the following:—The marble *Cantoria* in the cathedral; five bas-reliefs in marble on the Campanile at Florence; his two first terra cotta reliefs in the tympanans of the doorway, and the doors of the sacristy of the cathedral at Florence (1443-46); with the two kneeling angels holding candelabra; the splendid monument to L'Evêque Federighi (1455) with its beautiful recumbent figure, in the church of S. Trinità, Florence; and the many fine medallions enriched with heraldic forms executed for the church of Or San Michele and the palace Quarateri in Florence. Fine examples are the medallions with the arms of King Renè D'Anjou, now in the South Kensington museum.



ENAMELLED TERRA COTTA
ANDREA DELLA ROBBIA.

Kensington museum.

Giovanni della Robbia (1469-1527) son of Andrea continued this splendid tradition: his principal works being the Lavabo in S. Maria Novella, the tabernacle in S. Apostles, and the virgin and saints in Santa Croce, all in Florence. Many other beautiful works still remain which attest to the remarkable traditions of craftsmanship of the Della Robbia family.

Girolamo, brother of Giovanni, carried this tradition into France under Francis I.

In Santa Croce at Florence, there are a series of medallions of the four evangelists and the twelve apostles, and in the South Kensington museum there are twelve medallions representing the months. Many splendid examples of Luca della Robbia's work are now treasured in the national museums.

Andrea della Robbia (1435-1525) the nephew of Luca carried on the traditions with rare selective power and artistic skill; among his early works are the medallions for L'Hospital des Innocent, or the Children's Hospital. The Adoration and the Annunciation were familiar subjects with Andrea, the illustrations given of the Annunciation in the Children's Hospital, and the Virgin and child in the national museum at Florence being typical examples of his work. There is a splendid "Adoration" by Andrea in the South

ENAMELS. Of the many decorative arts, enamelling is one of the most beautiful, having a singular charm of limpid or opalescent colour of great purity, richness and durability, and being capable of a most refined and varied treatment for the enrichment of metals.

Enamel is a vitreous or glass compound, translucent, semi-translucent or opaque, owing its colouring properties to mineral oxides, or sulphides, a fine opaque white being produced by oxide of tin. These enamels require different degrees of heat in order to fuse them and to cause their adhesion to the metal. Enamels are divided into three classes, CLOISSONNÉ, CHAMPLEVÉ and PAINTED ENAMELS.

CLOISSONNÉ enamel is that in which the cloisons or cells are formed by soldering thin, flat wire of metal upon a plate of copper, the cloisons, being filled with the various enamels, in powder or in paste, then, in order to vitrify the enamel, exposed to heat in a kiln, if upon a flat surface, or by the aid of a blow-pipe if upon a curved surface.

Cloisonné was in use from the early dynasties in Egypt, many fine large pectorals having been found in the tombs. These usually have the form of a hawk and are of gold or bronze with well-defined cloisons, which were filled with carefully fitted coloured paste or glass, and this undoubtedly was the origin of the true or vitreous cloisonné enamel. Byzantine enamel is invariably cloisonné and one of the most beautiful examples of this period is the Pala d'Oro of St. Mark's at Venice, A.D. 976. Perhaps the Chinese and Japanese have carried this cloisonné to its greatest perfection in softness of colour and beauty of technic. The earliest Chinese cloisonné is of the Ming dynasty, 1368-1643; this has heavy cast metal grounds with low toned colours and deep reds and blues. Under the Thsing dynasty, which commenced in 1643, the colours became brighter and the designs more refined.

Early Japanese cloisonné or "Shippo" was doubtless derived from Chinese or Persian sources, and it is characterised by extremely thin beaten copper grounds and the frequent use of a dark green ground in place of the dark blue of the Chinese cloisonné.

The Japanese cloisonné reached its culmination during the last century, when many splendid examples of refined and delicate enamels were produced, remarkable for their beautiful opalescent and translucent colour. Gold cloisons with opaque and translucent enamels were frequently inserted in iron or silver objects by the Japanese of this period.

An early example of English cloisonné is the jewel of King Alfred, now in the Ashmolean Museum, Oxford: this has a rich setting of opaque and translucent enamels. A fine Celtic cloisonné treatment may be seen in the Ardage chalice, where the cloisons were cut out of a plate of silver and embedded in the enamel while soft. These Celtic craftsmen also had a beautiful treatment of enamelling

by engraving or pressing a pattern in intaglio, or sunk relief, on an enamelled ground, and then filling these intaglios with other enamels.

A most exquisite kind of enamel called "*Plique à Jour*," was used by the Byzantines; this was composed of open filigree cloisons, filled with translucent enamels.

CHAMPLEVÉ enamel is formed by engraving, casting or scooping out the cloisons from a metal plate, leaving a thin wall or boundary between each cloison, which is then filled with the various enamels as in the cloisonné method. This Champlevé method was practised in Britain before the Roman conquest, and was probably derived from the Phœnicians, who, centuries before the Romans came to England, had traded with Cornwall for tin. The beauty of colour and perfect adaptability of these early enamelled brooches, fibulæ and trappings of horses of the early Britons and Celts, are remarkable, showing a fine sense of colour and a harmony of line and mass. A splendid bronze Celtic shield (fig. 4, plate 13), now in the British Museum, is enriched with fine red bosses of enamel. These Champlevé enamels upon bronze have usually an opalescent or cloudy appearance caused by the fusion of the tin in the bronze alloy during firing. Champlevé enamels were used with rare skill and refinement to enhance the beautiful art of the goldsmith during the Middle Ages; the Chalice, the Paten, the Reliquary, the Thurible, the Crozier, and the bookcovers of the Churches, especially, were enriched with beautiful enamels. Classed among the Champlevé enamels is that method called JEWELLER'S ENAMEL or "*Baisse Taille*," in which the plate is engraved in low relief or beaten up in repoussé and then flooded with translucent enamel. The Lynn cup of the time of Richard II. is one of the oldest pieces of corporation plate and is covered with fine translucent blue and green enamels.

In India, where fine colour is a splendid tradition, Champlevé enamel soon attained a remarkable perfection of technic and purity and brilliance of colour almost unknown to the Western nations. The Champlevé enamels of JAIPUR have most beautiful lustrous and transparent blues, greens and reds laid on a pure gold ground. PERTUBGHUR is renowned for the fine green or turquoise enamel fired upon a plate of gold; while the enamel was still soft a plate of pierced gold was pressed into the enamel. This pierced plate was afterwards engraved with incidents of history or hunting. In RATAIN, in Central India, a similar enamel is made having a fine blue in place of the Pertubghur green.

The fine monumental brasses, of which many still remain in our English cathedrals and churches, are a survival of the Champlevé process, the cloisons, being usually filled with a black NIELLO, but occasionally the heraldic shields are enriched with coloured enamels. During the 11th and 12th centuries, LIMOGES was renowned for its fine Champlevé enamels, but early in the 15th

century PAINTED ENAMELS were introduced and Limoges became the centre of this art, called late Limoges or GRISAILLE ENAMEL.



The enamel colours were now used as a pigment, and were painted and fired upon a copper plate. The enrichments in grisaille, or grey and white, were used upon a black, violet or dark blue ground, the grisaille afterwards being enriched with details of fine gold lines. These Limoges enamels have a splendid technic, but

they lack the charms of the luminous colour and judicious use of enamels of the early Champelevé period. The most renowned masters of the painted enamels of Limoges were Penicand, 1503, Courtois, 1510, Pierre Raymond, 1530-1570, and Leonard Limousin, 1532-1574. About 1600-1650, Jean Toutin and his pupil Petitot produced some fine painted miniatures in opaque enamels upon gold, remarkable for delicacy and perfection of enamelling. In 1750, painted enamel was introduced into England and produced for about 30 years at Battersea by Janssen. The enrichment consisted of flowers painted in natural colours on a white ground. A similar enamel was also



The finest enamels undoubtedly are those in which the enamel is used in small quantities, such as in the Celtic jewellery, the book-covers, and the Church and Corporation plate of the Gothic and early Renaissance period, and the early Byzantine cloisonné, such as the Hamilton brooch in the British Museum, and the Pala d'Oro of St. Mark's, Venice, which was made at Constantinople for the Doge Orseolo in 976 A.D., and has 83 panels of fine cloisonné enamel set in a framework of gold.

The "*Plique a jour*," the "*Baisse taille*" and the Pertubghur enamels are fine examples of appropriateness of treatment with translucency or opalescence and richness of colour.

The Japanese cloisonné with its literal treatment of natural forms, and the painted enamel portraits of Francis I. and contemporary princes by Leonard Limousin, clever as they undoubtedly are, lack the depth and purity of colour obtained by the early methods. Frequently, however, the Penicauds, Nardou, and Jean I. and II. obtained some richness in the painted enamels by the use of "*Paillons*" or pieces of metallic foil which were afterwards flooded with translucent enamel.



GLASS. The purity of glass, its adaptability to colour, and its remarkable ductility while hot for blowing, twisting or drawing into threads, differentiates it from all other materials and methods of treatment. Its tradition dates from the remote past, for glass-blowing is represented on the tombs at Thebes, B.C. 2500. It was also used in Egypt for vitreous pastes for bronze and gold cloisonné jewellery, and for the small bottles or Stibium, with chevron patterns, in yellow, turquoise and white on a coloured ground. Similar patterns, colours and forms were used by Phœnicia and her colonies, the usual forms being the Alabastra and Amphoræ. Many remains of bowls were found in Assyria, one (now in the British museum) of transparent green glass, having the name of Sargon, B.C. 722. Greece seems to have imported most of her glass from Phœnicia, but the Romans carried on the tradition, producing fine MOSAIC or MILLEFIORI. This was made by fusing rods of white and coloured glass together, then drawing it out to fine threads and slicing it transversely; the section is then placed in a mould and a bubble blown, uniting the mosaic, which is then blown into various shapes. The Romans also used the interlacing of white and coloured rods called LATICINIO, but they excelled in the CAMEO GLASS, of which the Portland vase is the finest known example. This vase is of dark blue glass, covered with white opaque glass, which was ground away with the wheel, leaving the figures in delicate relief. It was found in 1644 in the sarcophagus of Alexander Severus, A.D. 325, the subject of its relief being the myth of Peleus and Thetis. Another Roman example of cameo glass in the British museum is the Auldjo vase or Oinochoë with beautiful reliefs of vine leaves. Frequently these reliefs were blown or pressed into moulds, and a good example of this treatment is in the South Kensington museum (fig. 6). The tradition then declined until the 14th century, when the Venetians in the island of Murano, perfected the art of glass making.

The earliest examples of VENETIAN GLASS were massive, richly gilt and enamelled in colours; one fine example in the British museum is signed by its maker, "Magister Aldrevandini." In the 15th and 16th centuries the most delicate and beautiful blown glass was made, often uncoloured and with enrichments of knots and wings in blown and shaped blue glass. The Venetians used with equal skill all the old methods of glassmaking; the MILLEFIORI; the LATICINIO or threads of opaque white enclosing pattern; RETICELLI, a network of white lines enclosing at the intersections a bubble of air; and the beautiful VITRO DI TRINA, filigree or lace glass, formed by canes or threads of white or coloured glass being placed in a mould, a bubble being then blown in, and the glass afterwards taken from the mould and blown or twisted to the shape required. The artistic bronze mirrors of ancient and medieval times now give way to the glass mirrors of the Venetians, A.D. 1500.



EARLY GRISAILLE GLASS. SALISBURY CATHEDRAL



EARLY GOTHIC BORDER FROM BOURGES CATHEDRAL



13th Century MEDALLION GLASS. SAINT CHAPELLE. PARIS.



DECORATED GLASS FROM ST MARY'S TRURO.

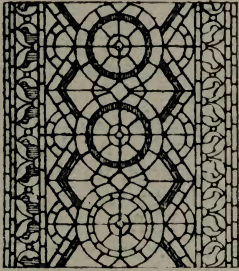


DECORATED GLASS FROM YORK MINSTER.

STAINED GLASS with its depth and translucency, owes its intrinsic qualities to metallic oxides, such as cobalt, giving fine blues, silver, pale and deep yellows, pink from iron and antimony, and ruby from gold and copper, which also yields fine greens. When these oxides are mixed with the glass, in its fused state, it is termed *pot metal*, but if the coloured oxides are applied to the surface of the glass only, it is termed *flushed* or *cased glass*. Ruby, owing to its depth of colour, is usually cased glass. Fine blues are often flushed, and splendid effects are produced by flashing ruby over yellow, or blue pot metal glass. Cased glass is of the greatest value owing to the variety of tint that can be produced on a single sheet of glass, and also that the colour may be removed by grinding or by the use of fluoric acid.

The rationale of the glass painter is—1st, The scheme of composition and colour shown on a small scale. 2nd, A full sized cartoon in charcoal or monochrome, with all the details carefully drawn, and showing the lead lines and positions of the iron stanchions for strengthening the window. 3rd, A tracing on cloth showing the lead lines only, called the cut line, on which is cut the selected pieces of glass. 4th, Tracing all details from the cartoon, with brown enamel on each

piece of glass, the pieces after firing being then fixed in the leading, and kept together with H shaped leads. A diagram is given here showing the leading of an example of 13th century glass.



The brown enamel, which is used entirely for outline, detail or shading, is a fusible glass in combination with opaque manganese or ferric oxide, and tar oil. With this enamel, smear shading or stipple shading is worked. This may be removed as required, before firing, by means of a pointed stick or quill, so as to give the details of embroidery, or of heraldic forms.

Silver stain (oxide of silver) introduced at the beginning of the 14th century is largely used in stained glass, and usually on the back thereof. According to the different degrees of heat in the firing, a pale yellow or deep orange of great transparency is produced.

Coloured glass was made by the Egyptians 4000 years ago, but the earliest stained glass windows recorded, were those of Brionde A.D. 525. None however are known to be in existence prior to those of St. Denis A.D. 1108. Other examples are found in Norman windows, with small medallions of figures and ornament of a decided Byzantine type, extremely deep in colour, being, by its style of treatment, termed mosaic glass. The 13th century, or early Gothic period, has single lancet lights, with medallions containing small figures surrounded by the typical 13th century foliage; or the

windows were entirely of ornament in *grisaille*, arranged symmetrically, having narrow bands of ruby or blue, with wide borders. These *grisaille* windows are of a greenish white glass, with the ornament in outline, and the ground hatched with brown enamel in fine cross lines (fig. 1-2). The north transept window at York cathedral, called the five sisters, is typical of this *grisaille* glass. The finest examples however, are at Salisbury and Chartres cathedrals. Later in the period, single figures were introduced under a simple canopy or gabling, plain or crocketed, with an ordinary trefoil arch.



15TH CENTURY GLASS.
CHARTRES CATHEDRAL.

“Quarry glass,” square or diamond in shape, with brown enamel details, was frequently used, where simple masses were desired.

In the 14th century, the figures were larger and placed under canopies in each light of the mullioned windows, such figures in rich colours forming a bright belt across the window, surmounted by the canopies, cusped and crocketed, and in strong yellow pot metal, or yellow-cased glass. The borders were narrow, with a somewhat natural rendering of the rose, the maple and the oak.



15TH CENTURY
GLASS.
SPODLAND
CHURCH KENT

In the 15th century, a further change took place, figures became more numerous and the canopy or shrine larger, and chiefly in white glass, with the crockets and finials tipped with yellow stain. The coloured border of the earlier glass is entirely absent, its place being taken by the shaft of the canopy, and the crockets, finials and ornaments are square in treatment and based chiefly on the vine leaf.

Fairford church, perhaps, contains the finest series of late Gothic glass A.D. 1500-30. Like the contemporary architecture of the 16th century, the Renaissance now influenced stained glass. The canopy still survived, but was horizontal or pedimental in form, with purely classical columns and details. Good examples of this period are the windows of King's College Chapel, Cambridge (1520), where rich Renaissance work is introduced into late Gothic mullioned windows. About 1540, transparent enamels were introduced with skill and reticence, but gradually glass painters began to vie with pictorial oil painting in effects of light and shade, the ground work or material losing that beautiful translucent or transmitted colour, which is the chief glory of stained glass. An example showing the degradation of this art is the west window of New College, Oxford, painted by Jervas, 1777, from designs by Sir Joshua Reynolds.

The ornamentation of stained glass naturally followed contemporary architecture in the treatment of style, differentiated only by the technical necessities of material. For instance, in the early English glass (plate 31), the details of the ornament have the characteristic spiral arrangement and the trefoil foliage of contemporary architectural ornament, only the foliage is treated more in profile, as being more suited to the technical necessities of leading and brush work.

Most of the detail, however, shows a strong affinity to French contemporary ornament, this doubtless was owing to the influence of French craftsmanship and tradition in the stained glass of that period.

In the 14th century, the English craftsman attained a thorough mastery over his materials, and consequently the type of ornament followed English contemporary architecture more closely.

To sum up, stained glass changed through the different periods from the rich coloured mosaic of the Normans—the equally rich coloured medallions and grisaille glass of the early Gothic—the decorated Gothic, with glass in lighter colours, and a prevalence of yellow stain, culminating in the later Gothic period, when largeness of mass, lightness, and silvery colour, were the characteristics. A beautiful treatment of stained glass, dating from the 15th century was used by the Arabians; this glass, which has a singular gem-like quality, and without enamel or stain, was let into a framework of plaster, which had been cut and pierced with geometrical or floral patterns.

Modern stained glass has attained a high degree of perfection in design and material under Burne Jones, Walter Crane, Frederic Shields and Henry Holiday, with glass such as that produced by Morris, Powell and Sparrow, and the American opalescent glass of La Farge and Tiffany.

The individuality of their work, appropriateness of treatment, based upon the splendid tradition of the past, mark a distinct epoch in history of stained glass.

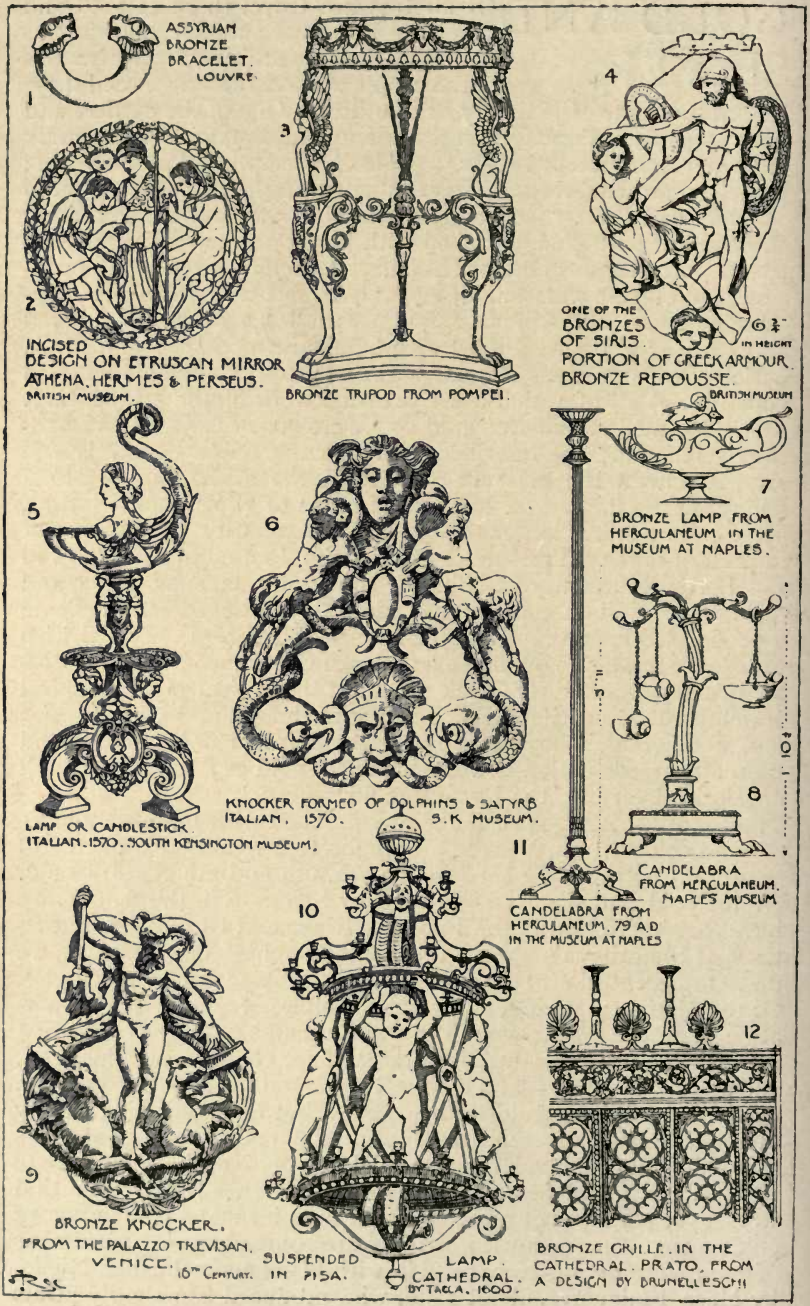
Splendid heraldic glass by A. W. Pugin may be seen in the Houses of Parliament, Westminster; and in the hall and staircase of the Rochdale Town Hall, there is a fine series of windows by Heaton, Butler, and Baine, remarkable for dignity of style and unity of conception.



GOLD AND SILVER.

Of all treasure trove, those of gold and silver are the most valuable, showing us the riches, culture and the decorative arts of the people who centuries ago used these beautiful objects of jewellery or of utility. One of the earliest and most valuable of these treasures was found in 1859 with the mummy of Queen Aah-Hotep, 1800 B.C. (Cairo Museum), and consisted of: bracelets, armllets, rings, chains, a diadem (fig. 1), a small model of a twelve-oared war galley, and a poniard, all of exquisite workmanship, and of pure gold, enriched with jasper and turquoise vitreous pastes. At Petrossa in 1837 (Bukarest Museum), twenty-two beautiful gold objects were found, but only twelve were recovered, consisting of two neck-rings or Torques; a large salver, hammered and chased; a ewer; a bowl with figures in repoussé; four fibula enriched with precious stones; a gorget; and two double-handled cups (fig. 4) all of which are Byzantine work of the 5th century. At Guarrazar in Spain, ten gold votive crowns of Gothic workmanship were found; one inscribed with the name of King Suintila, 630 A.D., is now in the museum at Madrid, the others in the Hôtel Cluny, Paris, the largest having the name of King Rescesvinthus, 670 A.D. in pendive letters (fig. 3). Of silversmith's work, the most important is the "Treasure of Hildesheim," found in 1868 (now in the Berlin Museum) consisting of thirty objects, cups, vases, and dishes, beautiful in contour and admirably enriched with delicate repoussé work of the Greco-Roman period (fig. 5). The British Museum contains many fine examples of Greek and Etruscan goldsmith's art; some early Greek work has the typical Mycenæ spiral enrichment. Beautiful Greek plaques of the 4th and 5th centuries B.C. were obtained by pressing the gold into stone moulds, and were afterwards enriched with threads of gold or "filigree," which developed later into the Byzantine filigree work.

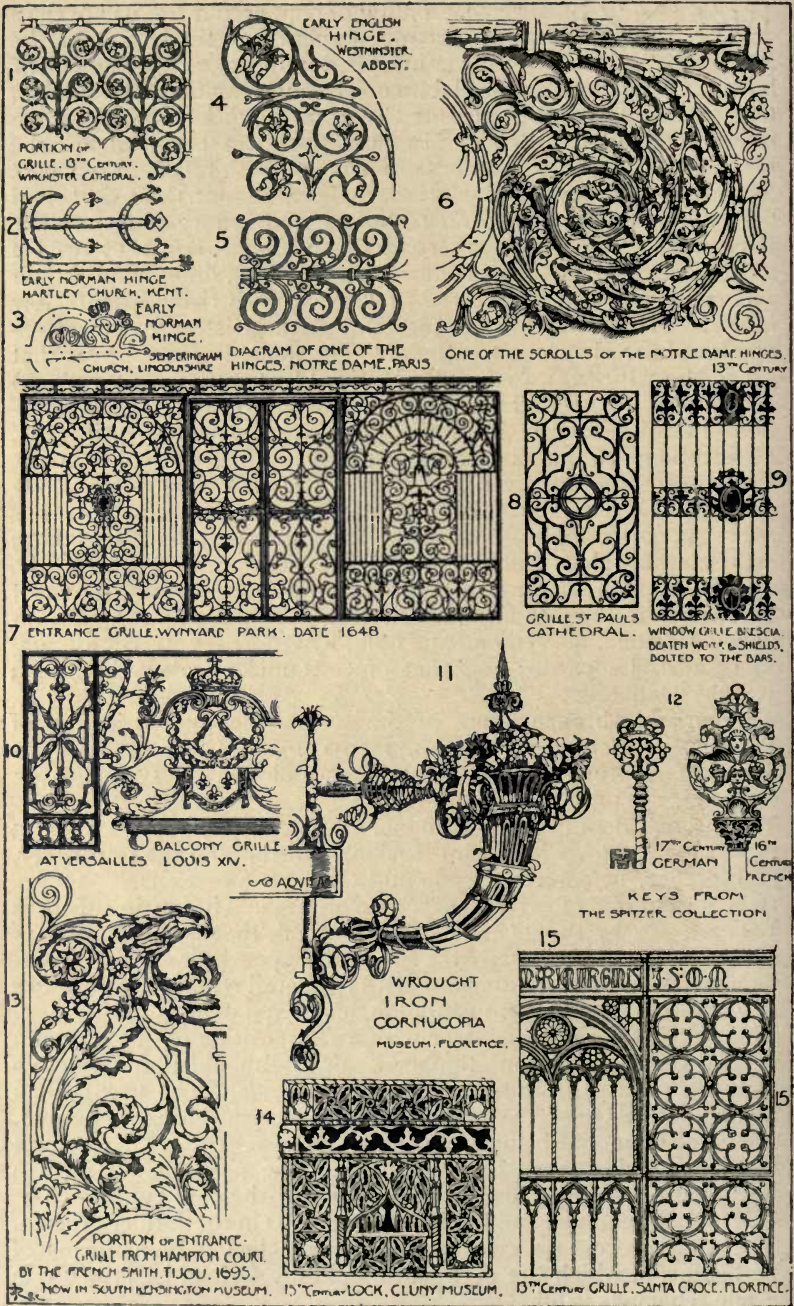
The beautiful Etruscan Fibulæ are enriched with minute globules of gold soldered on, a process brought to a remarkable degree of perfection by the Etruscans in the 7th, 6th and 5th centuries B.C. Of the gold and silver vessels used by Solomon in the temple, we have the description in the Books of Kings and Chronicles, but no trace of the originals, except that on the Arch of Titus, 79 A.D., we find a representation of the seven-branched golden candlestick (fig. 9). Of the Mediæval period, many fine examples of church and corporation plate are still treasured in our museums. They are of great intrinsic value, of beautiful workmanship, chased and engraved, and enriched with cast and repoussé work and the choicest enamels. Of the craftsman or goldsmith we know but little, but his delicacy of touch, his just appreciation of appropriateness of treatment to his material, and the singular grace and charm of his design are a tribute to his culture and personality. Cellini produced many beautiful works, yet perhaps not more beautiful than his many contemporary goldsmiths. In our museums there are some charming specimens of engraving upon silver, filled in with black enamel called Niello, by Maso Finiguerra, about 1450, who produced some early prints from an engraved plate.



BRONZE. Bronze, an alloy of copper and tin, has been in use from a remote period in the history of the arts. Its adaptability for casting, its durability, utility and colour have rendered this material one of the most useful and valuable. Of the many fine examples of the early Egyptian and Assyrian bronze now in the British Museum, the most beautiful are the bronzes of Siris, two fragments of armour, with reliefs in repoussé (fig. 4). The many Greek statues in the round, of their Gods and heroes, show the most skilful technique and beauty of form. The Etruscans were clever workers in this material, and they used a most expressive treatment of incised lines, which differentiates their decorative bronzes from those of Greece, with their delicate low reliefs. The bronze mirrors (fig. 2) and the Cista are typical examples of the Etruscan treatment. The finest known cista is that called the "Ficoroni Cista," by Morios Plantios (3rd century (B.C.) and is now in the Collegio Romano; a description, with illustrations of this example is in the "*Magazine of Art*," April, 1884. Descriptions of this cista and of the many fine examples in the British Museum are given in "*Murray's Handbook of Greek Archaeology*." Of small decorative bronzes, Naples Museum alone has over 13,000 examples, consisting of candelabra, tripods, tables, chairs and couches, which, eighteen centuries ago, were used by the wealthy Roman citizens. Of bronze equestrian statues, the most renowned are those of Marcus Aurelius, at Rome, A.D. 175; Bartolomeo Coleone, at Venice, A.D. 1488, by Andrea Verrocchio; and Alessandro Leopardo; and that of Gattamelata, at Padua, 1453 A.D., by Donatello.

A remarkable bronze figure of the Renaissance period is that of Perseus, by Benvenuto Cellini, 1500-1570, at Florence, and the figure of Neptune on the fountain at Bologna by Giovanni da Bologna, 1524-90.

The bronze doors of San Zenone, at Verona, (see plates 1 and 3 in "*Aratra Pentelici*" by John Ruskin), and those of the Baptistery, at Florence, by Andrea Pisano and Ghiberti (see Renaissance) are typical examples of early Renaissance bronzes. The casting of these Bronzes was by the "Cire Perdu" method, that is, by forming a core of firm material nearly the size and shape required, then covering with sheet wax and finishing with the detail required, with sticks of wax projecting to form vents for the escape of steam in casting. The wax is then brushed over with a composition of fine clay and ground crucibles to some thickness and the mould thus formed is connected with the inner one by bronze rods. The wax is then melted out, leaving a cavity into which the liquid bronze is poured, the core and mould being afterwards removed. Bronze is also cast in piece moulds taken from the model; the piece mould is then lined with sheet clay and put together and the core run in. The clay is then removed and the bronze run in as in the former process. The sand process for casting has now reached a high degree of perfection in which the core and mould are formed by pressure in a fine tenacious sand.



WROUGHT IRON.

The decorative qualities of iron, with its strength, durability and comparative cheapness, have rendered it one of the most useful metals in the applied arts. Used from an early period for implements of war and the chase, it gradually became associated with architecture and furniture, reaching in the 15th and 16th centuries a remarkable degree of beauty and skilful craftsmanship that has never been excelled. Many fine Norman hinges of wrought iron are still in existence, having a straight central bar or strap, with small scroll terminations; these central straps were strengthened with crescent-shaped pieces, terminating in small serpent forms, probably a survival of the Viking traditions. This form of hinge was succeeded by the Early Gothic hinge, which was a series of spirals springing from the straight bar or strap, the spiral being welded or fastened with collars; these spirals were enriched with the three-lobed foliage or trefoil, typical of the Early Gothic period; fine examples of this hinge occur on the west door of Notre Dame, Paris, where this typical spiral has the trefoil leaf, with birds, dragons and small rosettes in stamped iron. This stamped characteristic may be seen, but in a less degree, in the fine hinges of Leighton Buzzard Church, Eaton Bray Church, Bedfordshire, and the Eleanor grill in Westminster Abbey, by Thomas de Leghton, in 1294. In the 14th and 15th centuries, when panelled doors took the place of the earlier doors, this Early Gothic style of hinge was not needed (fig. 5) so that we find no trace of it in that period, but the art of wrought iron was continued with the hammered and chiselled hinges and lock plates of the most varied and delicate workmanship, which enriched the beautiful Gothic chests of the 14th and 15th centuries. The simple wrought screen, which was so largely used in the 13th century was now elaborated, especially in Italy, and fine examples of quatre-foil grilles with massive wrought framing and a rich frieze of foliage, cupids and animals in pierced and hammered iron are to be seen at the cathedrals of Orvieto, Prato and Siena, dating from about 1337 to 1350, and at Santa Croce, Florence, 1371; but it was in Spain and France that the screen reached its culmination. The Spanish screens or "Réjas" in the cathedrals of Seville, Toledo and Granada have a fine range of turned and chiselled vertical bars some 30 to 50 feet high, with an elaborate frieze and cresting. Beautiful wrought and chiselled gates were erected in France about 1658, for the Louvre and the Royal Chateaux of Anet and Ecouen. There are some fine wrought gates at Hampton Court by Jean Tijon, who published some drawings of them in 1693, and many good simple gates of the last century are still in position in many parts of the country.

The wrought iron gate piers in St. George's Chapel, Windsor, with their architectural treatment of open panelling, cresting, and massive buttresses, in filed, bolted and riveted, are splendid examples of Flemish workmanship, and are probably by Quintin Matsys (1450-1529).

FURNITURE The adaptability and universality of wood for domestic and public purposes, its susceptibility to carving and enrichment, its beautiful texture, grain and colour, have made it one of the most useful of materials in the constructive and decorative arts.

The many chairs, tables and chests of ancient times, and the beautiful choir stalls, cabinets and screens of the middle ages are a tribute to the vitality, inventiveness and artistic perception of the old craftsman.



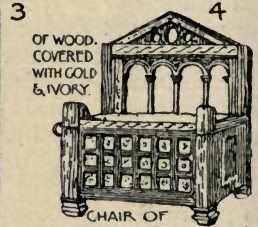
EGYPTIAN
CHAIR. FROM
THE TOMB OF
RAMESES III
B.C. 1200



FROM A BAS-RELIEF



FROM A GREEK VASE



OF WOOD.
COVERED
WITH GOLD
& IVORY.

CHAIR OF
ST PETER 1ST CENTURY

The universality of the chair has tended to preserve the form through many centuries. The chair has undergone various modifications, from the ornate Egyptian one to the Assyrian example with the supports of fir-cones. In the Greek example, the beauty and simplicity of profile is remarkable, while the Chair of St. Peter, 1st century A.D., is purely architectonic with enrichments of gold and ivory.



The Coronation Chair in Westminster Abbey, of the time of Edward I., is one of the earliest in England, offering a strong contrast to the chairs of



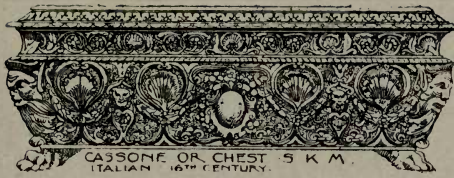
VENETIAN CHAIR 16th CENT

the 18th century by Chippendale and Sheraton. A Venetian chair of the 16th century shows a skilful but inappropriate treatment.

The Arabians at Cairo, in the 15th century, produced some beautiful geometrical wood panelling, frequently inlaid with ebony and ivory, and having a marvellous intricacy of line and detail.

In Italy, during the 16th century, many beautifully carved cassone or chests, in walnut, enriched with gilding, were produced, similar to the one here figured from South Kensington Museum.

In Italy the beautiful carved choir stalls of the 16th century were frequently enriched with INTARSIA, a light wood inlay upon a dark ground, this intarsia being



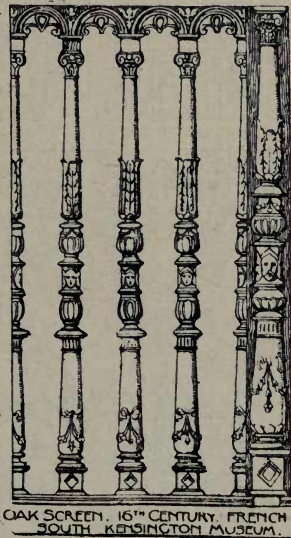
afterwards slightly etched and black rubbed in, or scorched with hot sand or irons. The choir stalls at St. Organo, Verona, and the Certosa, at Pavia, are fine examples of Intarsia.

In the Renaissance of France we meet with many examples of beautiful furniture, great skill, taste and ingenuity being brought to bear upon this work. Jean Goujon, Bachelier and Philibert de l'Orme were famed for their wood carvings in the 16th century.

In 1642, André Charles Boule introduced a veneered work composed of thin tortoise-shell and brass, frequently chased or engraved; this is now termed BOULE work. In some of the later work the shell is laid on a vermilion or gold ground, which greatly enhances its effect. In the 18th century, Boule work was still made in France, but new methods and new men came to the front, amongst others were Riesener and David Roentgen, who produced splendid MARQUETRY of flowers, festoons and diaper patterns inlaid in various coloured woods. Both these men worked in mahogany and ebony, and their lighter marquetry was frequently shaded by scorching with hot sand. These pieces of furniture were usually enriched with gilt, bronze or metal mountings by Gouthière, a contemporary craftsman. A beautiful mode of enriching woodwork was introduced by Vernis Martin, 1706-70; this was the use of a gold and green lac, which was transparent and brilliant, and similar to the beautiful lac work of Japan.



Of English men of this period, Thomas Chippendale produced some good furniture and published a book of designs in 1764, which undoubtedly influenced much of the furniture of that period; Mathias Lock was another noted cabinet maker. In 1789, A. Hepplewhite published a book on furniture, and, in 1795, Thomas Sheraton published a work on the same subject. The beautiful panelling and carved mantels of the many fine halls of the time of Elizabeth and James are characteristic of English work. Contemporary with this are the beautiful English panelled chests



with quaint imagery and enrichments, and the curious Jacobean bed-foot with its pierced pedestal and baluster pillar.

With Grinling Gibbons, who died in 1721, wood carving reached its culmination for delicacy and skilful craftsmanship.



TEXTILES. The utility, universality, construction, texture, ornamentation and colour of textile fabrics are full of interest and suggestiveness, for in the remarkable development of textile fabrics we may trace the continuity of style and tradition, the intermingling of races and customs, and the grafting of religious ideas with the wealth and luxuriance of the past. All fabrics wrought in the loom are called textiles. They are broadly divided into three classes: 1st, plain fabrics in which the warp and weft alternate equally; 2nd, those fabrics in which a pattern is produced by the warp and weft intermingling in different proportions or colours, figured cloths and tapestries being included in this class; 3rd, those fabrics in which the plain textile No. 1 is enriched with the needle or by printing, termed embroideries or printed fabrics.

Owing to their perishable nature few remains of ancient textile fabrics are in existence. The oldest examples are found in the tombs of Egypt, where, owing to the dryness of the climate, some fabrics of the early dynasties still remain. They are usually of fine linen and without enrichment, yet upon the same tombs are many painted patterns that undoubtedly show a woven origin. The oldest figured fabrics found in Egypt are of the 6th century A.D., and they show a remarkable similarity to the early patterns of Persia and Byzantium, for it was in India, Persia and Arabia that textiles reached their perfection of workmanship and their wealth of material. This splendid tradition was carried from Persia and India to Byzantium in the 5th century, and in the 8th century the Arabians absorbed and assimilated the arts of Persia, India, Egypt and Spain and brought the art of weaving to its culmination during the 14th and 15th centuries.

The ornamental designs of textile fabrics of different nations and periods are characterised by well-defined forms, differentiated by racial influence, climatic conditions and the myths and traditions of the people. Yet the traditional Eastern origin may be traced through many textile designs, for there is no doubt that India, Persia and Arabia influenced the designs of textile fabrics more than any other nations. This was due no doubt partly to the Eastern weavers carrying their art and traditions with them to various parts of Europe, and also to the exportation of their splendid fabrics, but principally to the beautiful and interesting designs which were perfectly adapted to the process of weaving. It is due no doubt to this frank adaptation of natural forms and their appropriateness to the technical necessities of woven fabrics, that has rendered this Eastern influence so persistent through many centuries in different parts of Europe. It is remarkable that even in Italy during the whole of the Renaissance period, with the characteristic scroll forms and acanthus foliage of its architecture and decorative arts, the textiles are quite distinct in style, having the characteristics of the Sicilian, Persian and Indian ornament.

Among the earliest figured fabrics must be placed those of Assyria, of which representations may be seen in Layard's Book on Nineveh. The patterns consisted of symmetrically placed winged figures with the *Hom* or Tree of Life and the rosette, which was used as a symbol by Zoroaster. It is probable that many of these patterns were embroidered, as the Babylonians were reported to be skilful in the art of embroidery, but it is also certain that some of the patterns were woven. The figured fabrics found in Egypt only date from the 5th and 6th centuries A.D., and show a marked Byzantine and Persian influence (figs. 1-7, plate 35). Characteristic Byzantine examples have medallions and symmetrically placed figures and ornament of the "*Hom*." At Alexandria and Antioch, many fine green and gold silk fabrics with ornament in brown outline were produced from the 6th to the 10th centuries.

Under the Saracens, textile fabrics reached their highest development; splendour of colour, beauty and perfection of material and the singularly interesting beauty of the designs being the chief characteristics.

The conquest of Persia, in 632 A.D., by Abu Bekr, the successor of Mahomet, the establishment of Bagdad in 762 as the capital of the Arabian Khalifs, and the invasion of India, in 711, gave a remarkable impetus to the decorative arts, more especially the arts of dyeing, weaving and embroidery. These arts culminated in the splendid period of the Fatimy Khalifs, 909-1171 A.D. Though Mahomet forbade his followers to wear silk, it was largely used by the Saracens and, to evade the injunction, cotton was frequently interwoven with it, and, in India especially, the fabrics often have a cotton warp as a foundation for the weft patterns of coloured silks and gold thread. Many fine examples of Saracenic fabrics of the 11th to the 15th centuries are now in our national museums. The larger portion are from Sicily, and are termed Sicilian or Siculo-Saracenic. They have bands of birds, animals, foliage and inscriptions in blue, green and gold on a red ground. If wholly of silk the fabric was termed *Holosericum*, and if of silk and gold, *Chrysoclavum fundatum*. Drawn gold thread was not used in early fabrics, but gold leaf laid on paper or skin and then rolled round a fine thread of silk was largely used by the Saracenic weavers. The patterns in some of the later Sicilian fabrics of the 13th and 14th centuries have a purple ground in twilled silk, with birds and foliage formed by a weft of gold thread. These patterns were usually symmetrical in arrangement, no doubt partly due to the traditional art of Assyria, but also to the simple necessities of weaving, for in the early looms the turnover of the pattern was frequently used. The Saracenic fabrics produced in Spain are called Hispano-Moresque and are distinguished by splendid crimson or dark blue conventional patterns of silk upon a yellow ground of a fine quality, and a frequent use of strips of gilded parchment in place of the rolled gilt thread. In this period, many fine velvets raised on a satin ground with gold





and silver threads, were made. In the 12th century, Roger II., the Norman King of Northern Sicily, took Corinth and Argos, and carried many weavers and embroiderers from Greece to Sicily, and established them at Palermo, where they quickly assimilated the Sicilian style and produced many fine fabrics during the 13th and 14th centuries.

The crusades now began to influence the arts; in 1098, Antioch was taken and the spoil distributed through Europe; in 1204, Constantinople was taken by Baldwin, Count of Flanders, and the Venetian Doge, Dandolo, and the vast spoil of textiles distributed. It was doubtless under the influence of the crusades that the Sicilian weavers of the 13th and 14th centuries produced the many beautiful fabrics enriched with winged lions, foliated crosses and crowns, rayed stars, harts and birds linked together, and with the introduction of armorial bearings. Early in the 14th century, this splendid tradition was introduced into Italy, and at Lucca many beautiful fabrics were produced, having the same characteristics and technique as the Sicilian fabrics.

The cloak upon the recumbent bronze figure of Richard II. in Westminster Abbey has a pattern of foliage with couchant harts and rayed stars, and was most probably copied from the original silk made for Richard at Lucca or Palermo.

The beautiful materials and designs of Indian textile fabrics are indicative of the love of nature and the splendour of colour of a remote antiquity. Though influenced at various times by Greek, Persian and Arabian traditions, India still preserved an indigenous ornamental art of remarkable freshness and vitality, the designers choosing their own flora and fauna with rare selective power and adaptive qualities. With an instinctive feeling for ornamental art, aided by the splendid colourings of the native dyes, they produced textile fabrics of silks, brocades, and gold and silver lace remarkable for richness and perfection of material, beauty of design and harmony of colour. The Indian pine is a familiar form of enrichment differentiated from the cypress of Persia (fig. 1, plate 22), by the spiral at the apex. This typical pine is treated with a wonderful diversity of detail (figs. 4, 5 and 6, plate 23). The splendid carpets of India were doubtless influenced by the Persian tradition and they follow the same methods and ornamental arrangements, adapting, conventionalizing and emphasizing plants, flowers and seeds, and rendering them with a fine feeling for form and colour. Block printing was largely used for silks and cottons, and many splendid examples are now treasured in our museums; an illustration of a printed cotton Palampore from South Kensington is given here, showing the beautiful floral treatment, diversity of detail, and contrast of line and mass. The gold and silver Brocades or "Kincobs" of Ahmedabad and Benares, with patterns of animals, flowers and foliage richly spangled; the delicate muslins of Dacca, the gold and silver printed muslins of Jaipur, and the woollen



PERSIAN CARPET.
16TH CENTURY. S.K.M

shawls of Kashmir, with the well-known pine pattern, are splendid examples of richness of material, delicacy and skilfulness of technic, and beauty and appropriateness of ornamentation.

The Pile carpets of Persia, especially those of Kurdistan, Khorassan, Kirman, and Ferahan, are the finest in the world, being magnificent in colour and having bold conventional patterns of their beautiful flora, with birds and animals interspersed with the ornament, giving a largeness of mass and interest and vitality of detail. The illustration on the opposite page is from a fine 16th century Persian carpet,

and is a good example of their methods and traditions. The hyacinth, tulip, iris and the pink, are frequently introduced, together with the horn or tree of life. An illustration is given (fig. 2, plate 22) of a Genoa fabric but of Persian design, showing the typical "pink" with its simplicity and beauty of line. This traditional art of Persia had a most marked influence upon the textile fabrics of Europe from the 12th to the 17th centuries. This was no doubt due to many causes, but the perfect adaptability to the process of weaving, the interest, inventiveness and beauty of the ornament, and the singular frank treatment



DOUBLE MULLION PATTERN, ITALIAN.

of form and colour, doubtless appealed to the craftsmen of Europe, and hence we find many Persian designs produced in Sicily, Spain, Italy, France and Flanders.

The finest silk velvets and damasks produced from the looms of Florence show a distinct Persian influence in their bold artichoke and pomegranate patterns of the 16th and 17th centuries. In

Genoa, similar patterns in many coloured velvets were produced, and it is singular how largely this persistency of type prevails in all countries.



SILK ITALIAN 16th CENTURY

In 1480, Louis XI. introduced the art into France, when looms were established at Tours, and in 1520 they were established at Lyons by Francis I., and the art of weaving rapidly spread. The earliest fabrics of these looms have patterns similar to the Persian and Italian fabrics; but soon the vase pattern, which no doubt had its origin in Byzantine textiles and which had been used by the Persians and Italians, began to influence French designs. However, this rapidly gave place towards the middle of the 17th century to the

imitations of ribbons and laces in textile fabrics, together with a more naturalistic treatment of floral forms, and the beauty, suggestiveness and interest of the early patterns now gave way to

prettiness, affectation and a naturalistic treatment which culminated in the period of Madame Pompadour.



FLOWER VASE PATTERN

The textile fabrics of Flanders reached a high degree of perfection in the 16th and 17th centuries, Bruges being famous for its silk damasks and velvets, the patterns showing the traditional Persian or the pomegranate and artichoke type of the Florentine textiles. Block printing had been introduced into Flanders in the 15th century and many fine patterns with Indian motives were produced up to the 17th century.

At Ypres, fine diapered linen was manufactured, and Ghent was famous for its woollens, but the remarkable pros-



SINGLE MULLION PATTERN

The remarkable invention of perforated cards for facilitating the weaving of figured fabrics was introduced by Bonchon, 1725, and continued by Falcon in 1728, by Vancanson in 1745, and perfected by Joseph Marie Jacquard, 1752-1834.

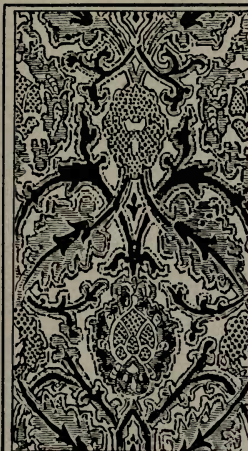
The revocation of the Edict of Nantes in 1685 by Louis the XIV., caused large numbers of weavers to come to England, bringing their art and tradition with them, and many established themselves at Spitalfields which soon rose to some importance. The patterns, necessarily, were purely French in treatment, consisting of natural arrangements of flowers; a sketch is here given of a Spitalfields design for silk damask.



perity of Flanders was destroyed by the Spanish occupation (1556-1648).

Then large numbers of Flemish weavers came to England and settled in many parts of the country, bringing their traditions and craftsmanship, which have undoubtedly had a most marked influence upon the production of cotton and woollen textile fabrics in England.

Tapestry, of which many fine examples of the 16th and 17th centuries are treasured in our museums and palaces, differs from most woven fabrics in its method of production, which consists of interweaving and knotting short pieces of coloured wefts, which form the pattern, to a strong warp, a ground weft being thrown across each pick to bind the material well together;



DROCATELLE ITALIAN 16TH CENTURY
S. K. M.



SINGLE MULLION PATTERN.
FLEMISH 16TH CENTURY



FLOWER-VASE PATTERN. LATE
16TH CENTURY VENETIAN.
BOCK COLLECTION MANCHESTER.



DOUBLE MULLION PATTERN. ITALIAN
16TH CENTURY. MANCHESTER BOCK COLLECTION



VELVET FROM GENOA FROM A PERSIAN
DESIGN. 16TH CENTURY. S. K. M.



VELVET. ITALIAN 16TH CENTURY
MUSÉE DES ARTS DÉCORATIFS. PARIS.



SILK ITALIAN. 16TH CENTURY.



SILK BROCADE. 16TH CENTURY.



FIG. SATIN. 16TH CENTURY LYONS.

this is almost the same method as that used in the manufacture of the Indian and Persian carpets. It was during the 14th and 15th centuries, at Arras in Flanders, that storied tapestries were brought to their culmination and the tapestry workers became a most powerful guild. From about 1480, Brussels produced many magnificent hangings from designs by the great masters of the Italian Renaissance. Raphael's famous cartoons which are now in the South Kensington Museum are the original designs for the ten tapestries manufactured at Brussels for Pope Leo X. for the enrichment of the Sistine chapel in the Vatican; the seven cartoons, three being lost, were purchased by Charles I.

Many of the great Flemish painters also designed for the Brussels tapestries, such as Van Orley, Van Leyden and Jan Mabuse.

Francis I. caused tapestry looms to be set up at Fontainebleau in 1539, under the direction of the Italian, Serlio, but it was not until the Gobelin tapestry manufactory was established in 1603 in the Faubourg Saint Marcel by the Fleming, Marc de Comans, and Francois de la Planche, that French tapestry reached any importance. Under the Minister Colbert in 1667, the Royal Gobelin manufactory produced many fine tapestries designed by the head of the establishment, Charles le Brun.

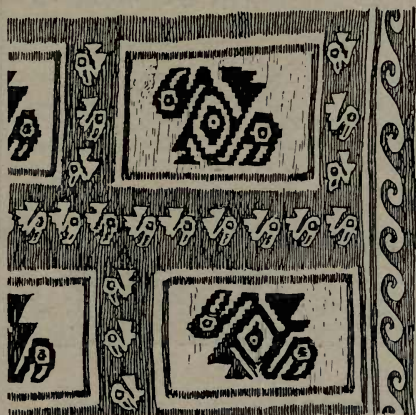
About 1590, some carpets called Savonnerie were made in the Louvre, the technique being somewhat similar to the Persian carpets but the patterns were more pictorial and naturalistic in treatment; fine tapestries were also produced at Beauvais and Aubusson. Tapestry had been manufactured in England as early as the reign of Edward III., but it was not until the time of James I. that it assumed any importance, when a tapestry manufactory was established at Mortlake by Francis Crane.

Some fine Flemish tapestries are in the South Kensington museum and eight large pieces by Bernard Van Orley are in the Great Hall of Hampton Court. The coloured cartoons by Mantegna in Hampton Court, representing the Triumph of Cæsar, were to be reproduced in tapestry for the Duke of Mantua. There are some fine Gobelin and Beauvais tapestries in Windsor Castle which were gifts from the Court of France, and they all show the most consummate technique, beauty of material and harmony of colour.

The well-known Bayeux tapestry is embroidered in coloured wools upon a white linen ground. It is 214 feet in length and 22 inches in width and divided in 72 compartments with incidents representing the Norman invasion of England by William I.

Though reputed to be the work of Queen Matilda, the probability is that it is the work of English hands some few years after the invasion. This embroidery or tapestry is still preserved in the cathedral of Bayeux.

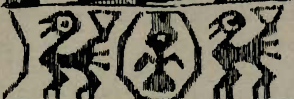
The remarkable civilization of the Incas or Peruvians, is shown in the many splendid objects of the industrial arts now treasured in our museums. Of these relics of a vanished civilization, the textile



DOUBLE CLOTH IN BROWN & YELLOW.



DOUBLE CLOTH IN BROWN & YELLOW.



DOUBLE CLOTH IN WHITE & BROWN.



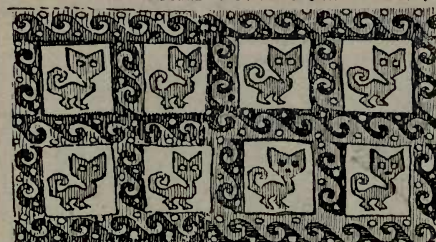
DOUBLE CLOTH IN LIGHT & DARK BROWN



DOUBLE CLOTH IN BROWN & YELLOW.

PERUVIAN
FABRICS.
1200 TO 1400. A.D.

SMITHIES
LOAN COLLECTION
MANCHESTER.



TAPES-TRY IN RED, PINK, YELLOW & BROWN



TAPESTRY IN BLUE, GREEN, RED, PINK, YELLOW & DARK BROWN



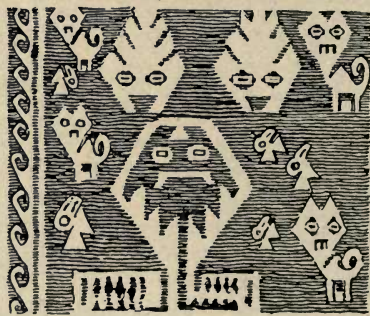
TAPESTRY IN PINK, RED, WHITE, YELLOW & BROWN



TAPESTRY IN WHITE, RED & YELLOW.



TAPESTRY IN WHITE & BROWN.



DOUBLE CLOTH IN BROWN & YELLOW.



KEY PATTERN IN BROWN & YELLOW.



TAPESTRY IN RED & BLACK ON YELLOW GROUND.

fabrics are, perhaps, the most instructive and interesting. The high technical skill of the craftsmanship, the fine spinning of the wool and cotton, and the perfection of the dyeing of the yarn, together with the skilful weaving of the figured cloths and tapestries are a tribute to the vitality and civilization of a people remote from all Asiatic or European influences.

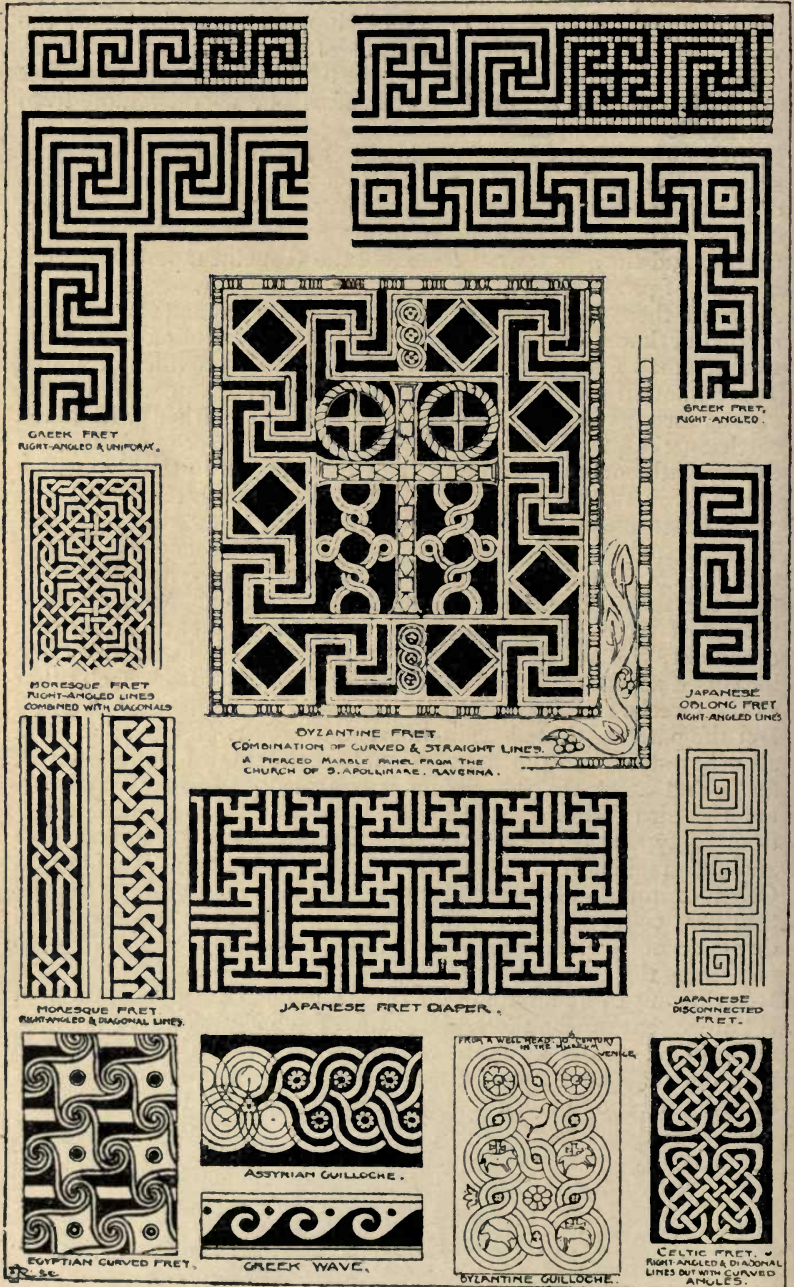
Many of the fabrics are of double cloth, of deep brown and pale straw colour, and show the same colour and pattern on both sides of the cloth. Some of the fabrics are tapestry woven, having short strands of coloured wool inserted into the fabric by the aid of the needle, and they somewhat resemble the Gobelin tapestry in their method of production.

A few of these Peruvian cotton fabrics are ornamented by means of tied or knotted work, identical with the *Bandháná* or knotted work termed *Chunti Cloth*, of the North-west province of India. These knotted patterns consist of simple spots arranged in square, zig-zag or curved lines. The pattern is first marked with a red earth on the plain fabric; then the pattern or spots are tied up tightly with cotton thread and the whole dipped in the dye which only acts on the untied portions of the cloth; a white pattern on a coloured ground is thus produced, both sides being alike.

These Peruvian textiles are remarkable for the absence of the beautiful flora of Peru as elements for decoration. The *fylfot* or fret is a frequent form of enrichment (plates 40-41.) The wave scroll so typical of Greek work is also a remarkable element in Peruvian ornament, and illustrates the singular development of the same ideas and aspect of form among people so remote from each other as the Greeks and Peruvians.

But the patterns that sharply differentiate Peruvian examples from all other styles are the conventional treatments of figures, birds, fishes and animals. The llama is conspicuous in many patterns, but the bird forms are the most remarkable, having many variations of type and treatment. Illustrations are given in plates 40 and 41, all taken from the *Smithies Loan Collection* at Manchester. Other examples of these interesting fabrics may be seen in the *Smithies collection* at South Kensington, showing the wonderful diversity of the treatment of pattern designing by a people so remote as the Peruvians.

It is difficult to fix any date for these Peruvian examples, but as it is known that during the reign of Inca Pachacutic (circa 1390), the ceramic art was at its best, we may assume that the sister art of weaving reached its perfection about the same period, and continued until the Spanish Conquest in the 16th century.



GREEK FRET
RIGHT-ANGLED & UNIFORM.



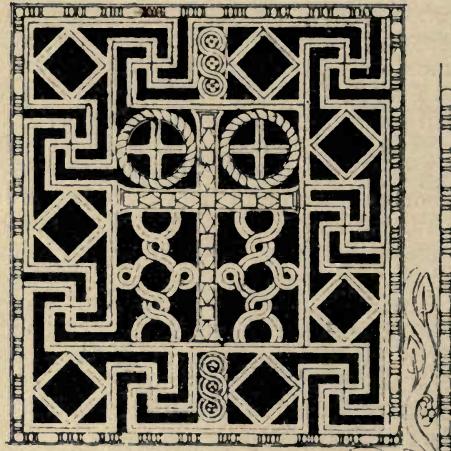
MOESQUE FRET
RIGHT-ANGLED LINES
COMBINED WITH DIAGONALS



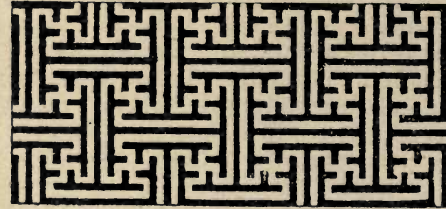
MOESQUE FRET
RIGHT-ANGLED & DIAGONAL LINES.



EGYPTIAN CURVED FRET.



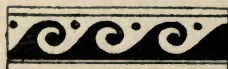
BYZANTINE FRET
COMBINATION OF CURVED & STRAIGHT LINES.
& SPACED MARBLE PAPER FROM THE
CHURCH OF S. APOLLINARE, RAVENNA.



JAPANESE FRET QAPER.



AUSTRIAN GUILLOCHE.



GREEK WAVE.



BYZANTINE GUILLOCHE.



CELTIC FRET. &
RIGHT-ANGLED & DIAGONAL
LINES BUT WITH CURVED
ANGLES.

GREEK FRET,
RIGHT-ANGLED.



JAPANESE
OBLONG FRET
RIGHT-ANGLED LINES



JAPANESE
DISCONNECTED
FRET.

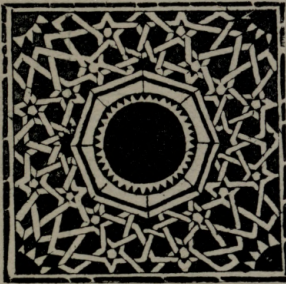
FRETS. The remarkable universality of the fret, the simplicity and rhythm of detail, its adaptability and usefulness for surface enrichment, have made the fret one of the best known forms of ornamentation. It was used in the surface decorations of the tombs of Egypt, the temples of Greece, and the civic and domestic buildings of Rome.

The Greek form with its right-angular and equally-spaced keys was used on the simple abacus and plain fascias of the Dorian architecture, in bands upon the painted vases, and in a concentric form when used in the interior of the red-figured circular cylix. The Romans, without imparting freshness, used the same right-angled key pattern, chiefly as borders for mosaic pavements and upon the horizontal soffits of their architecture. The Byzantine using the same type in conjunction with the cross and circle gave more significance to the fret.

The Arabian fret differs in the use of the oblique line together with the right-angled key, obtaining a wonderful degree of complexity and richness.

The Celtic fret is chiefly a diagonal one, but the recurrent angle is rounded to a curve.

Chinese and Japanese frets are usually right-angled, and are used in great profusion, often in a secondary field or background.



WALL MOSAIC OF COLOURED MARBLES used by the Peruvians (plate 41), by the Mexicans, and by the natives of Polynesia.

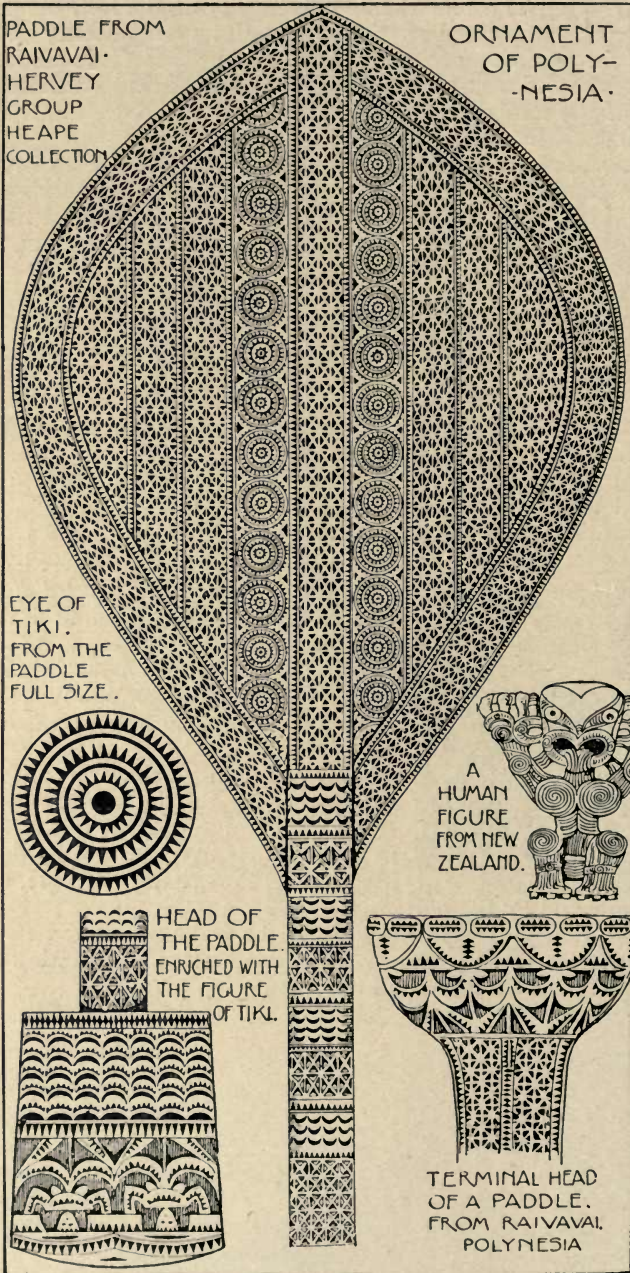
The Assyrian and Byzantine guilloche is but a curved fret, but additional interest is given by the introduction of radiating forms in the principal interstices of the fret (fig. 5, plate II.)

The Japanese key or "*Fret diaper*" is used in the greatest profusion; it is used alike on silks and brocades, damascened in metal, in cloisonné enamel and in lacquered work, and is frequently arranged in irregular shaped compartments or medallions.

The Greek continuous fret border is rarely used by the Japanese, who generally use the disconnected or irregular fret. A similar irregular fret border was

PADDLE FROM
RAIVAVAI-
HERVEY
GROUP
HEAPE
COLLECTION

ORNAMENT
OF POLY-
NESIA.



EYE OF
TIKI.
FROM THE
PADDLE
FULL SIZE.



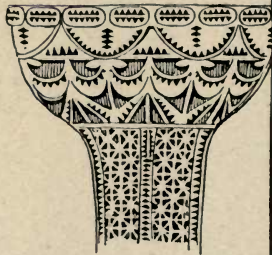
A
HUMAN
FIGURE
FROM NEW
ZEALAND.



HEAD OF
THE PADDLE.
ENRICHED
WITH THE
FIGURE
OF TIKI.



TERMINAL HEAD
OF A PADDLE.
FROM RAIVAVAI,
POLYNESIA



CONTINUITY OF STYLE

in architecture and ornament has always been influenced by tradition, racial influence, and the myths and religious beliefs of the people, and it developed with the progress of the nation, often culminating in some great epoch. Frequently the continuity was carried on by some contemporary or succeeding race, modified by different conditions and environments, yet still retaining the style in its general characteristics, or, this thread of continuity was occasionally lost for a time, only to spring into new life, endowed with fresh vitality and beauty, culminating again in splendour. Then fresh religious ideas and conditions engrafted their symbolism and traditions upon the style, thus forming a new period in the history of art.

Ornament is the expression of the people or of the priesthood, and in its primitive state was used symbolically. The ornament of Polynesia and Melanesia probably shows this primitive state of ornamentation. Isolated as these islanders were from the influence of Eastern or Western art, and with but little communication among the various islands, the ornamental art of these people has its own traditions and characteristics, each province or group of islands showing different ideas and details in proportion to its culture or state of civilization, New Zealand showing the highest development and Australia the lowest, while with the Marquesans the ornament is almost pure picture writings. The illustration of the beautiful paddle in the Heape collection, with its geometric ornamentation, shows the continuity and ornamental development of the representation of the human figure, which was originally chosen by the priesthood for its significance or divinity.

In Europe and Asia all trace of this primitive stage has ceased to exist. The development and continuity of ideas and customs, the traditions of style and craftsmanship carried on through many centuries of the world's history have obliterated the early or primitive style of ornament, chosen first for its significance or emblematic character.

Some remarkable examples of pottery and woven textile fabrics have been recently found in the ancient cemeteries of Peru—relics of the Incas—long anterior to the Spanish conquest. Many fine examples of these woven textiles of cotton and wool are now in the South Kensington museum, forming the Smithies collection, and, as in the ornament of Polynesia, floral forms are entirely absent, the ornament consisting of conventional representations of the human figure, with the owl, condor and the toucan, mingled with the wave scroll and the fret, elements doubtless chosen for their significance.

Many beautiful illustrations could be chosen from the history of ornament, showing this continuity and persistency of line and form and its remarkable influence upon contemporary and succeeding races.

Perhaps the form and enrichment of the Architectural Capital offer one of the most interesting and instructive fields of study in the history and evolution of architecture. The remarkable persistency of the capital as a distinctive feature in architecture may be traced through many centuries, though differentiated by climatic conditions and racial influences, yet still preserving a remarkable similarity of form and enrichment among the various nations of the earth.

The function of the capital is to sustain and transmit to the columns the weight of the entablature or archivolt, and the beauty and appropriateness of the capital depends:—

First, upon this functional treatment of strength;

Second, upon the beauty of profile or mass;

Third, upon the enrichment and proportion of the capital.

The dignified Doric capital of the Greeks illustrates these functions and conditions by its perfect adaptability, simple functional strength, beauty of profile, appropriateness of enrichment and proportion and harmony of parts, qualities which are essential to beauty of architecture. In the Parthenon, B.C. 438, we have the finest treatment of this capital—a treatment full of dignity, reserve, and unison of profile (plate 6). The many examples of the Doric Order in Greece and her colonies attest to the esteem in which this order was held by the Greeks. The Indian capital (plate 24) exhibits the same functional treatment by the use of brackets or modillions, which undoubtedly are a survival of a wooden construction, and which are typical of Eastern architecture.

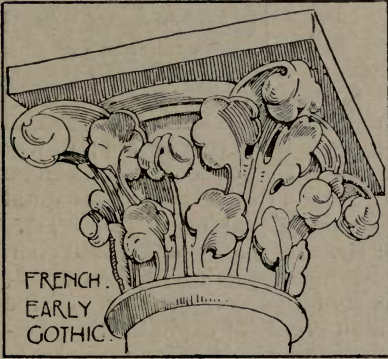
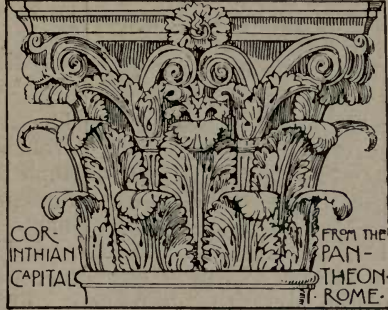
The remarkable persistency of the profile, and enrichment of the capital extending through a period of 4,000 years, may be illustrated by a series of diagrams of typical examples. The profile of the capital has not varied to any appreciable extent in the examples here given, and the enrichment of the bell is remarkable for its persistency, though differentiated by racial influences. The



Corinthian capital, with its volutes and acanthus foliage, is but the architectural continuity of the Egyptian capital. The only pure Greek example of this order is from the monument of Lysicrates, but the Romans continued the tradition, assimilating and elaborating until they produced the magnificent capitals of the portico of the Pantheon and the temple of Castor and Pollux. In these examples the leaves are arranged in series of two rows of eight leaves each, the volutes springing from sheaths and stems

between the leaves, which support the angle of the volutes. The example of early French Gothic has similar characteristics and illustrates the continuity of style.

The Ionic capital, though one of the most persistent in the history of architecture, never reached the architectonic perfection of other capitals. This was undoubtedly owing to the wooden origin being incompatible with the necessities of stone and marble. There is a want of unity between the volutes and ovolo of the capital; in brief, it has neither coherence nor harmony of parts. The exquisite craftsmanship of the capitals of the Erechtheum, with their anthemion enrichment of the greatest purity, the beauty of the ovolo and the subtlety of the volutes compensates to some extent for the lack of unison (plate 6). The enrichment of the architectural capital is no doubt a survival of the primitive custom of binding floral forms round the simple functional capital, these forms



being afterwards perpetuated in stone or marble.

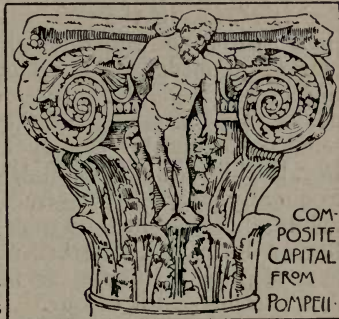
In early Corinthian examples these floral forms were frequently of beaten metal, which, in turn, gave place to the beautiful marble foliage of the Greeks and Romans.

That the ancients used metal work in their capitals we have abundant proof. In the descriptions of the building of Solomon's Temple we read of "Two chapters of molten brass to set upon

the pillars, and nets of chequer work and wreath of chain work to set upon the top of the pillars."

The Composite capital is deficient in coherence and unity of parts, having the same defects as its prototype the Ionic. The annexed illustration from Ancient Rome gives an unusual treatment by the introduction of the human figure in the centre of the face of the capital.

The Byzantine capital differs from those of the Greeks and Romans in its marked symbolism of detail and the prevalence of the cushion form. Functionally, this type of capital is admirable, yet it lacks the vigorous upward growth of the Egyptian and early Gothic capitals.

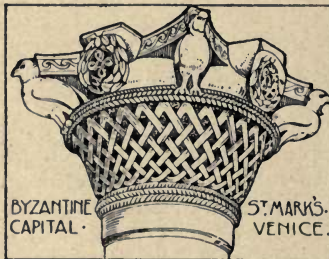


The Byzantine capitals have a wonderful complexity and variety of detail, such as interlacing circles and crosses with their mystic symbolism, basket work, chequered details, and the traditional sharp acanthus foliage of the Greeks.

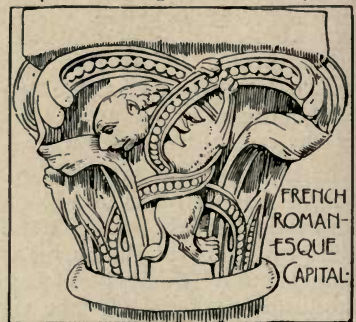


These features are seen in the greatest profusion at S. Sophia at Constantinople; S. Apollinare and S. Vitale at Ravenna, and S. Marco at Venice. These splendid capitals of a splendid period are exceedingly beautiful in fertile inventiveness of enrichment, and show the assimilative power of the Byzantine craftsmen. The abundant use of chequer work, wreaths of chain work, and of lily work in Byzantine capitals, many of which are figured in Ruskin's "Stones of Venice," show the continuity of style and tradition in architecture.

The Byzantine capitals have the square abacus, usually consisting of a simple fillet and chamfer enriched with the billet, dentil or star pattern. The Dossieret, a singular adjunct to the capital was introduced during this period; it was



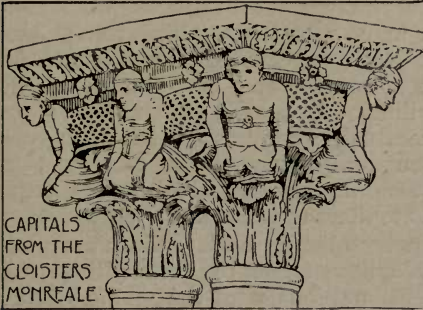
a cushion-shaped or cubicle stone placed upon the abacus of the capital to give additional height (plate 11). The Byzantine influence is seen upon the Norman capitals with their square abacus of fillet and chamfer, and the cushion profile of capital. Some remarkable Siculo-Norman capitals are in the cloisters of the Benedictine Monastery of Monreale in Sicily, A.D. 1174-1184. The great fertility of inventiveness in the 200 capitals, their storiation, the intermingling of figures, birds and animals with the classic and Byzantine foliage makes this cloister one of the most remarkable in the history of the world. The Arabian capital, which frequently shows the traditional volute, differs from the typical bell-shaped form in its marked squareness of profile with flat or low reliefs enriched with colour.



The Early Gothic capital is one of the most vigorous and beautiful.

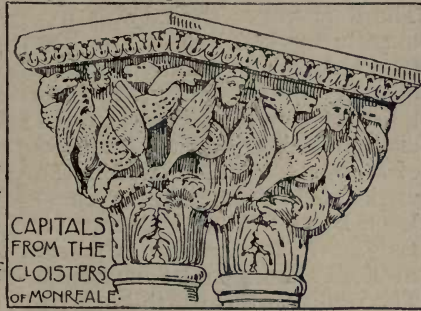
The perfect adaptability of its foliage to stone carving, the significance of its detail as emblematic of the Trinity, the spiral growth of its foliage and the vigorous contrast of light and shade are the chief characteristics of this period.

Lacking, perhaps, the delicacy or variety of detail of the Byzantine period or the later Gothic work, it excelled them in the appropriateness of its enrichment, which is



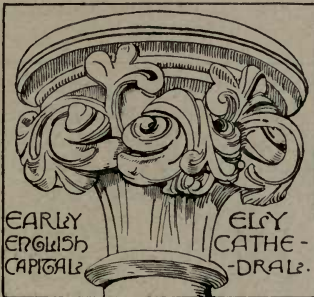
CAPITALS
FROM THE
CLOISTERS
MONREALE

more beautiful in the Early English examples with their circular abacus than in contemporary French capitals where the square abacus was prevalent. The transition from the circular column to the square abacus was always felt to be a difficulty, and was rarely overcome, but in the circular abacus of the Early English capitals we have a break in the continuity of the style of the capital.



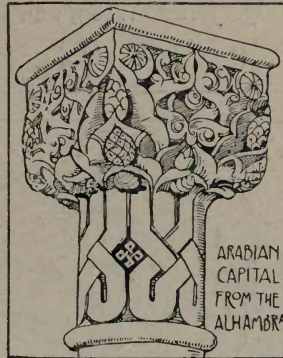
CAPITALS
FROM THE
CLOISTERS
OF MONREALE

The English foliage of this period differs from the French in the



EARLY
ENGLISH
CAPITALS

ELEY
CATHE-
-DRALE.



ARABIAN
CAPITAL
FROM THE
ALHAMBRA

use of a deep mid-rib and simple trefoil leaf. The French examples have a less pronounced mid-rib, and the leaf is convex in form and divided into three lobes, and the foliage adheres more closely to the bell, consequently the brilliant play of light and shade which is so characteristic of Early English work, is generally absent from French examples (fig. 12, plate 16).

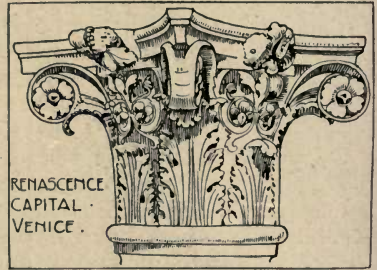
The Decorated Gothic capitals differ essentially from those of the Early Gothic period, a more natural type of foliage being used, consisting of the briony, maple, mallow and oak. This foliage was carved with singular delicacy of touch and grace of profile, and is beautiful in its modelling and play of light and shade, yet frequently the capitals are trivial in conception and arrangement, lacking that architectonic character which is so essential to all architectural constructive features.



The perpendicular or late Gothic capital was usually octagonal in form with square conventional foliage of the vine, showing

a marked decadence in tradition and craftsmanship (fig. 9, plate 17).

The Renaissance capital was frequently marked by a fine feeling for profile, splendid craftsmanship, diversity of enrichment, and vitality of conception, more especially in Italy, where the tradition of architecture culminated in the works of such remarkable men as Leon Battista Alberti, Bramante, Baldassare Peruzzi, San Micheli, Serlio, Palladio, and Sansovenio.



The tradition was worthily carried on in France by Pierre Lescot, Jean Bullant, Philipert de Lorme, and De Brosse, and in England by Inigo Jones, Wren, and Chambers.



ROMAN SCROLL.

TERMS USED IN ORNAMENTAL ART.

ORNAMENT is the means by which Beauty or Significance is imparted to Utility. It is either Symbolical or Aesthetic. Symbolic ornament consists of elements or forms chosen for the sake of their *significance*—Aesthetic ornament consists of forms or elements chosen for their *Beauty* alone, or their power of appealing to the senses.

Of the historic styles of ornament, the Egyptian, Assyrian, Byzantine, Scandinavian, Persian, Indian, Gothic, Polynesian, and much of the Chinese and Japanese are symbolical, having elements and ornamental details chosen for their significance; while in the Greek, Roman, and Renaissance ornament, the purely aesthetic motive is characteristic.

Ornament, again, may be natural or conventional—Imitative or Inventive. The terms “natural” and “imitative” have the same significance—viz., the exact copying of natural forms, so that they become principal—not secondary as perfect ornament should be. Conventional ornament is the adaptation of natural forms to ornamental and technical requirements, and is seen in its greatest beauty in the frank treatment by the Indians and Persians of their flora and fauna for the decorative enrichment of their textile fabrics, pottery, and jewellery.

Inventive ornament is that which consists of elements not derived from any natural source; the Moresque style is a good example of this type.

The *elements* of ornament are the details or forms chosen for ornamental motives, and the *principals* of ornament are the arrangement of these forms and details; they comprise repetition, alternation, symmetry, radiation, balance, proportion, variety, eurythmy, contrast, intersection, complication, fitness, and utility.

Repetition is the use of elements in a continuous series; *Alternation* is the repetition of an element at intervals, with others intervening; *Symmetry*: when the leading lines are equal or similar (or reciprocal) on both sides; *Radiation*: when the lines spring from a centre, for example, a bird’s wing and the flower of the daisy; *Balance* and *Proportion*: when the relation and harmony of parts is based upon natural laws; *Variety* implies difference in the details, with respect to form or type; *Eurythmy* signifies rhythms or harmony in ornament; *Contrast* is the arrangement in close proximity of colours or forms of opposite characters, as the straight line with the curve, or light with dark; *Intersection* is the crossing of the leading lines, the Arabian, Moresque and Celtic styles are examples of this principle; *Complication* is the effect produced by elements so arranged as to be more or less difficult to trace with the eye alone: as in the Japanese key and the Moresque star pattern. *Fitness* and *utility* as their names imply are essentials in all good periods of ornamentation.



ROMAN SCROLL.

Text Books upon Architecture and Ornament.

Classic and Early Christian Architecture	<i>Roger Smith,</i>	5/-
Gothic and Renaissance	<i>Roger Smith,</i>	5/-
Glossary of Architecture	<i>J. Parker,</i>	7/6
Handbook of Architectural Styles	<i>Rosengarten,</i>	7/6
Introduction to Gothic Architecture	<i>J. Parker,</i>	5/-
Three Manuals of Gothic Ornament	<i>J. Parker, each</i>	1/-
Classic and Early Christian Sculpture	<i>G. Redford,</i>	5/-
Gothic and Renaissance Sculpture	<i>Leader Scott,</i>	5/-
Handbook of Greek Sculpture, 2 vols.	<i>Ed. Gardner,</i>	10/-
History of Greek Art	<i>Tarbell,</i>	5/-
Analysis of Ornament	<i>J. Wornum,</i>	8/-
Handbook of Ornament	<i>Meyer,</i>	10/6

An excellent series of illustrated Handbooks upon the Industrial Arts by writers of repute, is published by the Science and Art Department, and may be obtained at the Bookstall of the South Kensington Museum, at a cost of 1/- each part (paper covers), or they may be purchased through Messrs. Chapman and Hall, at 2/6 each part, bound in cloth, they include:

The Industrial Arts of India	<i>Sir G. Birdwood</i>	} each in two parts.
" " Spain	<i>Juan F. Riano</i>	
" " Denmark	<i>J. J. Worsaae</i>	
" " Scandinavia	<i>Hans Hildebrand</i>	
The Saracens of Egypt	<i>Stanley Lane Poole</i>	} complete in one part.
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English Earthenware	<i>A. H. Church</i>	
" Porcelain	<i>A. H. Church</i>	
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Wrought Iron Work	<i>J. Starkie Gardner</i>	
Bronzes	<i>Drury E. Fortnum</i>	
College and Corporation Plate	<i>Wilfred Cripps</i>	
Furniture	<i>J. H. Pollen</i>	
Gold and Silversmith's Work	<i>J. H. Pollen</i>	
Glass	<i>A. Nesbitt</i>	
Ivories	<i>W. Maskell</i>	
Japanese Pottery	<i>A. W. Franks</i>	
Maiolica	<i>Drury E. Fortnum</i>	
Persian Art	<i>R. Murdock Smith</i>	
Textile Fabrics	<i>Rev. Daniel Rock</i>	
Tapestry	<i>Alfred de Champeaux</i>	
The Industrial Arts		

Works of Reference.

ARCHITECTURE :—

Antiquities of Rome	<i>Taylor & Cresy.</i>
Antiquities of Athens	<i>Stuart & Revett.</i>
Analysis of Gothic Architecture	<i>Brandon.</i>
Architecture for General Readers	<i>H. H. Statham.</i>
Byzantine Architecture.	<i>Texies & Pullan.</i>
Constantinople	<i>Salzenberg.</i>
Civil Architecture	<i>Chambers.</i>
Decorated Window Tracery.	<i>E. Sharpe.</i>
Encyclopædia of Architecture	<i>Gwilt.</i>
English Renaissance Architecture	<i>J. A. Gotch.</i>
Gothic Mouldings.	<i>F. A. Paley.</i>
Gothic Architecture	<i>T. Rickman.</i>
Gothic Architecture in France	<i>E. Corroyer.</i>
Gothic Architecture in Spain	<i>G. E. Street.</i>
Gothic Foliage	<i>J. K. Collings.</i>
Handbook of Architecture	<i>J. Fergusson.</i>
History of Architecture	<i>J. Fergusson.</i>
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Old English Mansions	<i>C. Richardson.</i>
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Orders of Architecture	<i>C. Norman.</i>
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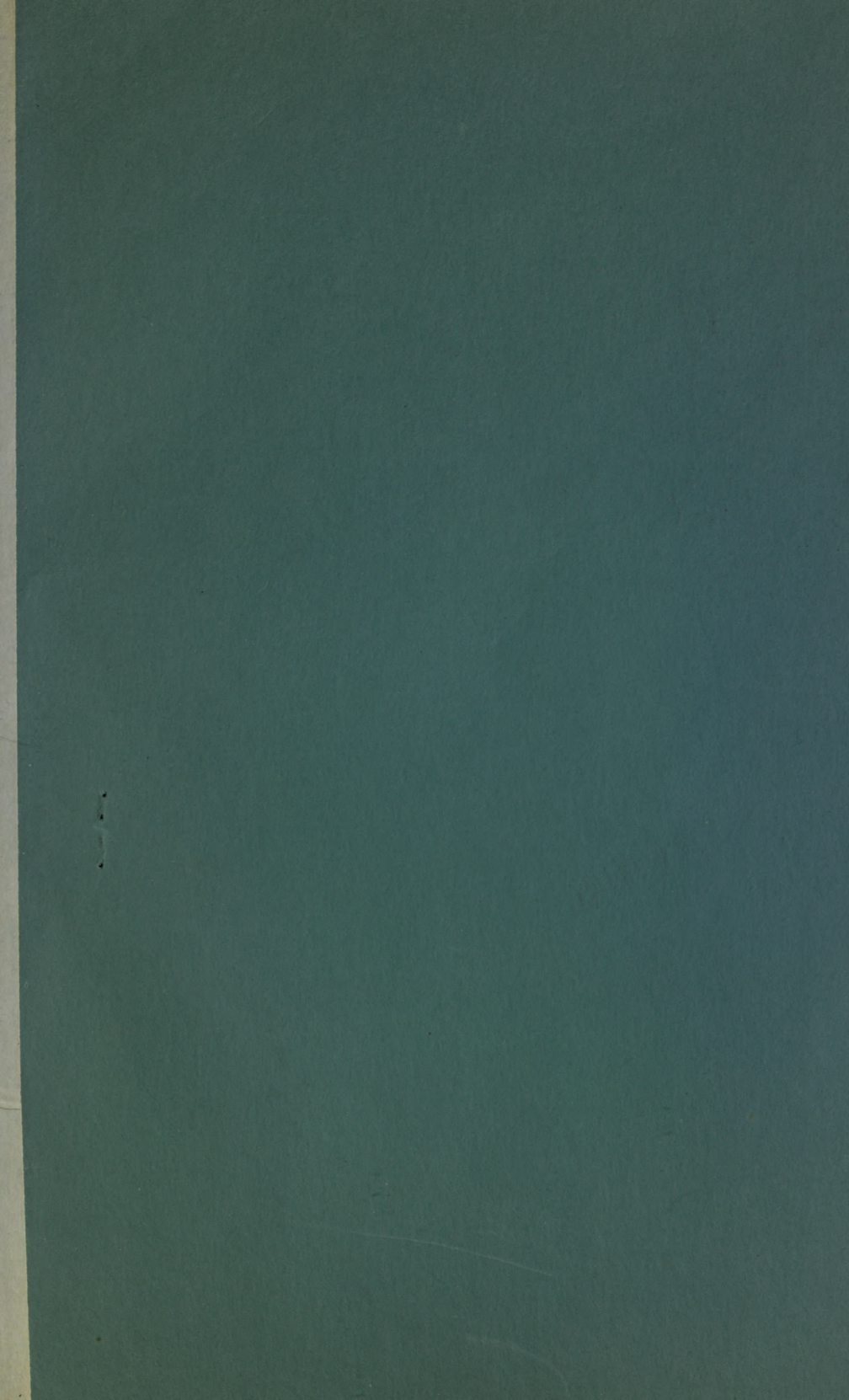
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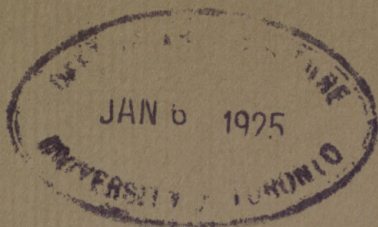
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