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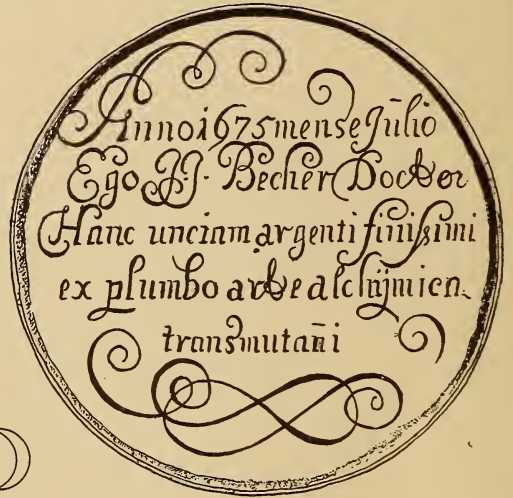
Alchemy to Numismatics



BY HENRY CARRINGTON BOLTON, PH. D.



XXXVIII.



ALCHEMICAL MEDALS.

CONTRIBUTIONS

OF

ALCHEMY TO NUMISMATICS.

BY HENRY CARRINGTON BOLTON, PH. D.

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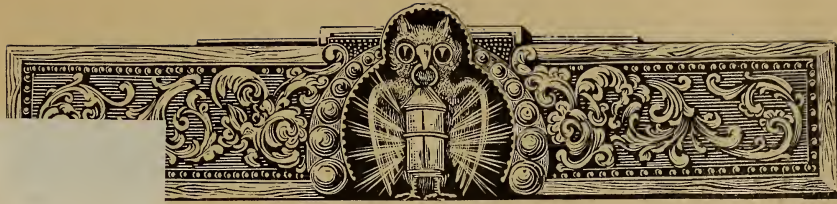
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PRELUDE.



LEAD is worth about five cents per pound and gold about three hundred dollars per pound or six thousand times as much. Even though the process be costly, the conversion of the base metal into the precious one would yield a fabulous profit. This transformation has been accomplished by the few who have discovered or inherited the precious secret ; to attain it the only requisites are industry and piety, therefore we shall devote our lives to the undertaking.

Such was at once the creed and the goal of the alchemists for more than five centuries. Is it possible to imagine a more attractive belief, a more enticing occupation ?





CONTRIBUTIONS OF ALCHEMY

TO

NUMISMATICS.



HE doctrine of the transmutation of metals prevailed in many nations at an early period of their intellectual development. It seems to have been an outgrowth of primitive notions concerning the constitution of matter, one element or principle being regarded as fundamental and capable of giving birth to the others. Water, air, fire and earth were severally regarded as the first principles of all things by Greek philosophers, and these four were adopted by Aristotle. He held, moreover, that these elements are mutually convertible, each having two qualities, one of which was common to some other element. Thus he wrote :

Fire is hot and dry.
Air is hot and moist.
Water is cold and moist.
Earth is cold and dry.

In each element one quality was dominant, and by changing the proportions of the qualities, one element could be changed into the other. This

doctrine was afterwards extended to metallic bodies, and a race of alchemists began to investigate it experimentally. We do not read of attempts to change gold into silver, nor either of these metals into lead, for avarice acted as a mighty stimulus in advancing the inquiry, and a false philosophy sustained it through many hundred years.

In the sixteenth and seventeenth centuries the belief in the possibility of converting lead into gold and silver was well-nigh universal, and the pursuit of alchemy was followed by persons in every station of life; physicians vainly hoping to discover the Elixir of Life, merchants and tradesmen seeking a short road to riches, peasants and noblemen, beggars and princes with whom avarice was a common motive, each and all courted the fascinating folly. The belief was not confined to the ignorant and unlearned, but was held by the men of science, the theologians, the warriors, and the statesmen of that period. Some who professed to have accomplished the "great work," as the transmutation was called, were undoubtedly self-deceived, owing to the occurrence of certain phenomena which modern chemists have no difficulty in explaining, but which to the experimenters of the Middle Ages seemed conclusive proofs of the wonderful transformation. On the other hand there were many unprincipled impostors who gained a precarious livelihood by pretending to a knowledge of the hermetic art, and who practiced their profession at the bidding and costs of wealthy and credulous devotees of Mammon. These hired laborers in alchemy, anxious to maintain their reputation and to please their patrons, fostered this belief by many tricks and clever impostures. The learned and crafty Dr. John Dee, who enjoyed the patronage of both Rudolph II, the Emperor of Germany, and of Queen Elizabeth of England, when about to seek favors from the latter, sent her a small disc of gold which he claimed to have made by hermetic art from a copper warming-pan; and shortly afterwards Dee forwarded to the Queen, as an unimpeachable witness, the warming-pan itself, having a hole in the copper bottom of the exact size of the piece of gold.

Leonhard Thurneysser, a noted German physician and alchemist, on the 20th of November, 1586, in Rome, performed a miracle with a common iron

nail; the nail was dipped into the melted philosopher's stone, and the iron so far as immersed was transmuted into gold. All of which was solemnly testified to by a Cardinal of the Church; besides, was not the nail itself, half iron and half gold, a tangible witness convincing to the most skeptical?

Believers in the transmutation of metals had however far more satisfactory and authoritative evidences than these questionable specimens, to which they could point with assurance; these were the medals and coins of silver and of gold, duly stamped with the records of the transmutation, commemorating the power of the adept and honoring his noble patron. The number of these hermetic rarities in numismatics is surprisingly large; to catalogue them all would be no easy task; we herein describe forty-three pieces mentioned in literature or preserved in cabinets abroad.

The chief source of information concerning hermetic numismatics is a scarce little quarto published at Kiel in 1692 by Samuel Reyher, and bearing the title "*De Nummis quibusdam ex chymico metallo factis.*" It is a dissertation presented to the Faculty of Jurisprudence of the University. In its 144 pages it includes thirty-seven chapters; the titles of the first five are as follows: Cap. I. *De Nummis Aureis.* II. *De Nummis Argenteis.* III. *De Ænigmatibus nonnullis Chymicis.* IV. *De Auro ex Auripigmento.* V. *De Ægyptiorum Chrysopæia et de Aureo Vellere.*

As may be inferred from these allusions to the "Enigmas of Chemistry," and to the "Alchemy of the Egyptians and the Golden Fleece," the author was imbued with the credulous spirit that pervaded all branches of philosophy and science at that period. He writes as a historian, but is not thorough, since he fails to catalogue many pieces existing prior to his time.

In the first two chapters, on gold and silver coins respectively, he gives representations of five gold and four silver pieces, besides naming some others. These will be described in their chronological place. We may be pardoned for remarking that Reyher lived and wrote about a century too soon, for after his day a much larger number of these evidences of transmutation and credulity appeared, which would have greatly added to the size and interest of his essay.

Additional information is found in the works of J. David Köhler (*Historischer Münzbelustigungen*. Nürnberg, 1729-1750, 24 vols.), David Samuel Madai (*Vollstaendiges Thaler-Cabinet*. Königsberg, 1765), Schulthess-Rechberg (*Thaler-Cabinet*. Wien, 1840, 3 vols.), and other numismatic treatises: our chief reliance, however, is on works that belong rather to an alchemical than to a numismatic library; these we shall mention in passing.¹

I. (13th Century). — Among the earliest of the coins, whose undisputed existence was regarded as visible proof of hermetic labors, were the so-called *Rose nobles* made from gold artificially prepared by Raymund Lully. This celebrated alchemist (1235-1315) was invited by Edward II, King of England, about the year 1312, to visit his realm; on his arrival he was furnished with apartments in the Tower of London, where he transmuted base metals into gold; this was afterwards coined at the mint into six millions of nobles, each worth more than three pounds sterling. These Rose, or Raymund nobles as they were also called, were well known to the antiquarians of the sixteenth century, and were reputed to be of finer gold than any other gold coin of that day. On the *obverse* of these coins is represented in a very rude fashion a ship floating on the sea decorated with a royal ensign and carrying the king, who bears in his right hand a naked sword and on his left arm a shield. Around this design: EDWARD D[E]I GRA[TIA] REX ANGL[IÆ] Z FRANC[IAE] D[OMI]N[U]S IB[ERNIÆ]. (Edward by the grace of God King of England and France, Lord of Ireland.)

On the *reverse* a conventional rose surrounded by four lions and ducal crowns, alternating with four lilies. The inscription on the outer circle reads: JHS. AUT.[EM] TRANSIENS. PER. MEDIUM ILLOR.[UM] IBAT. (But Jesus passing through the midst of them went His way.) St. Luke iv: 30. (Wiegleb, *Untersuch. Alchemie*. Weimar, 1777, p. 217.)

¹ Since my first paper on 'Alchemy and Numismatics' (*Amer. Journal of Numismatics*, XXI, p. 73), Mr. David L. Walter, one of the Vice Presidents of the American Numismatic and Archaeological Society, has contributed some notes on the subject, including a brief list of authorities. To this communication I am indebted for a few points.

In the preparation of this article, Mr. Lyman H. Low, of New York, granted me the use of his library, and made several bibliographical suggestions; his courtesy and kindness I thankfully acknowledge.

The valued communication of Dr. Hans Riggauer, of Munich, I acknowledge elsewhere.

Rose nobles are figured by Lenglet du Fresnoy in his *Histoire de la Philosophie Hermétique* (Paris, 1741, Vol. II, p. 8.), who remarks, "They are less rare in the north of England than in the capital; one of my friends had several, some of which weighed ten ducats."² These coins are said to have been worn as amulets to preserve from danger in battle, and to have been used as *touch pieces* in connection with the gift of healing by royal touch. (Pettigrew, *Superstition in Medicine and Surgery*. London, 1844, p. 129.)

Lully himself, in his "Last Testament," declares that while in London he converted twenty-two tons' weight of quicksilver, lead and tin, into gold. This relation is vouched for by Cremer, Abbot of Westminster (Maier's *Tripus Aureus*. Francofurti, 1618, p. 183), and the Raymund nobles are described by William Camden, the English antiquary (*Britannia sive regnorum Angliæ descriptio*, 1586), and by John Selden (*Mare Clausum*, 1635). Robert Constantine, in his *History of Medicine* (1545), states that he found public documents confirming the report that Lully made gold in the Tower by order of the King, and Dr. Edmund Dickenson relates that the workmen who removed the cloister which Lully occupied at Westminster found some of the powder, by which they enriched themselves. Historians who do not believe in transmutation, point out chronological discrepancies which throw doubts on the pretensions of Raymund Lully. (See Wiegleb, *op. cit.*)

The alchemists clothed their writings in a mystical, enigmatical language, and illustrated them with very extraordinary symbols and hieroglyphs, only a part of which are decipherable; whether the remainder really had any rational significance is doubtful. These symbols included those used in common to designate the seven known planets and the seven known metals, an association that dates from the first centuries of the Christian era; they were in general use in alchemical manuscripts and printed books for several

² Numismatists classify Rose nobles into the old and new, the former being coined prior to 1500. Some of them bear the image of a rose resembling a star with long points and crowned, others the image of a ship (as above); the latter are also known as ship-nobles.

(Köhler, Vol. VI, 327; Kenyon's *Gold Coins of England*, p. 17. Also Ruding's *Annals of the Coinage of Great Britain*, London, 1840, which reviews the alchemical legend of Lully.)

centuries, and hence are naturally found on coins and medals whose history is connected with transmutation.³

| <i>Symbol.</i> | <i>Metal.</i> | <i>Planet.</i> | <i>Symbol.</i> | <i>Metal.</i> | <i>Planet.</i> |
|----------------|---------------|----------------|----------------|-------------------------|----------------|
| ☉ | Gold | Sun | ♃ | Tin | Jupiter |
| ☽ | Silver | Moon | ♁ | Iron | Mars |
| ♀ | Copper | Venus | ☿ | Mercury | Mercury |
| ♄ | Lead | Saturn | ♁ | Antimony (added later). | |

Alchemists attempted to explain chemical facts known to them, and especially the constitution of bodies by this theory: All bodies, they said, are made up of three elementary principles named and symbolized thus: \triangle Sulphur, volatility; \ominus Salt, fixedness; ☿ Mercury, metallicity. This mercury they distinguished from the metal by calling it the "Philosophical Mercury." All bodies are formed of these imaginary principles combined in various ways, and the predominance of any one determined the degree of volatility, of fixedness in fire, or of metallicity. Thus gold, they argued, had little sulphur and much salt and mercury, while lead had much sulphur, no salt, and a large share of mercury. They further believed that by changing the proportions of these principles one metal might be transmuted into another; thus to convert lead into gold, it was necessary to remove its sulphur, increase its metallicity, add salt, and change its color. Besides these the literature of alchemy abounds in curious signs; every substance, every apparatus, and every operation (such as fusion, distillation and filtration,) had its appropriate sign; some were pictorial and abbreviative, some symbolical, but the majority were arbitrary. (Bolton, *Trans. N. Y. Acad. Sciences*, Dec., 1882, and March, 1883.) A mere catalogue of them fills a book of many pages; the *Alchemisches Oraculum*, (Ulm, 1772,) contains over 2,000 such symbols.

In their writings the alchemists further used metaphors to denote materials and operations. Thus nitre (saltpetre) was a "venomous worm," a "scorpion" and a "dragon;" antimony was a "wolf" (*lupus metallorum*); sal

³ Modern Numismatists, I am informed, use the following abbreviations for the metals indicated: *A* gold, *R* silver, *Ld* lead, *WM* or *wm* white metal, *B* brass, *T* tin, *N* nickel. Van Mieris, in his handsome work on the Coins of the Netherlands (*Histori der Nederlandsche*

Vorsten, 1735, 's *Gravenhage*, 3 vols. folio), uses the first five symbols in the preceding table for the respective metals in connection with the engravings. Also Schulthess and others.

ammoniac an "eagle;" and pictorial representations of these objects were employed to designate the underlying chemical facts. Hence lead, being Saturn, was represented by this god of mythology, usually as the Greek *Chronos*, or Father Time, with his wooden leg and a scythe and hour-glass.

This enigmatical method of expression is quite common in the manuscripts and books of certain authors. The works of Michael Maier,⁴ physician to Rudolph II of Germany, and of Basil Valentine, an obscure (perhaps mythical) monk of the 15th century, afford striking examples.

These symbols, hieroglyphs and pictorial metaphors, enter into the designs of the gold and silver pieces coined to commemorate "the great work," thus giving them a character at once significant and easily recognizable.

Metallic talismans also frequently contain the symbols of the seven metals, signs of the zodiac and magical characters, but these are devoid of true alchemical association, and form no part of our study. The curious may consult the plates in the third volume of Appel's *Repertorium zur Münzkunde des Mittelalters* (Wien, 1824;) also the essay on Medallie Amulets and Talismans by David L. Walter, in Proceedings Am. Numismatic and Archaeological Society of New York, for 1886. (p. 38.)

II. (1604).—A good example of the fantastic representations mentioned is the piece dated 1604, figured by Reyher in the work named (p. 15).

Obverse. Rude figures of the four animals of prophecy, the lion, the calf, the man and the eagle (Rev. iv. 7) supporting in their midst a spotted fleece. Above these are three crowns; on the first rests a young man holding a sword in one hand and a cross in the other; on the second rests an old bearded man wearing a pointed helmet and holding the *Reichsapfel* or Imperial Globe; on the third crown rests a dove. Around these symbolic figures of the three persons of the Trinity are the words:

TRIA MIRABIL.[IA.]
 DEUS ET HOMO.
 TRIN.[US] ET UN.[US.]
 MATER ET VIRGO.

⁴ *Atalanta fugiens*, Oppenheim, 1618; *Symbola alchemica* by Stolcius de Stolcenburg, Francofurti, 1617. Also: *Virtus*, 1624. Long 12mo.

(Three marvels : God and man : three and one : mother and virgin.) This inscription is found also on other coins of hermetic association.

On the *Reverse*, in the centre, a conventional and modified symbol of mercury supports a pelican feeding its young ; within the lower circle of the symbol stands an eagle. The lower part of the symbol is made up of ♀ (copper), the centre of ⚛ (antimony), and the top of the caduceus of Mercury, intertwined. On the right stands a young man holding in one hand the symbol ⚞ (sulphur), and in the other a nondescript object : on the left stands a young woman, holding ⚗ (mercury) in one hand and a cornucopia in the other. The inscription reads : above the figures, ESS[ENTIA] UNA (One essence); below the same, RITRT. G. I. W. and lower down SIC VOLVERE FATA (Thus the fates have decided.) Beneath is 1604. Around an outer circle, NATUR[A] UN[ITA] USU R[E]NATA MODO TOT[A], ♁ FUERAM, NUNC ☉ CLAR[ISSIMUM] EXTO. (Originally one in my nature, now entirely regenerated, I was lead, behold me most brilliant gold.) Silver, oval.

III. 1617.—Samuel Reyher, in the work described, says he possesses through the liberality of Dr. Johann Ludolph Ringelmann a golden piece which he shows in a wood-cut without giving its history. Its description is as follows :—*Obverse*. Figures of a man and a woman apparently in a savage state on either side of an ornamented shield ; the inscription around the outer circle is : MO.[NETA] NO.[VA] ARGENTEA CIVITATIS ERFORD. (New silver coinage of the city of Erfurt.)

On the *reverse* a shield quartered like a coat of arms surmounted by a cherub's head in clouds, with the date 1617 and the signs ⚞ (sulphur of the alchemists), and ⚗ (mercury). Around the edge the inscription : DATE CAESARIS CAESARI ET QUÆ DEI DEO. (Matthew xxii : 21. Render therefore unto Caesar the things that are Caesar's and unto God the things that are God's.) (Köhler, [J. D.] *op. cit.*, Vol. 21, p. 65. Madai, No. 2219.)

Two specimens of this Erfurt thaler of 1617 are preserved in the Royal Bavarian Cabinet of Coins, Munich, as I learn from Dr. Hans Riggauer.

IV. Another coin of the same date is briefly mentioned by Tenzel. It was stamped with a phoenix, and beneath this fabulous bird the words IN

TERRIS RARISSIMA SED TAMEN. (Most rare in the earth, yet nevertheless I do exist.) The origin of this coin was unknown to him. (For Tenzel, see coin of 1687 below.)

V. (1622.)—Dr. George Wolfgang Wedel, Professor of Medicine in the University of Jena in 1673, member of learned societies, and court physician, was a frequent contributor to alchemical literature. Of unimpeachable character, his assertions were of great weight among his compeers. Wedel (also called Wedelius) describes a silver piece struck by the city of Erfurt, of the date 1622, and distinguished by the characters Δ (sulphur) and ☿ (mercury). The full description is as follows :

Obverse. MO[NETA] NO[VA] ARG[ENTEA] CIVIT[ATIS] ERFFORD. 1622. (New silver coinage of the city of Erfurt, 1622) surrounding a wheel with scrolls, and the signs Δ and ☿ (sulphur and mercury.)

Reverse. The arms of the city of Erfurt and the inscription: NACH DEM ALTEN SCHROT UND KORN. (Of standard weight and fineness.)

Wedel, however, points out that in 1622 there were two masters of the mint in Erfurt named Ziegler and Weismantel, and the latter to distinguish his coinage from that of the former, employed the well-known signs given, without any intention of attaching to them a hermetic meaning (Reyher, p. 6; Buddeus, §21). To this category obviously belong the German coins of the fourth century mentioned by Reyher. Dr. Hans Riggauer informs me that three specimens of the Weismantel coins are preserved in the Royal Bavarian Cabinet, Munich.

VI. (IV Century.) Quoting Tilemann's *Münz-Spiegel*, (i. 3. c. 4 p. 91,) Reyher says: At that time it came to pass that the people had coins, but the most of them were thin and hollow (*hole*) for the convenience of the common people. Afterwards the Kings and Princes [in Germany] coined silver and gold pieces, but of small value, from 20 to 25 *Eschen*, like the Roman *Semis* and *Tremis*. The gold, however, was of unequal fineness, some, perhaps the most ancient, being of 22 carats, some of 18 and others, perhaps the most recent, of 12 carats. These had busts of various monarchs on one side and on the other a figure of Mercury, the messenger of the gods,

holding the symbol ☿ in his hands; that is to say the upper part of the sign reversed ♀ in his right hand, and the cross + in his left: from this it appears that the coins were struck by the Suabian rulers, for as Tacitus remarked, Mercurius was specially honored by the Suabians. So far, Tilemann.

A poorly executed and diminutive woodcut in Reyher's work shows the coin as above described, and an almost undecipherable inscription.

The alchemists sought the philosopher's stone in the three kingdoms of nature, animal, vegetable and mineral; but the chief object of their efforts was the liquid metal, quicksilver; this had great weight, and the paradoxical property of fluidity; they argued that if it could be changed to a yellow color and "fixed," that is, deprived of its fluidity, it would become gold. Mercury, therefore, is constantly symbolized on the hermetic coins, but to claim every coin as proof of transmutation that has the impress ☿ is obviously absurd.

Josef Neumann (*Beschreibung der bekanntesten Kupfermünzen*. Prag, 1858) names several coins bearing the symbol for copper ♀ to indicate the metal of which struck. Nos. 2649 and 2650 are of the date 1767, and were coined by Stanislaus, King of Poland. A third copper coin named by Neumann (1203 a) bears the symbols ♁ ⊙ ♀ on one of three shields. This is an Austrian coin of the year 1652. We merely note these in passing, as additional pieces in evidence that the planetary symbols were used by mint-masters without any thought of attaching to them an alchemical significance.

VII. (1630).—A silver thaler of handsome design, coined in Mainz, is catalogued by Madai as alchemical, probably because it is stamped with the symbol ☿.

Obverse. A portrait bust of Anselm Casimir (Elector and Archbishop of Mainz) wearing a standing collar, with the words: ANSELMI CASIMIRI D.[EI] G.[RATIA] ARCHIEP[ISCOPI] MOG[UNTINENSIS] S.[ACRI] ROM[ANI] IM[PERII] PER. GERM[ANIAM] ARCH[I]CAN[CELLARI] P[RINCIPIS] E[LECTORIS.] (Anselm Casimir, by the grace of God Archbishop of Mainz, Arch-chancellor, Prince and Elector of the Holy Roman Empire.)

Reverse. The Prince's arms with three helmets and archbishop's staff and sword. Inscription, MONETA NOVA ARGENTEA MOGUNTINA. 1630. D. ☿. (New

silver coinage of Mainz. 1630). The sign D. ☿ is believed to be that of the mint-master. This piece occurs in two styles, round and eight-cornered. (Madai, No. 402.)

VIII. (1634.)—Several gold and silver coins stamped with the effigy of Gustavus Adolphus, King of Sweden, or with his royal arms, are regarded by alchemists as evidence of transmutation, their claim being based on the circumstance that the coins bear the venerated hermetic signs for mercury ☿ and sulphur Δ_{\dagger} . John F. Buddeus and other historians do not consider this claim valid, and attribute the designs to the fancy of the royal coiner. (*Historisch und politische Untersuchung von der Alchemie, in Roth-Scholtz Deutsches Theatrum Chemicum, Erster Theil.* Nürnberg, 1728.)

Reyher, quoting the traveler Monconys (*Itin.* part II, p. 381), relates the following circumstances :

“The apothecary, Strobelperger, told me that a certain merchant of Lubeck, not very successful in business, yet who knew how to ‘fix’ lead and to convert it into gold, presented to the King of Sweden, then traveling in Pomerania, a mass of gold weighing one hundred pounds, prepared by himself through hermetic art. Gustavus Adolphus caused ducats to be made of this gold, bearing his likeness on one side and the royal arms with the characters for mercury and sulphur on the other. He gave me (continues Monconys) one of these ducats and said that after the death of the merchant, who did not seem to be very wealthy, and had long since discontinued trade, one million seven hundred thousand crowns were found in his house.” (Reyher, *Cap.* 1, *p.* 4.) The coins referred to are figured by Reyher and by Buddeus :

Obverse. Bust of Gustavus Adolphus, head in profile crowned with a wreath; around the edge the inscription: GUSTAV[US] ADOLPH[US] D[EI] G[RATIA] SUEC[ORUM] GOTH[ORUM] VAND[ALORUM] R[EX]. (Gustavus Adolphus, by the grace of God, King of the Swedes, Goths and Vandals).

Reverse. The royal arms of Sweden, with Δ_{\dagger} and ☿ on either side, and the date 1634. On the edge the inscription: PR[INCEPS] FINL[ANDIAE] DUX ETHON[LÆ] ET CAREL[LÆ] DOM[INUS] INGER[MANNLÆ]. (Prince of Finland,

Duke of Esthonia and of Carelia, Lord of Ingria). The size of the coin is given by Reyher in a circle 22 *mm.* in diameter.

IX. (1632.)—A double ducat of Gustavus Adolphus of the date 1632 is also claimed by the votaries of Hermes. This gold coin has on the obverse a human skull resting on a bone; out of the skull issue serpents, together with a grape-vine, on the branches of which hang many clusters of grapes. Around this emblem is the inscription: EZECH.[IEL] AM. XXXVII CAP.[ITEL] UND AM. VI NOVEMBER 1632. (Ezekiel, Chapter 37, and on November 6th, 1632.) In an outer circle the words: GUSTAVUS ADOLPHUS D. G. SUEC. GOTH. VAND. RE *. (Gustavus Adolphus, by the grace of God King of the Swedes, Goths and Vandals.)

Reverse. The royal arms of Sweden, with the year 1633, and the signs for sulphur \triangleleft and mercury \wp on either side. Around this: DV MEN[S]CH [EN] KIND MEINST AUCH DASS DI[E]SE BEINE WID[ER]LEBEN WERD[EN]. (O son of man, believest thou that these bones will live again). And in an outer circle: PR[INCEPS] FINL[ANDIÆ] DUX ETHON[IAE] ET CAREL[IAE] DOM [INUS] INGE[RMANNIÆ.] (Prince of Finland, Duke of Esthonia and Carelia, Lord of Ingria.) The reference to Ezekiel, chapter 37, relates to the vision of the dry bones, to which the alchemists gave a mysterious hermetic interpretation. (Joh. Heinr. Scheler, *Beschreibung derer zu Ehren des Koenigs in Schweden, Gustavi Adolphi, mit dem Signo Sulphuris et Mercurii* 1632 zu Erfurt gepraegten zweierlei Thalern, etc. In Hirschius [J. C.], *Bibliotheca numismatica*. Norimb. 1760. Reyher, *op. cit.* p. 9. Madai, No. 218.)

X. (1631.)—A third coin of silver by Gustavus Adolphus has on the *obverse* the Tetragrammaton יהוה or sacred name of Jehovah in Hebrew characters within rays of glory, and beneath this are the words: A DOMINO FACTUM EST ISTUD. (By the Lord has this been done.)

Reverse. The inscription in eleven lines: DEO TER OPTIMO | MAXIMO GLORIA ET LAUS | QUI GUSTAVO ADOLPHO | SUECORUM GOTHORUM | VAND[ALORUM] QUE REGI CONTRA | CAESAREANUM AC | LIGISTICUM EXERCITUM | VICTORIAM TRIBUIT, | AD LIPSIAM DIE | VII SEPT. ANNO M. D. C. XXXI. (Glory and praise be to God, thrice best and greatest, who gave the victory to Gustavus Adol-

phus, King of the Swedes, Goths and Vandals, against the imperial army and the Ligistians at Leipzig on the seventh day of Sept. 1631.) Beneath this inscription is the character ☿ (mercury), but Reyher, who gives a representation of the coin, remarks that this sign probably denotes the day of the week (Wednesday) and not the metal that formed the basis of hermetical operations.

The Royal Cabinet of Coins of Bavaria, at Munich, possesses several examples of these Gustavus Adolphus pieces, to wit: Of the 1634 ducat, six pieces; of the double ducat of 1633 in silver, one piece; of the thaler of 1631, one piece; also two of the same date without the symbol, and one golden piece of this coinage. Dr. Hans Riggauer, Director of the Cabinet, to whom we are greatly indebted for a list of the alchemical treasures preserved in Munich, also mentions an Erfurt double thaler, of the date 1631.

Obverse. The signs ⚡ and ☿ in a decorated coat of arms, and Gustavus Adolphus ascending to heaven in a two-horse chariot.

Reverse. Gustavus Adolphus on a bed of state. (See Schulthess, 2048.)

XI. (1647).—The pursuit of alchemy does not appear to have been followed in Denmark at so early a period as elsewhere. Christian IV, who ascended the throne in 1588, (died, 1648) had in his employ an alchemist named Kaspar Harbach, who had the very useful knowledge of transmuting the products of Norwegian mines into gold; Danish ducats of 1644 and 1646, were shown, which were said to have been made of artificial gold. Some persons, however, were incredulous, and to vindicate the honor of his private alchemist, King Christian caused new ducats to be coined. These bear on the *obverse* a full length figure of the King in armor, surmounted by the words: CHRISTIANUS, D.[EI] G.[RATIA] DAN.[LE] R.[EX]. (Christian IV, by the grace of God King of Denmark). The *reverse* has a rather large pair of spectacles and the legend: VIDE MIRA DOMI[NI]. 1647. (See the wonderful works of the Lord). (Figured in Köhler's *Münzbelustigungen*, Theil xii: p. 145, 1740).

XII. (1647).—In the same year an adept named J. P. Hofmann performed a transmutation in the presence of the Emperor Ferdinand III, in Nuremberg. From this hermetic gold the Emperor caused a medal of rare

beauty to be struck. It is figured in the work of an anonymous author entitled: *Nützliche Versuche und Bermerkungen aus dem Reiche der Natur*," and published by Georg Bauer in Nuremberg in 1760. This exceedingly rare piece bears on the obverse two shields in one of which are eight fleurs-de-lis, and in the other a crowned lion highly conventionalized. In an outer circle occur the words: LILIA CUM NIVEO COPULANTUR FULVA LEONE, and in an inner circle: SIC LEO MANSUESCET, SIC LILIA FULVA VIRESCENT. 1647. (The yellow lilies lie down with the snow white lion; thus the lion will be tamed, thus the yellow lilies will flourish). The two shields are linked above by a crown, over which are the letters I. P. H. V. N. F., denoting:—JOHANNES PETRUS HOFMANN VASALLUS NORIMBERGENSIS FECIT; and on the right the letters T. G. V. L., denoting: TINCTURÆ GUTTÆ V. LIBRAM, which refer to the fact (?) that five drops of the "tincture" transmuted a whole pound of the base metal. This power of the tincture is also indicated by the letters v. g., (*quinque guttæ*,) that appear between the two shields below.

On the reverse, in the centre is a circle containing the figure of the warrior Mars holding the symbol ♂ in one hand and a sword in the other, and surrounded by the inscription: ARMA FURENS CAPIAM RURSUSQUE IN PRAELIA SURGAM. (Enraged I shall take up my arms and again rush into the battle.) This refers to the circumstance that the active agent in transmutation was made in this case from iron. Around this central circle are six smaller ones; the first contains the symbol for lead ♁, with the words A MARTE LIGOR. (By Mars am I bound.) The second, that for tin ♃, with the words A MARTE DEFENDOR. (By Mars I am protected.) The third, the sign for copper ♁, and the words MARTE CONJUNGOR. (By Mars I am united.) The fourth, the sign for mercury ☿, and the words PEDIB[US] MARS, ARS SCIDIT ALAS. (Mars goes on his feet, art has torn away his wings.) The fifth, the sign for silver ☾, and the words MARTIS HORRORE DEFICIO. (I am slain by the fear of Mars.) The sixth circle contains the symbol of gold ☉ with the words A MARTE OBSCUROR. (I am hidden by Mars. The hermetic meaning of "Mars" being iron, as already mentioned.) George Bauer, describing this handsome medal in 1760, says it is preserved in His Imperial Majesty's Cabinet of Coins, Vienna.

XIII. (1648).—The Thirty Years' war was brought to a happy conclusion by the Emperor Ferdinand III at the treaty of Westphalia, on October 24, 1648. In January of the same year the Emperor found time in spite of his cares of State to experiment with the fascinating art of Hermes. A certain Richthausen, who claimed to have received the power of projection from an adept now dead, performed a transmutation in the presence of the Emperor and of the Count of Rutz, director of mines. All the precautions suggested by experience with imposters were observed, and with one grain of the powder furnished by Richthausen, two and a half pounds of mercury were changed into gold. To commemorate this event the Emperor had a medal struck of the value of 300 ducats, appropriately inscribed. The obverse contained a full-length representation of Apollo with rays proceeding from his head; in one hand he held the lyra and in the other the caduceus; his feet were covered with winged sandals, thus personifying the transmutation of mercury into gold. Above and below the figure were the words: DIVINA METAMORPHOSIS EXHIBITA PRAGÆ XV JAN. AO. MDCXLVIII IN PRÆSENTIA SAC. CAES. MAJEST. FERDINANDI TERTII. (The Divine Metamorphosis, exhibited at Prague, January 15, 1648, in the presence of his Imperial Majesty Ferdinand the Third.)

On the *reverse* there was no ornamentation, and the words: RARIS HÆC UT HOMINIBUS EST ARS ITA RARO IN LUCEM PRODIT. LAUDETUR DEUS IN ÆTERNUM QUI PARTEM SUÆ INFINITÆ POTENTIÆ NOBIS SUIS ABIECTISSIMIS CREATURIS COMMUNICAT. (Like as rare men have this art, so cometh it very rarely to light. Praised be God forever, who doth communicate a part of His infinite power to us His most abject creatures.) The size of this medal is given as $2\frac{3}{4}$ Würtemberg inches in diameter, and $\frac{3}{8}$ in thickness. It was still to be seen at the Treasury in Vienna in 1797; it has been figured in several works, among which may be named J. J. Becher's *Oedipus Chemicus* (Amstelodami, 1664), Zwelffer's *Mantissa Spagirica* (1652), and W. Cooper's *Philosophical Epitaph* (London, 1673).

XIV. (1650).—Two years after this successful experiment the Emperor made another projection at Prague, operating on lead with some of the pow-

der received from Richthausen. With the gold thus obtained Ferdinand made a second medal bearing the inscription: AUREA PROGENIES PLUMBO PROGNATA PARENTE. (A golden daughter born of a leaden parent). This medal was seen by the traveler Keyssler in the last century, at the Imperial castle of Ambras in the Tyrol. Richthausen, who had furnished the Emperor with the means for these transmutations, was ennobled, being made Lord of Chaos. (J. G. Keyssler's *Neueste Reisen durch Deutschland*. 2 Abth. Hannover, 1751.)

XV. (1658).—The accomplished Richthausen, now Lord of Chaos, gave further proof of his skill (in legerdemain or in chemistry?) in the year 1658. The Elector John Philip of Mainz, a warm patron of alchemists, having received some of the powder of projection from Richthausen, and taking extraordinary precautions to prevent fraud, himself converted four ounces of mercury into gold. The metal was superfine and additional silver had to be added to reduce it to the usual quality. Pieces of this gold were in the possession of Professor G. W. Wedel of the University of Jena; and Mainzer ducats were also coined from a portion of the abundant metal. These bear:

Obverse. The arms of the Electorate of Mainz and the words: GEORG [IUS] FRID. [ERICUS] D. [EI] G. [RATIA] ARCHIEP [ISCOPUS] P. [RINCEPS] E. [LECTOR] EP [ISCOPUS] WORM. [ATLÆ]. (George Frederick, by the grace of God Archbishop, Prince, Elector, Bishop of Worms).

Reverse. The words: DUCATUS NOV. [US] AUR. [EUS] ELECTOR. [ATUS] MOGUNT [LÆ] (New golden ducat, struck for the Electorate of Mainz) and below this the Mainzer wheel. They are also stamped with the sign ☉ which denotes that the gold was made by hermetic art from mercury. (Moncony's *Voyages* II, 379.)

XVI. (1652).—A silver piece of Low Dutch origin is figured by Reyher. On the *obverse* are these curious emblems: a tower with flames issuing from the archway, a snail bearing a ring in his mouth, and a background of hills above which birds are flying. Around this the words:

✠ VANT' GEEN DAT ELCK VERSMEET;
 BEN ICK IN T' WESEN BRACHT
 DIEK' EER MAER VULLIS WAS
 BRAL NU MET A' HOECHST PRACHT.

(No one has found that which each despises.
I am brought into being :
Though I was little more than filth
Now I shine with the greatest brilliancy.)

Reverse. Three miners at work with pick and spade in a quarry or mine ;
around this the words :—

✠ LANGST GEWEEST, EERST GEVONDEN ;
DOOR GOOTS GAEFT TE DESER STONDEN.
T' KOOMPT VAN GODT
DIT EDEL LOT A. 1652.

(A long time existing, just discovered
Through God's gift at this time.
This noble lot comes from God. [Anno : In the year] 1652.)

Reyher says this is preserved in the treasury of the illustrious Count of Schwartzburg, residing at Arnstadt in Thuringia.

XVII. (1675.)—An Augustinian monk named Wenzel Seyler, a native of Bohemia, visited Vienna in 1675, and securing an interview with the reigning Emperor, Leopold I, son of Ferdinand III, accomplished in his presence a successful projection. He converted a copper vessel which had been brought to him into gold. He also changed tin into gold, and from the precious metal the Emperor caused ducats to be struck, stamped only on one side ; these bore on the obverse a portrait bust of the Emperor with the words: LEOPOLDUS D.[EI] G.[RATIA] R.[OMANORUM] I.[MPERATOR] S.[EMPER] A.[UGUSTUS] G.[ERMANIÆ] H.[UNGARLÆ] E.[T] B.[OHEMIÆ] R.[EX] (Leopold, by the grace of God, the ever august Emperor of the Roman Empire, King of Germany, Hungary and Bohemia.) On the reverse the year 1675, and the couplet:

“ AUS WENZEL SEYLER'S PULVERS MACHT
BIN ICH VON ZINN ZU GOLD GEMACHT.”

which may be paraphrased thus :

“ *By Wenzel Seyler's aid, Leopold
Transmuted me from tin to gold.*”

(Gottfr. Heinr. Burghard's *Destillirkunst*. Brieg, 1748.)

XVIII. (1677.)—Wenzel Seyler was rewarded by being ennobled, with the cognomen Von Reinburg, but resorting to deceitful practices he was sent back to his cloister without however receiving punishment. Two years later this crafty monk succeeded in again persuading the Emperor of his power, and a large and elegantly ornamented medallion, still preserved in the Imperial Cabinet of coins in Vienna, commemorates the event. This medallion is of oval form, measures 40 by 37 centimeters, and has a weight of 7200 grammes. On the obverse is engraved a portrait of Leopold I, surrounded by no less than forty-one portraits of his predecessors on the German throne. On the reverse is a long inscription in Latin, setting forth the virtues of the Emperor and the power of Johann Wenzel von Reinburg, in the year 1677. This medallion is figured in Herrgott's *Monumenta Augustae Domus Austriae* (1760), and in Prof. A. Bauer's *Chemie und Alchymie in Oesterreich*. (Wien, 1883.) I examined it in person in August, 1888, at the Imperial Cabinet of Coins, Vienna. It is of elaborate workmanship but decidedly brassy in color, and is said to have a specific gravity of only 12.67, that of gold being 19.3. Two small notches, one in the upper edge and one in the lower, show that it has been cut into for examination.

XIX. (1677.)—Baron Krohneman, one of the boldest impostors of the seventeenth century, played the part of an adept at the court of the Margrave George William of Baireuth, with varying success from 1677 to 1686. He pretended to be able to “fix” quicksilver, that is, to convert it into a solid and to change its color to yellow, in short to transmute mercury into gold. Living at the expense of the Margrave and consuming great sums of money in fruitless experiments, he sought to retrieve his waning reputation by a bold

stroke; in the presence of the Prince he heated mercury with salt, vinegar and verdigris in an iron dish, and at the end of the operation gold remained. Probably the trickster mingled gold in the form of powder with the verdigris. Silver was made in like manner, and from this a medal was struck, inscribed with symbolical figures and dedicated to the Margrave.

The *obverse* has a figure of the winged god Mercury, standing on a pedestal; in his right hand he holds the caduceus with the sun at its head, his left hand is placed across his breast. A chain connects his two arms and his ankles, near which hang a padlock. Above the figure is the inscription: ARTE ET INDUSTRIA. (By art and industry.) And below, EXHIBITUM SERENISSIMO PRI[NCIPI] DNO [DOMINO] CHRISTIA[NO] ERNESTO D[EI] G[RATIA] MARCHIONI BRANDENB.[URGLÆ] DUC.[I] BORUS[SLÆ] DIE VI NOV[EMBRIS] ANNO MDCLXXVII. (Given to his most serene highness Prince Christian Ernest, by the grace of God Margrave of Brandenburg, Duke of Prussia, the sixth day of November, in the year 1677.)

The *reverse* contains the words: SOLIUS QUOD MULTIS CREDITUM ESSE NATURÆ OPUS NON MINOS ARTIS ESSE IGNORET NEMO. PRODIERE OLIM PRODEUNT ET NUNC IPSIUS TESTIMONIA REL. DEO HONORI, PROXIMO SALUTI, TOTI MUNDO ADMIRATIONI. (Let no one be ignorant of the fact that what many have believed to be the work of nature alone is not less the work of art. They were formerly produced, they are now produced, as shown by the thing itself. To the glory of God, the salvation of mankind, and the admiration of the whole world.)

Krohneman had rightly reckoned on the effect of his legerdemain, and the Prince gave him the title of Baron, together with many favors. He continued to pursue his crafty ways, duping many persons in authority, fleecing General Kaspar von Lilien to the extent of 10,000 gulden, and living in extravagant style on his ill-gotten gains. At different times during the ten years in which he flourished, seven other coins and medals were struck to memorialize the operations conducted by Krohneman, or to impose upon his patrons. Four of these bear the date 1679, one the year 1678, one the year 1681, and one has no date.

The medal of 1678 is very similar to that struck November 6th, 1677, bearing the standing figure of Mercury holding the caduceus upright on the *obverse*, and the same inscription on the *reverse*. The date on the obverse, however, is January 8, 1678; on the pedestal of Mercury are the initials of Krohneman's name: C.[HRISTIANUS] W.[ILHELMUS] B.[ARO] D.[E] K.[ROHNE-MAN], together with the single word POSTERITATI. (To posterity.)

Of this medal many impressions were coined, some of them bearing in the place of the words ARTE ET INDUSTRIA, the legend PIETATE ET JUSTITIA. (By piety and justice.) They weighed "4 loth 2 quint," being smaller than the coin of 1677.

XXI. (1679.)—The four coins of the year 1679 have the following characters:

[I.] Both in silver and in gold, the latter of the value of 8½ ducats, and dedicated to the Margravine on her birthday, February 18th.

Obverse. A Doric column crowned and encircled by a vine bearing grapes; on one side Cupid shooting an arrow, on the other a sunflower with its blossom turned towards the sun, which is above and to the side of the central column. Beneath the latter a pair of doves, in the background BAYREUTH. Inscriptions: AUF LIBES GLUTH. (In the glow of love.) DER DURCHL [AUCHTIGSTEN] UND UNVERGLEICHLICHEN PRINZESSIN, ZU EHREN F.[RAUEN] F.[RAUEN.] (To the honor of the most noble and incomparable lady Princess.)

Reverse. A palm tree in fruit, above, the rays of the sun; on either side a heart connected by a chain to the tree and surmounted by a crown. Inscription (continued from the obverse): SOPHIA LOUYSA MARG.[RAEVIN] ZU BR.[ANDENBURG] G.[EBOREN] H.[ERZOGIN] Z[U] W.[URTEMBERG] U[ND] T[ECK] AUFGERICHTET V.[ON] C.[HRISTIAN] W.[ILHELM] B.[ARON] V.[ON] K.[ROHNE-MAN] 1679. (Struck in honor of Sophia Louisa, Margravine of Brandenburg, by birth Duchess of Wurtemberg and Teck, by Christian Wilhelm, Baron Krohneman.) In a half circle within the outer one: FOLGT SEEGENS GUTH; above one heart, DIE STARCKT; and above the other, DER MUTH. On one heart, the letters C.[HRISTIAN] E.[RNST]; on the other, S.[OPHIA] L.[OUYSA]. (Heaven's blessing follows strength and courage.) (Köhler, Vol. IX, p. 417.)

XXII. [2.] Also in silver and in gold, the latter of four ducats' weight. This was struck on the baptismal day of the Prince, May 14th, 1679.

Obverse. A two-headed bird, part eagle, surmounted by a crown, over which the words: PRAESIDIA PRINCIPIS. (Protection of the Prince.) On the outer circle the words: IN HONOREM SER.[ENISSIMI] PRINC.[IPIS] D[OMINI] D.[UCIS] CHRIST.[IANI] ERNEST.[I] MARCH.[IONIS]. (Continued on the reverse.)

Reverse. An oval shield on a bare arm, the hand grasping a laurel-branch, the arm projects from clouds. Above, the words, PRO PATRIA (For Fatherland) on a scroll, and around the edge: BRAND.[ENBURGIAE] BORUSS.[LÆ] DUC.[I]; OFFERT. C.[HRISTIANUS] W.[ILHELMUS] B.[ARO] D.[E] K.[ROHNE-MAN] M.DCLXXIX. (In honor of his most serene highness, Prince, Lord and Duke, Christian Ernest, Margrave of Brandenburg, Duke of Prussia; presented by Christian William, Baron Krohneman, 1679.)

XXIII. [3.] This is of silver and commonly called a gulden.

Obverse. The portrait bust of the Margrave Christian Ernest, and the words: CHRISTIAN.[US] ERN.[ESTUS] D.[EI] G.[RATIA] MAR[CHIO] BR.[ANDEN-BURGÆ] E.[T] M.[AGDEBURGI] PR.[USSIÆ] D.[UX] B.[URGRAVIUS] N.[ORIMBER-GÆ] (Christian Ernest, by the grace of God Margrave of Brandenburg and Magdeburg, Duke of Prussia, Burgrave of Nuremberg.)

Reverse. No ornamentation, and the inscription: IN NATALEM SERENI-TATIS SUÆ SEXT.[UM] ET TRIGES.[IMUM] DECENTI CULTU MACTANDUM NUMISMA HOC FIERI CURAVIT C.[HRISTIANUS] W.[ILHELMUS] B.[ARO]. D.[E] K.[ROHNE-MAN] 1679. (Christian William, Baron Krohneman, had this coin struck to celebrate appropriately the 36th birthday of his serene highness.)

XXIV. [4.] A silver thaler struck on the birthday of the Crown Prince George William, November 16th, 1679.

Obverse. An armed hand resting on part of a globe and holding upright a sceptre. The arm projects from clouds and supports a branch of laurel. Above the sceptre the sun with long rays, surmounted by the words: A DEO ET PARENTE. (From God and his father.) On the outer edge the inscription: IN HONOREM ET DIEM NATAL.[EM] 16. NOV.[EMBRIS] 1679. SER[ENISSIMI] PRINC.[IPIS] D.[UCIS] D[OMINI] GEORG.[II] W.[ILHELMI]. (In honor of,

and for the birthday, November 16, 1679, of the most illustrious Prince and Duke, Lord George William.)

Reverse. A square table on which rests a cushion bearing a sword and a sceptre crossed and passing through a crown; above this an eye in clouds from which rays project. On a scroll or ribbon the words: OPTIMA SPES PATRIÆ. (The best hope of the nation.) Around the edge the inscription: MARCH[IONIS] BRAND.[ENBURGLE] BOR.[USSLÆ] DUC.[IS] OFFERT C.[HRISTIANUS] W.[ILHELMUS] B.[ARO] D.[E] K[ROHNEMAN] MDCLXXIX. (Margrave of Brandenburg, Duke of Prussia, presented by Christian William, Baron Krohne-
man, 1679.) This being a continuation of the legend on the obverse.

(Köhler, Vol. VII, p. 265. Madai, Nos. 1053, 1054, 1055.)

XXV. (1681.)—Krohneman lived largely by flattering his princely patron, and in 1681 caused another silver coin to be struck on the birthday of the Margravine (February 18th), which is notable for its rhyming inscriptions. With the exception of a few stars above and below, on both sides, this coin is wholly without ornamentation and symbols. The *obverse* bears the verses:

HOCH-GROSSUS FURSTEN-BILD,
IHR JAHR-TAG HEUT AUFFGEHT,
HIER STEHT ER AUF DEM SCHILD,
WIE IHR MIT AUGEN SEHT;
GOTT WOLLE SIE BEGLUCKEN
UND IHR VIEL HEIL ZU SCHICKEN
AUCH ALLER ORTH UND ENDEN
DEN REICHEN SEGEN SENDEN.

(O high and mighty Princess-image, thy birthday occurs to-day,
Here it stands on the shield, as you plainly see;
God will grant you His favor and much happiness
And on every place and region send His rich blessing.)

Around the outer circle the words: DER DURCHL.[AUCHTIGSTEN] U.[ND] UN-
VERGLEICHLICHSTEN PRINCESSIN FRAUEN FRAUEN, SOPHIEN LOUYSEN, MARGRAFFIN

ZU BRAND.[ENBURG]. (Most high and incomparable Lady, Princess Sophia Louisa, Margravine of Brandenburg.) This is continued on the reverse.

On the *reverse*, these verses :

SIE GRUNE EWIG FORT
 UND LEBE WOHL VERGNUGT,
 DER HOCHSTE SEY IHR HORT
 BIS SIE DIE WELT OBSIEGT.
 UND SEGNE ALLE THATEN
 DER HIMMEL WOLL IHR RATHEN
 DASS SIE LEB LANG IN FREUDEN,
 BEFREID VON ALLEN LEYDEN.

(May you always remain youthful and live in great happiness, may the Highest be your protector until you rule the world, and bless all your deeds. Let Heaven be your counsellor that you long live in peace, free from all misfortunes.)

Around these verses, a continuation of the sentence on the obverse, to wit :
 GEB.[OREN] HERTZOG.[IN] Z.[U] W.[URTEMBERG] U.[ND] T.[ECK] ZU EHREN
 AUFGERICHTET AN IHREN HOCHGEBURTHE TAGE V.[ON] C.[HRISTIAN] W.[ILHELM]
 B.[ARO] V.[ON] C.[ROHNEMAN] DEN 18TEN FEBR[UAR] 1681. (Born Duchess of
 Wurtemberg and of Teck, presented in honor of her birthday by Christian
 William, Baron Krohneman, February 18th, 1681.)

This is said to be the only instance in which Krohneman's name is spelled with a C instead of a K.

XXVI. General Kaspar von Lilien, one of the dupes of Krohneman, already named, obtained a few ounces of gold by an experiment with some white salt of Krohneman's preparation, the operation being carried out in the General's own house. To commemorate this event a medal was struck bearing no date, but having the following features.

Obverse. A lily plant in flower, above which the sun's rays issuing from a semi-orb containing the Hebrew letters יהוה ; below the lily the letters :
 C.[ASPAR] V.[ON] L.[ILIE]N ; above it the words: DURCH DIESES LIECHT.
 (Through these, light. *Dieses* perhaps alluding to the tetragrammaton, and

the legend thus meaning "Through the aid of these [*i. e.* God] the mind has been illuminated.")

Reverse. Two arms issuing from clouds, on the right and left sides, approach each other centrally; one hand holds a support from which hangs a small key, bearing the letters :

| | | |
|---|---|---|
| G | E | I |
| | H | I |
| | N | |
| E | M | S |

Geheimnis (secrecy), the space between the letters being filled with ornaments. Above this the words: MIT VORBERICHT. (With preparation.)

This ends our record of the medals associated with the name of Krohne-
man ; some of them it is claimed were made out of artificially prepared metal,
and others were merely commemorative of some hermetic mystery. The end
of this arch-impostor was as tragic as his life was vicious; he was detected in
fraud and hung on the gallows by order of the Margrave. Those desiring to
follow in detail his extraordinary career, or to examine engravings of the
medals named, may consult Fikenscher's *Geschichte Baron von Krohne-
man*, Nürnberg, 1800, 8vo.

XXVII. (1686.)—Among the many artful, shameless and pretentious
knaves and charlatans that defrauded their wealthy dupes by appealing to
their avarice and practicing on their credulity, Domenico Manuel, styled
Count Gaëtano (or Cajetano), deservedly occupies a high place. His career
of adventure, duplicity and extortion, his high positions and his ignominious
downfall, form a fascinating chapter in biography, but limited space prevents
entering into details. Of Italian origin, he appears now at Madrid, where he
stole 15,000 piastres; now at Brussels, where he secured by fraud 6,000
florins and two years' imprisonment; now at Vienna, where he gained the
confidence of the whole Court by a clever legerdemain; now at Berlin, where
he completely fascinated the King by a projection made in his presence and

by promises to make unlimited gold, and now he again appears suspended by the neck on gilded gallows at Cüstrin in 1709.¹

Unlettered and blinded promoters of alchemical doctrines have confounded this precious rogue with the innocent Antonius Cajetanus, Prince of the Holy Roman Empire, and since the family coat of arms of Cajetanus has a mysterious three-faced head,² the alchemists seized upon a certain thaler bearing this escutcheon, as evidence of the hermetic skill of the charlatan Domenico Manuel. The piece hardly deserves a place in this catalogue, but may be included if only to show the depth of the alchemical folly. The thaler has the following characters.

Obverse. Portrait bust of Antonius Caietanus with a perruke. Under the arm the figure 130 : with the words: ANT.[ONIUS] CAIETANUS TRIVOL[SIUS] S[ACRI] R[OMANI] I[MPERII] PRIN[CEPS] etc. (Antonio Cajetano Trivulzio, Prince of the Holy Roman Empire, etc.)

Reverse. Two escutcheons inclined ; above these a crown and a head with three faces, two of them bearded. Below, a bound sheaf of wheat, with the words : COMS. M. XI BAR. RETENNII IMPER. XV ET C. 1686.

(Madai, No. 2069.)

XXVIII. (1687.)—William Ernest Tenzel, the Thuringian antiquary, (1659–1707,) author of *Saxonia Numismatica*, mentions a ducat bearing alchemical symbols.

¹ A medal commemorating this execution was struck at the time. It has been described by Professor Fieweger before the Berlin Numismatic Society, July 3, 1882. (David L. Walter, *Am. Jour. of Numis.*, XXIV, 5.)

² This head was one of the crests of the Trivulzios, and is an heraldic or armorial pun on their name. With this crest is usually associated the motto "*Mens Unica*," so that the significance of the device and motto is "Three faces (Tre Volti) with a single mind." The family color was green, the ecclesiastical symbolic color of the Trinity, to which this device also alluded indirectly, as was clearly shown in one of the beautiful vellum Manuscript Breviaries from the famous Trivulzio Library, sold in New York a few years ago.

Litta, in his "*Famiglie Celebri Italiane*," (last volume) gives considerable space to this family, and engraves ten different medals or coins relating to them (both obverse and reverse). Among them was one which was struck by Theodore Trivulzio, the tenth

Count, which has an elaborate shield bearing the family arms, surrounded by ten differing devices used at various periods by different branches or individuals of the family: one of them is the same three-faced head, which was placed in the dexter chief. The inscription on the reverse of XXVII may be read in full, as explained by Litta, COM(ES) M(USOCHI) XI BAR(O) RETENNII IMPER(IALIS) XV ET C(OMES) *i.e.* Eleventh Count of Musocco, and Fifteenth Imperial Baron and Count of Retegno. The ET C which concludes the inscription on some of these pieces is in a sort of monogram, and would very likely be taken for ETC. (*et cetera*) were it not that Litta explains it in full, as given above. He remarks that the device of the sheaf of wheat, [which appears on the piece of Theodore, as well as on XXVII above], alludes to a tradition that one of the Trivulzios generously assisted his father-land with a gift of grain in time of famine.—(*Am. Jour. of Numis.*, XXV, 31.)

Obverse. Portrait bust of Frederick I, Duke of Gotha, wearing a laurel crown, with the inscription: FRIDERIC.[US] D.[EI] G.[RATIA] DUX SAX.[ONIAE] I.[ULIACI] C[LIVLÆ] ET MONT.[IUM]. (Frederic, by the grace of God, Duke of Saxony, Julich, Cleves and Berg.)

Reverse. Two crossed triangles from which rays proceed, with conventional clouds, and symbols of the sun and moon; below, a circle, within which the three symbols, \ominus [salt], \uplus [sulphur], and \wp [mercury], with the inscription: A NUMINE LUMEN SUSCIPIO ET REDEO. (From the Deity I receive light and reflect it again,) and the date 1687. (Buddeus, *Untersuchung von der Alchemie.*)

A specimen of this thaler is preserved in the Royal Bavarian Cabinet of Coins, Munich. (Dr. Riggauer.)

XXIX. (1684.)—The same author mentions a coin struck in 1685 by his highness Anthon Günther, Prince of Anhalt, as a souvenir of his success in transmutation at Zerbst, where for many years he worked in a laboratory with his own hands. Not having access as yet to Tenzel's work (*Colloqu. menstr.*, the first literary review published in Germany), we can give but this brief reference to it, taken from the *Edelgeborne Jungfer Alchymia*, p. 204.

XXX. (1704.)—The crafty alchemists who operated with the hermetic powder, or the so-called philosopher's stone, almost always pretended to have received the precious material from some stranger, and but few professed to be able to prepare a larger supply of the wonder-working substance. The following anecdote is but one of many of similar purport: In October, 1704, George Stolle, a goldsmith of Leipzig, was visited by a stranger, who conversed on divers subjects for a short time and then inquired if Stolle knew how to make gold. The goldsmith replied very innocently that he "knew only how to work with that metal when already made." The stranger further inquired if he believed in the possibility of transmutation, to which Stolle answered that "he did believe in the art of Hermes, but had never met any person able to give him ocular proofs." Thereupon the visitor exhibited an ingot of a yellow metal which the goldsmith tested with the touch-stone and by the crucible, and ascertained it to be 22 carat gold. The visitor assured

him it was artificial gold and withdrew. The next day he returned and asked to have the bar of gold cut into seven round pieces; this Stolle did, and after the stranger had stamped them he gave him two of the pieces as a souvenir. The pieces were inscribed with the words: O TU ALPHA ET OMEGA VITÆ SPES ES POST MORTEM ♁ REVIVICATIO ☉ ☽. O UNICUS AMOR DEI IN TRINITATE MISERERE MEI IN ÆTERNITATE, PER ⊖ ⊕ ☿ FIT LAPIS PHILOSOPHORUM. (O Thou who art Alpha and Omega [the beginning and the end], thou art the hope of life after death. The restoration of life to lead [transforms it to] gold and silver. O unequalled love of God in Three Persons, have mercy on me through eternity. By sulphur, salt and mercury the philosopher's stone is made.)

The news of this singular event made a great stir in Leipzig; Augustus, King of Poland, received one of the gold pieces and the other was deposited in the collection of medals at Leipzig. The unknown adept who was so generous with the precious metal, was popularly supposed to be a certain mysterious personage who called himself Lascaris, and to whom for many years were attributed similar proofs of hermetic power. (*Edelgeborne Jungfer Alchymia*. Tübingen 1730.) Figured on Tab. V, No. 67, of Kundmann's *Numi Singulares*, Breslau, 1734.

XXXI. (1706.)—In 1705 Charles XII of Sweden condemned to death General Paykhull, convicted of treason, having been captured while bearing arms against his own country. The General, as a forlorn hope, offered, if permitted to live, to manufacture annually one million crowns of gold without any expense to the King or to the Kingdom. He also offered to teach his art to any persons whom the King should select, pretending to have learned the secret from a Polish officer named Lubinski, who in turn had received it from a Corinthian priest. The King accepted Paykhull's offer and made arrangements for guarding against fraud, appointing General Hamilton of the Royal Artillery to superintend the work of the alchemist. The materials were prepared with great care; Paykhull added his "tincture," together with some lead, and the whole was melted together. A mass of gold resulted which was coined into one hundred and forty-seven ducats. A medal was

also struck on this occasion, having a weight of two ducats and bearing this inscription: HOC AURUM ARTE CHIMICA CONFLAVIT HOLMIÆ 1706 O. A. V. PAYKHULL. (O. A. Von Paykhull cast this gold by chemical art at Stockholm, 1706.) This operation, which was in all probability a mere sleight of hand, was witnessed by General Hamilton, Counsellor Fehman, and the chemist Hiärne; the latter, however, had some predilections for alchemy, and in his report of the affair did not doubt the verity of the transmutation. Berzelius afterwards took the trouble to examine the documents attesting this transmutation, and came to the conclusion that the process described could not have accomplished the conversion of lead into gold. (Petraeus, *Vorrede zu seiner Ausgabe des Basiliius Valentinus*; also Henckel's *Alchymistische Briefe*, Th. I; and Berzelius, *Traité de Chimie* VIII, 7.)

XXXII. (1710.)—Professional alchemists usually operated upon lead, but Delisle, a low rustic of Provence, excited much astonishment by transforming iron and steel into gold. Although an ignorant, uncultivated man, he succeeded in imposing on persons of learning and influence; even the Bishop of Senez, who was at first incredulous, wrote to the Minister of State and Comptroller-General of the Treasury at Paris, that he "could not resist the evidence of his senses." In 1710, in the presence of the Master of the Mint at Lyons, after distilling with much mystery a yellow liquid, he projected two drops of the liquid upon three ounces of pistol bullets fused with saltpetre and alum, and the molten mass was then poured out on a piece of iron armor where it appeared pure gold, withstanding all tests. The gold thus obtained was coined by the Master of the Mint into medals inscribed AURUM ARTE FACTUM (Gold made by art,) and these were deposited in the Museum at Versailles. (Lenglet du Fresnoy, *Histoire de la philosophie hermétique*. Paris, 1741.)

XXXIII. (1717.)—The Landgrave Ernest Louis of Hesse Darmstadt had long been ambitious of accomplishing a projection, and had made many vain experiments, when, in 1716, he received by mail a small package sent by one who did not disclose his identity. The package was found to contain the "red" and the "white tincture," with instructions how to use them, the first

for transmuting into gold and the second for silver. The prince himself tested the effect of these tinctures on lead and had great success. With the gold, he had coined, in 1717, several hundred ducats which bore on one side his effigy and the words: ERNEST.[US] LUD.[OVICUS] D.[EI] G.[RATIA] HASS. [LÆ] LANDG.[RAVIUS] PR.[INCEPS] HERS.[FELDENSIS] (Ernest Louis, by the grace of God Landgrave of Hesse, Prince of Hersfeld); and below: NACH ALT.[EN] REICHS SCHROT. U.[ND] KORN. (according to the old standard of the realm); and on the other the lion of Hesse and the letters E. L. (signifying Ernest Louis.) With the silver he had coined one hundred thalers similarly inscribed, but also bearing in Latin the words: SIC DEO PLACUIT IN TRIBULATIONIBUS B. I. B. 1717. (For thus it pleased God in our misfortunes.) (S. H. Güldenfalk's *Sammlung von mehr als hundert Transmutationsgeschichten*. Frankfurt, 1784.)

For cut see Köhler, Vol. XVI, 1, 1744. Madai, No. 1277.

The anonymous author of the queerly entitled *Edelgeborne Jungfer Alchymia* (Tübingen, 1730), declares he has seen several of the gold and silver pieces mentioned in the preceding pages, especially those of Gustavus Adolphus, dated 1631, 1633 and 1634. He also mentions a gold piece of Nürnberg bearing the words: MONETA NOVA ARGENTEA and notwithstanding this *mal-a-propos* inscription for a gold coin, he considers it a piece in evidence.

XXXIV. (1732.)—A silver triple thaler of good workmanship is described by Madai. (No. 4544.)

Obverse. A portrait bust of the Emperor Charles VI, crowned with laurel, and wearing a perruque. Around and above are the words: CAROL.[US] III D.[EI] G.[RATIA] SICIL.[IARUM] ET HIER[OSOLYMÆ] REX. (Charles III, by the grace of God, King of the Sicilies and of Jerusalem.) Beneath the portrait C. P. (Mint master's initials?)

Reverse. A burning phoenix on which the sun throws its rays. Below, the letters S. M. and the date 1732; with the legend: OBLITA EX AURO ARGENTEA RESURGIT. (The forgotten silvery [component] rises again [? is recovered] from the gold.) The motto, together with the phoenix, a favorite

emblem of alchemists, led Madai to believe that this handsome coin was struck by one of their fraternity. Mr. Walter (*Journal*, July, 1889, p. 5.) suggests, however, with more probability, that the piece was struck from silver left after refining gold. To change gold into silver was not the alchemist's dream.

XXXV. An undated thaler, also called a talisman, is imperfectly described by Madai, who, unfortunately for our purpose, omits the alchemical symbols which are its chief features.

Obverse. Three flower stalks spring out of the trunk of a tree, each stalk being tipped with a chemical symbol. A naked man with the sun for a head, and a woman with a crescent on her forehead, draw a saw through this tree, beneath which a serpent winds his way. Legend: ΦΥΣΙΣ ΤΗ ΦΥΣΕΙ ΤΕΡΠΙΕΤΑΙ [Natura per naturam delectatur] (which may be rendered, Nature delights herself in her works.) Owing to imperfect stamping the last word may also be read ΤΕΜΝΕΤΑΙ [disecatur] (literally, is severed¹).

Reverse. A crowned man standing on a globe, in his right hand an open book, in his left hand a caduceus held upright. Behind him water and rocks. The man has three faces, two bearded and one younger; on the globe are chemical characters. In old Gothic letters the words: NATURÆ INTERPRES, VITÆ FONDS, GLORIA MUNDI. (The interpreter of nature, the source of life, the glory of the world.) (Madai, No. 2380, quoting Val. Ferd. v. Gudenus' *Beschreibung eines gesammelten vorraths auserlesener cabinets-thaler*. Wetzlar, 1734. 175 pp. sm. folio.)

In the foregoing pages I have briefly sketched the history and characteristics of all the contributions of Alchemy to the science of Numismatics that I have met with in the course of my reading; the works cited are chiefly in my private library. Completeness either in detailing the individual coins, or in enumerating them, is not claimed; a further search in numismatic literature would in all probability reveal many more. In fact, after collecting the

¹ The mystic character of the piece is curiously manifested in the legends of the obverse, the significance of which is not easily given in English without a tedious paraphrase. The floral device may have an allusion to the Greek proverb **ΗΑΙΞ ΗΑΙΚΑ ΤΕΡ-** ΠΙΕΙ (Plat. Phaedr. 240, c., etc.) thus confirming the reading ΤΕΡΠΙΕΤΑΙ. But ΤΕΜΝΕΤΑΙ, which denotes felling trees, seems to be indicated by the device of the saw; the grammatical construction is unusual.— (*Am. Jour. of Numis.*, XXV, 9.)

foregoing material, I received from a correspondent the rubbing of an alchemical piece, formerly belonging to Mr. Wm. Poillon of New York, and which I will describe presently. This piece is one not known to the writers I have quoted, and this circumstance led me to entertain a hope that I might possibly find other medals and coins of hermetic origin in the great treasuries of Europe. A clue afforded by Bauer, especially directed me to the Imperial Cabinet of Coins in Vienna. But first, I may note that inquiries made in person at the Coin Department of the British Museum, and that of the National Library in Paris, were entirely fruitless. The gentlemen in charge received me with great courtesy, but had no knowledge of alchemical coins, and much less preserved specimens. Inquiry, also, for Reyher's book, being the authority on the subject up to 1692, developed the fact that it was not to be found in either of the above far-famed institutions.

At Vienna, however, my request to see the Wenzel Seyler medallion was promptly granted, and further queries led to the exhibition of three handsome specimens of alchemical coins. Through the kindness of the Director of the Cabinet of Coins, I was permitted to have made plaster moulds of the three pieces; these were prepared by the workman of the Imperial Cabinet in the highest style of art. Carrying these moulds with me to London, the Head Keeper of Coins kindly allowed me to avail myself of the skilled electrotyper of the British Museum for the preparation of fac similes. These I had made in duplicate, presenting one set to the British Museum, and carrying away the other for my private use. One of these pieces is of gold, or what purports to be gold, and two are of (pseudo) silver. One of the latter was known to Reyher and is figured in his oft-quoted book.

XXXVI. The medal of which I have a rubbing has the following characters:

Obverse. A figure of Saturn as Chronos, having a scythe over his right shoulder, and dragging behind him Mercury, whose caduceus has fallen in front. Above Saturn, the sun and rays piercing the clouds. Over Mercury, the words: SINE ME NIHIL. (Without me nothing [can be accomplished.])

In the sun's rays, PER ME (Through me), and above: TANDEM (At last). In front of Saturn: SI VOLVERO (If I should be changed). The significance of these symbols is plain; remembering that Saturn is lead, Mercury quicksilver, and the sun gold, they have reference to the transmutation of mercury to gold by the aid of lead and of heat (PER ME in the sun's rays).

The *reverse* shows a large triangle surrounded by flames issuing at right angles to its three sides; within the triangle is a figure made by combining the symbols of sulphur Δ , salt \ominus , and mercury \wp , over which is the symbol of gold \odot . Above this, and within the triangle, are the words: TRINUM IN UNO (Three in one). On the edge of the piece (writes my correspondent) is the following inscription: A star of seven pellets, with the words: DUM \wp CORNUA \supset ASSUMIT SOROR FIT MATER FRATRI SUO \odot (Whilst I was mercury the silver [moon] takes her horns, and the sister becomes the mother to gold her brother), and following this a little tablet with the letters F. K. The piece itself is of tin or pewter and in fine condition; it measures 35 *mm.* in diameter. It bears no date, but is apparently not very ancient. The theory that bodies are compounded of three principles, to wit; sulphur, salt and mercury, prevailed from the middle of the fifth century to the middle of the eighteenth, though it was modified in the latter period by the introduction of Phlogiston.

XXXVII. Taking up the fac similes in chronological order, the oldest, though bearing no date, can be assigned to the period between 1581 and 1619, since it bears the name of Francis II, Duke of Saxony.

This is of silver, or some white metal resembling it, and measures 68 *mm.* in diameter. The *obverse* is almost wholly taken up with inscriptions arranged within and without a central triangle; several in concentric circles; in the corners of the triangle are fireballs, a naked man and a salamander, and centrally another small circle.

‡ FRANCISCVS · II · D · G · SAXONIÆ · ANGARLÆ · WESTPHALIÆ · ET · HADELERIÆ · DVX
 PROPITIO DEO SECVRVS AGO | SIMPLICITAS ET RECTVM TVVM | RVTA VIRESCET
 DEO SIBI ET PROXIMO
 MIRABILIS DEVS EST IN OPERIBVS SVIS
 SAPIENTIÆ DIVINÆ MVNVS | TANDEM | \odot
 POSVI TIBI PVNCTVM ET REDVCAM TE

XXXVII.



ALCHEMICAL MEDALS.

It is difficult to translate with certainty the medieval Latin on this piece, but it may perhaps be rendered as follows :

(Francis II, by the grace of God, Duke of Saxony, Engern, Westphalia, and Hadeln. God being favorable, I act in safety. Simplicity and thy justice [prevailing] the rue [the national emblem] shall flourish. For God, for himself and for his neighbor. God is wonderful in His works. Gold is at length the gift of divine wisdom. I have set a mark for thee and will bring thee back.)

The *reverse* has the following words, also arranged in similar style, but within the central triangle two arms issue from clouds, their united hands clasping an upright sword, which itself is surrounded by flames.

✠ GLORIA · IN · EXCELSIS · DEO · ET · IN · TERRA · PAX · HOMINIBVS · BONÆ · VOLVNTATIS :
 ✠ TRIA · SVNT · MIRABILIA : DEVS · ET · HOMO : MATER · ET · VIRGO : TRINVS · ET · VNVS :
 IEHOVA · VERBVM · CARO · FACTVM. · EST · ZEPHIRIS · SPIRANTIBVS · MESSIAS · S · SPIRITVS.

IRA PLACATA.

☉ ☽ ♀

HOMO.

(✠ Glory to God in the highest, and on earth peace, to men of good will. ✠ Three things are marvels, God and man, Mother and virgin, Threefold and one. Jehovah. The word has been made flesh. Zephyrs blowing. Messiah. Holy Spirit. Anger appeased. Man.)

The characters above the word HOMO are not cut with sufficient distinctness to be indentified, and are given here as closely as possible with type. In *Historischen Remarques über die neuesten Sachen in Europa*, (Hamburg, 1702, etc.), this is described at p. 179. The writer says the first may mean the tables of the Law, (the conventional representation of which it evidently resembles) the centre character the world, and the last the chalice of the New Testament; and in view of the inscription this seems as satisfactory an explanation as can be offered. The first character is not recognizable as an alchemical symbol, the second is antimony, and the third *calx*, or lime. This Medal is also described in M. Christian Schlegel's *Biblia in*

Nummis, Jena, 1703, (p. 346) who however doubts its being alchemical. (Quoted by David L. Walter, *loc. cit.*) See plate.

Reyher describes a variety of this "thaler piece," so called, (and illustrates it at page 18,) which has the well-known chemical symbols \ominus \triangleleft ☿ of sulphur, salt and mercury, but otherwise seems to conform exactly to our plate. *Historischen Remarques*, p. 129, also has an engraving, and the piece is further briefly mentioned by Köhler and Madai (No. 1282).

XXXVIII. (Medal of 1675.)—This has the appearance of a piece of silver hammered into shape by an unskilled hand; the marks of the hammer are clearly seen on its faces, and the edge is turned over till it projects slightly on the circumference. It measures 66 *mm.* in diameter. The *obverse* has a representation of Saturn as Chronos or Time, with a flowing beard and common garments; he holds a scythe in his right hand, the blade of which passes above and behind his head. He has, as often portrayed, one wooden leg. In his left arm he supports a naked infant. On his left a house and a lofty tree; on his right rising ground and another tree; at his feet grass and flowers. No inscription. This design is not stamped as by a die, but is drawn on the face by some sharp-pointed instrument.

The *reverse* has a few simple scrolls and the words in five lines in script characters: ANNO 1675 MENSE JULIO | EGO J. J. BECHER DOCTOR | HANC UNCIAM ARGENTI FINISSIMI | EX PLUMBO ARTE ALCHYMICA | TRANSMUTAUI. (In the month of July, 1675, I, Doctor J. J. Becher, transmuted by hermetic art this ounce of purest silver from lead.) See plate.

This inscription is of the highest interest, as it directly associates this medal with the eminent German chemist Dr. Johann Joachim Becher, Professor of Medicine in Mainz, and physician to the Elector. Born in 1635 at Spires, he was self educated, but his talents gained for him many positions of honor. At one time he resided in Munich, where he had an excellent laboratory; later in Vienna, and still later in Holland. In 1681 he traveled in England, examining the mines and smelting works of Cornwall. He died in 1682, according to some authorities, in London. He was the author of thirty-seven or more works, the most celebrated being that usually known as

Physica Subterranea, (Frankfurt, 1669) ; a later edition of this, published at Leipzig in 1703, has a long introduction by George E. Stahl. In this joint work the doctrine of Phlogiston is promulgated, a theory that controlled chemical science for more than a century.

Although possessed of no mean attainments in science, Becher was a firm believer in alchemy, and labored and wrote much on the transmutation of metals. In the same year as that of the medal in question (1675) he published an Essay on the possibility of transmutation, dedicated to Emperor Leopold. At this time and for two years previously he was much occupied with alchemy ; in 1673 he made a proposition to the States General of Holland to manufacture for the government one million thalers per annum, above all costs, by operations on sea-sand, of which there certainly is no lack on the coast. He maintained that the sand fused with certain ingredients, to which were added one mark of silver, yielded uniformly one *as* of gold, and stated that by operating on one million marks of silver daily, the above named profit could be secured. This proposition was favorably considered by the government, which granted him a premium and a percentage. In 1679 an experiment was made, whereby one mark of silver yielded six *as* of gold. But notwithstanding this fortunate result, the project was never carried out, and Becher soon after left the country. In justice to this chemist, it should be stated that he himself said he preferred science itself to all gold. To the circumstances connected with the medal in question, I have not as yet found any reference in those of his works at my disposition.

XXXIX. (1716.)—The third of the fac simile pieces is of (suppositious) gold, and is a handsome piece of workmanship, the figures and letters being in high relief.

Obverse. A large figure of Saturn resting on clouds, with the head of the radiant Sun, and holding a scythe in his right hand and an hour-glass in his left. On the clouds to his left is the symbol of lead ♁ . The legend, surrounding this device and near the edge, is AUREA PROGENIES PLUMBO PROGATA PARENTE. (A golden offspring begotten of its parent lead.)

Reverse. No ornaments whatever, and the following long inscription in letters of uniform size:

METAMORPHOSIS | CHYMICA | SATURNI IN SOLEM | ID EST, | PLUMBI | IN AURUM, | SPECTATA
 GENIPONTI, | 31 DECEMBRIS MDCCXVI. | PROCURANTE : SERENISSIMO | CAROLO PHILIPPO | COMITE
 PALATINO RHENI | S : [ACRI] R : [OMANI] I : [MPERII] ARCHIDAPIFERO ET ELECTORE | BAVARIÆ,
 IULIÆ, CLIVIÆ | ET MONTIUM DUCE, | TYROLIS GUBERNATORE ETC., ETC., | ATQUE IN HAC MONETA |
 AD PERENNEM REI MEMORIAM | ARCI AMBROS ET | POSTERITATI DONATA. (The chemical meta-
 morphosis of Saturn into Sol, that is, of lead into gold, seen at Innsbruck, December 31st,
 1716, at the hands of his highness Charles Philip, Count Palatine of the Rhine, of the Holy
 Roman Empire. Chamberlain and Elector of Bavaria, Duke of Julich, Cleves and Berg, Gover-
 nor of the Tyrol, etc. And a coin in this [*i. e.* struck in metal resulting from this metamor-
 phosis] is given as a perpetual souvenir of the transaction to the Castle of Ambros and to
 posterity.) See plate.

This inscription gives all that we have of its history; the Castle of Ambros was renowned in the last century for its extensive and valuable collections of curiosities, many of which are still preserved in Vienna. The hexameter on the obverse, *Aurea progenies*, etc., was first used, as we have stated, by the Emperor Ferdinand III in 1650.

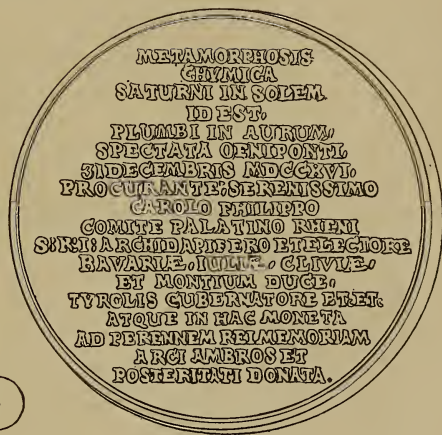
Since collecting most of the preceding material, I have received a kind letter from Dr. Hans Riggauer, Director of the Royal Bavarian Cabinet of Coins, Munich, communicating a list of the alchemical medals in possession of the Collection; to this we have already referred, and we here add brief notes of additional medals named in his letters, Nos. XL to XLIII.

XL. A pest-medal. *Obverse*: St. George and the Dragon. *Reverse*. A monogram, etc., and an inscription with the symbols ☿ and ♂.

XLI. A medal of lead, size of a double thaler. *Obverse*. In an inner circle the sun surrounded by the signs ☿ ♀ ⊙ ♂ ♃ ♄ ♅ ♆, and the inscription (translated): THIS THALER IS MANUFACTURED OF SEVEN METALS. *Reverse*. An inscription declaring that "These metallic and mercurial materials are worn by men as protection against rheumatism and erysipelas."

XLII. A small, thick medal of lead. *Obverse*. A hexagram with the letters A D O N A I in the corners; in the central hexagon the characters ♂ ⊙ ♃ ♄. *Reverse*. A pentagram with alchemical and mystical characters.

XXXIX.



ALCHEMICAL MEDALS.

XLIII. A medal of tin. *Obverse.* A miner at work, surrounded by sixteen alchemical characters. *Reverse.* An inscription of ten lines. (See Appel, 4038.)

It is obvious from even these brief descriptions, that Nos. XL to XLII, and possibly XLIII, fall in the class of talismanic medals, and the alchemical symbols so-called are of purely astrological significance.

XLIV. The alchemical signs ♀ ☉ ♃, copper, silver and lead, on a coin of George II of Hanover, struck in 1740, and which bears a view of a mine, are probably used to denote the metals found there.

In speaking of No. X, page 17, it was mentioned that the alchemistic sign ☿ is sometimes used to denote the day of the week (Wednesday): it is also used to denote the month of September on some of the celebrated *Glocken-thaler*, or Bell thalers, struck at Braunschweig-Lüneburg in 1643: and the symbol ♃ occasionally denotes Thursday. (Madai, 1144 and 1145).

In Mr. William T. R. Marvin's superb volume *The Medals of the Masonic Fraternity described and illustrated* (Boston, 1880, privately printed), will be found a medal bearing planetary signs [No. CCCCXLIV, on page 179], and several with astronomical emblems.

Besides the coins and medals made from hermetic gold and silver, there were many other evidences of alchemical skill not less reliable and pleasing. Having no intention, however, of reviewing the history of transmutations in general, we can only allude to a few of these visible and precious proofs of the mystic art. Early in the 17th century, Michael Sendivogius of Poland played a successful rôle as alchemist in many parts of Europe, receiving special favors from crowned heads and wealthy noblemen. In 1604 he went to Prague and was cordially received by Emperor Rudolph II, a devotee of alchemy; Sendivogius presented a morsel of the philosopher's stone to the Emperor, who made a transmutation with his own hands; delighted with his success, Rudolph caused to be placed on the wall of the room of the castle in which the event occurred, a marble tablet inscribed as follows:

FACIAT HOC QUISPIAM ALIUS
QUOD FECIT SENDIVOGIUS POLONUS!

(Let any other do what Sendivogius the Pole has done.) This tablet was still to be seen in position as late as 1740. Sendivogius was given the title of Counsellor of State, and honored with a medal of the Emperor. (Lenglet du Fresnoy, *Histoire de la philosophie hermétique*. Paris, 1741, Vol. I, p. 339.)

On another occasion Sendivogius delighted the King of Poland, Sigismund II, by transmuting a silver medal into gold without injuring the ornamentation; this he did by merely heating the medal red hot and dipping it into a solution of the "powder" in alcohol. Borel, in his *Antiquités Gauloises*, relates that he saw this crown piece in Paris, and he describes it as "partly gold, so far only as it was steeped in the elixir, and the gold part was porous, being specifically more compact than in its former state in silver; there was, moreover, no appearance of soldering nor any possibility of deception." (Morhof, *Epistola ad Joel Langelottum*. Hamburgi, 1673, p. 150.)

A certain Lascaris, whose movements were mysterious in the extreme and who generally remained incognito, is credited with a remarkable feat in Vienna. On the 20th July, 1716, before a number of important personages, in the palace of the Commander of the Fortress, Lascaris transformed a copper pfennig into silver by plunging it into a certain liquid. This was testified to in legal form by many dignitaries of the Church and of the State.

The Scotch alchemist, Alexander Sethon, in 1602, made a projection for his host, James Haussen, a poor sailor; some of the gold he gave to Dr. Vanderlinden, a reputable physician, who engraved on it the date of the transmutation, *March 13th, 1602, at four o'clock*; this piece was seen in the hands of the Doctor's grandson by George Morhof. The same Sethon is credited with another transmutation for a Frankfurt merchant named Coch, with whom he lodged, and from the gold thus obtained shirt buttons were manufactured. (Th. de Hoghelande, *Historiae aliquot transmutationis metallicae*. Coloniae, 1604.)

In many families of Germany, heirlooms, such as the buttons just named, were treasured and handed down to younger generations as mystical emblems of a lost art; such was the buckle, half silver and half gold, received from an unknown adept by Baron von Creuz of Homburg in 1715; such were the

silver guldens transmuted to gold by Count Caetano, in the city of Berlin (1705); such, too, was the drinking-cup belonging to the Countess Sophie von Erbach, which was changed from silver to gold by an unknown visitor in her castle; such also were the rings and buttons preserved by the Gldenfolk family as a souvenir of the skill of an adept in 1755.

Those who believed and would persuade others to believe in the transmutations of metals, were further wont to recall the enormous riches of many reputed followers of Hermes, discovered usually after their death. Augustus, Elector of Saxony, who made projections with his own hands, at his death in 1580, left seventeen millions of rix dollars in the treasury; Rudolph II of Germany, already often alluded to, left at his death in 1680, eighty-four hundred weight of gold and sixty hundred weight of silver, products of hermetic art. At the same time the professed makers of gold invariably demanded from their credulous patrons, or from the public, large sums of gold itself, ostensibly for the preparation of the wonder-working "tincture," though actually it was consumed in the maintenance of ostentatious and extravagant living.

The establishment of a truly scientific spirit of inquiry, and the progress of a rational chemistry at the close of the last century, exposed the pretensions of alchemy, and deprived the charlatans of their power over the masses. The manufacture of coins and medals to commemorate fraud and legerdemain ceased, yet this century is not wholly without its harmless claimants of alchemical knowledge and power.

In 1843 a curious work appeared in Paris, by a manufacturer of cloths of one of the southern provinces, who undertook to teach in *nineteen lessons* the secret of transmutation. Franois Cambriel, the author of this "*Cours de philosophie hermtique*," made the following magnificent offer:

"We therefore offer 25,000 francs for each thousand francs loaned, provided the person loaning the money will grant us his confidence and will furnish 6,000 francs (a sufficient amount to complete our discovery), to be paid in seventeen payments, one every month except the first, which shall be of 1,200 francs." Then follows his address, and it is rather significant that

he resides in *Judas Street* ! No. 8, Paris. This tempting offer does not seem to have found takers; perhaps the author lacked the financial ability of a George Law to float his bubble.

In 1869 Dr. Gottlieb Latz, of Bonn, one of the University towns of Germany, published an extraordinary volume on alchemy, "for the use of physicians and all educated thinkers," in which he exhibits much misdirected learning, and amazing credulity.

Finally, this very year, 1889, has seen the second edition of a volume having the title: "L'or et la transmutation des métaux, par G. Théodore Tiffereau, alchimiste du XIXe siècle. Paris, 1889." To analyze this singular book would take up too much space at the close of a paper already lengthened beyond expectation, but we may briefly say that the author claims to have discovered while residing in Mexico, *nature's processes* of producing the metals gold and silver in mines, and he appeals to the public to give their attention to a series of six memoirs addressed to the French Academy of Sciences and declined by them. These memoirs are couched in respectful, not extravagant terms, and clothed in modern chemical language, — facts which make the claims of the author more at variance with current belief. He permitted one of the assayers of the Mint at Paris to perform one of his experiments, and the report annexed would be discouraging to any one less blind, enthusiastic, and self-confident than Monsieur Tiffereau. He does not strictly come within the scope of this essay, as he has not as yet made any contributions to numismatics; perhaps this notice may prompt him to do so, and furnish collectors with one more singular proof of belief in a long-lived delusion.

University Club, New York.

L. of C.







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