THE GILDED GLASSES OF THE CATACOMBS.[1]

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DESCRIPTION OF PLATES.

Plate I.

Bottom of a glass drinking vessel; a husband and wife with a small figure of Hercules. Inscription: ORFITVS ET COSTANTIA IN NOMINE HERCVLIS ACERENTINO FELICES BIBATIS. The word ACERENTINO perhaps stands for ACHERVNTINI, the epithet being given to Hercules in honour of his rescue of Alcestis. It may, however, be divided into two words, A CERENTINO, when the sense would be "drink of Cerentine wine." Garrucci, *Vetri*, Plate XXXV, Fig. 1. *C.I.L.* 7036.

Diam. 4·26 in. In the British Museum Collection.

Plate II.

Bottom of a glass bowl; a gladiator (*retiarius*). On his left shoulder is seen the *galerus*, a piece of armour peculiar to gladiators, and on a *cippus* in the background an inflated skin, *coryeus* or *follis pugilatorius*, used in boxing exercises. Inscriptions: PIE ZESES, and STRATONICAE BENE VICISTI VADE IN AVRELIAM. *Aurelia* is probably the province of that name in Cisalpine Gaul.

Frohner, *La Collection Tyszkiewicz: Choix de monuments, &c.*, Plate VIII, Fig. 3.

In the British Museum Collection.

Plate III.

Bottom of a glass drinking vessel; Daniel killing the dragon of Bel with the poisoned cake. Behind him a figure of Our Lord.

Diam. 3·06 in. Garrucci, *Vetri*, Plate III, Fig. 13, and *Storia*, Plate CLXXIII, Fig. 14.

In the British Museum Collection.

Plate IV.

Glass disc, probably the cover of a cup. A Cupid with a hoop, etched in gold foil on a dark red ground. From Crete.

Diam. 3·3 in. In the British Museum.

Plate V.

Glass bowl found at Canosa with two millefiore dishes and other glass vessels. The lower part, from the band of scrolls downwards, is protected by a second bowl, so that the design, which is executed in gold leaf, is enclosed between two layers of glass.

Diam. 8 in. In the British Museum.

[1] Read, April 3rd, 1901.

The gilded glasses, called in Italy *fondi d'oro*, have been known to modern Europe since the time of Bosio (*d.* 1629), the first great explorer of subterranean Rome. All writers upon the catacombs and upon early Christian archæology have had something to say upon them, but it is to the Jesuit Father Garrucci that we owe the most comprehensive treatment of the subject and the most complete series of illustrations. In spite of certain inaccuracies his two works[1] still remain indispensable to students, though since the date of their publication much new material has accumulated which urgently needed incorporation with the old. In a most useful monograph[2] published two years ago Dr. Hermann Vopel has set himself the task of bringing Garrucci's work up to date, and has furnished a concise and useful treatise to which is added a catalogue of all the specimens known to exist in public and private collections at the time of writing. On the history of the art of decorating glass with gold foil he has much that is interesting to say, and he has endeavoured with considerable success to establish a more accurate chronological sequence in the series of gilded glasses which have been preserved to us. Information previously scattered in the pages of the proceedings of learned societies has now been rendered accessible in one small volume, which will be henceforward indispensable to all students of the subject. The following pages are in large part based upon Dr. Vopel's book.

The gilded glasses are in the great majority of cases the circular bottoms of drinking vessels, from which the sides have been broken away. They usually consist of two layers of glass, on one of which a design is etched in gold leaf, the other serving as a protection or guard. The design was intended to be seen from above; but when both layers of glass were transparent, it was equally visible from beneath, though in this case the inscriptions and figures were seen in an inverted form. As a rule the ornamentation of the vessel was confined

[1] See list of books at the end of this paper. In all references where only the name of the author is given, the full title of the work will be found in the list. Garrucci's two books will be referred to as *Vetri* and *Storia* respectively.

[2] *Archäologische Studien zum Christlichen Altertum und Mittelalter, herausgegeben von Johannes Ficker. Fünftes Heft. Die altchristlichen Goldglaser, von Dr. Hermann Vopel. Freiburg, Leipzig,* and *Tubingen,* 1899.

to the circular bottom, which alone was double, but in rare examples it seems to have been continued round the sides. Thus in most cases a single large medallion varying from three to six inches formed the bottom, and the vessel was either a shallow bowl with little more than a low projecting rim for a foot, or a glass rather resembling our modern tumbler.[1] There was, however, a class of broad shallow bowls which, instead of having merely one large ornamental disc at the bottom, had their sides symmetrically studded with diminutive medallions hardly larger than buttons, usually with a dark-coloured background of blue, green, or dull red. Medallions of both kinds, the large and the small, seem to have been occasionally mounted in metal frames and worn on the person as amulets or pendants. One of these (*Vetri*, Plate IV, Fig. 9), now in the Vatican, was found outside a child's grave in the Cemetery of St. Priscilla. The smaller sort were sometimes used like other glass pastes simulating gems, if we may judge from an example mounted on a headband found in Egypt and figured by Dr. Vopel.[2] The larger may in some cases have been votive offerings or have even been employed to decorate caskets or other similar objects much as Wedgwood's cameos were employed in the last century. A single casket which was discovered at Neuss, near Düsseldorf, in 1847, was entirely composed of rectangular glass panels ornamented with Biblical scenes. Unfortunately this interesting monument has disappeared, and nothing but rather incomplete drawings remain to show what its general appearance must have been.[3] But all such independent uses were probably rare. The great majority of the glasses were simply parts of drinking vessels which were impressed in the mortar of the *loculi* or wall-tombs in the catacombs, probably as marks by means of which particular graves might be distinguished from those which surrounded them.[4] The tombs were not all provided

[1] Several authorities state that one class of the gilded glasses had convex bottoms, so that they would not stand by themselves when filled with wine. This class is not represented in the British Museum collection, where all the examples have the low rim-like foot.

[2] Page 79.

[3] *Bonner Jahrbücher*, Part 63, 1878, 103–113, and Plate IV.

[4] The delicate sides which projected from the wall were naturally soon destroyed, leaving only the medallions safely imbedded in the mortar. A single example of a perfect bowl was discovered by Boldetti, who broke it in

with inscriptions, and it was the custom for the mourners to stick all kinds of objects into the fresh mortar by which the tiles or slabs that formed the front were closed. Carved ivory plaques, combs, children's toys, cubes of mosaic, beads, coins, *tesserae*, and a variety of other things were all so employed, few of which were distinctively Christian; while sometimes impressions were made with bronze stamps bearing proper names or acclamations. The intrinsic worthlessness and the perishable nature of some of these objects, such, for example, as the leaves of trees, make it almost certain that they were not deposited on the graves because they had been treasured possessions of the deceased during life, but rather for utilitarian reasons. It is interesting to note that the glass *Storia*, 202, 4, is still in position in the mortar of a tomb in the Catacomb of St. Agnes.[1]

The method of making the gilded glasses is rather puzzling to those who are not familiar with the technicalities of glass manufacture, for the procedure does not seem to have been invariably the same. The actual designs must always have been executed in a uniform manner by etching with a needle on gold (more rarely silver) leaf previously fixed to the glass by some kind of gum; while if a richer effect was required, a few simple colours were applied, especially to parts of the costume such as the *clavi* or stripes upon the tunics, or the jewelled collars and necklaces worn by ladies.[2] But the process of covering the design with a protecting guard and of incorporating it with the vessel appear to have been less constant. If a medallion only was required, two discs of glass must have been exposed to a degree of heat just sufficient to cause them to coalesce without damaging the design, or a film of molten glass

the endeavour to remove it from its place. The drawing which he made has, however, been very frequently reproduced (see *Vetri*, Plate 39, Fig. 7, and Smith and Cheetham, I, 731). It is possible that some glasses may have been broken or trimmed *before* insertion in the mortar.

[1] On the objects impressed in the mortar of the tombs, see De Rossi; *Roma Sotteranea*, III, 574–608, and Plate XVII; abridged by Northcote and Brownlow, II, Bk. V, 1, 266 ff.; and V. Schultze, *Die Katakomben*, Leipzig, 1882, 202.

[2] In a few rare examples the outlines of the design were deeply engraved and then filled in with coloured paste (Kraus, *Die Christliche Kunst in ihren fruhesten Anfängen*, 137).

blown over the surface of a single ornamented disc.[1] If a vessel was to be decorated, the design was probably executed on the bottom, a flux of powdered glass applied to this, and a disc with or without a foot-rim placed over all. The whole was then placed in the oven face downwards, and heated until the melting of the flux caused the disc and the vessel to cohere. Such would at any rate be the procedure with the harder glass of modern times, but it is possible that the softer Roman material, produced by wood fires, would amalgamate at a comparatively low temperature without the interposition of a flux. The bowls studded with small button-like medallions were evidently made in some such way, for portions of the gold can be seen projecting beyond the edges of the protecting blue and green glass at the back. This protection is applied in the form of shallow bosses of coloured glass, a style of decoration common in other Roman glass vessels of the period. Yet another method of providing a guard is that described by Theophilus (see p. 250) as practised by the Byzantine Greeks. Here the flux itself formed the protecting layer, and was applied with a moistened brush; the vessel was then heated until the pulverised glass melted into a continuous film. The presence of three layers of glass upon more than one example in the British Museum suggests that in some cases a finished medallion, with protecting glass complete, was again subjected to heat and welded by fire to the bowl or cup.[2] One of the principal difficulties with which the manufacturers had to contend was the tendency of the gold leaf to blacken and roll up under the influence of the heat.

The *period* within which the gilded glasses were made has been variously fixed by different authorities, but the general tendency of modern research is to bring many of them down to a later date than that assigned to them by earlier archæologists. Thus Buonarruoti ascribed all to the third century, while de Rossi, though admitting some to the fourth, allows none to be later than 410 A.D., in

[1] This is the method employed by the mediæval writer known as Heraclius (see below, p. 249).

[2] See Aus'm Weerth, *Bonner Jahrbücher*, LXIII (1878), 102.

which year the catacombs ceased to be used for interments. The more recent opinion is that they began to be common in the third century, perhaps in the first half of it, and continued without a break until an advanced period in the fifth or even later. The following are some of the arguments on which this opinion is based.[1]

No examples are known to have been discovered in the older cemeteries belonging to the first two centuries, a fact which furnishes negative evidence of considerable importance. One was found in a gallery of the catacomb of Callixtus, which dates from the first half of the third century. Impressions left by three others were seen in the cemetery of St. Agnes, close to an inscription of the year 291 A.D. Five came to light in the cemetery of St. Priscilla, near inscriptions considered to belong to the late third or early fourth century. Another was discovered in the catacomb of Sts. Peter and Marcellinus in company with coins of Maximian, with which it may well be contemporaneous. Evidence of this kind based upon the exploration of the catacombs is not in itself absolutely conclusive, but it affords a presumption that, except perhaps in a few very rare instances, the gilded glass does not go back to the second century after Christ. It would have had greater value if the early explorers had been able to put on record the exact localities where individual pieces were found, and thus to supply us with more numerous data from which wider deductions might have been drawn. Let us now turn to the internal evidence of the glasses themselves, from which many probable and some certain dates may be derived; here, in view of the rarity of other monuments, the information furnished by the coinage is especially valuable.

In *Vetri*, 33, 5; *Storia*, 202, 5, we see a number of overlapping coins on which may be distinguished the inscriptions IMP ANTO PI · ·, FAVST · · ·, M · AVRE PIVS FEL. Some of these coins have been attributed by Garrucci and others to Caracalla, but the occurrence of the name FAVST (INA) seems to justify Dr. Vopel in ascribing them to Marcus Aurelius. It cannot certainly

[1] Vopel, 17–33.

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A HUSBAND AND WIFE WITH A SMALL FIGURE OF HERCULES

See page 225.

be argued that the glass is contemporary with the Antonines because it bears their effigies. Still, it is perhaps not likely that the coins of these emperors would be thus represented at any very long period after their death. In *Vetri*, 33, 4, we see depicted the goddess *Moneta*. Now this figure is common on coins of the third century, but disappears at the end of it, so that we are probably justified in placing this glass before the fourth century. On *Vetri*, 34, 2 and 4, a quadriga is shown advancing to the front, a position which is only usual on coins after the year 241, before which time the chariot is always shown from the side. The earliest date for these two glasses is therefore the middle of the third century. *Vetri*, 36, 1; *Storia*, 201, 4, shows personifications of Rome and Constantinople[1] receiving the homage of a third female figure, possibly intended for Carthage. Such personifications of the two capitals are found on coins from 330 to 350 A.D., within which period this example probably falls. Two other specimens, one (*Vetri*, 35, 1) in the British Museum, have figures of Hercules upon them, a fact which may possibly connect them with the period of Maximian (abdicated 308 A.D.), who appears on his coins with the attributes of the god. Turning now from the evidence of the coinage, we find further indications of date in the occurrence on several glasses of certain historical names. Thus *Vetri*, 19, 1; *Storia*, 188, 1; *Vetri*, 19, 2; and *Storia*, 188, 2, bear the names of Callixtus (*d.* 217 A.D.) and Marcellinus (*d.* 304 A.D.), while on *Vetri*, 23, 1 and 2; *Storia*, 192, 1 and 2; *Vetri*, 25, 2 and 8; *Storia*, 194, 2 and 8, is found the name Damas, which in all probability stands for Damasus, the well-known bishop, who did so much to preserve Christian monuments, and who died in 384 A.D. Here, again, we cannot be certain that the figures are contemporary portraits, but at least we obtain a *terminus a quo* before which these examples cannot be dated. The inscription

[1] These personifications are found in the miniatures of the Byzantine chronographer, the original of which is attributed to the fourth century (see Strzygowski, *Die Kalenderbilder des Chronographen*, Jahrbuch des K. Deutschen Arch. Instituts Erganzungsheft, I, Berlin, 1888), and on numerous consular diptychs of the fifth and sixth centuries. The silver treasure of the fourth or fifth century found on the Esquiline, and now in the British Museum, contains statuettes of Rome and Constantinople (see P. Gardner, *J. H. S.*, IX (1888), Plate V, and 77).

AVSONIORVM on one of the small medallions connects it with the Ausonii, a family which flourished at the end of the fourth century.

Further indications of date are provided by features of an iconographical nature. The sacred monogram is found upon more than twenty examples, sometimes plain, sometimes surrounded by a wreath, sometimes, again, flanked by Alpha and Omega. But with a single exception it is always in the earlier decussated or Constantinian form  , which predominates in the fourth century and becomes rare in the fifth. The exception is the diminutive medallion set in a headband found in Egypt, which bears the *crux monogrammatica* (), a form which is commonest in the fifth century. The simple cross is extremely rare, and one of the examples on which it was found is only preserved in the drawing *Vetri*, 41, 4; *Storia*, 188, 3. Such considerations make it probable that few of the glasses belong to a later period than the early part of the fifth century; but a second argument drawn from the occurrence of the nimbus[1] would seem to tell the other way. In Italy the nimbus as a Christian attribute is first given to Our Lord in the mosaic of Sta. Pudenziana, which is considered to date from the close of the fourth century. It is first extended to persons other than Our Lord in the mosaics of Sta. Maria Maggiore in the first half of the succeeding century, where it is seen round the heads of angels and of the Virgin. Yet even here it has not yet become a mark of holiness as distinct from worldly power, for in the same mosaics it is given to King Herod. Its use in connection with apostles and saints still fluctuated between 500 and 600 A.D., and it is not until the seventh century that it became universal. Now on some ten glasses Our Lord appears with it, and on others it is not

[1] Vopel, 24. Arguments based upon such iconographical details as the introduction of the nimbus must, however, be received with the greatest caution and only accepted as provisional. The dates hitherto regarded as most certain are liable to be overthrown at any moment. For example, it has till now been almost an axiom that the cruciferous nimbus of Our Lord first appeared in the sixth, or at the earliest in the fifth century. It now seems probable that it was introduced in the fourth, and is therefore almost, if not quite, as old as the plain variety. Production in the eastern or western halves of the Christian world necessarily influences questions of this kind. It seems probable that the initiative in these matters was often due to the East. See J. Strzygowski, *Orient oder Rom*, 56 (Leipzig, 1901).

only given to the Virgin, but to St. Peter, St. Paul, and St. Agnes. Although, therefore, there must always be a certain want of conclusiveness in arguments based on the occurrence or absence of the nimbus before the seventh century, we may assume with some probability that no glasses on which it is found are much earlier than the middle of the fifth century, while some are later. A late date is equally suggested by certain details upon other examples. On one (*Vetri*, 1, 3 ; *Storia*, 171, 3) is depicted in a very realistic manner the martyrdom of Isaiah. But as the representation of martyrdoms is not known to begin before the fifth century, and the realism of our example points to familiarity with such subjects, it is natural to attribute this specimen to an advanced period in the century at earliest. Again, in the German Campo Santo at Rome there is preserved a glass with the inscription JVSTINIANVS SEMPER AVG, which, if genuine, can only belong to the sixth century. From the foregoing we may conclude that the gilded glasses belong to a period extending from the first half of the third century until a yet undefined time in the fifth or perhaps even in the sixth century.

The principal difficulty in the way of accepting so late a date lies in the fact, already alluded to, that interments did not take place in the catacombs after 410 A.D., while the majority of the glasses were undoubtedly found there. Unless this fact, attested by De Rossi himself, can be called in question, the objection undoubtedly has weight, but may be at least partially met by the following considerations :—For a long time after interments had ceased, it was the custom of Christians to visit the tombs of the martyrs[1]; and it is conceivable that on such occasions new glasses may have been deposited or old ones replaced. Secondly, the catacombs are not the only place where the glasses have been found. Examples have been discovered in the ruins of a house at Ostia, at Aquileia, at Castiglione della Pescaja and Castel Gandolfo, as well as in tombs at Cologne and in Egypt.[2]

[1] Useful outlines of the history of the catacombs may be found in Northcote and Brownlow, and Romilly Allen, *Early Christian Symbolism in Great Britain and Ireland* (London, 1887), 11.

[2] Vopel, 20. Kisa, 93.

The later date for some specimens is therefore not rendered impossible by the cessation of burials in 410, but the great majority belong to the fourth century, especially to the second half of it. Those with pagan subjects are usually among the earliest, mostly belonging to the third or early fourth century; then follow those in which signs of Christianity are not obvious, though here some of the symbolic subjects such as the Good Shepherd may form exceptions; lastly come the examples on which the characteristic marks of Christianity are conspicuous, especially those with figures of saints. The general development thus illustrates the transformation of a pagan into a Christian community. The artistic merit of the glasses was never of a high order; they followed the course of decadence usual in Roman art, and deteriorated with the course of time. The pagan specimens are often the best, while many of those with figures of Sts. Peter and Paul bear too evident traces of wholesale production. In some examples, *e.g. Vetri*, 17, 1, 2, 4, we can clearly trace the influence of contemporary sculpture, the arrangement of the figures between fluted columns closely recalling the sarcophagi of the most highly developed period. In the simple ornamental borders within which many of the scenes are inclosed we may perhaps recognise imitations of designs executed by workers in metal.[1]

The subjects represented on the glasses may be divided into three main classes:—

I. Those connected with religions other than Christianity.
II. Those which are purely secular.
III. Those directly related to the Christian religion.

The very existence of the first class, which may be subdivided into two sections, the pagan and the Jewish, awakens questions of considerable interest; for surprise has often been expressed that subjects of such a character should have been placed by Christians upon the tombs of their dead. It is, however, not astonishing that during

[1] Various arguments in favour of a later date for the gilded glasses than that formerly accepted are given by Professor Schultze, *Die Katakomben*, 192 and 195–6 (Leipzig, 1882).

A GLADIATOR.

See page 225.

the earlier period of persecution Christians should have refrained from displaying upon objects of domestic use designs which might have exposed their households to suspicion and danger; the same cause would act as a powerful check on the manufacture of such objects. We have already noticed that the other things found impressed in the mortar of the *loculi* are also non-Christian in character, probably for the same reason. Nor is it altogether surprising if in later and happier times we are still confronted by such reminiscences of an abandoned faith, for after the peace of the Church, bowls and cups with subjects of this kind may still have remained in the possession of Christian families, either as heirlooms from pagan ancestors, or gifts from pagan friends. Nor was any previous laxity of feeling likely to disappear at a time when numbers of persons called themselves Christians for political reasons, retaining as much as they could of the old order of things, and only concealing what was absolutely forbidden. It was thus that there prevailed in Rome what has been called the syncretistic spirit, evidences of which can still be seen on works of art which have been preserved to our own day.[1] One notable example is the silver bridal casket of Projecta in the British Museum, where the sacred monogram is associated with mythological scenes; another is a leaden *situla* found in Tunis,[2] where Christian subjects are mingled with motives drawn from classical mythology. Early Christianity was at no time puritan in matters of art. The early Christians, who grew up in the traditions of the classical school, almost inevitably adopted in their frescoes and sculptures the decorative schemes of pagan artists. But sometimes they show a tolerance almost surprising in its comprehensiveness, accepting without demur subjects which might have been expected to arouse misgivings in the scrupulous. Even in the matter

[1] See E. Le Blant, *Catalogue des Monuments Chretiens du Musee de Marseille*, 22 ff. (Paris, 1894).

[2] De Rossi, *Bulletino*, 1867, pp. 77–87. Kraus, *Geschichte der Christlichen Kunst*, I (1896), 242. Garrucci, *Storia*, VI, Plate 428, 1 and 2. On this object we see on the one hand the Good Shepherd, and stags slaking their thirst at streams flowing from the sacred mount; on the other, scenes from the chase, a nereid on a hippocamp and a drunken Silenus supported upon his ass by an attendant. The Greek inscription round the top is from Isaiah xii, 3.

of burial-inscriptions and customs, where a rigid orthodoxy would have been natural, they did not always treat pagan usages in an exclusive spirit.[1] The latitude which prevailed seems to have left it open to Christians not only to use objects with mythological scenes or figures upon them, but even to manufacture them. They were forbidden to make idolatrous figures, "*exceptis iis rebus quæ ad usum hominum pertinent*," a distinction which allows considerable freedom as regards figures considered merely as parts of a scheme of decoration. Even the stern Tertullian distinguished between images made *idololatriæ causâ* and those created merely as ornaments; and that this state of feeling was general throughout the Christian community is established by the history of the saints known as the *Quattuor Coronati*. These men were Christian artificers in the time of Diocletian, and were in the habit of making Cupids and Victories for the ornamentation of public fountains. But when they were called upon to make a statue of Æsculapius for a temple, they preferred to suffer martyrdom rather than consent. It is clear that figures of a pronounced pagan character were produced in Christian workshops, but only on the understanding that they were ornamental accessories and not objects of worship. Although, therefore, the pagan glasses probably belonged in large measure to converted pagan families, the possibility that some of them were made by Christians is not excluded.[2] Among specifically pagan subjects may be mentioned Cupid (*Vetri*, 35, 7); Minerva and Hercules (*Vetri*, 35, 8); Cupids watching a cock-fight (*Vetri*, 37, 11); and Venus at her toilet (*Vetri*, 36, 3).

The examples with Jewish subjects[3] are only nine in number. They do not present objects connected with the old cult while the Temple at Jerusalem was still standing, such as the ark and the altar of sacrifice, but

[1] The letters D.M. (*Dis Manibus*) seem to have been undoubtedly inscribed on Christian tombs. Coins have been found in the mouths of Christian dead in Rhenish graves of the fourth century (*Bonner Jahrbucher*, 1845, 83). See also *Romische Quartalschrift*, 1897, 507 ff.

[2] On the whole question, see De Rossi, *Roma Sotterranea*, III, 578 ff.; Northcote and Brownlow, Part II, 2, 35 ff.; and a short article in *Romische Quartalschrift für Christliche Altertumskunde, &c.*, 1895, 316.

[3] On Jewish glasses, see Garrucci, *Vetri*, 44–56.

the seven-branched candlestick, the chest or cupboard (*aron*) containing the scrolls of the law and the prophets, and other things associated with particular feasts, such as the ram's horn, the bundle of branches made up at the feast of Tabernacles, and the unleavened bread of the Passover. With these objects are associated doves and lions, the latter, if not derived from the lions of Solomon's throne, serving as guardian angels, or symbolising the Jewish Church or people (Genesis xlix, 9). These Jewish glasses, most if not all of which were found in Christian catacombs, once more raise the question of a possible laxity or indifference on the part of the Christian community; and here, again, the facts may be explained as in the case of pagan examples. Nor are these gilded glasses the only objects ornamented with Jewish symbols which have been found associated with Christian interments, for terra-cotta lamps with the seven-branched candlestick have often been discovered in Christian burial-places.[1] Who made the glasses is another question; they may either have been produced in pagan workshops, or by Jewish artificers settled in Rome. One example deserves especial mention, as it differs from the ordinary type. It is a representation in perspective of the Temple at Jerusalem, with an inscription in Greek, and was discovered in the cemetery of Sts. Peter and Marcellinus.[2]

The secular subjects are composed of two principal classes—scenes from daily life, and portraits and family groups. To the first class belong pictures of very varied character. We see boxers with their *lanista* (*Vetri*, 34, 7, 8); a gladiator (Plate II); a money-changer (*Vetri*, 33, 1); a pastoral scene (*Vetri*, 37, 1); a hunting scene (*Vetri*, 37, 2); a tailor's shop with a customer trying on a garment (*Vetri*, 39, 6); a wine shop (*Vetri*, 33, 2); actors (*Vetri*, 34, 1; 40, 1, 2); charioteers (*Vetri*, 34, 2, 4); and a tamer of wild beasts (*Vetri*, 34, 5). The

[1] In one type Our Lord is represented with the seven-branched candlestick. (*Revue Archéologique*, 1889, Part I, Plate VIII). There seems to be some doubt whether Jewish and Christian cemeteries were always mutually exclusive. See a paper on the Necropolis of *Gamart*, north of Carthage, by M. de Vogue (same vol. of *Rev. Arch.*, 178 ff.), and a letter of M. Salomon Reinach, *ib.*, 412. The seven-branched candlestick alone would appear to be not necessarily Jewish.

[2] De Rossi, *Bulletino*, Vol. VII, 1882, 121, 135, 137–158; and 1883, 92.

examples of the second class are too numerous for detailed description. They consist of portraits of individual men and women, of married couples (Plate I) like those so common on sarcophagi, and parents with their children. Most of them are accompanied by acclamations wishing health and prosperity, such as PIE ZESES, VIVAS CUM CARIS TVIS, VIVATIS IN DEO, VIVAS PARENTIBVS TVIS, DVLCIS ANIMA VIVAS, often with the addition of proper names; and many of them cast a pleasing light upon the interior of Roman homes under the Empire. Thus in *Vetri*, 31, 1, we see a mother and child with an attendant, the child resting on the mother's knee; in *Vetri*, 32, 2; *Storia* 200, 2, a boy is learning to read by the side of his parents; in *Vetri*, 32, 1, a little boy and his mother are seen together. Of the single portraits, a very fine example is *Vetri*, 33, 3, which represents Dædalius, a master shipwright, surrounded by his workmen, who are plying the adze, saw, and drill in the exercise of their craft. To the secular subjects may be added the representations of animals, among which may be noted the lion, panther, stag, and ass.

The glasses with distinctively Christian subjects, which form the third main division of our classification, may again be subdivided into two classes, the first bearing scriptural scenes, the second, figures of saints and martyrs. The first of these two classes is of special interest, because it affords ground for comparison with the treatment of the same subjects in the early frescoes of the catacombs, and on the sculptured sarcophagi of the fourth and fifth centuries. The comparison shows that both these branches of art exercised an influence upon the glassmakers, though without preventing them from manifesting a certain independence and originality of ideas. Sometimes we find a complete deviation from the treatment which routine had rendered traditional in early Christian art; at other times a single scene will combine features severally distinctive of the frescoes or the sarcophagi, as though the humble artist who etched the design were unable to make up his mind which treatment was the best. Of this vacillation the subject of Moses striking the rock may be taken as an example. In this

DANIEL KILLING THE DRAGON OF BEL WITH THE POISONED CAKE.
See page 225.

scene the frescoes usually represent Moses as youthful and beardless, while the sculptures show him as a bearded man more advanced in age. In this respect the glasses follow the frescoes, and yet their treatment of the water flowing from the rock is that adopted by the sculptors and distinct from that seen on the walls of the catacombs. A more complete independence of convention is shown by the artist of the Cologne dish (*Storia*, 169, 1), who diverges so widely from habitual usage that the subjects of several of the scenes are still a matter of dispute. This originality leads Dr. Vopel to conjecture that this artist may have been a native of the colony and less a slave to tradition than men actually living at Rome. On some examples, again, subjects are chosen which are not found either in sculpture or painting, such as Joseph in the well, the martyrdom of Isaiah (*Vetri*, 1, 3; *Storia*, 171, 3), and the scene on the same glass representing either the staying of the sun by Joshua, or more probably the setting back of the dial for the sick Hezekiah. Other scenes, for example Daniel poisoning the dragon of Bel (Plate III), (*Vetri*, 3, 13), and the miracle of Cana (*Vetri*, 7, 1 ff.), do not occur on the frescoes, but are frequent on the sarcophagi. Purely symbolical subjects, such as the Good Shepherd and the Lamb upon the Holy Mount, are rare, giving place to scenes directly illustrative of scriptural history; among the latter, subjects from the Old Testament predominate over those from the New, as may be seen from the following tabulated list:—

A.

Old Testament.

1. Adam and Eve.
2. Noah.
3. The Sacrifice of Isaac.
4. Joseph in the Well.
5. Moses.
6. Moses striking the Rock.
7. The Return of the Spies.
8. The Martyrdom of Isaiah.
9. The Putting back of the Dial for Hezekiah.
10. The Quickening of the Dry Bones. (*Uncertain.*)

B.

New Testament.

1. The Good Shepherd.
2. The Magi (only one figure).
3. The Miracle of Cana.
4. The Multiplication of the Loaves.
5. The Healing of the Paralytic.
6. The Healing of the Blind Man.
7. The Raising of Lazarus.
8. Our Lord delivering the Law.

11. Daniel in the Lions' Den.
12. Daniel poisoning the Dragon.
13. The Three Children in the Furnace.
14. Tobit.
15. Jonah.
16. Susannah.
17. Job.

Of these 4, 5, 8, 9 are found neither on frescoes nor sarcophagi; 7, 10, and 12 do not occur in frescoes, but are known on sarcophagi.

Here 3 is not uncommon on sarcophagi, but not certainly known in frescoes; 6 is rare in frescoes, very frequent on sarcophagi; 8 seems to show the influence of the mosaics as well as the frescoes, and has an especially close analogy with a picture in the catacomb of St. Peter and St. Marcellinus.

But Biblical scenes form only one part of the religious division; the other class consists of representations of Our Lord, the apostles, saints, and martyrs, which are interesting as showing what saints were specially venerated in the Rome of the fourth century. St. Peter and St. Paul are naturally the most prominent, while other names closely bound up with the history of the Roman Church and often associated together are those of Sts. Sixtus, Timotheus, Hippolytus, and Lawrence, and those of Sts. Callixtus, Marcellinus, and Damasus. But martyrs from distant parts of the Empire take their place beside the saints of the capital; such are Justus and Pastor, who were natives of Spain. Of female saints St. Agnes is most popular. Where portraits of Our Lord are found, He is beardless and youthful in appearance; only in two examples, one of which (*Vetri*, 17, 2)[1] is in the British Museum, is He seen with a beard. Counting fragments, Our Lord is found upon sixteen specimens (*vide* Vopel, pp. 106–107), on fourteen of which he is accompanied by other figures. His name is usually given as Cristus, but once *Zesus Cristus* occurs, and twice *Zesus* alone. The sacred monogram is twice found alone, but occurs several times on the portraits and family groups of the second class.

The following is a list of the saints, martyrs, and other persons venerated in Rome, whose names are inscribed on the gilded glasses :—

[1] Garrucci doubts whether this portrait is really intended to represent Our Lord. The late Sir A. W. Franks, in a short paper on Early Christian Glass in the *Fine Arts Quarterly Review* for 1864, suggested that the name *Cristus* might here be a mistake for *Calistus*.

Agnes.
Callixtus.
Castus.
Cyprianus.
Damas(us).
Dion.
Electus.
Felix.
Florus.
Genesius.
(H)ippolytus ("Poltus").
Joannes ("Jonanes").
Judas.
Julius.
Justus.
Laurentius.
Lucas.
Marcellinus.
Maria.
Pastor.
Paulus.
Peregrina.
Petrus.
Philippus ("Filpus").
Protus.
Silvanus.
Simon.
Stephanus ("Istefanus").
Sixtus or Xystus ("Sustus").
Timotheus ("Timoteus").
Thomas ("Tomas").
Ursus.
Vincentius.

Enough has perhaps been said of the subjects represented upon the glasses to enable us to form some opinion as to the purpose for which they were made. It has often been suggested that they had a ritual use, and were employed at the celebration of the Eucharist, but the miscellaneous nature of the subjects and the form of the vessels themselves, which is unlike that of the earliest chalices known to us, render such a supposition improbable. It is possible that a few examples, like those found at Cologne (*Storia*, 169, 1, and 170, 1), may have served as patens, though of this there is no certain evidence. Zephyrinus in the third century ordained that glass should be used for eucharistic vessels, but silver was shortly afterwards adopted; and though the use of glass was not forbidden, the less fragile material must soon have come into general use. There is no positive proof that any of the gilded glasses now existing were employed in the service of the altar.[1] Other suggestions, as that they were employed not directly as chalices but to distribute the wine from the chalice, or that they held consecrated wine which was buried with the dead, rest upon an equally insecure basis. A third theory, that they were used at the Agape, though less unlikely from some points of view, is vitiated by the fact that the original Agape was abolished by the second half of the fourth century, to which period, as we have seen, the majority

[1] The probability is discussed by Northcote and Brownlow, II, Book V, 2, 322.

belong. Some of them may certainly have been used at the feasts in commemoration of martyrs and saints, especially those which bear the effigies of St. Peter and St. Paul. In support of this view Dr. Vopel has noticed that names which follow each other closely in the calendar are often associated upon the same glass, which could then be used to commemorate more than one person. For example, Our Lord is found with St. Stephen, St. Agnes with the Spanish martyr Vincentius, while Sts. Sixtus, Lawrence, Hippolytus, and Timothy, who are found together or in pairs, all have their days in the month of August. The great number of specimens with the figures of St. Peter and St. Paul point to the natural popularity of the two apostles in Rome. In the fourth century the feast of St. Peter was kept with all kinds of excesses, and St. Augustine and others complain of the drunkenness which frequently prevailed.[1] It was a general custom to go to the *memoriae* or chapels of the martyrs, and there to partake of food and wine in their honour. From a well-known passage in St. Augustine, where St. Monica is praised for taking with her only one cup, we may gather that others took several, perhaps a different one for every shrine visited, each ornamented with the figure of a different saint; usages of this kind would account for those glasses of which figures of saints are the principal ornament. It is probable, however, that the greater number of the gilded glasses were used at gatherings of a less ceremonial nature, such as birthday feasts and other family celebrations. They sometimes bear inscriptions which are purely convivial and evidently of secular origin.[2] They were the gifts of friends and relatives, the equivalents of the birthday and wedding presents of our own times.

But it is precisely owing to this domestic character that the *fondi d'oro* gain in human interest what they lose in the dignity of religious association. Their evidence is not without value to those who study the archæology of the late Roman period. It is impossible in this place to discuss more than a single point of which

[1] Northcote and Brownlow, II, Book V, 2, 306 De Rossi, *Bulletino*, 1864, 83. Vopel, 85.

[2] *E.g.* QVI SE CORONABERINT BIBANT (*cf.* Marquardt, *Das Privatleben der Romer*, 2nd edit., 336–7).

this proposition is true; I will therefore consider their importance to the history of costume. We are enabled to supplement by their study the information afforded by painting and sculpture, information which as regards the later part of the period in question is rather meagre.[1] We see how ladies and children were clothed, we can trace in part the evolution of male garments, which were soon to develop into the vestments of the Roman Church. At the close of the period which the glasses cover, the final severance of the ecclesiastical garb from that of the layman was already impending, and we can still see in everyday use garments which were shortly afterwards set apart for the service of the Church. And of secular garments we see the most famous, the toga, entering the last stage of its development before it finally disappeared.

The transformation of Roman dress witnessed by the first centuries of our era was unfavourable to the graceful drapery which we associate with classical times. Little by little the simple and dignified folds were, so to speak, frozen into something stiffer and more ornate, reaching its climax in the jewelled raiment of the Byzantine Emperors. The inspiration of these changes came from the East, and one of its first effects was the general adoption of the *pallium*, itself a simple garment, but the precursor of a new order of things. The *pallium* was the cosmopolitan garment of philosophy and science, and as such was the necessary rival of the toga, the distinctive mark of the Roman citizen. It was the garment which Our Lord and the apostles were supposed to have worn; in it they are habitually represented in early painting and sculpture, and in it they appear within the narrow compass of the gilded glasses. For these reasons it was held in high honour by the Christian community; yet it never entirely superseded the toga, which was preserved partly by the aristocratic associations of the

[1] Our knowledge of certain garments, especially of the tunic, has been largely increased by the discoveries in the Christian cemeteries in Egypt, especially in that of Akhmîm (Panopolis). The *clavi* or stripes, and the *tabulae* or *orbiculi*, applied to rectangular or circular ornaments such as are seen upon the gilded glasses are here preserved in the original materials (*cf.* Karabacek, *Die Theodor Grafschen Funde in Ägypten*, Vienna, 1883, and R. Forrer's works on Akhmîm).

past, but principally by a convenient modification of its original voluminous form. This alteration was effected by the adoption of the fashion known as *contabulatio*,[1] which consisted of folding the toga into four, so that it looked like a long narrow band. When worn thus folded it had the appearance of a scarf and no longer concealed to the same extent the surface of the tunic beneath. This was an additional advantage, because the tunic in process of time became more ornamental, and was freely embellished with the stripes known as *clavi*, and the circular rosettes or patches called *orbiculi* or *calliculae*.[2] An upper tunic called a *dalmatica* with short broad sleeves had come into use, and was itself sometimes used out-of-doors; while if further protection was needed, the poncho-like *pænula* or *planeta*, or the *lacerna*, were often preferred to both toga and pallium. The toga was indeed preserved more as a mark of social rank than anything else, and both as the *trabea* of the consul or as the plainer garment of the senator was always worn in the contabulated form. The fashion is clearly illustrated by the consular diptychs of the fifth and sixth centuries,[3] and by a number of our gilded glasses, though here in a less satisfactory manner, owing to the inferior precision of the work. It is probable that the type of garment worn by men in *Vetri*, Plate XXVI, is the *toga contabulata*, though it has hitherto been considered, on the authority of Garrucci, to be another kind of mantle known as the *læna*. The comparative frequency with which the toga thus appears, suggests that it may have been worn not only by senators but also by all persons of wealth or distinction, a view which is supported by the fact that boys also wear it (*Vetri*, Plate XXX). If this is so, it may be assumed that the wearers of the garment, and by implication the owners of the glasses, were persons of some social position.

[1] For the fashion of *contabulatio* and its consequences, see the valuable studies of Monsignor Wilpert, "Un Capitolo di Storia del Vestiario," *L'Arte*, 1898; and *Die Gewandung der Christen in den Ersten Jahrhunderten* (published by the Gorresgesellschaft, Vol. III), Bonn, 1898. From these two essays the following remarks are derived.

[2] *Cf.* Forrer, *Die Graber und Textilfunde von Akhmim Panopolis*, Plate VIII, Figs. 10 and 11.

[3] *Cf.* Meyer, *Zwei Antike Elfenbeintafeln der K. Staatsbibliothek in München*, 26–7, Munich, 1879.

The embroidered robes worn by the wives of these men may be the feminine equivalent of the toga, possibly the *palla contabulata*, and may equally be marks of social position. A similar costume may be seen on the diptych of the Consul Philoxenus (A.D. 525) now in the Bibliothèque Nationale, Paris.[1] It was to the feminine pallium or *palla* that contabulation was first applied at the end of the second or the beginning of the third century, probably on the analogy of the costume worn by the priestesses of Isis; the fashion was then extended to the toga before the fourth century had begun. The male pallium resisted the change longer, and did not succumb until about the middle of the fourth century.[2] In this case the alteration has an exceptional interest from the probability that the *pallium contabulatum* was the direct ancestor of the *pallium sacrum*, or archiepiscopal pall of the Roman Catholic Church. The growing popularity of the *pænula* or *planeta* in the fourth century threatened the existence of the pallium, just as the pallium had itself threatened the existence of the toga. But it was felt impossible to abolish a garment so closely associated with the earliest days of the Church; so by the process of contabulation it was converted into a narrow band, and worn above the pænula as a mark of ecclesiastical rank. But as the pænula was a poncho without sleeves, the pallium could no longer go under the right shoulder as heretofore, but was obliged to pass over it instead. It now rested on both shoulders like a collar, whence the Greek name ὠμοφόριον, with one end hanging down in front and the other behind; and it was held in position by three pins or brooches, one over the breast, one on the right shoulder, and one behind.

Gradually the heavy contabulated folds were transformed into a single strip, a transformation already effected before the end of the sixth century, as may be seen from the fresco placed above the tomb of St. Cornelius by Pope John III,[3] and from the figure of

[1] Figured by Molinier, *Histoire des Arts Industriels*, Vol. I, *Ivoires*, 30, Paris, 1896.

[2] In 382, it is enjoined by the *lex vestiaria* of Theodosius as the distinctive mark of the *officiales* (*vide* Wilpert, *Capitolo*, 99, 100).

[3] Figured by Wilpert, *Capitolo, etc.* 105, Fig. 17.

Bishop Maximianus in the mosaics of San Vitale at Ravenna. By the ninth century the awkward pins had been abandoned, and the pallium was made in one piece; and though the length of the pendants has been shortened, the general structure has remained the same to the present day.[1] Other garments have survived in a similar manner through their adoption by the Church; the *planeta* was the prototype of the chasuble, and the *lacerna* or *byrrhus*, of the cope. The upper tunic or dalmatic had become an ecclesiastical vestment as early as the time of Sylvester (A.D. 314–335).

It may be of interest to conclude these notes on the gilded glasses by a few remarks on their relationship with other glass decorated with gold foil in earlier and later times. The discovery of the great majority of the specimens in the Roman catacombs induced the earlier antiquaries to regard the skill which produced them as something exclusively Christian; but as we have already seen, examples have been found outside Rome, while the occurrence of Jewish and pagan subjects makes it improbable that none but Christian artificers were employed in their manufacture. It is not astonishing that the number found beyond the limits of the catacombs should be very small, for they were exposed to greater risk of destruction, and even their fragments had from the first little prospect of preservation. Itinerant dealers in ancient Rome were always on the look-out for broken glass, which could be sold for remelting or for mixing with sulphur to form a kind of solder.[2] The presence of gold, even in the attenuated form of gold leaf, would render the fate of broken *fondi d'oro* doubly sure. De Rossi once found a fragment from which most of the gold had been deliberately scraped away. The predominance of discoveries in the catacombs does not therefore prove an exclusively Christian origin. There was, indeed, little

[1] Theories on the origin of the *pallium sacrum* are numerous. In addition to derivations from the *toga* (*cf.* Rock, *The Church of our Fathers*, II, 30), there are others from the *lorum*. The latter was a narrow band or scarf, and seems in some cases (*e.g.* on consular diptychs) to be confused with what Wilpert would call the *toga contabulata*. On the whole question see Rohault de Fleury, *La Messe*, VIII. 45 (1889), and Grisar, *Festschrift zum 11-hundertjährigen Jubilaum des Deutschen Campo Santo in Rom*, 83–114 (Freiburg, 1897).

[2] Martial, *Ep.* I, 42. Various passages in Juvenal allude to such employment of broken glass.

A CUPID WITH HOOP.

See page 225.

antecedent probability that the early Christians should have suddenly invented a style of decorating glass unknown to their pagan neighbours.

But there is something more than negative evidence for believing that the Christians only adapted to their own use a process which had already found favour with Roman workmen, and that this process was not invented in Italy. There seems to be a great probability that Egypt, the country in which glass was first made, was the home of this late development of the glassmaker's art. It is well known that about the beginning of the Christian era Alexandria was the great centre where glass was manufactured; and from this city, as from Venice in later times, it was distributed in great quantities throughout the civilised world. In the early days of the Empire the art was transplanted into Italy, first into Campania, and subsequently into Rome, where its products largely displaced the more costly vessels of silver plate. The objects which still exist as documents in support of the Egyptian origin of the gilded glasses are not very numerous, but they are of considerable interest. Herr Theodor Graf, of Vienna, has obtained from Egypt a medallion with a figure of Minerva[1] executed in the style of the catacomb glasses, and probably dating from quite an early period of the Empire. From the same country come the headband, also belonging to Herr Graf, containing the little medallion with the *crux monogrammatica*, and various beads, chiefly discovered at Akhmîm (Panopolis) with gold leaf imbedded in their mass.

It is conceivable that the ὑάλινα διάχρυσα mentioned by Athenæus (*Deipnosophista*, V, 199) as possessions of Ptolemy Philadelphus may have been of the nature of the gilded glasses, though there is no positive proof that such was the case. If they were, the history of the process is carried back more than two centuries before Christ. There are other objects now in the British Museum, which, though not found in Egypt, were probably made there. Of these the most important are two hemispherical bowls from Canosa (Canusium), the lower parts of which are double, enclosing an acanthus ornament

[1] Figured, Vopel, 77.

finely executed in gold leaf (Plate V). These bowls, which are of earlier date than the *fondi d'oro*, are accompanied by a flat millefiori dish from the same place, imbedded in which are a number of small rectangular pieces of gold foil.[1] The Museum has also recently acquired a thin glass disc about the size of the catacomb glasses, obtained in Cyprus, and having etched in gold upon a dark red ground a figure of Cupid holding a hoop (Plate IV). The disc has at present no protecting glass, but was probably the cover of a cup. Such discoveries seem to mark definite stages on the route from Alexandria to Rome. Vessels enclosing gold foil have been found in Etruscan tombs, and beads similar to those from Akhmîm are said to have occurred in Danish graves.[2]

Just as the employment of our process did not begin with the early Christians, so it did not end with them; but before it had passed out of their hands it was adapted to one most important purpose. There is reason to believe that it suggested the idea of making the gilded cubes of glass-mosaic so largely employed in Rome from the close of the fourth century. These cubes are formed of a mass of opaque or coloured glass covered on one surface with gold leaf, above which is a very thin layer of transparent glass, probably applied in the manner described by the mediæval writer Theophilus.[3] In the influence which they exercised upon the development of the art of mosaic, some authors have, indeed, seen the principal importance of the gilded glasses.[4]

The use of gold for the ornamentation of glass continued under the Byzantine Empire, and specimens thus decorated have been preserved.[5] In the West, we cannot be sure that the art persisted without intermission. The first definite allusion to it after the barbaric invasions we owe to the monk commonly known

[1] A bowl of similar glass with the same kind of ornament is figured by Deville, *Hist. de l'Art de la Verrerie*, Plate VIIIA (Paris, 1873).

[2] For a more detailed account of these and other facts relating to the use of gold leaf in decorating glass in early times see Vopel, 3, and Kisa, 91 ff.

[3] See p. 250.

[4] Lobmeyr, Ilg, and Boheim, *Die Glasindustrie*, p. 38, Stuttgart, 1874.

[5] In private collections (Vopel, 4). I have not been able to make out whether these glasses afford an exact parallel to the *fondi d'oro* through the possession of protecting guards. The Byzantine glasses in the Treasury of St. Mark at Venice, if one may judge from Pasini's *Catalogue*, do not appear to have any such protection.

BOWL FROM CANOSA.

See page 225.

as Heraclius, who is thought to have lived in Italy, possibly in Rome itself, in the tenth century. His work, *De Coloribus et Artibus Romanorum*,[1] is a collection of rules and recipes relating to the minor arts written in hexameters. In a well-known passage in the fifth chapter of his first book he describes his endeavours to imitate a procedure known to the earlier Romans. Although the lines are familiar to students of the subject, I will translate a few of them to show how closely allied is the process described by Heraclius to at least one of those adopted by the early Christians.

"I found," he says, "gold leaf cunningly enclosed between two layers of glass. After I had carefully considered it, growing more and more perplexed, I procured some phials of clear glittering glass. To these I applied gum with a brush. Then upon this I laid gold leaf; and when it was dry, I engraved thereon birds, men, and animals as my fancy moved me. When this was done, with cunning blast I blew over them a thin coating of molten glass. After they had felt the heat thoroughly, the thin glass amalgamated with the phials in a most satisfactory manner." The passage is interesting as showing that though the manufacture had probably died out in the troubled period between the sixth and tenth centuries, a tradition of it still survived in the monasteries. It may even be conjectured that some specimens of early Christian glass were still in existence, and that it was by these that the speculations of Heraclius were called forth. The next mention of glass decorated with gold is in the famous *Schedula diversarum Artium*[2] of Theophilus, a monk whose real name was probably Rugerus, and who worked in North Germany about a hundred years after Heraclius's time. In Chapter XV of his second

[1] Translated by Mrs. Merrifield: *Original Treatises dating from the Twelfth to the Eighteenth Centuries*, London, 1849. German edition by A. Ilg in *Quellenschriften fur Kunstgeschichte und Kunsttechnik des Mittelalters*, etc., edited by R. Eitelberger Von Edelberg, Vol. IV, Vienna, 1873. The British Museum possesses a thirteenth century MS. of Heraclius (Egerton, 840A).

[2] R. Hendrie, *An Essay upon Various Arts in Three Books, by Theophilus called also Rugerus*, London, 1847; and Ilg in *Quellenschriften*, etc., Vol. VII (1874). See also E. Aus'm Weerth in *Bonner Jahrbücher*, LXXVI (1883), 79 f.

book he describes the manufacture of glass cubes for mosaic by overlaying the gold leaf with a coating of pulverised glass subsequently brought to a state of flux by heat. He adds that glass cups were ornamented by the Byzantine Greeks by the application of pulverised glass in a similar fashion. Some method of decorating glass with gold, silver, and tin seems to have been known in France and England in the Middle Ages, as Jean de Garlande (eleventh or thirteenth century) alludes to vessels thus ornamented. At the end of the fourteenth century Cennino Cennini, an artist of Padua, in his treatise on painting[1] explains how to make panels of glass decorated with gold for caskets and reliquaries. His description includes the process of applying the gold leaf and of etching the designs upon it with a needle, but seems to ignore the provision of any protecting glass or guard. Glass pictures reputed to be of about this period, and answering very closely to Cennini's description, are sometimes provided with an upper protecting glass, apparently welded to the lower after the fashion of the gilded glasses. At South Kensington there are several examples, one a crucifixion on a dark background mounted in a gilt frame, with smaller plaques in the same style representing apostles, the symbols of the Evangelists, and the pelican in her piety.[2] In the same museum are several other specimens of mediæval etching in gold foil on glass; one is a portable altar of maple wood with small plaques inlaid in the border; another, a Nativity, is in the Salting collection (No. 1215), and has next to it a later example representing a secular subject; this last is stated to be German and to belong to the sixteenth century. In the British Museum there are one or two small examples, of fourteenth century workmanship. In the sixteenth century coloured glass dishes ornamented on the bottom with gold figures protected by an upper coating of glass were made in Venice.[3] In the seventeenth century,

[1] *Il Libro dell' Arte o Trattato della Pittura*, ed. Florence, 1859, 123 ff. There is an English translation by Christina Herringham: "*The Book of the Art of Cennino Cennini*, London, 1899.

[2] *Cf.* a very similar example in the Church of the Holy Cross at Rostock: *Zeitschrift fur Christliche Kunst*, 1895, 278–9.

[3] Kisa, 99.

perhaps as a result of recent discoveries in the catacombs, Kunkel endeavoured to reproduce the gilded glasses.[1] Attempts made in the following century appear to have met with greater success, but the discoverer died without publishing the secret.[2] There are in various museums certain medallions purporting to come from the catacombs which have usually been considered spurious, and these may date from this period. They have smooth edges and have never formed parts of drinking-vessels, while their subjects are principally portraits. One example now in the British Museum and formerly, it would appear, in the collection of Horace Walpole at Strawberry Hill, was figured, though not very accurately, in the *Archæological Journal* forty years ago.[3] Two others which seem to belong to the same class may be seen at South Kensington. Dr. Vopel is inclined, however, to rehabilitate some of the specimens condemned by Garrucci, on the ground that they bear a close resemblance to a medallion, now in the Vatican, found by Professor Armellini in 1878 in the catacomb of Callixtus under circumstances which would make deception difficult.[4] It is perhaps in favour of this view that among the specimens of doubtful appearance said to have been found in Sicily, and figured by D'Orville,[5] there is one small medallion, representing Our Lord with the rod of power, which has all the appearance of being genuine. Medallions of this kind cannot therefore be condemned indiscriminately, but it can hardly be doubted that some are the work of modern times. There seem to have been no further attempts at reproduction until the present generation. In 1858 Cardinal Wiseman,[6] who took a lively interest in Garrucci's publication, delivered a lecture on the catacomb glasses at Dublin.

[1] Kunkel, *Ars Vitraria Experimentalis*, II, 12. Frankfurt and Leipzig, 1679. *Cf.* also Kisa, 99.

[2] Caylus, *Recueil d'Antiquités*, III, 195, Paris, 1759. In the same passage Caylus describes experiments made by a distinguished chemist, M. Majault, in the manufacture of gilded glass.

[3] Vol. VIII (1851) 170. See also *Proceedings*, Winchester, 1845, xxxix.

[4] *Gli Studi in Italia*, 1878, 178.

[5] *Sicula*, ed. Burmannus, 1764, 123A.

[6] *The Sermons, Lectures, and Speeches delivered by His Eminence Cardinal Wiseman during his Tour in Ireland in August and September*, 1858, 164–215, Dublin, 1859.

In the course of his remarks he stated that efforts had recently been made in England to manufacture cubes of gilded glass mosaic like those used in Italy, but without success, the gold leaf curling up and turning black when the protecting layer was applied. Not very long ago, however, Salviati of Venice succeeded in producing medallions and bowls with enclosed designs after the real fashion of the *fondi d'oro*.[1] Successful experiments have also been made in the present year by N. H. J. Westlake, Esq., F.S.A., who applies the gold foil by means of a mordant such as sugar and water, covers the design with a flux, lays on this a second sheet of glass, and then subjects the whole to a heat sufficient to melt the flux and cause the two layers to unite. As an example of the use of gold leaf between two protecting glasses, very much in the mode of the antique bowls from Canosa, we may note the tumblers made in Bohemia in the eighteenth century, which are made double, one part fitting closely into the other. It will be seen from the above rapid summary that this style of glass decoration has had a long and varied history, lasting, though not without intermission, from the times of the Roman Empire to our own. As is both natural and fitting, the largest and most important collections of the gilded glasses are to be found at Rome, where, in the Library of the Vatican, the Kircherian Museum, the Roman College, and the Museum of the Propaganda, the majority of existing specimens are to be found. Among the collections outside Rome, that in the British Museum holds a foremost place.

[1] See *Bonner Jahrbücher*, 1879, 119; Vopel, 5.

LIST OF THE PRINCIPAL WORKS WHICH TREAT OF THE GILDED GLASSES.

Buonarruoti, F. *Osservazioni sopra Alcuni Frammenti di Vasi Antichi di Vetro Ornati di Figure Trovati nei Cimiteri di Roma*, 1716. (This book has for all general purposes been superseded by Garrucci's works, but both text and illustrations are still of value to the student.)

Boldetti. *Osservazioni sopra i Cimiteri dei Santi Martiri ed Antichi Cristiani di Roma*, 1720 (pp. 14, 60, 191, 192, 194, 197, 200–202, 205, 208, 212, 216, 334, 514). (Superseded by Garrucci's volumes; need not be consulted by the general reader. The book is not of equal value with Buonarruoti's work.)

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