

- 139 HERTZ, BRAM. A CATALOGUE OF THE COLLECTION OF PEARLS AND PRECIOUS STONES FORMED BY HENRY PHILIP HOPE, ESQ.

London: William Clowes and Sons, 1839 (112 pp. + 42 engraved plates). 15 × 10½ inches, folio: (8), signed by H. Thomas Hope, Esq.

The privately published catalogue of the celebrated Hope Collection, compiled by Bram Hertz, for H.P. Hope, a wealthy collector of the time. It includes a large number of famous items, among them the Hope Diamond (see page 26, plate #V), the largest blue diamond known. The Hope Diamond is thought to have been cut from the 112 carat stone brought to France by the great jewel trader, Jean-Baptiste Tavernier (see lot #151) and purchased by Louis XIV in 1668 as part of the French Crown Jewels. This stone, later called the French Blue, was recut into a 67 carat heart in 1673 and disappeared after the crown jewel robbery of 1792. The 45.5 carat Hope Diamond, named for the London banker, Henry P. Hope who purchased it in 1830, was apparently cut from it. The Hope diamond is now in the Smithsonian Institution, Washington D.C.

A very good copy of this rare catalogue which was published in limited number. The Hope Green Cross (plate #VI) was sold in Geneva at auction in May of 1980. The entire collection of gems formed by Henry Philip Hope, was sold at auction in May of 1886 in London, after being on exhibition at South Kensington Museum for many years.

Reference: Precious Stone chapter, Mineral Resource Annual by George F. Kunz, 1887, p. 577.

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See illustration

A

C A T A L O G U E

OF THE

COLLECTION

OF

PEARLS AND PRECIOUS STONES

FORMED

BY HENRY PHILIP HOPE, ESQ.

SYSTEMATICALLY ARRANGED AND DESCRIBED

BY B. ^{OWEN}HERTZ.

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INTRODUCTION.

FROM the remotest ages precious stones have been held in the highest estimation, and, as their beautiful colours and brilliant lustre have assigned them a place as ornaments, they have in this quality formed a branch of commerce which has extended itself to all parts of the globe.

A certain scale of their respective value has been also fixed; but capricious prices have often been given for gems of extraordinary beauty or size, or, in other words, for specimens of extreme rarity.

Although the ancients were not acquainted with the art of cutting precious stones with facets, so as to give them that lustre which establishes their beauty, they nevertheless held them in great estimation; and, in order to render them more valuable, they engraved the portraits and deeds of their heroes and celebrated men on them, as, from the imperishable nature of these gems, they were considered fit to convey to posterity the remarkable events of history.

We find the names* of precious stones mentioned in the Scriptures of the Old Testament: there is a particular instance in the breastplate of Aaron, where the names of the twelve tribes of Israel were represented by twelve various gems, on which the names of the tribes were engraved; as also the shoulder-pieces of the Ephod, containing each an onyx, on which the names of the tribes of Israel were engraved as in a seal, six on

* If we institute a comparison between the ancient and modern denominations of gems, we shall in many instances find it difficult to guess what the author could have intended to represent by certain names: this is, however, easily accounted for, if we recollect that the art of cutting precious stones was not brought to any perfection, and that the ancient lapidaries were not sufficiently acquainted with the hardness and specific gravity of the various stones, and consequently committed frequent errors in placing gems bearing some resemblance to each other in the same class; so that authors have often given the name of emerald, for example, to the chrysoprase, the beryl, the jasper, the plasma, or any other stone of a green colour; or they have probably described the blue calcedony, or the lapis lazuli, as sapphire, &c.

each shoulder. This is a proof that the art of engraving on precious stones was not unknown even at that early period, although the art of cutting and polishing them was, it may be supposed, at a very imperfect stage.*

Some ancient authors, such as Pliny and Theophrastus, give us accounts of the high estimation in which precious stones were held by the Greeks and Romans, and tell us what enormous sums were sometimes given for rare specimens; which proves that at all times they were used as ornaments of distinction by the wealthier classes, and sometimes, on account of their portable nature, were purchased as means of investing capital, being easily transferable in times of war or other emergency.†

Scaurus was the first who formed a collection of precious stones; Pompeius created a taste for precious gems, in bringing to Rome a collection of vases and rings which had belonged to Mithridates, and which he deposited in the Capitol.

The drinking-vessels or cups were enriched with precious gems, as also the mirrors: princes wore them even on their shoes.

Ancient history also relates some curious anecdotes respecting the high estimation in which precious gems were held; of which, passing over the well-known history of the pearl of Cleopatra, we shall only refer to that of the Roman senator Nonius, who expatriated himself rather than give up to Marc Antony a rare opal which was in his possession.

The formation of the collection of precious stones, &c., described in this catalogue, has employed the proprietor during a great number of years. It is only as the result of the rare combination of the most refined taste, the highest and most ardent love for the beautiful productions of nature, and the abundant means of procuring them, that so rare and unique an assemblage of precious gems has been brought together; an assemblage which, from the number of magnificent and unique specimens, is unrivalled, and offers

* The art of cutting diamonds was only invented in the year 1475, by Lewis Van Berquem, from Bruges: before that period these stones were worn in their natural state of crystallization, which is a regular octahedron.

† We have had, in modern times, a proof of this assertion in the French Revolution, where, at the installation of the Revolutionary Tribunal, the aristocracy were compelled to expatriate themselves; and the only articles which they could save were their diamonds, pearls, and other precious stones, the sale of which, at their arrival in the different places where they took refuge, afforded them momentary means of subsistence. Such was the quantity of jewels submitted by the French emigrants, in the different countries of the Continent, as well as in England, that a momentary decline in prices of diamonds took place.

to the connoisseur a vast field of research among the numerous varieties of colour and remarkable operations of nature; varieties which, on examination, are really astonishing, and, in many instances, almost incomprehensible. However, when we remember that the leaves of a tree, which receive nourishment from the same root, differ from each other in their form and grade of colour, our surprise at beholding such a great variety of colours in the same class of gems will be moderated, particularly if we take also into consideration the fact, that these gems, for the most part, owe their origin to chemical combinations of the various earthy substances with metallic oxides and bases, the variations of colours by which are almost infinite.

The proprietor of this unique and valuable collection having kindly intrusted me with the preparation of a descriptive Catalogue, I have endeavoured, by the most minute and careful examination of every gem, to discover its peculiarities in respect of cutting, shape, colour, and other characteristics, and to convey to the reader, by a simple description, a correct idea of the beauty or curious qualities of each; to which is added an account of their localities; and this I have done without entering into scientific researches and details. Want of time has prevented me from dwelling more fully, as in many instances I could have wished to have done, on these precious gems; my descriptions are, however, so expressed, that, with the assistance of the annexed plates of diagrams, the reader will be enabled to form a tolerably accurate idea of the merits of this interesting collection.

Although I have refrained from scientific observations in the individual description of the respective specimens, yet I have thought it would be useful to those readers, who have not time to study mineralogical works, to give, on each class of gems, an abridged account of their physical characters, such as specific gravity, hardness, &c., adding some information respecting their principal localities.

The collection is kept in a mahogany case, containing sixteen drawers, each glazed and numbered; most of the gems are mounted as rings, with an ivory ticket attached, on which is the number referring to this catalogue; and on the more precious the weight of each stone is engraved. The specimens of larger dimensions are placed in the drawers numbered 14 and 16. Each class is placed in a drawer by itself; but there are some which, being not sufficient in number, have therefore been brought together into one drawer, and placed as they are described in this catalogue.

It may be necessary to state the reasons which have induced me to withhold diagrams of the pearls (except a few specimens) and crystallized diamonds.

With respect to the former, their great number would have rendered this work too voluminous, and their mere outline would not have been sufficiently interesting; and then, with respect to the crystallized diamonds, it would have been a difficult task to have found an artist able to copy them correctly, with all their angles, planes, &c., which requires a profound knowledge of crystallography.

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C A T A L O G U E,

&c. &c.

THE PEARL.

THAT the pearl has been, from time immemorial, a gem of *great price*, we learn from ancient history and the Scriptures; and it has, from that time to the present, continued to retain the degree of estimation in which it has always been held. This sort of pre-eminence it unquestionably owes to its native elegance and beauty: unadorned by the meretricious arts of the jeweller, it shines forth in its own native *orient** “ adorned the most.”

It has long been known to naturalists that the pearl is a morbid secretion, produced by a sort of oyster, which is itself the *mother of pearl*, and that pearls of various characters are produced by many different sorts of shell-fish. The purest and most esteemed are, however, produced only by one particular species—the *Meleagrina albina* of *Lamarck*. The *Meleagrina margaritacea*, as its name imports, also produces abundance of pearls: this, however, is the *mother*, not of the *oriental*, but of the *occidental* pearls. Pearls, as they are naturally formed, are found either adhering to the inside of the bivalve shell, or lying in some part of the mollusc itself. It appears, from a careful examination, that they are produced by a deposition of the testaceous pearly matter upon grains of sand, or some foreign substance, which has accidentally found its way into the shell, to the great inconvenience of the animal, and upon which the animal has consequently, in its own defence, deposited a coat of matter congenial to its own nature; consequently, ever after, as the animal itself continues to increase, the pearl increases contemporaneously. Artificial pearls have been produced, by subjecting the animals of pearly shells to the inconvenience of steel points inserted through the shell.

The Scotch pearls are the produce of the *Mya margaritifera* of Linnæus.

Pearls are found principally in the Persian Gulf, on the coasts of Ceylon, in some of the rivers of the East Indies, in America, and particularly in Panama, in Scotland, and in some of the rivers of Germany, namely, in Bavaria, Saxony, and Bohemia.

After having recorded the formation and the qualities of the pearl, as well as its

* *Orient*. This is a term in use among jewellers, intended, by one word, to express the delicate display of prismatic colours so characteristic of the finest pearls.

localities, it will be interesting to the reader to learn in what manner this tenant of the dark unfathomed caves of ocean is brought to light.

The shells in which the pearls are contained are found on rocks and at the bottom of the sea; these are called pearl-banks: the shells are detached from the banks by divers, who, from their earliest age, are trained to remain for a certain period under water. These divers row with a boat to the place where they know the pearl-bank to be; they attach a rope round their body, and venture their perilous descent.* Stones, from 20 to 30 lbs. weight are fastened to their feet, to promote the quicker arrival at the place of their operations: their nostrils and ears are stuffed with cotton; a sponge, dipped in oil, is fastened to their arm, which they occasionally bring to the mouth to breathe without swallowing the water.

The diver is provided with a knife to detach the shells from the rock, and a basket to collect them in. When he has accomplished his task, or when want of respiration does not allow him to remain any longer under water, he loosens the stone or weights attached to his feet, shakes the rope by which he has descended, and is, with the greatest speed, drawn to the surface of the sea.

Since the invention of the diving-bell, the operation of detaching the shells from the subterraneous rocks of the sea is much facilitated, as the divers have better means of breathing under water.

When the shells are collected, they are packed in barrels, and are exposed to putrefaction: in this state they open and show the beautiful and perfect pearls: those which are opened by the knife are not mature, and, consequently, not of a fine orient.

The value of the pearl is principally established by the size, the colour, or the perfect shape: those which are of an imperfect form are called barock, and are sold by the ounce; but those which are of a round or pear-shape, and of a fine colour, are valued and sold by the piece.

P E A R L S.

1st Drawer;

Containing a collection of pearls of various shapes and colours, which are of the utmost interest to the connoisseur of gems, as well as to the conchologist, on account of the great variety of colour, singular formation, and, in some instances, of the enormous volume.

The singular-shaped, or rather deformed pearls, lie in one row, and are fitted, according to their respective forms, into a block of wood, lined with white velvet, to prevent their rolling or moving from their places, and their number is indicated by the letters of the alphabet.

The specimen letter A*, on account of its large dimensions, is kept in the 16th drawer,

* Divers are not only exposed to the voracious dispositions of the shark, by whom they are either devoured or mutilated, but the pressure of the water often occasions apoplectic fits, which put an end to their lives.

among the principal gems of the collection ; and the specimens B*, C*, D*, for the same reasons, are kept apart in a leather case. The other pearls are kept in small ivory saucers, which are separated by square partitions, and on each saucer is the number engraved and filled up with black.

A*. A most extraordinary large specimen of an oriental pearl, of an irregular pear-shape, measuring 2 inches in length, $4\frac{1}{2}$ inches in circumference at the broadest end, and $3\frac{1}{4}$ inches at the narrower end ; weighing 3 ounces, or 1800 grains. About $1\frac{1}{2}$ inches of the pearl are of a fine bright orient ; the bottom part is of a fine bronze tint, or dark green shaded with copper colour. This gigantic pearl was detached from the shell, but it was deemed necessary to leave a small portion of the shell adhering to it, but which is of so fine an orient, and so well polished, that it is not distinctly perceived to be of the nature of shell.

Considering the growth of pearls in general, that they are a morbid secretion of a species of oyster, which is of small size, it is surprising to behold, in the present specimen, a mass of pearl which must surpass the fish which formed it at least six times in weight ; and we may presume that it is the largest pearl ever found : it is surmounted with a royal crown of red enamelled gold, and studded with fine brilliants, rubies, emeralds, &c.

B*. An extraordinary fine specimen of a pearl oyster-shell, containing ~~two~~ oriental pearls attached to it. One is of a blackish cast, which proves that it has not come to maturity, and may be presumed, when detached, to weigh 30 grains ; the other is of a fine pear-shape, and of a superb orient, and would probably weigh about 40 grains. This shell is interesting in another point of view, as attached to the back of it are several serpulæ in a petrified state.

C*. A most remarkable specimen of the pearl attached to the pearl-shell. The general form of this specimen is a rather irregular oval ; it is $3\frac{1}{2}$ inches long, and $2\frac{3}{4}$ wide, and the pearly concretions upon its upper surface appear to be all formed upon that part of the inside of the pearl shell which serves for the attachment of the adductor muscle. They mostly assume the form of stalactitical concretions, one of which, near the lower part and at the larger end, is considerably elevated and crescent-shaped, with a bright pearly and mamillated surface at its upper part, curving over, and forming as it were a roof to a cavernous depression beneath, at the outer part of which are seen three large variously shaped pearly concretions : the largest of these, which is seen near the lower part of the specimen, is an irregularly rounded protuberance, of a bright pearly aspect, but having a remarkable jet black elongated mark near its upper part, as if a fissure had been left in the pearl which had afterwards been filled up with polished jet ; the centre one of these three pearly concretions is of an irregularly elongated form, and extends nearly to the upper edge of the specimen ; the third is of a more abrupt outline, and stands close to the upper end of the first-mentioned crescent-shaped elevation. Besides these, there are several small pearls and various less prominent stalactitical concretions, which are for the most part pearly and shining on their more elevated

parts, and of a *blanc mat* in the hollows and their lower parts. A portion of the external surface of the shell is to be seen at the back. A representation of this very curious specimen is given at plate II. upper figure.

- D*. Another very singular specimen of the pearl attached to the *Margaritifera*, in which the pearly excrescences are also formed upon that part of the shell to which the adductor muscle of the animal is attached. This specimen measures in length nearly $3\frac{1}{2}$ inches, and in width about 2 inches. The outer border of this specimen, which is part of the shell, together with another portion at the upper and left-hand side, are of pearly lustre, while the remainder is of a *blanc mat*, and it is remarkable that the pearly concretions formed upon each of these two parts respectively are of a different form. That part which has a bright pearly lustre is very irregularly formed, being slightly elevated in parts and depressed in others, with a few rather acuminate projections. The portion which has a dull surface is rather thickly studded with tolerably regular *mamelons*, most of which are acuminate at their apices, which are sometimes pearly and sometimes rather more darkly coloured, so as to have the appearance of nipples. This specimen is represented in the lower figure of plate II.
- a An oriental pearl of an irregularly oval shape, $\frac{9}{16}$ th of an inch in length by $\frac{1}{2}$ an inch in width; of a brilliant white colour, but uneven on the surface. This specimen was removed from the shell, and has been left open at the back, where it shows a black substance in the interior, which is the first formation of the pearl or morbid secretion of the fish.
- b A small oriental pearl attached to a piece cut from the shell. It is remarkable that this pearl in the progress of its growth has indented its shape in the upper part of the shell, which it has even pierced: this part is kept with the pearl, and may be said to form a case for it.
- c A group or cluster of pearls which have united in one mass, and form the figure of a sheep's head; it is of a yellow colour, but of a bright orient, and is attached to the shell.
- d An oriental pearl, in shape somewhat like the body of a duck, without the head: of a bluish cast, but very bright.
- f A very curious oriental pearl, of a long narrow shape, 1 inch in length and $\frac{3}{16}$ th in width, and of a pink colour.
- g A very curious pearl of the shape of a knotted club, $1\frac{1}{2}$ inch long, $\frac{3}{8}$ ths of an inch wide at one end, $\frac{3}{32}$ wide at the other; the broader end is of a bronze colour, the narrower of a yellowish white: this pearl is of a brilliant orient.
- h A group or cluster of small seed pearls adhering to the shell, forming a crescent $1\frac{1}{2}$ inch long, by $\frac{5}{8}$ th's of an inch wide; the pearls are not of good colour, but the specimen is remarkable for the close aggregation of so great a number.
- i A curious pearl representing the lower part of the human belly with the two thighs.
- k A very curious oriental pearl of an irregular shape, showing very brilliant spots of a greenish bronze on the white ground colour.
- l A great curiosity, being the intestine of the pearl oyster, of a brilliant jet black colour, impregnated with a number of oriental pearls, of a white colour; but

- which have not come to maturity, and have not taken any regular shape, but appear merely as incrustations on the surface, and denote the commencement of the formation of pearls as well as the principle of their formation.
- m* A large and fine piece of an oriental pearl, of a somewhat triangular shape; very brilliant orient of a slight bluish cast.
- n* A very curious pearl, in shape like a leg of mutton, or if held in another position like the body of a bird with a long upright neck: of a bright orient.
- o* A curious pearl, attached to a piece of the shell, of a very white colour, and resembling the head of a mole.
- p* A curious pearl of an irregular shape and uneven surface, partly black and white, resembling the head of some animal with a pointed snout.
- q* A curious pearl of a conch shell, of a light pink in some parts, shaded with yellow.
- r* A very curious piece of pearl of a beautiful orient, resembling an extracted tooth with the roots hollow inside.
- s* A flat piece of pearl of an irregular shape, and of a very fine orient.
- t* A curious pearl of an irregular shape; one part of it is white, the other of a most brilliant dark greenish bronze colour.

No.	Grains.
1. A large pearl of a circular shape, flat at the back; it has very much the appearance of a sardonyx, the top being of a bright bluish white, which is encircled by a dark bronze colour - - - - -	124
2. A large oriental pearl, of a round shape, flat at the back, of a yellowish white colour; the back shows different strata, like a sardonyx, which denotes the mode of increase of the pearl, the fish having at first produced a small pearl, which he has afterwards enveloped with a second, third, and fourth coat - - - - -	82
3. A large acorn-shaped oriental pearl, very high; it has a bluish cast, and is very brilliant; near the flat part is a stripe or band of an opaque white colour - - - - -	85
4. A large pearl, of a nearly round shape; one side is of a bluish-white colour, the other of a light bronze - - - - -	89
5. A large drop-shaped pearl, of a <i>chatoyant</i> aspect, as seen in taffety; the white is shaded with red, purple, and green - - - - -	76½
6. A curious pearl, approaching to a round shape, and of a changeable aspect; the white is shaded with purple, green, and red; and one side shows various strata, like a sardonyx - - - - -	74½
7. A large pearl, of a round shape, and of a lead colour, but with a very even and bright surface; a little piece is chipped out from one side, which opens to view a second nacreous coat under the first - - - - -	76

No.		Grains.
8.	A button-shaped pearl, of a dark green-bronze colour, and with an uneven surface - - - - -	68
9.	A curious pearl, of an irregular shape, approaching to round; one side is of a lead colour, the other changing, the white shaded with red - -	56½
10.	A button-shaped pearl, the top of a bronze colour, and the lower part of a bluish-white orient - - - - -	48½
11.	An acorn-shaped pearl, the top of a reddish-bronze colour, and the bottom part, which is flat, of a green-bronze colour - - - - -	63½
12.	A pearl, of a pear shape, and of a lead colour, but with a very even and brilliant surface - - - - -	44½
13.	A button-shaped pearl, of a lead colour - - - - -	39½
14.	A pearl, of a nearly round shape, and of a reddish-bronze colour, of a bright aspect - - - - -	37½
15.	A pearl, of an oval shape, having both ends of a greenish-yellow and bright, and the middle milk-blue, and of a dull appearance - - - - -	42
16.	An acorn-shaped pearl, of a very dark bronze colour; the bottom is flat, and of a very bright greenish black - - - - -	38½
17.	A button-shaped pearl, of a lead colour; the bottom part is not quite flat, and shows several strata, like those of a sardonyx - - - - -	34
18.	A pear-shaped pearl, of a dark green-bronze colour, with a very even and brilliant surface; the thinner part just at the top is of a whitish-yellow, without being nacreous; but if this pearl were to be used as an ear-drop this defective part would be covered by the gold or diamond cap necessary to hold it - - - - -	35
19.	A very fine pear-shaped pearl, of a dark green-bronze colour, a little shaded with red; it has a very even surface, and a high lustre - - - - -	22
20.	A fine round pearl, of a very dark green colour, which might even be called black; its surface is very even, and it is of great lustre - - - - -	22¼
21.	A large oriental pearl, approaching to a round shape; on one side, where it has been detached from the shell, it is a little flat; it is of a bluish cast, slightly shaded with pink, and of great lustre - - - - -	71¼
22.	A curious oriental pearl, of a long, irregular shape, something like a filled money-bag; it is beautifully nacreous, and of a milky, bluish cast - -	50¼
23.	A magnificent, somewhat pear-shaped, oriental pearl; it is of the most beautiful orient, but has unfortunately been detached from the shell before its maturity, and is therefore imperfect on the side by which it adhered - - - - -	48¼
24.	A beautiful Scottish pearl, of an oval form and pinkish cast - - - -	38

No.	Grains.
25. A beautiful pear-shaped Scottish pearl, of a milky, bluish cast, slightly shaded with pink. This specimen, though not of so high a lustre as the oriental pearls, is of a charming aspect, and remarkable for its fine form -	34½
26. An oriental pearl, of a round shape, a little flatted on one side, and of a dark yellowish cast - - - - -	39½
27. A pearl of an oval shape, and lead colour, with a very even surface of a fine lustre - - - - -	32
28. A most beautiful pearl, from Panama, perfectly round, of a fine milk white colour and beautiful lustre. This specimen is remarkable for its uncommonly fine shape - - - - -	27½
29. A fine pearl, from Panama, of a round shape, a little flatted at both ends, of the same colour as the last, but not so bright in lustre - - - - -	22½
30. A Scottish pearl, with a bluish cast, of a perfectly round shape - - - - -	22½
31. A button-shaped pearl, from Panama, of a perfectly circular form, of a fine white colour, very slightly shaded with pink. This specimen has a superb lustre, is of a most charming aspect, and shows a degree of transparency -	18
32. A very curious oriental pearl, in the form of a bottle with a stopper on, of a fine white colour and beautiful lustre - - - - -	20½
33. An oriental pearl, of a cylindrical form, flatted at both ends; it has a milky bluish cast, a fine lustre, and some transparency - - - - -	18½
34. A pearl, approaching to oval in shape, a little flatted on one side, and of a lead colour - - - - -	20
35. A Scottish pearl, of a flatted, round shape, and pinkish colour - - - - -	21
36. A most beautiful and curious oriental pearl, of a round form, deep pink colour, and very great lustre - - - - -	22½
37. A button-shaped pearl, of a dark green-bronze colour, a little shaded with red - - - - -	19½
38. A button-shaped pearl, of a deep milky bluish cast, very bright - - - - -	18½
39. A pear-shaped pearl, of a very dark green-bronze colour, shaded with red. The coat of this pearl very much resembles in external appearance a dark green shining beetle - - - - -	18
40. A button-shaped pearl, of a very dark green-bronze colour; at the top is a small circular spot of a whitish appearance - - - - -	9½
41. A very curious pearl, of a conical shape, flat at the bottom, with a very small indented mark. This pearl is of a cream colour, very much like the opal; at the summit it displays a lustre of a radiating appearance.—From Polynesia - - - - -	151
42. A curious pearl, of a circular button form, and of a yellowish white colour, with a slight shade of pink.—From the conch shell - - - - -	77½

No.	Grains.
43. A most beautiful and curious pearl, of an oval shape and cream colour. The fine form, the even surface, and the beautifully nacreous lustre of this pearl, give it a charming appearance.—From the South Seas - - -	94
44. A fine drop-shaped pearl, of a cream colour at one end, and the same radiating aspect as No. 41.—From the South Seas - - -	67½
45. A curious drop-shaped pearl, of a yellowish white, with a shade of lilac at the top.—From the conch - - - - -	63
46. A most beautiful pearl, of an irregular shape, approaching to oval; it is of a fine pink colour, a little whitish at the ends, beautifully nacreous, and of a charming aspect.—From the conch - - - - -	82¼
47. A most superb pearl, from the conch shell, of a fine oval shape and pink colour, a little yellow at both ends, with a transparent coat and most beautiful nacre - - - - -	60¼
48. A curious pearl, from the conch shell, of an irregular form, approaching to triangular, pale pink, shaded with yellow - - - - -	62
49. A superlatively fine pearl, from the conch shell, of an oval form and beautiful deep pink of an uniform tint, with a transparent coat, finely nacreous, and with a somewhat <i>chatoyant</i> aspect - - - - -	57
50. A beautiful pearl, from the conch shell, of a circular button shape and fine lilac colour, with a circular whitish mark at the summit, and whitish at the back - - - - -	45
51. A curious pearl, from the conch shell, of a pear shape, and dark brownish colour, approaching to black; one end is of a light brown colour - - -	53¼
52. A curious pearl, from the South Seas, of a conical shape, yellowish-white colour, and very finely nacreous surface - - - - -	53¾
53. A fine pearl, from the South Seas, of a conical shape and cream colour, finely nacreous, and of the same aspect as No. 41 - - - - -	53½
54. A very fine drop-shaped pearl, from the conch shell, of a pale pink, with a beautifully nacreous surface - - - - -	34½
55. A curious pearl, from the conch shell, of an irregular form, approaching to triangular, and of a deep violet colour, finely nacreous - - - - -	33¼
56. A beautiful pearl, from the conch shell, of an irregular form, approaching to oval, and of a fine pink colour, with a little yellow at both ends - - -	34
57. A fine pearl, from the conch shell, of a circular button shape, dark brown in front, yellowish white at the back - - - - -	32½
58. A very fine drop-shaped pearl, from the conch shell; at the thinner end it is of a purple colour, which is shaded into deep brown, then it passes into a lighter, terminating at the thicker end in a yellowish white, with a fine nacreous surface - - - - -	21¾

No.	Grains.
59. A curious pearl, from the conch shell, of a cylindrical form, conical at one end, of a lilac colour, shaded into yellowish white - - - -	24½
60. A very fine drop-shaded pearl, from the conch shell, of a very uniform dark brown colour, with a transparent coat, and beautifully nacreous - -	22½
61. A fine egg-shaped pearl, from the conch shell, of a beautiful lilac colour, which passes over into a pinkish white, with a finely nacreous surface -	26
62. A very beautiful pearl, from the conch shell, of an irregular shape, approaching to oval; it is of a cream colour, with a slight pinkish hue over it, and with a finely nacreous surface. This specimen has a most charming aspect - - - - -	26½
63. A fine pearl, from the conch shell, of an oval form and pink colour, passing over into yellow; both extremities are of the latter colour. It has a fine nacreous surface - - - - -	19½
64. A beautiful pearl, from the conch shell, of the most perfectly round form, and of a brownish colour, partly shaded with purple. It has a fine even surface	35½
65. An exquisitely fine pearl, from the conch shell, of the most perfectly round form, and of a very beautiful purple colour, with a fine even surface. This is one of the finest specimens in the Collection, and may be called matchless - - - - -	35½
66. A most beautiful pearl, from the conch shell, of a fine form, between round and oval, but perfectly even; which is rarely met with in a pearl of this class; it is of a yellowish pink colour, of a uniform hue (likewise a rare quality), and it has a beautifully nacreous surface. This specimen has the most lovely aspect, and deserves well its place beside the last - -	25½
67. A fine pearl, from the conch shell, of a perfectly round shape and the most even surface; it is of a drab colour - - - - -	24½
68. A curious Scottish pearl, approaching to round, of a greenish white colour, and showing in one part a pinkish orient - - - - -	20½
69. A curious pearl, of a conical shape, and of a drab colour passing over into a yellowish white at the pointed end - - - - -	24½
70. A curious pearl, of a round shape, and light drab colour - - - -	19
71. A very curious pearl, from the conch shell, of a button shape; it is of a chocolate colour on one side, and yellowish white on the other - -	18½
72. A Scottish pearl, of a perfectly round form and bluish cast - - -	17
73. A very fine Scottish pearl, of a perfectly round form, and of a milk-white colour, with a slight hue of pink, and showing a beautifully nacreous surface	14½
74. A very fine Scottish pearl, of an elliptical form and beautiful pinkish hue, and with a fine brilliant aspect - - - - -	13½
75. A fine Scottish pearl, of a round form and of a milky-bluish colour, with a fine pinkish hue; it shows a beautiful nacreous surface - - - -	13½
76. A curious pearl, from the conch shell, nearly round and of a chocolate colour	13½

No.	Grains.
77. A Scottish pearl, of a round form and milky bluish tint - - -	13½
78. A button shaped Scottish pearl, of a pinkish cast; the top part is of a bright orient and the other part has a dull aspect - - -	14
79. A very curious Scottish pearl, of a somewhat conical shape; the bottom part is concave, and has a nacreous surface, and the top is of a bluish tint with a pink hue, and of a very bright orient; the other part of the pearl is of a pinkish yellow without much lustre, and shows at its surface several elevated lines or bands which encircle it - - -	15½
80. A curious Scottish pearl, of a cylindrical shape, convex at one end and flat at the other, of a milky-bluish tint, a little shaded with pink - -	21
81. A curious pear-shaped Scottish pearl, the bottom part is of a bluish white cast; it is finely naced and of a bright lustre; the other part is of a brown colour without being nacreous - - -	15½
82. A very curious cylindrical pearl, of a drab colour, convex at both ends with a raised band of a dark brown colour round its body; then follows an indentation, and after this again a raised band of a lighter colour than the body of the pearl - - -	17½
83. A very curious oriental pearl, of a pale greenish yellow colour and bright lustre, cylindrical in form and having both ends of a blackish colour -	11½
84. A curious egg-shaped pearl, one end of a lead colour and the other brownish, the remainder of a greyish tint, marked with several bands or stripes, which run in an horizontal direction round the pearl - - -	12½
85. A curious conical pearl, of a drab colour, the bottom of which is convex and black - - -	15
86. A curious conical Scottish pearl, with the top and bottom of a bluish cast and the remainder yellowish white, marked with bands which run in an horizontal direction round the body - - -	17½
87. A fine oval pearl, from the conch shell, of a pale pink, beautifully nacreous with a little yellow mark on both ends - - -	12½
88. A matchless, perfectly circular pearl, from the conch shell, a little flatted on both sides, of a fine and lovely pink colour, with a transparent most beautifully nacreous coat, and of a charming aspect. It would be a difficult task to find a match for this pearl on account of its regular shape and uniform colour, qualities of such rare occurrence in pearls from the conch shell - - -	13
89. A very curious harlequin pearl, of an oval shape; one-half of it is of a milk-white tint, and has the lustre of an oriental pearl; the other part is of a light brownish yellow, and has a high polish - - -	10½
90. A very beautiful round oriental pearl, of a fine straw colour and the highest lustre - - -	8½
91. An egg-shaped oriental pearl, partly of a bluish white and partly of a yellowish-bronze colour - - -	12½

No.	Grains.
92. A curious pearl of an egg-shape; three parts of it are of a dark-bronze colour, and the remainder of a whitish tint	10
93. A very fine oval pearl, of a sort of lead-colour, with a pinkish hue over it, and of very great lustre	10
94. A curious conical-shaped pearl of a dark-lead colour	10
95. A fine egg-shaped oriental pearl, beautifully nacreous, with a yellowish hue on the white	10
96. A fine oriental pearl, of an egg shape, beautifully nacreous and remarkable for its fine form	9½
97. A very curious button-shaped pearl; one side is convex, of a brownish red and fine lustre; the other side is flat, but has in the centre a circular elevation, and is of a yellowish white colour	6½
98. A very curious pearl of the most perfectly round form, and fine light brown colour, shaded with a light lilac, and of a fine lustre	11½
99. A curious round pearl of an asparagus colour, with a light shade of a brownish-red on two ends: it has a finely-polished surface	13½
100. A curious nearly round pearl, of a yellowish-white colour, and with a finely-polished surface	17½
101. A very curious pearl, of the exact shape of a gourd, of a light-brown colour, and black at the top, as if it had been intended for the stopper of a bottle; the surface of the pearl is of a fine polish	11½
102. A very curious pearl of an egg shape, composed of several strata or bands of different colours, exactly like a sardonyx, the first stratum is of a light brown, the second of a light lilac, the third of an olive green, then follows a greyish colour, terminating in a light brown	14½
103. A curious perfectly round pearl, of the same nature as the last, but not having so many distinct strata; at one end is a circular spot of light-brown surrounded by a greyish colour, which passes over into a brownish tint	12½
104. A curious pearl of a conical form at both ends, which are of a bluish tint; the remainder of the pearl is of a blackish colour	9¾
105. A curious round pearl, of a light lilac colour, shaded with yellowish-white, and with a finely nacreous surface	10½
106. A curious Scottish pearl, of a cylindrical form, convex at both ends; one-half of the pearl is of a fine pink, and a most beautiful orient; the other half is likewise of a pinkish cast, but not so finely naced	9½
107. A curious conical pearl, flat at the bottom, which is of a bluish-white tint and of great lustre; the other part is of a lead colour	11
108. A fragment of a fine Scottish pearl, of a convex form; the bottom part shows a fracture as having been broken asunder; this specimen is of a fine pink intermixed with purple, and of the brightest orient	7
109. A curious round pearl of a greenish-yellow colour intermixed with brown	7½

No.		Grains.
110.	A Scottish pearl, of an oval shape and milk-white colour, but not of very great lustre - - - - -	9½
111.	A curious pearl from the South Sea, of a round form; one end is of an orange colour, the remainder white, in appearance very much like the satin spar - - - - -	9½
112.	A fine pearl, nearly oval and of a chocolate colour, with a fine polished surface - - - - -	11½
113.	A curious conical-shaped pearl from the conch shell; of a lilac colour at the top and deep purple at the back, and with a fine polished surface -	12
114.	A very fine pearl from the conch shell, of a button-shape; the top is of a violet colour, which is shaded into a fine lilac, and is of a beautiful lustre; the back is of a yellowish green - - - - -	8½
115.	A very curious button-shaped pearl; the top presents a circular spot of a brown colour surrounded by a stratum of greyish-white, which gives it the appearance of a sardonyx - - - - -	8½
116.	A very curious pearl from the conch shell, of the shape of a French bean, and of a deep violet colour, with a bronze gloss over it - - - - -	8½
117.	A curious conical pearl, convex and with a brownish circular spot at both ends; the colour of the pearl is a greyish white, with a raised band round the middle of a deep olive colour - - - - -	12
118.	A curious oriental pearl, of a conical form; one end is convex and the other concave; it is of a bluish tint and has a fine lustre - - - - -	8
119.	A curious button-shaped pearl of a drab colour with a whitish gloss; and having the character of the oriental pearl at the top - - - - -	7½
120.	A curious pearl of an oval shape; about one-third is of a drab colour, the remainder of a greyish tint with a light brown circular spot at the top and a fine polished surface - - - - -	9½
121.	A very fine and curious oriental pearl of a cylindrical form, convex at both ends; one end is formed like the neck of a bottle; the specimen is of the finest orient - - - - -	4½
122.	A curious pearl of a round form, with a slight lilac colour, presenting on two sides a gloss like that of a Scotch pearl - - - - -	8½
123.	A curious pearl of a pear shape, and of a brownish-red colour; at the smaller end is a dark-brown circular spot, and a small projection as of the broken stalk of a pear - - - - -	6½
124.	A very curious pearl of a round form, but compressed; one side presents a perfect sardonyx of four strata of white, lilac, and yellow; the other side is of a reddish brown - - - - -	9½
125.	A very curious oriental pearl of an oval form, of the most perfect orient and beautifully nacreous; this specimen has a girdle of an opaque white just in the middle - - - - -	5½

No.	Grains.
126. A curious pearl of a light-drab colour, of the form of a pear with a stalk to it - - - - -	5½
127. A curious button-shaped pearl of two strata, of a light chocolate and lilac colour; the flat part is of a lilac colour, with a small cavity, in which is a very small raised point of a greenish colour - - - - -	6
128. A very curious Scottish pearl, of an irregular, nearly oval shape; the surface is covered with elevated lines, and very much resembles the shell of a snail; both ends are of a bright lustre - - - - -	4½
129. A very curious, nearly round pearl, of a drab colour, with a fine polished surface; at one side is an excrescence of a triangular form, presenting the lustre of an oriental pearl - - - - -	8½
130. A curious pearl of an irregular form, approaching to round, and with a rough surface; it is of a milky-bluish tint, and has a degree of transparency; and it is in appearance very much like a calcedony - - - - -	7
131. A curious oval pearl, of a drab colour at both ends, and yellowish-white in the middle - - - - -	8¾
132. A curious round pearl, a little flatted at one side; one half of it is of a yellowish-brown; the other is of a greyish-white, with a circular indented mark at the top, which has the lustre of an oriental pearl - - - - -	10
133. A very fine perfectly round pearl, of a chocolate colour, and with a finely-polished surface - - - - -	6
134. A round Scottish pearl, of a greyish-white colour, and not of much lustre - - - - -	5½
135. A curious button-shaped Scottish pearl; the top is of bright lustre and brownish-red colour, passing over into a whitish-yellow - - - - -	4½
136. A curious round pearl, of a light-brown colour, and having a finely-polished surface - - - - -	6½
137. A very curious cylindrical pearl, convex at the top; of a yellowish cast; placed on a projecting circular base of a brownish colour - - - - -	3½
138. An extraordinarily fine oval pearl from the conch shell, of a very fine deep pink colour, and most beautifully nacreous - - - - -	3½
139. A curious oval Scottish pearl; one end of a greyish-white, the other of a pinkish colour - - - - -	4½
140. A fine Scottish pearl, of an egg shape and fine pink colour, beautifully nacreous - - - - -	3½
141. A curious oriental pearl, of a nearly round form, deep yellow colour, and finely nacreous - - - - -	4
142. A curious round pearl, a little flatted, and of a dark green bronze colour, commonly called black - - - - -	2½
143. A very curious oriental twin pearl, exactly in the form of a dumb-bell; one end is of a greenish, the other of a fine yellow colour - - - - -	2½

No.	Grains.
144. A curious Scottish pearl, of a conical form, with a circular brown spot at the top, and the remainder of a milky bluish - - - -	2
145. A curious button-shaped pearl, of a drab colour, with a circular brown spot at the top, which shows great lustre - - - -	1½
146. A very curious button-shaped oriental pearl, of a fine orange colour, and beautifully nacreous - - - -	1½
147. A curious oriental pearl, of an egg shape, of a deep yellow colour, and finely nacreous - - - -	1½
148. A curious button-shaped pearl; the top is of a dark grey, approaching to black, and the back part is of a yellowish-white - - - -	¾

THE DIAMOND.

THE diamond claims precedence over the gems, because it excels them all in their most distinguishing characteristics. The perfect cohesion of its particles renders it more dense or harder than any other known substance; its high refractive power and consequent brilliancy of lustre, its beauty, and the purity of its colour and water, and the most perfect combination of all the qualities that render gems so fascinating, entitle the diamond to the place it has always held in the estimation of the great among all civilized nations, and which it continues to hold even to the present day. The diamond must be regarded as an anomalous substance; it has, consequently, long been the subject of conjecture and experiment, the result of which is, that it is known to be the only substance in nature consisting of one pure uncombined principle, namely, *carbon*, whose particles exist in it, in such a perfect state of cohesion as to give it crystalline structure, transparency, and extreme brilliancy. Its crystalline structure is perfectly lamellar, and distinct cleavages may be obtained always parallel to the planes of a regular octohedron, which must, therefore, be regarded as its primary form; this is subject to various modifications leading to the cube, and the regular dodecahedron. It is also subject to another modification, consisting of two planes (which are always rounded) upon the edges of the cube or octohedron, or dividing the planes of the dodecahedron in the direction of their shorter diagonal. These rounded planes are very commonly met with in the crystals of the diamond; their presence, to the utter exclusion of all the other planes, produces the *spheroidal* diamond. The planes of the cube are very seldom neatly determined and polished; occasionally, however, they are more so than the remaining planes of the same crystals: those of the dodecahedron are always more or less rounded. Besides the numerous variations of crystalline form in which the diamond occurs, as resulting from the combinations of the above-mentioned modifications, it is also subject to that sort of combination of crystals usually termed *hemitrope*, twin crystals and macles, and these are either simple combinations of *two* crystals, or compound combinations of *six* crystals, greatly increasing the variety of forms naturally belonging to the diamond. And, besides these, there is the "diamond of nature," which is a diverging fibrous concretion, a form which the diamond often assumes, but which has not hitherto been noticed by mineralogical writers. The specific gravity is stated at from 3·4 to 3·6. When heated the diamond is said to become phosphorescent, but there are some diamonds which become phosphorescent by mere exposure to the sun.

Diamonds have been found in India throughout a great extent of country; the kingdoms of Golconda and Visapour have been principally celebrated for them. The Island of Borneo, with which Europeans are so slightly acquainted, also produces diamonds; the largest known appears to have been found in that island. In the interior of

Brazil also there is an extensive diamond district, from which the greater number of diamonds now in commerce are imported. And, within the latest years, diamonds have also been found in Siberia. They appear to have been discovered hitherto only in alluvial deposits.

CRYSTALLISED DIAMONDS.

2nd Drawer.

No.		Grains.
1.	A crystal of a regular cubic form, and of a greyish yellow milky colour, somewhat opaque and rough on the planes and edges; the irregularities of the surface do not show any appearance of crystalline planes, nor are there any other apparent modifications about this specimen, nor any trace of the primary planes. Weight - - - - -	3
2.	A crystal of a nearly regular cubic form, and of a bright reddish orange colour; its surface is dull, and the planes rather uneven; three of its edges, which are all contiguous to one of the solid angles, are considerably rounded, but the remaining nine edges are tolerably neat. The colour of this crystal is very unusual - - - - -	4
3.	A crystal of a cubic form, with a rough uneven surface, and of a light reddish orange colour. The inequalities on some of the planes are considerable, and many of them show traces of crystalline planes; most of the edges also are irregular and slightly rounded - - - - -	3½
4.	A crystal having the general form of the cube of a grey colour, its surface is smooth and shining, but rather uneven; its edges are remarkably rounded, which is owing to two curvilinear planes which are set upon each edge of the cube; and upon a careful examination it will be perceived that a distinct line separates each pair of tangent planes down the middle, which line is parallel to the edge of the cube - - - - -	1¾
5.	A crystal of a regular cubic form, with a rather uneven surface, and of a fine brown colour; its edges are neat, and its solid angles are each replaced by a brilliant, but very minute, even, triangular plane, which is the plane of the primary octohedron - - - - -	4
6.	A cubo-octohedron, of a regular form, and of a greyish-yellow colour; the planes of the cube are rather dull and rough, but their asperities are entirely of a crystalline character, and glistening when viewed in the direction of any one of the planes of the octohedron, which latter are smooth and more shining; the octohedral planes are not all equal in size, and those edges of the cube where the planes of the octohedron do not reach are slightly rounded - - - - -	1½

The Octohedron.

No.	Grains.
7. An octohedral crystal, having each of its solid angles replaced by a plane of the cube, and most of its edges by curvilinear planes of other modifications; the planes of the octohedron are smooth and shining, and their surfaces even, but all the remaining surfaces are rather uneven and dull - - -	1½
8. An octohedron of a dark brown colour, and having a dull surface, and its edges somewhat rounded; no distinct planes can be perceived upon its edges, and their rather narrow rounded planes are probably attributable to a combination of various modifications - - - - -	1¾
9. An octohedron of a somewhat flattened form, in consequence of two of its planes which are opposite to each other, being very much larger than the remaining six; it is of a pale yellowish colour, transparent, and of adamantine lustre; its surfaces are even, but its edges are a very little rounded -	3
10. An octohedral crystal, of a rather unsymmetrical form, some of its planes being larger than others, beautifully transparent, and of a slightly yellowish colour; the planes of the octohedron are flat, smooth, and shining, and upon most of them may be seen slight triangular indentations; its edges are rounded owing to the presence of a modification, consisting of eight narrow planes set upon each solid angle, which are, however, not sufficiently defined to be described as a distinct modification - - - - -	12½
11. An unsymmetrical octohedron, with rather uneven surfaces and rounded edges: it is of a yellowish colour, transparent, and shining with a bright adamantine lustre: four of the planes of this octohedron are equal in size and triangular; three others are much larger than the rest and pentagonal, while the eighth is very small and triangular; so that if placed upon its base with this small triangular plane as its summit, it has the appearance of a tetrahedron equally deeply truncated at each of its basal solid angles, but with a small truncation only at its apex - - - - -	3½
12. A large transparent octohedron, of a symmetrical form, and of a very pale greenish yellow colour; its surfaces are smooth and shining, and pretty even; in the centre of each plane are some rather irregular triangular indentations, more numerous and strongly marked on some of the planes than on others, and the edges are much rounded: there are, moreover, indications of six very low bevilling planes, placed upon each plane of the octohedrons, and merging with the rounded edges, but these indications are all more or less curvilinear. In the centre of the crystal is a small irregular black speck - - - - -	16½
13. A large symmetrical octohedron, of a yellowish-grey colour, with a roughish dull surface and rounded edges, which are more shining and less rough than the planes: this crystal is translucent, but it is very remarkable for having all its solid angles of a darker colour, and more opaque than the body of the crystal - - - - -	10¼

No.	Grains.
14. A crystal of a dull green colour, the general form of which is an octohedron, but its planes and edges are all rounded, rather dull and irregular; it is rather irregularly laminar in its structure, the edges of the laminæ being parallel with those of the octohedron: there are scarcely any traces of flat and even surfaces to be seen about this crystal: there are, however, some very irregular fissures, apparently filled with a dark-brown earthy substance	6 $\frac{3}{4}$
15. A crystal of the dodecahedral form, its planes being rather irregular, and its surfaces dull; its colour a brownish-grey: each of the rhombic planes is irregularly divided by a line in the direction of its shorter diagonal, indicating two planes placed at a very obtuse angle to each other, but too irregular and dull for measurement	11 $\frac{1}{2}$
16. A dodecahedral crystal, having the same peculiarities as the last in respect to the nature of its planes, which are also divided by a line in the direction of their shorter diagonal: in this crystal the planes are, however, less regular and more rounded than in the last. Six of them, which are in opposite sets of three each, are larger than the remaining six, the crystal in consequence assumes the form of an irregular hexahedral prism, with a low trihedral pyramid at either extremity. It is of a dull reddish colour, and has a flaw, which appears partly filled with a dull red foreign substance	7 $\frac{1}{8}$
17. A crystal of the same form, and having the same planes as the last, but having a much more flattened appearance, in consequence of the six sets of planes which seem to form a prism in that, being in this much smaller and almost linear. This crystal is transparent, of a very pale yellowish colour, and has a smooth shining surface; all the edges of the planes are neatly and distinctly marked, so that it has the appearance of a very low hexahedral prism surmounted by a very flat <i>hexahedral</i> pyramid, because the lines in the direction of the shorter diagonal of the rhombic plane are neat and distinct	3
18. A crystal of a pale yellowish colour and dodecahedral form, having all its planes rounded, and each of them divided, though irregularly, by a line in the direction of the shorter diagonal of the rhombic plane. This crystal is transparent and has a smooth polished surface	2 $\frac{15}{16}$
19. A crystal of the same form as No. 16, but having a smooth polished surface, and being of a bright bluish-green emerald colour	1 $\frac{1}{8}$
20. A crystal of the dodecahedral form, having the same planes as No. 16, but not so symmetrical, inasmuch as that two sets of planes, opposed to each other in pairs, are one of them larger, and the other smaller, than the remainder of the planes: this crystal is consequently of an ovate shape: it is transparent, its surfaces are smooth and polished, and it is of a delicate topazine wine colour	1
21. A crystal of an ovate tetrahedral general form, which has the same planes as No. 16, together with four alternate planes of the octohedron; its planes are, however, unsymmetrical and rounded, and the planes of the octohedron have the appearance of oblong hexagonal laminæ placed in the centres of	

No.	Grains.
each of three oblong sets of triangular planes, where six such planes meet. This crystal is of a delicate yellowish colour and transparent, but its surfaces are dull - - - - -	3 $\frac{3}{4}$
22. A large transparent crystal, the general form and appearance of which is that of an octohedron with rounded edges; all its planes are rounded, and it has the same modifications as the last seven described crystals: in this crystal, however, they are so proportioned as to meet in sets of six each, on each plane of the octohedron: surface smooth and polished; a very slight brownish tint is perceptible - - - - -	20 $\frac{1}{8}$
23. A transparent, light brownish-coloured crystal, having an oblong form and the same planes as the preceding, but unsymmetrically arranged, four of the octohedral planes being lengthened and enlarged, while the remaining four are comparatively diminutive; the laminar structure of the mineral is manifest in this crystal by the appearance of superposition of laminæ on the larger surfaces: a small plate has been broken from one side - - -	3 $\frac{1}{4}$
24. A very beautiful and symmetrical crystal, combining the planes of the cube, the octohedron, and the dodecahedron (<i>the triforme of Haüy</i>): the six planes of the cube are dull and rather uneven; the eight triangular planes of the octohedron are smooth and even; upon two of them are placed triangular laminæ, raised a little above the surface; the planes of the dodecahedron are square and striated parallelly with the edges of the triangular planes of the octohedron. This is a transparent crystal, which has a very slight tinge of greyish-yellow colour, and its surfaces are not very bright, but its planes are neatly distinguished - - - - -	$\frac{3}{8}$
25. A small transparent colourless crystal of a spheroidal form, having the planes of the cube distinct, but rather dull: all the other surfaces are rounded, but they belong to the same series of modifications as those which form the rounded edges of No. 4, and the irregular rounded planes of Nos. 15 to 23, which meet in sets of six each, at the eight points where the planes of the octohedron would naturally be placed. This crystal closely resembles the larger figure given by Phillips in the third edition of his <i>Elementary Introduction to Mineralogy</i> , p. 362, but has not the primary planes - - -	$\frac{1}{4}$

Hemitrope, or macled Crystals.

26. An hemitrope octohedron with rounded angles, of a pale yellowish colour and rather dull; somewhat irregular rounded surfaces - - - - -	2 $\frac{11}{16}$
27. An hemitrope octohedron, of a triangular form, transparent, and of a dull yellowish colour: it has the appearance of a trihedral plate, owing to the large dimensions of two opposing planes, the remaining planes being linear and rounded, and rather dull - - - - -	13 $\frac{15}{16}$
28. An hemitrope octohedron, of a rather irregular triangular form, and of a dull green colour; its angles are rather irregular and rounded, and its surface	

No.	Grains.
rather dull ; several irregular fissures are observable, one of which appears to be filled by a blackish earthy substance - - - -	11½
29. A flat dull green-coloured hemitrope crystal, of a triangular form, and having two distinct rounded surfaces, each divided into two rather irregular rounded triangular planes. This crystal is translucent and its surfaces dull -	4 ⁵ / ₁₈

Groups.

30. A transparent octohedral crystal, with rounded edges and rather irregular ; having two orange-coloured specks at three of its solid angles ; one of the planes of the octohedron is singular for having a deep triangular cavity, at the lower part of which is fixed a minute crystal of a deep and rich brown colour - - - - -	3½
31. A group of two large rather irregular octohedrons with dull rounded edges, and of a pale greenish grey colour ; a black speck is observable near the centre of the larger crystal. These crystals are not symmetrically combined, and cannot therefore be regarded as macles - - - -	27!
32. A group of two crystals of the <i>triforme</i> variety, in which the planes of the cube are large, rather uneven and dull ; those of the octohedron are hexagonal, smooth and rather shining, and those of the dodecahedron are much the smallest, four-sided, and rather uneven. In this specimen the groupment appears to have been formed by the apposition of one of the octohedral planes of one crystal against the corresponding plane of the other ; so that it must be regarded as a regular macle. It is transparent and of a yellowish colour. In this singular specimen it is further observable that the two crystals which are macled being unequal in size, the smaller one has the appearance of being embedded in the larger, and parts of the larger crystal, on three sides, seem thrown out as arms embracing the smaller crystal. -	3
33. A group of three octohedrons, macling and intersecting each other : two of them are combined by apposition of the corresponding planes of the octohedron, and form a regular macle, but the third intersects the other two in a different direction, rendering it rather irregular. The edges of the octohedrons are neat and regular and nearly destitute of traces of modification. This specimen is transparent and of a yellowish colour - - - -	½
34. A large irregularly octohedral crystal, formed by the combination of laminæ of unequal size and irregularly placed, though always in the direction of the natural joints ; the edges of these laminæ are all rather irregularly, some of them deeply, truncated by rather rounded planes. All the planes of the octohedron are flat and shining, those of the edges are rather duller. This crystal is of a very pale brownish colour, and it has an irregular black speck near its centre - - - - -	9½
35. An extremely irregular group of crystals, whose general predominating form is that of the <i>triforme</i> variety, and which has, though indistinctly, all the planes belonging to that form ; the planes which belong to the octohedron	

No.	Grains.
are in general neat, smooth, triangular and polished: those which belong to the dodecahedron are very uneven, irregular, and more or less deeply grooved parallelly to the edges of the octohedral planes, while those surfaces which correspond to the planes of the cube are deep, rough, and extremely irregular hollows. This specimen is rather opaque and of a pale brownish-yellow colour	13
36. A group of three small, pale-yellowish, transparent, double octohedral crystals, united together on one side; the octohedrons of which it is formed are all modified with rounded planes on the edges	1
37. A group of crystals, forming an octohedron, whose edges are replaced by deeply re-entering angles, producing a groove with slanting sides on each edge of the octohedral planes; the solid angles of the octohedron each of them present three points, the central one of which is salient and the two others are placed against the sides of the central; four of the octohedral planes are alternately larger than the remaining four, and all of them are smooth, and polished; and the specimen is transparent and of a yellowish colour	1 $\frac{1}{2}$
38. A group of crystals nearly similar in its form and construction to No. 37, but less regular, and deprived of three of the planes of the octohedron, in place of which small low hexahedral pyramids, resulting from the modification by two planes at similar angles on the edges of a cube, similarly to all the other planes constituting the re-entering angles of these crystals. This crystal is of a very pale yellowish-brown colour, and is transparent	2 $\frac{1}{4}$
39. A transparent, very pale, brownish-yellow crystal, having the general form of an octohedron, whose solid angles are replaced by the planes of the cube, and whose edges are deeply truncated. This crystal is very regular and symmetrical in its form; the planes of the octohedron are not very large, but they are very even, smooth and polished; the solid angles are replaced by surfaces whose edges are not regular, and in the centre of each is a small cavity formed by re-entering planes of the octohedron: the edges have the appearance of being deeply truncated; they are, however, only rounded, by a series of planes similar to those which produce the spheroidal crystal, and which are in this crystal very gently bevelled towards the planes of the octohedron, as well as divided at about the middle of each edge by a transverse line	3 $\frac{3}{8}$
40. A small transparent, very pale yellowish-brown crystal, similar to the last in its modifications, but in which the planes of the octohedron and the surfaces which represent those of the cube are larger, while those corresponding to the edges of the octohedron are considerably smaller than in No. 39. The whole surface in this specimen is smooth and polished	7 $\frac{5}{6}$
41. A transparent, very pale yellowish group of crystals, having the general form of an octohedron, with truncated edges and solid angles, but which is rather irregular in its grouping. In this crystal the planes of the octohedron are	

No.	Grains.
tolerably neat, even and smooth; but those surfaces which represent the planes of the cube are extremely irregular and rough; the truncations of the edges, which are somewhat rounded, are more or less irregular and deep grooves running parallel to the edges of the octohedral planes -	4‡
42. A nearly colourless transparent crystal of the same general form as the last, but in which the octohedral planes are larger; the surfaces which represent the planes of the cube are smooth and have rounded re-entering angles, while some of the edges of the octohedron are simply rounded, and others have rounded re-entering angular planes. The whole surface of this crystal is rather dull - - - - -	1‡
43. A group of seven crystals of a pale yellowish-brown colour, and flat on one side, owing to the increased size of the plane of the octohedron on that side. Each crystal of this group is an octohedron with rounded edges and smooth, even polished planes; and they are so symmetrically arranged together as to form an octohedron with even planes, and deeply rounded re-entering angles on the edges and solid angles - - - - -	‡
44. A very remarkable group, of a yellowish orange brown colour, and having the general form of a cube, with rounded angles and a notch in each edge. This group seems to be the result of the combination of eight spheroidal crystals, having rather irregular rounded planes, or of two tetrahedrons without rounded angles and edges crossing each other. It is observable that all the surfaces of this crystal are smooth and polished, except the solid angles (which correspond to the faces of the octahedron), which are rounded and dull - - - - -	3‡
45. A colourless crystal, having the appearance, in general form, of a dodecahedron, with rounded planes and edges and re-entering angles, but formed by the superposition of low hexahedral pyramids, with alternate dissimilar angles on each face of an octohedron. It is rather irregular, and no part of an octohedral plane can be traced - - - - -	4
46. A macle, consisting of two very small colourless octohedrons, with rounded angles embracing each other and forming re-entering angles, similar to No. 38. In this crystal, however, two opposite planes (one of each octohedron) are much enlarged, and most of the others are deficient; in their places are low hexahedral pyramidal acuminations - - - - -	‡
47. A large flattish maced crystal, of a nearly circular form, and having the appearance of a short nine-sided prism, surmounted at one end by a low six-sided pyramid with alternately dissimilar angles, and at the other end by a similar pyramid, in the centre of which is an hexagonal concavity formed by the meeting of three smooth, polished, re-entering planes: the remaining planes of this macle are less smooth, and rather dull. In this crystal are several irregular cavities and fissures, which are filled with various foreign substances, one of which, of an orange colour, has the appearance of an oleaginous fluid. The crystal appears to have been the	

No.	Grains.
result of the grouping of three hemitrope crystals of the spheroidal form, and the plane of union and <i>hemitropie</i> has been extremely irregular, as is evinced by the very uneven and jagged edges of the crystal - - -	61 $\frac{1}{2}$
48. An hemitrope crystal, having the general form of a short, rather irregular triangular prism, with rounded edges and angles. Two of the planes of the octohedron are distinct, at opposite ends of the prism, upon one of which is set a lamina of a low triangular pyramidal form, and upon the other a similar lamina with a flat apex. This macled crystal appears also to have been the result of the union of three hemitrope crystals of the form of the octohedron with rounded edges, as is evinced by the irregularity and re-entering angles of the prism: it is of an oil green colour, and pretty transparent - - - - -	8 $\frac{1}{2}$
49. Another hemitrope crystal, of a triangular form and nearly colourless, and appearing to result, like the two last, from the combination of three hemitrope crystals, evinced in a similar manner; it is transparent, and has a very slight yellowish tinge; its surfaces, edges, and planes are all rounded, but smooth and bright; the opposing two planes of the octohedron are surmounted by very low hexahedral pyramids, which, however, are not acuminate, but truncated by an irregular octohedral plane - - - - -	5 $\frac{1}{2}$
50. An hemitrope crystal, of a rounded triangular lenticular form, with a dull, rounded surface, and of a dull, very pale yellowish brown colour: it has a semilunar flaw on one side, which is filled with a reddish substance. This crystal appears also to be the result of the combination of three hemitrope crystals; for, though it will be seen that the line of <i>hemitropie</i> is very neatly defined, yet those parts of the crystal which are contiguous to it are irregular and jagged, and have occasional re-entering angles - - - - -	9 $\frac{1}{2}$

Irregular Groups.

51. An extremely irregular, but brilliant group of transparent, very pale yellowish-brown crystals, consisting apparently of seven or eight rounded angular crystals combined together in a confused manner, nevertheless forming an homogeneous crystal; probably, therefore, the molecules of which it is formed are all arranged in conformity with the natural crystallization of the mineral - - - - -	2 $\frac{1}{2}$
52. A group of transparent, nearly colourless crystals, the general form of which is somewhat cubic, but which is extremely irregular; it consists of a combination of spheroidal crystals, united so as to present hollow surfaces corresponding to the position of the planes of the cube, and re-entering angles corresponding to the planes of the dodecahedron, while it is entirely destitute even of the slightest indication of the planes of the octohedron - - -	2
53. A crystal, of a dull brownish colour and extremely irregular form, consisting apparently of a combination of rounded crystals grouped in an irregular manner: its surface in general rather dull - - - - -	13 $\frac{1}{2}$

No.	Grains.
54. A small group, consisting of two transparent, colourless dodecahedrons united side by side, and having all the planes rounded and divided by a line in the direction of their shorter diagonal - - - -	3
55. A transparent colourless crystal, of an oblong or elongated form, rounded, obtuse, and larger at one end than at the other, which is curved and more acuminate: all the planes of this crystal are rounded, smooth, and polished; they belong to the series which, when regularly and symmetrically combined, produce the spheroidal form, but in this particular instance are exceedingly distorted - - - -	5+
56. A rose-coloured crystal, of a somewhat ovate form, transparent, with smooth, rounded, polished planes belonging to the same series of modifications as those of the last crystal, but which are also very irregular - - -	‡
57. A crystal, of a pale brownish colour and of a very remarkable cubico-spheroidal form, its surfaces smooth and shining, except those parts corresponding to the solid angles of the cube, which are rather rough and dull. In this specimen the surfaces corresponding to the planes of the cube are concave, and those parts which would represent its edges are very much rounded: it is rather irregular - - - -	16+
58. A crystal, of a somewhat irregular spheroidal form, and with a rather dull surface, and of an opaline milky whiteness. The planes of this crystal are uneven and rounded; they belong to the spheroidal series. A fragment having been removed from one side of this crystal shows its laminar structure - - - -	2
59. A small irregular crystal, of a milky opaline, with a reddish tinge: its surface is smooth and polished, and its planes rounded; they belong to the spheroidal form - - - -	‡
60. A crystal of an oval form, rather elongated, or rounded and obtuse at one end, and somewhat acuminate at the other, its surface is rounded, not quite smooth, and rather dull, but it shows no traces of crystalline planes, and may probably be a " <i>diamond of nature</i> " - - - -	1‡
61. A large " <i>diamond of nature</i> ,"* formed of a combination of two variously sized rather irregularly globular concretions, without any apparent crystalline plane, but rough and rather dull on the surface. It is known that " <i>diamonds of nature</i> " are <i>diverging fibrous concretions</i> - - -	48‡
62. An irregular crystal having the planes of the spheroidal form, and of a pale greenish yellow colour, imbedded in the ferruginous breccia in which diamonds are found, commonly denominated "Cascahao" by the Portuguese in Brazil. It consists of quartzose and opaline pebbles united by a ferruginous arenaceous cement.	

* It may be observed here that the "diamonds of nature" are termed by the diamond merchants "*borl.*" and are unfit to be polished, on account of which they are used to cut and polish other diamonds.

POLISHED DIAMONDS.

No. 1*. A most magnificent and rare brilliant, of a deep sapphire blue, of the greatest purity, and most beautifully cut; it is of true proportions, not too thick, nor too spread. This matchless gem combines the beautiful colour of the sapphire with the prismatic fire and brilliancy of the diamond, and, on account of its extraordinary colour, great size, and other fine qualities, it certainly may be called unique; as we may presume that there exists no cabinet, nor any collection of crown jewels in the world, which can boast of the possession of so curious and fine a gem as the one we are now describing; and we expect to be borne out in our opinion by our readers, since there are extant historical records and treatises on the precious gems, which give us descriptions of all the extraordinary diamonds in the possession of all the crowned heads of Europe, as well as of the princes of Eastern countries. But in vain do we search for any record of a gem which can, in point of curiosity, beauty, and perfection, be compared with this blue brilliant.

Diamonds are found of almost every colour, which is proved by the great variety of coloured diamonds in this collection; but the blue colour is the most rare and most valuable, since there has very seldom been found a diamond of any size of a fine deep sapphire blue, those which are termed blue diamonds being generally of a very light or of a steel-blue colour: it would, therefore, be a difficult task to form a just estimate of the value of this unrivalled gem, there being no precedent, the value cannot be established by comparison. The price which was once asked for this diamond was 30,000*l.*, but we must confess, for the above-stated reasons, that it might have been estimated even at a higher sum. To convey to the reader by a description a just conception of the beauty and splendour of this unique production of nature would be a vain attempt.

This beautiful gem is most tastefully mounted as a medallion, with a border *en arabesque* of small rose diamonds, surrounded by 20 brilliants of equal size, shape, and cutting, and of the finest water, and averaging four grains each. Its weight is 177 grains.

This gem, particularly on account of its mounting, could not be placed in the drawer with the diamonds, but is kept in Drawer 16, together with the other extraordinary specimens of this collection.—Vide plate 5.

DIAMONDS.

3rd Drawer.

No.	Grains.
1. A very fine brilliant of the first water, and of a cushion shape. This stone, though a little too thick at the bottom, is beautifully cut and of the greatest brilliancy—Vide plate 5 - - - - -	90 $\frac{1}{2}$
2. A superlatively fine brilliant, of an oblong shape and crystalline water, from the mines of Golconda. This stone, although not naturally of the finest shape, is cut with the greatest skill, and shows the most beautiful refulgence—Vide plate 5 - - - - -	77 $\frac{1}{2}$
3. A matchless specimen of a rose diamond, of a circular form, of the finest and purest water, and of the greatest refulgence: its perfect shape and beautiful cutting cannot be sufficiently praised, so that it well deserves to be called a “ <i>pierre d'échantillon</i> ”—Vide plate 5 - - - - -	60 $\frac{1}{2}$
4. A large and fine portrait stone, of an oval shape, and of the purest water. This stone is remarkable for its size, as well as for the fine facetting on it: it is set as a ring surrounded with small roses—Vide plate 5 - - -	32 $\frac{1}{2}$
5. A table diamond, of a lengthened square shape, of the finest and purest water, from the Golconda mines: it is not like the brilliants, cut with a number of facets, but has a table and two long facets on each side, and it is set as a ring, with a shank mounted with small rubies—Vide plate 6 -	14 $\frac{3}{8}$
6. A very fine diamond from the mines of Golconda, of the purest crystalline water, and cut as a briolet. It differs, however, from the general form of the briolets, which are usually of the shape of a pear or drop; but this specimen has a cylindrical form, with a conical termination at both ends; the facets are likewise different from those of the briolets in general, as these latter always present on their surface a number of facets which cross each other in an oblique direction: the surface of the present specimen, however, is cut in narrow facets, joining each other, and running in a perpendicular direction. This beautiful and rare gem formerly belonged to the crown jewels of Portugal: it is mounted with a gold enamelled cap, and hangs in a black enamelled ring, set with seven table diamonds, evidently the work of some clever artist of the <i>cinque cento</i> —Vide plate 6 - - -	44
7. A briolet diamond, of a pear shape: it differs in cutting from the brilliant, particularly in its round form and the numerous small facets on it. The Indian diamond-cutters alone are able to cut the briolet. The present specimen is of fine water and beautiful workmanship, and deserves well its place in this collection—Vide plate 6 - - - - -	26 $\frac{3}{4}$
8. A curious diamond, nearly of a square shape, flat beneath, and having its surface divided into squares like a chess-board—Vide plate 7 - - -	3

No.	Grains.
9. A very curious specimen of a diamond, most skilfully cut, having the shape of a ball, with innumerable facets on its surface: it is kept in a ring between two glasses—Vide plate 7 - - - - -	3½
10. A large pink brilliant, of a cushion shape, oblong with rounded corners and beautiful proportions, as well as of the most perfect cutting. This matchless specimen is of a most charming and decided pink colour, and of the highest brilliancy, and would be a fit ornament for the crown of any monarch in the world—Vide plate 5 - - - - -	112
11. A very fine oval-shaped brilliant, of a lilac colour, very spread and beautifully cut. This specimen may well be called matchless, on account of its extraordinary colour, which is very rarely met with in the diamond: the blue is mixed with the pink, so that each is distinctly perceived, and still the mixture of the two produces a most uniform and charming colour: it is set in a ring with small roses—Vide plate 5 - - - - -	43½
12. A pink brilliant, of square shape with rounded corners. This stone, though not so brilliant as No. 10, is remarkable for its deep and decided colour: it is rather spread: set in a ring with small roses—Vide plate 6 - - - - -	17½
13. An extraordinarily fine pink brilliant, of an oval shape, and of a decided pink topaz colour: set as a ring with small roses—Vide plate 5 - - - - -	16
14. A brilliant, approaching to a circular shape, of an apricot colour, very pure and beautifully cut: there is a mixture of pink and orange in it, and the combination of these two tints produces a most charming colour, very rarely met with in the diamond: set as a ring with small roses—Vide plate 6 - - - - -	12½
15. A small, but unique pink brilliant, of the deepest ruby balais colour: it is beautifully cut: its brilliancy and fine colour combine to give it a charming appearance: it is set as a ring with small roses—Vide plate 7 - - - - -	1½
16. A very large and beautiful yellow brilliant, of a square shape, with rounded corners. This stone, although a little too thick, is most beautifully cut, and of a most beautiful refulgence: its tint is between the straw and lemon yellow: it is set as a ring with small roses—Vide plate 5 - - - - -	106½
17. A brilliant, of an octagon shape and pale chrysolite colour, having a light tint of green mixed with yellow. This stone is cut in a peculiar manner, its facets forming a star: it is extremely brilliant, and set as a ring with small roses—Vide plate 5 - - - - -	42¾
18. A fine briolet diamond, of a pear shape and straw colour, and is most beautifully cut: it has a little flaw, which is, however, scarcely perceptible, and it hangs free in a ring of small brilliants—Vide plate 6 - - - - -	46⅞
19. A most beautiful brilliant, approaching to a circular shape, and of a decided lemon colour. This specimen being of the utmost purity and most beautiful cutting, shows a great brilliancy, and it is of a most charming colour: it is set in a ring with small roses—Vide plate 6 - - - - -	16

No.	Grains.
20. A matchless yellow brilliant, of a perfect circular shape, and the most skilful cutting: it is of the finest jonquille colour, and the greatest refulgence. Its purity and other fine qualities entitle it to rank among the "Pierres d'échantillon:" it is set in a ring with small roses—Vide plate 7 - - -	10½
21. A brilliant of a cymophane colour and of an oblong cushion shape. The colour of this stone is composed of green and orange, both of which tints are distinctly perceived, and their combination produces a changing lustre, similar to that of watered silk: set in a ring with small roses—Vide plate 6 - - - - -	22¾
22. A ring set as a cross with some small roses, and containing six beautiful green brilliants of various shades: the stone at the top is of a fine aqua-marine colour, or mixture of green and yellow; the centre stone is of a beautiful deep peridot green; that below the centre is of the same colour as the one at the top; the stone to the left of the centre, and that at the bottom, are of a deep olive green; and that to the right of the centre is of a beautiful bluish or sea-green—Vide plate 6 - - - - -	19½
23. An oval brilliant, of a chrysolite colour, very spread and cut at the back with a great number of facets. This stone is quite pure and of a charming light green: it is set as a ring with small roses—Vide plate 4 - - -	13
24. A green brilliant, of a long square form, and of a very decided aqua-marine colour: it is rather thick, and is set as a ring with small roses—Vide plate 7	6½
25. A round brilliant, of a very deep tourmaline green colour. This specimen, though well cut, is not very brilliant, owing to some little defects in the interior: it is, however, well worthy of its place in this collection, on account of its uncommonly deep green colour: it is set as a ring with small roses—Vide plate 7 - - - - -	2½
26. A brilliant, of a square shape, with rounded corners and steel colour, approaching to blue. This specimen is beautifully cut, and of the most brilliant refulgence; and it deserves a place in this collection as a variety of colour in the diamond—Vide plate 6 - - - - -	21
27. A superlatively fine blue brilliant, of an octagon shape, beautifully cut and of great brilliancy: its tint is a deep sapphire blue, and on account of its extraordinary and perfect colour it is entitled to the name of a "Pierre d'échantillon:" it is set as a ring with small roses—Vide plate 6 - - -	10¾
28. A very fine oval-shaped brilliant, very spread, and most admirably cut. This specimen has a light-bluish tint and an opalescent appearance; and although for its size it is not sufficiently thick, the fine work upon it gives it a beautiful brilliancy; the back of the stone is cut like a sapphire with step facets, which increases the colour, and ought to be adopted in the cutting of all coloured brilliants: it is set as a ring with roses—Vide plate 6 -	16½
29. A brilliant, approaching to a circular form, and of a complete opalescent appearance: it is of a very milky-bluish tint, with a slight mixture of yellow: set as a ring—Vide plate 7 - - - - -	5½

No.	Grains.
30. A brilliant, of a very deep jacynth colour, and of an elongated square shape, with rounded corners, narrower at one end: the colour of this stone is a mixture of orange with brown. This specimen is rather thick, but is very remarkable for its uncommon and fine colour: it is set as a ring with small roses—Vide plate 6	36
31. A brilliant, of a round shape, and of the colour of a Saxon topaz: it is very spread, and beautifully cut, and there is a mixture of light orange with the brown: set in a ring—Vide plate 5	31
32. A rose diamond, of a peculiar shape, being quadrangular diamondwise, and having the lower part more lengthened than the upper: it is of the most beautiful cutting and of a very fine orange colour, so that in that respect it may be compared to a very fine Brazilian topaz, and it is of the greatest purity and brilliancy: it is set as a ring with small roses—Vide plate 5	13½
33. A brilliant, of an oval shape and deep orange colour. This specimen has several flaws in the interior, but is beautifully cut and of great brilliancy: in its colour there is a mixture of orange and brown: set as a ring with roses—Vide plate 6	15
34. A brilliant, of the colour of a light-brownish rock crystal: it is of an oblong shape, with rounded corners, and spread: it is set as a ring—Vide plate 6	13½
35. A brilliant, of a colour two shades deeper than No. 34: it is of a square shape, with rounded corners, and rather thick, and has a few specks in the interior: it is set as a ring—Vide plate 6	17
36. A brilliant, of a square shape, with rounded corners, and of a very deep brown colour. The stone is well cut, and though of a very dark tint has much brilliancy: set as a ring with small roses—Vide plate 7	12
37. A very rare specimen of a black brilliant: it is of a square shape, with rounded corners, well cut, quite opaque, and of the most brilliant jet colour: set as a ring with roses—Vide plate 7	3
38. A very curious brilliant, of an oval shape and garnet colour: set as a ring with small roses—Vide plate 7	2½
39. A small, but very curious specimen of a brilliant, the centre of which is white, and the border on each side of a fine orange colour: set as a ring—Vide plate 7	½
40. A ring, composed of three small, but very curious, rose diamonds, with black marks in the interior. The centre stone is of a round shape, and shows a perfect Maltese cross; the two side stones are of triangular shape, and have each a small round white spot in the centre, surrounded by a brownish border—Vide plate 7	
41. A diamond, of an oval shape and fine water, flat at the top and faceted beneath. Its surface presents the engraved portrait of the Emperor Leopold the Second, and shows a very good likeness of that monarch, in whose possession it formerly was. The engraving is in all its parts highly polished,	

No.

Grains.

- and it can scarcely be conceived how the artist has accomplished so arduous a task, having to contend against the extreme hardness of the stone. It is well known that the polishers of diamonds employ heavy weights to press the stone down on the turning-mill, because they have not power enough with their hands to give it that strong friction which is required to produce the polish. On the other hand, it is equally well known the engraver uses in his work long and thin steel tools, with a thin edge at the end, which run in a lathe, and which, on account of their tenuity and of the hardness of the stone, are often broken and get very soon blunt; the artist cannot, therefore, employ physical power in performing the polishing part, but can only surmount the difficulty by the most persevering assiduity and patience. This specimen of art may therefore be considered as very valuable on account of the length of time it must have occupied to finish it. It is set in a gold chased ring—Vide plate 7.
42. An engraved diamond, of a lozenge shape, with the portrait of a philosopher. This specimen is much inferior to the last-described stone, the engraving not being polished. It is mounted as a ring, surrounded with small rubies—Vide plate 7.
43. A very curious brilliant, of a perfectly white colour, engraved as a cross in relief. This specimen, like the two last described, is the production of some skilful engraver, who can only have overcome the difficulties he had to contend against by the utmost perseverance. It is quite impossible that the work should have been produced with the ordinary diamond polishers' tools, as they are only suited to produce a polish on a plane surface; whereas in this stone all the inclined angles are polished. It is set as a gold ring, enamelled with black, and having a ram's head on each side—Vide plate 7.
44. A table diamond, of a fine water, covering a very clever miniature portrait, representing St. Franciscus' Vision of the Cross in the clouds; perhaps the work of the celebrated Giulio Clovio, who was so renowned for his skill in painting miniatures of very small dimensions. Set as a gold ring—Vide plate 7.
45. A very curious diamond, of an irregular form, flat on both sides. The front presents six large facets, which meet in the centre and form a star; they are laid on extremely flat. This specimen shows some dendritic marks, very like those that are seen in the Mocha stone; and as it is well ascertained by analysis that the diamond consists of pure carbon alone, these black marks may be considered as the same substance in an uncrystallized state. It is set as a gold ring—Vide plate 7 - - - - - 6
46. A very curious diamond, of an irregular form, somewhat approaching to triangular, with rounded points; flat on both sides and very thin. This specimen presents in its interior a curious figure of a black colour, composed of three regular triangles meeting together at their points, and resembling the figure of the ace of clubs. Set as a gold ring—Vide plate 7 - - - - - 24

- | No. | | Grains. |
|-----|--|------------------|
| 47. | A very extraordinary curiosity, being the portrait in relief of Lewis the XVIth, composed of small rose diamonds. Two circumstances in connexion with this beautiful piece of workmanship are calculated to excite our surprise and admiration: these are, first, the diminutive size of the diamonds, which are all regularly cut with facets, and some are so small that 2000 would only weigh one carat, or four grains; secondly, the skill of the artist, who has composed this portrait to represent a cameo, and who has inserted the diamonds so admirably as to represent an uniformly even surface, scarcely showing the silver in which they are set. | |
| 48. | A very fine briolet drop, of the purest crystalline water, cut all round with elongated lozenge facets, having intermediate acute triangular facets above and below. It is of the most beautiful workmanship—Vide plate 6 - | 10 $\frac{2}{3}$ |
| 49. | Another, to match the last, of the same water and cut, and though considerably heavier, the two stones are well adapted to form a pair of ear-drops, as their size is very nearly the same—Vide plate 6 - - - - | 14 $\frac{2}{3}$ |

ORIENTAL RUBY, SAPPHIRE, ORIENTAL EMERALD, ORIENTAL AMETHYST, AND ORIENTAL TOPAZ.

It is now well known that the above-named five sorts of Oriental gems are all varieties of the mineral named *corundum* by mineralogists, each one, as its name imports, being distinguished from the other by its peculiar colour; the ruby being of a more or less vivid red colour; the sapphire blue; the emerald green; the amethyst purple or violet; and the topaz yellow or orange. These varieties of corundum are next in degree of hardness and brilliancy to the diamond. In specific gravity the corundum exceeds the diamond, ranging from 3·9 to 4·1. The form of the crystal is, however, very different, that of its primary being a slightly-acute rhomboid, and that in which it usually occurs being an hexahedral prism, or acuminate hexahedral pyramid, both of which are derived from the same primary: it is subject to numerous modifications, which do not, however, materially alter the usual forms. The finest specimens of these variously-coloured varieties of corundum are brought from Ceylon and from Pegu; they are usually found in the beds of rivers and in alluvial matter: the substance occurs, however, in granite in Switzerland, and in other localities. It must be observed, that the term Oriental is applied to the above varieties of corundum as an epithet, distinguishing them from other and very different stones to which the names of ruby, emerald, amethyst, and topaz are properly applied. These gems consist almost entirely of alumina, or a combination of aluminum and oxygen. In consequence of their extreme hardness, and their great beauty and refractive power and brilliancy, they are nearly as highly valued as the diamond; and the ruby, when above a certain dimension, is even more valuable than a diamond of the same dimension.

ORIENTAL RUBIES.

4th Drawer.

No.		Grains.
1.	A large Oriental ruby, of an oval shape, and of a deep crimson colour, consisting of a mixture of red and purple; several silky stripes run across the stone, and it has also several flaws: it is, however, beautifully cut, and, notwithstanding its defects, is a very remarkable specimen, on account of its extraordinary size and weight; and it is set as a ring with roses— Vide plate 8	84

No.	Grains.
2. A very fine Oriental ruby, of an oval form and of a charming cherry colour, or mixture of purple with red: it is beautifully cut, and free from any flaw: on this account, as well as on account of its volume, as an Oriental ruby it is a very fine and extraordinary specimen: set as a ring with small roses—Vide plate 8	32
3. A superlatively fine Oriental ruby, of an ovate octagonal form, very spread, and cut on the surface with step facets; it is of a pigeon blood-colour, and of the purest tint; free from any flaw or defect whatever; and though not of a perfect shape, it may, on account of its perfection in colour and transparency, be put among the “Pierres d'échantillon.” It is set as a ring with small roses—Vide plate 8	23
4. An Oriental ruby, of an oblong shape, and of a deeper tint than the last, with a mixture of the red and purple: it has some flaws in the interior, and is a little silky: set as a ring with roses—Vide plate 8	29½
5. An Oriental ruby, of an oblong octagonal form, beautifully cut, and of a lighter tint than No. 3, but of a pure colour: it may with propriety be ranked among the fine rubies on account of its purity, being free from flaws: set as a ring with roses—Vide plate 8	17
6. An extraordinarily fine Oriental ruby, of a square shape, with rounded corners, and cherry colour; but of a little lighter tint than No. 2: it presents a charming hue, and is of great brilliancy. It has a flaw at the back, which is hardly perceptible in front, on account of its being finely and judiciously cut: set as a ring with roses—Vide plate 8	16½
7. A very fine Oriental ruby, of an irregular form, approaching to a drop shape; of a very deep and beautiful crimson colour (<i>couleur de sang de bœuf</i>): it is free from any fault or defect, and has a charming appearance: set as a ring with roses—Vide plate 8	10½
8. An Oriental ruby, of a square shape with rounded corners, and of a deep pink, or mixture of purple and pink: it has a flaw in the back, which, however, is scarcely visible in front: set as a ring with four brilliants on each side of the shank—Vide plate 8	16½
9. An Oriental ruby, of an octagonal shape, and of the most lovely rose colour. This fine specimen is of the greatest perfection, and free from any flaw: it is cut with step facets, which produce great brilliancy. The charming colour and fine cutting, as well as its beautiful shape, cannot be too much praised: they fully entitle it to be called a “Pierre d'échantillon:” set as a ring with roses—Vide plate 8	21½
10. An Oriental ruby, of an oblong octagonal form, and of an amethyst colour: there is a mixture of purple and red, but the purple is the predominant tint; it is therefore to be called an Oriental amethyst: it is well cut, and has a small, scarcely visible flaw: it is set as a ring with small roses—Vide plate 8	22
11. An Oriental ruby, of an oval shape, and of a lighter tint than the last-described stone; the pink is, however, more predominant, and gives it the	

No.	Grains.
appearance of a Siberian amethyst, on which account it deserves to be called an Oriental amethyst; it has a small cloud on one side, is well cut, and is set as a ring with roses—Vide plate 8	20
12. A matchless specimen of an Oriental ruby, of an oblong form and pigeon-blood colour. It is of the greatest purity, and free from any defect, and is set as a ring with roses—Vide plate 8	8
13. An Oriental ruby, of a long narrow oval shape: it is of a fine crimson colour, but has a silky substance in the interior, which produces a <i>chatoyant</i> lustre. It is cut <i>en cabochon</i> , and shows on its surface the six rays of a star. It is set as a ring with small roses—Vide plate 8	115 $\frac{1}{2}$
14. A beautiful ruby asterias, or star-stone, of an oval shape, cut <i>en cabochon</i> : it is of an opalescent appearance, the red being strongly mixed with a somewhat milk-blue silky substance: it plays the star from the centre, and shows the six sides of the crystal at the back. It is set as a ring with roses—Vide plate 8.	
15. A very large asterias, of a round shape and of a very dark imperfect colour, quite opaque: it is cut <i>en cabochon</i> , and plays a very distinct star from the centre, showing at the back the six-sided crystal. It is set as a plain gold ring.—Vide plate 8.	
16. A beautiful asterias, of a round shape and of a lilac colour, the ruby tint being mixed with blue: it is cut <i>en cabochon</i> , and shows a very decided star from the centre. It is set as a gold ring—Vide plate 8.	
17. A ruby asterias, of a round shape and pale pink colour: it is cut <i>en cabochon</i> and hollowed at the back, and moreover shows a crystallization in the interior. Set in a gold ring with small brilliants—Vide plate 8.	
18. A very extraordinary specimen of an Oriental ruby, engraved <i>in cameo</i> , of an irregular oval form, representing the head of Jupiter Serapis. The engraving must certainly have been performed by the hand of one of the most eminent artists of the 15th century. The dignity of the features of the Ruler of Olympus is most admirably expressed: the soft and free flow of the hair and beard is seldom seen <i>in cameo</i> , particularly in a stone so hard as the ruby. The extraordinary size of this gem, and the difficulty of engraving it, combined with the great perfection of the work, gives it a place among the finest engraved stones: it therefore highly merits its place in this Collection—Vide plate 8.	
19. An Oriental ruby, of an oval shape and of a pale colour, engraved <i>in intaglio</i> : it represents the figure of Minerva armed <i>cap à pied</i> with shield and spear, preceded by two erected serpents with twisted tails. Most probably, by representing these reptiles, the artist intended to allude to Minerva Poliada, who was worshipped in a cavern under a rock at Athens, which place was guarded by a dragon or serpent. The engraving is well drawn and very spirited, and has evidently been the work of some eminent artist of the 15th century—Vide plate 8.	

SPINELLE AND RUBY BALAIS.

THE primary form of the spinelle is the regular octahedron, which is sometimes modified by a single plane on each of its edges, leading to the dodecahedron; it is also frequently found in twin or macled crystals, but does not appear to be subject to the modification, consisting of rounded planes, so frequent in the diamond. In colour it is found of all shades of red, from rose colour through every variation of scarlet and crimson to purplish and violaceous. In hardness it is inferior to the sapphire and oriental ruby, but it is readily distinguished from the latter by its crystallization. The specific gravity of spinelle is from 3·5 to 3·8, and by chemical analysis it is found to consist principally of alumine, united to magnesia, and Vauquelin states it to contain chromic acid.

Spinelle usually occurs in distinct crystals, which are either detached in alluvial soil or imbedded in the more ancient and lamellar limestones. The best for the lapidary are those which occur associated with the sapphire and Oriental ruby in the sand of rivers in Ceylon and the East Indies, and Pegu.

The spinelle is distinguished from the balais ruby by the peculiarities of its colour, the balais being of a light and pink colour, and the spinelle usually of a darker and more crimson tint.

RUBIES, SPINELLE AND BALAIS.

4th Drawer.

No.	Grains.
1. An extraordinarily fine and large ruby balais, of an octagonal shape and of a fine light claret colour, very spread, beautifully cut, and free from any flaw or defect. Considering its extraordinary size and its great perfection, it may with propriety be called a matchless gem. It is set <i>en medaillon</i> and enriched with brilliants. It is kept in the 16th drawer—Vide plate 9	- 199½
2. A very fine ruby balais, of an oblong shape and of a deep pink, approaching that of a fine <i>topaz brûlé</i> : it is of the greatest purity, most beautifully cut and very brilliant. It would be very difficult to find a specimen of this class of rubies which should surpass the present gem in beauty and perfection. It is set as a ring with roses—Vide plate 9	- - - - 53

No.	Grains.
3. A superlatively fine and large ruby spinelle, of an oblong octagonal form and of a fine port-wine colour, of a most charming hue: it is most admirably cut, and of the greatest brilliancy. The enormous size of this gem, combined with its great perfection, entitle it to be ranked amongst the first gems in existence. It is mounted <i>en medaillon</i> , surrounded by fine brilliants—Vide plate 9	21
4. A most beautiful ruby spinelle, of an oblong octagonal shape, and of a very fine amaranth colour: it is cut with step facets, is very pure and brilliant, and of a charming appearance. Set as a ring with roses—Vide plate 9	22 $\frac{1}{2}$
5. A very fine ruby spinelle, of an oval shape and of a beautiful crimson colour: it is exceedingly well cut and of a very fine and pure tint, but it has a small, though scarcely visible flaw. Set as a ring with small roses—Vide plate 9	18 $\frac{1}{2}$
6. A beautiful ruby spinelle of an oval shape and of a fine light claret colour: there is a mixture of crimson and blue, and it approaches much in appearance to the Oriental ruby: it is of a pure tint, but has a few little flaws in the interior, which, in consequence of skilful and judicious cutting, are scarcely visible: set as a ring with small roses—Vide plate 9	18 $\frac{1}{4}$
7. A fine ruby spinelle, of a square shape, with rounded corners and deep rose colour: it has a few defects in the interior, but is of a charming hue, and being beautifully cut is of great brilliancy: set as a ring with roses—Vide plate 9	17
8. An extraordinary ruby spinelle, of a long octagon shape, with step facets, and of a deep purple velvet colour: this specimen is not of great brilliancy, but it is deserving of notice on account of its curious tint, which is rarely met with in the spinelle ruby: it is free from any flaw, and set as a ring with small brilliants—Vide plate 9	25
9. A ruby spinelle, of an oval shape, and very much resembling a garnet in colour: it is free from defect, beautifully cut, and very remarkable on account of its curious tint as a ruby spinelle: it is set as a ring with small roses—Vide plate 9	23 $\frac{1}{4}$
10. Another specimen of ruby spinelle, of an oval shape, and approaching in appearance to a garnet—Vide plate 9	15
11. A very fine ruby spinelle, of a square form and rounded corners, of a fine claret colour, and beautifully cut: it is free from any flaw, and of great brilliancy: set as a ring with roses—Vide plate 9	22
12. A very fine ruby spinelle, of a deep rose colour: it is of a square shape and cut with step facets: the great purity of its tint, its fine cutting, its brilliancy as well as its uncommon and charming colour, are above praise: it merits well the character of a matchless gem: set as a ring with small roses—Vide plate 9	10
13. A curious ruby spinelle, of an oblong form with rounded corners, very finely cut, and of an apricot colour, of a very pure tint, and free from defects: this	

No.	Grains.
specimen is remarkable on account of its curious colour: set as a ring with roses—Vide plate 9	7½
14. A most extraordinary specimen of ruby spinelle, of an oval shape and of a greenish blue, resembling a sapphire: finely cut, and of a pleasing appearance. This stone is a remarkable instance of the freaks of nature in colouring the gems, for it appears singular that the characters of two stones, so very distinct as the sapphire and ruby spinelle, should be so blended in this specimen as to puzzle even the greatest connoisseur to decide to which class it belongs: set as a ring with roses—Vide plate 9	5
15. An extraordinary specimen of the ruby spinelle, of an oval shape, cut <i>en cabochon</i> , of a chatoyant lustre and of a maroon colour, nearly opaque; and shows, when held in a proper direction so that the light falls on it, a brilliant ray of a lighter reddish tint: it would be best compared to a changing taffety of a deep brownish red colour: set as a ring with small roses—Vide plate 9	
16. A small but very uncommon specimen of a ruby spinelle, of an octagonal shape, and greenish blue colour, very remarkable as a variety of the ruby spinelle: set as a ring with roses— Vide plate 7	1½

SAPPHIRES.

5th Drawer.

- | No. | Grains. |
|--|---------|
| <p>1. A very large and fine sapphire, of a square shape with rounded corners, and of a very fine velvet-blue colour, resembling the flower of the bluebottle found among the corn. It is of the purest and of a most charming hue, having, moreover, the advantage of displaying its beautiful colour equally as fine by candle as by day-light, a quality which is rarely met with in a sapphire. It is very finely cut, and shows an extraordinary refulgence. It is impossible, in the description of so rare and unique a gem as this, to find expressions sufficient to convey to the reader a just idea of its merits, for its fascinating brilliancy enchants the eye, and fills the heart with admiration of the wonderful works of nature, to imitate which, though often attempted by human skill, will always remain unattainable. It would be an equally difficult task to fix a just value on such an unrivalled gem, which, from its extraordinary size, combined with its great perfection, cannot be reduced to a common standard. This beautiful sapphire is set as a medallion, surrounded by 23 fine large brilliants, averaging three grains each: it is kept in the 16th drawer—Vide plate 10</p> | 532 |
| <p>2. A most beautiful sapphire, of an octagonal shape, and fine indigo colour: the blue tint has not, however, penetrated to all parts of this gem, for on looking through it the white is perceptible: nevertheless, it shows on its surface, in front as well as at the back, a uniform colour. This stone is of very good proportions and beautifully cut: it is set as a ring with small roses—Vide plate 10</p> | 118 |
| <p>3. A most extraordinary sapphire, of an octagonal shape, and fine indigo colour: the blue is intermingled with red: these two tints are, however, so blended, that, at first sight, only one colour is perceptible, and the red can only be distinguished by holding it up to the light. This sapphire has the peculiarity of changing its colour by candle-light entirely, so that in the day it has the fine velvet-blue colour of a sapphire, and at night it shows the finest purple of an amethyst, and would be taken for such if it had not at the same time the fire and brilliancy of the Oriental ruby. This rare gem is of some celebrity, having been in the Orleans collection, where Madame de Genlis had an opportunity of seeing it, and made it the subject of a tale, which she wrote under the title of "Le Saphir merveilleux," which name it fully</p> | |

No.	Grains.
deserves, not only on account of its chameleon property of changing colour, but on account of its captivating appearance. If nature have gifted this gem with beauty and perfection, art has equally done it justice, as it is of the finest cut, and may serve as a model—Vide plate 11 - - -	74
4. A fine sapphire, of an octagonal shape, and of a fine ultramarine colour: it is rather thick at the bottom, and has a little flaw at the back, which is, however, scarcely perceptible: it is cut with steps, and is of a charming hue: set as a ring with small brilliants—Vide plate 11 - - -	64
*4. An extraordinarily beautiful sapphire, of an oval form, cut in front with brilliant facets and steps at the back: it is of the finest indigo colour, and of the most beautiful “velvet,” and of an extraordinary brilliancy: there is a slight flaw near the edge of the stone, but which is hardly perceptible: this fine specimen may be called “matchless”—Vide plate 11 - - -	28½
5. A sapphire, of an octagonal shape, and of a deep blue steel colour: it is cut with steps, has a little flaw at the back hardly visible, and, owing to the fine work on it, has great brilliancy: it is set as a ring with roses—Vide plate 11	32½
6. A fine sapphire, of an octagonal shape, cut with step facets in front and on the back, of a deep indigo blue with a greenish hue: when held up to the light a mixture of red and blue is observed: the stone is well cut, and offers a beautiful appearance: set as a ring with small roses—Vide plate 12 -	18½
7. A large sapphire, of an octagon shape, and of a light blue steel colour: it is cut with steps, has a few slight flaws near the surface, which are, however, scarcely visible, and has great lustre: set as a ring—Vide plate 10 -	180
8. A curious sapphire, of an oval shape and sky-blue colour: it has silky streaks in its interior which produce a kind of dulness; but it is admirably cut, and deserves well its place in this collection on account of its curious colour: it is set as a gold ring—Vide plate 10 - - -	118½
9. A sapphire, of an elliptical shape and light indigo colour: it is pure and free from any flaw or defect: it is cut with three rows of small facets, and is of great brilliancy: set as a ring—Vide plate 10 - - -	65½
10. A curious sapphire, of an oblong form, and fine violet colour. In this the ruby and sapphire colours are intermixed, but they are so blended as to produce one uniform tint. This gem is of a most charming hue, and is finely cut: it has a very slight flaw, scarcely worth mentioning, near the collet: mounted in a ring with small brilliants and roses—Vide plate 12 - - -	20
11. A sapphire, of an oval shape, and approaching to purple in colour, being a mixture of the ruby and sapphire tints. This specimen is extremely curious on account of its interior showing a great number of small cavities, or bubbles containing fluid: set as a gold ring—Vide plate 11 - - -	43½

No.	Grains.
12. A curious sapphire, of an octagonal shape, and deep indigo colour, which has not, however, penetrated to all parts of the stone, and which lies more on the sides and on the two ends than in the centre, where the stone is white ; but if held in a certain direction the colour of the stone is uniform : set as a gold ring—Vide plate 11 - - - - -	24½
13. A very curious sapphire, of an oblong shape, cut on both sides with step facets, combining the two colours of the sapphire and the Oriental topaz : sometimes these two tints are found in the same stone, but they generally are intermixed, and are perceived together : in the present specimen, however, the yellow is only seen in front, and the blue at the back. This specimen deserves attention, as it offers an illustration of the connexion of the sapphire and Oriental topaz : set as a gold swivel ring—Vide plate 11 -	39
14. A curious sapphire, of a square shape, with rounded corners, and deep purple colour ; the ruby and sapphire tints are intermixed in this specimen, which gives it at candlelight the colour of an amethyst : it is well cut, and of a fine lustre, but has a very slight, scarcely visible, flaw at the back : set as a ring—Vide plate 12 - - - - -	21½
15. A sapphire of an oval shape, wherein the colours of the Oriental topaz and the sapphire are united, the two tints being seen together at the surface where the blue is, however, most predominant : with the back of the stone it is the reverse, the yellow there predominating over the blue ; mounted in a swivel-ring, set round with small roses—Vide plate 12 - - - - -	10
16. A curious sapphire, of an oblong form, and fine indigo colour. This specimen is very singular, as it shows in front a beautiful uniform sapphire tint ; at the back it is nearly white, and has, at the collet, only a little blue spot of the size of a pin's head, which spreads the colour all over the stone : it is, in order to facilitate examination, set in a swivel ring with small roses—Vide plate 12 - - - - -	4
17. A very extraordinary and curious sapphire, of an oval form and bluish-green tint, beautifully cut and very pure. This specimen, though very small, is of great interest, as this tint is very rarely met with in a sapphire : on account of its greenish colour it is termed Oriental emerald : set as a ring with small roses—Vide plate 12 - - - - -	2
18. A sapphire of a square form with rounded corners, and of an opalescent appearance, produced by a milky substance with which the stone is impregnated : there is a mixture of blue with a light pink, giving a lilac colour : mounted in a gold ring—Vide plate 11 - - - - -	70¾
19. A very fine sapphire of an octagonal shape, and nearly white colour, having a very slight tinge of blue : it is of the greatest limpidity, without any flaw or defect, and is of such magnificent refulgence that it might be taken, even by a connoisseur, for a brilliant : it is most admirably cut, and deserves, on account of its fine qualities and perfection, to be called a " <i>Pierre d'Echantillon</i> ," set in a ring—Vide plate 11 - - - - -	47¾

- | No. | | Grains. |
|-----|--|---------|
| 20. | A very beautiful sapphire of a perfectly circular shape, and of a steel colour, cut as a brilliant; it is of the utmost refulgence, and scarcely yields in brilliancy to the diamond: it is free from any speck or flaw: set as a ring. This fine gem is said to have been once worn by the unfortunate Louis XVI. —Vide plate 11. | |
| 21. | A curious sapphire of an oval shape, and of a milky-bluish tint, impregnated with a silky substance producing an opalescent appearance; at the back it has a little flaw which shows the Topaz colour, and a very small spot of a distinct red colour: set as a gold ring—Vide plate 11 | 31; |
| 22. | A very large and unique asterias or star-stone, cut <i>en cabochon</i> , approaching to an oval shape: it is of a deeper and more uniform colour than the asterias are in general; the ruby tint is slightly intermixed with the sapphire, which produces a light purple play of colour at the surface. It shows the star exactly from the centre; the rays are very sharply drawn, and run to the very edge of the stone: at the back of this beautiful gem is distinctly seen the hexagonal form of its natural crystal. Several little specks are seen in the interior: these, from the thickness of the stone, cannot be examined; two of them, however, which lie nearer to the surface, appear to be octohedral crystals of sulphuret of iron. It is kept in the 16th drawer—Vide plate 10 | 234 |
| 23. | A very fine asterias, of an octagonal shape, and of a fine blue colour, cut <i>en cabochon</i> ; the hexagonal or six-sided form of the sapphire is seen at its surface, which, combined with a silky appearance, produces a changeable play of light. It shows the six rays of the star distinctly, and is remarkable for its fine colour and great transparency, qualities which are rarely met with in the asterias. When held up to the sun it presents in the interior a brilliant luminous point, from which emanate six luminous rays: set as a ring with small roses—Vide plate 12. | |
| 24. | A most beautiful asterias, of a circular shape, cut <i>en cabochon</i> , of a milky-bluish tint. The natural hexagonal form of the sapphire can easily be perceived in the stone, and it shows on its surface as well as on its back the most perfect six-rayed star when the rays of the sun fall on it; but when held up to the sun it presents a most brilliant luminous central point, from which emanate six sharp-drawn luminous rays: set as a ring with small roses—Vide plate 12. | |
| 25. | A very curious asterias, of a square form with rounded corners, and of a light blue colour, very transparent; some white stripes or bands, and one of a brownish colour, run across the stone. It shows on its surface two distinct six-rayed stars, and when held up to the sun it presents the star in the interior, like the last described specimens: set as a gold swivel-ring—Vide plate 11. | |
| 26. | A very fine asterias, of an oval shape and light sky-blue colour, cut <i>en cabochon</i> . It shows on its surface as well as in its interior the most sharply-drawn six-rayed star, and at the back the hexagon is distinctly seen: set as a gold ring—Vide plate 12. | |

- | No. | Grains. |
|--|---------|
| 27. A very curious sapphire of an oval form: one-half of the stone is semi-transparent, of a bluish-green tint, and presents the most beautiful iris; the other part is opaque, of a brownish colour with a yellowish white <i>chatoyant</i> lustre; and it shows a six-rayed star: set as a gold swivel-ring—Vide plate 12. | |
| 28. A very curious sapphire, of a long square shape with rounded corners, cut <i>en cabochon</i> on both sides; of a deep blue colour. It shows very distinctly in the interior several well-defined crystals of sulphuret of iron: set as a ring—Vide plate 12 | 122 |
| 29. A very curious sapphire, of an oblong shape and fine blue colour; it is regularly marked with white-silky stripes, or bands which run across the stone, and which show the hexagonal formation of the sapphire: set as a gold ring—Vide plate 12. | |
| 30. A very curious sapphire in its natural crystallized shape, of a deep indigo colour and nearly opaque, with a fixed six-rayed star of a whitish-silky tint, which is seen as well at the back as in front: this specimen, though not gifted by nature with that brilliancy and hue which in other gems flatters the eye of the amateur, is extremely interesting to the mineralogist and connoisseur on account of its curious formation—Vide plate 12. | |
| 31. A very curious sapphire, of an oval shape and light blue colour, cut <i>en cabochon</i> , with a beautiful iris, showing the colours of the rainbow. This is an accident occasioned by some fractures in the interior, and which occurs frequently in stones of a softer nature, particularly in topazes, rock crystals, &c., but which is rarely met with in the sapphire—Vide plate 12 | 26 |
| 32. A very curious sapphire, of an irregular shape and of a yellowish colour, with a blue border: this specimen is nearly opaque and presents a fixed star, which is very rarely met with in the Oriental topaz. It is likewise remarkable for the two colours being seen in it so distinctly, an evident proof of the connexion of the Oriental topaz with the sapphire—Vide plate 12 | 69 |
| 33. A sapphire, engraved in intaglio, of a long octagonal shape and pale blue colour: it represents the head of Adrian, is very finely engraved, and is evidently copied from the antique by some eminent artist of the 15th century—Vide plate 12. | |

ORIENTAL TOPAZES.

No.	Grains.
1. A superlatively fine Oriental topaz, of a square form with rounded corners, <i>cut as a brilliant</i> , and of a very fine lemon colour, of the purest tint, and free from any flaw or defect. In respect of brilliancy, this beautiful gem does not even yield to the finest yellow diamond: on account of its perfection, and its uncommon size, it may well be called a matchless specimen. This fine stone was formerly the property of the Empress Josephine: it is set as a ring with small roses—Vide plate 13	110
2. A fine Oriental topaz, of an octagonal shape, cut with step facets, of a fine lemon colour, nearly of the same tint as the last: it is pure and free from any defect, and has a beautiful lustre: set as a ring with small roses—Vide plate 13	34
3. A very fine Oriental topaz, of a long octagonal shape, rather spread, most admirably cut with step facets, of a fine lemon colour, and perhaps a shade lighter than No. 2; a little flaw near the edge of the stone is scarcely visible. This fine gem is of the purest tint, and of a charming hue: it is set as a ring with small roses—Vide plate 13	39
4. An unique Oriental topaz, of an octagonal shape and apricot colour, being a mixture of the yellow and the red tints, cut with step facets. This beautiful specimen is of a most charming hue, its tint is very uncommon, and perhaps may never again be met with in a sapphire: it is of the greatest purity, free from any defect, and shows great lustre: set as a ring with small roses—Vide plate 13	10 $\frac{1}{8}$
5. A white sapphire, of an octagonal shape: there is a very slight admixture of yellow in its colour, but which is scarcely perceptible: it is cut with step facets, is free from any defect, and of great brilliancy—Vide plate 13	22
6. A very interesting specimen of an engraved Oriental topaz, evidently antique, representing a bull in intaglio, with a gracefully-shaped Greek vase before him, and under his body lies a round ball. The stone is marked with three Greek letters: it is set as a gold swivel ring—Vide plate 13	32

THE EMERALD.

ONE of the most pleasing as well as most valuable of the gems, in consequence of the beauty of its green colour. Its crystalline form is an hexahedral prism, which is subject to modifications upon its edges and solid angles, which do not, however, much alter its general form. It consists principally of siliceous earth, alumina and glucina, with a small quantity of oxide of chromium, which is supposed to be the substance to which it owes its fine and rich green colour. In specific gravity it varies from 2·6 to 2·8, and in hardness it is inferior to the topaz, being only somewhat harder than rock crystal. The finest crystals of emerald are found in their natural situation in the neighbourhood of Santa Fé di Bogota in Columbia; occasionally, but very rarely, in Indostan; those known to the ancients were found in Upper Egypt. Specimens free from defect are of extreme rarity.

The gem usually called Oriental Emerald is a variety of the sapphire.

EMERALDS.

6th Drawer.

- | No. | Grains. |
|---|---------------------------|
| 1. A most extraordinarily large and beautiful emerald, from the East Indies, of an irregular square form with rounded corners, one side being a little narrower than the other; it is of a fine light green tint; it is cut with brilliant facets, and is of a most beautiful refulgence; it has two flaws in the interior, but which are scarcely visible, as they lie in a direction vertical to the table and take nothing from its brilliancy. This unique and beautiful gem is in an Indian gold setting, and formerly adorned the turban of Tippoo Saib. It is kept in drawer 16—Vide plate 14 | - - - - 532 $\frac{3}{6}$ |
| 2. A large emerald, of an oval form and fine green tint (the true emerald colour) cut <i>en cabochon</i> , with brilliant facets round the bizer; at the back it is hollowed out like a shell garnet. It will perhaps be necessary to explain here the reason why this gem is cut in a manner so unbecoming in an emerald, which has taken away a great deal of its precious substance, and diminished it in weight as well as in value; but it was the fancy of some Eastern prince to make this emerald the frame of a beautiful Oriental topaz, which is described in this catalogue among the Oriental topazes (No. 3): the | |

No.		Grains.
	latter stone was fixed in the hollow part of the emerald with some mastic or cement, which gave both stones a dull appearance, and the Oriental topaz was set round with some small brilliants; it would be difficult to conjecture why these two gems should have been so strangely united so much to their mutual disadvantage. This emerald, though not free from flaws, is of a pleasing hue, and, according to a technical term in use among jewellers, of a <i>fine velvet</i> . It is set as a ring surrounded by brilliants—Vide plate 14 - - - - -	87
3.	A very beautiful emerald of an octagonal shape, and of the true emerald colour; it is rather spread, and is cut with step facets: though not free from flaws; its defects, considering the nature of the emerald, are but trifling, and on account of its beautiful tint and its large size it is to be regarded as an uncommonly fine specimen: it is set as a ring with small roses—Vide plate 14	69
4.	A most superb emerald of an hexagonal form (its original shape), of the truest and finest colour, most admirably cut with step facets; this beautiful gem is of uncommon purity and transparency, a few flaws only lie on the edge, these can scarcely be perceived in the setting; it is of a captivating appearance, and deserves for its great perfection to be ranked among the finest emeralds: it is set as a ring with roses—Vide plate 14 - - - - -	36½
5.	A superlatively fine emerald of a long octagonal form and of the finest colour, cut with step facets: this admirable gem is of the greatest purity and transparency that can be met with in the emerald; its charming hue can only be compared to the refreshing green of the reviving spring; it is of a beautiful velvet, and is nearly free from defect; two trifling flaws that lie on the edge of the stone are scarcely perceptible; it is impossible to find expressions capable of describing the beauty and fine qualities of this matchless gem: it is set as a ring with small roses—Vide plate 12 - - - - -	28½
6.	A very fine emerald of a perfect square shape, rather thick at the back, but most admirably cut with step facets; it is of a grass-green colour, very transparent, and nearly free from defects. This fine gem, though not of such a deep green tint or of such fine velvet as the last described specimens, is nevertheless of the greatest brilliancy, and its uncommon purity and transparency entitle it to rank among the finest emeralds: set as a ring with roses—Vide plate 14 - - - - -	90
7.	A very fine emerald of an oval form, beautiful colour, and great purity and transparency: it is cut flat at the top, with a slanting edge, and convex at the back; it is engraved with some Persian characters, and set as a gold swivel ring—Vide plate 14.	
8.	A most extraordinary emerald of an oval shape, cut <i>en cabochon</i> , of a light-green colour and nearly opaque, which is occasioned by a silky substance in the interior which produces a <i>chatoyant</i> lustre as fine as is seen in any cat's-eye: this is an accident rarely met with in the emerald, wherefore this curious specimen is well worthy of its place in this rare collection: set as a gold ring—Vide plate 14.	

- | No. | Grains. |
|---|---------|
| 9. A curious emerald of a circular form and deep green colour; cut flat at the top with a slanting edge and convex at the back; it presents in its interior a fixed six-rayed star, which is seldom met with in an emerald: set as a gold ring—Vide plate 14. | |
| 10. A very curious antique engraved emerald, in the form of an owl with a human face, most probably of Egyptian origin; the stone is of a fine green colour, and is mounted as a seal in an antique gold setting. The real weight cannot be exactly ascertained on account of the setting, but by calculation it must weigh about 90 grains.—Vide plate 14. | |
| 11. A beautiful engraved emerald, with the head of Anacreon: the stone is of a deep green colour, set as a ring in massive fine gold, and beautifully chased with figures in relief, probably the work of some artist of the 16th century—Vide plate 14. | |
| 12. A very curious scent-bottle, formed of two fine emeralds, engraved on their surfaces as flowers: the plate 14 presents the drawing of the larger piece; the top piece, which forms the lid, is rather of a finer green, engraved as the bottle: it is mounted in gold with black enamel: the two emeralds weigh | - 193 |
-

THE EUCLASE.

ALTHOUGH containing the same ingredients as the emerald, the Euclase is nevertheless greatly inferior in those qualities which would render it valuable as a gem. Its extreme brittleness, from which circumstance it has been named, renders it difficult to cut, and probably also prevents it from receiving that fine polish which can be given to the emerald. It wants also the brilliancy of colour upon which the eye rests with so much pleasure in the last-named gem; so that the euclase, though one of the most remarkable substances in nature, must rather be regarded as a mineralogical curiosity than as a precious gem. The specimen in this collection is one of the finest known.

1. A fine specimen of the euclase, of oblong shape, cut with step facets in front and at the back: it is of a light sea-green colour, and notwithstanding a few flaws it is of great brilliancy: set as a gold ring.
-

AQUAMARINE AND BERYL.

THIS is considered in general as a variety of Emerald, and it agrees with that mineral in its crystalline forms, its specific gravity, its hardness, and in the principal constituents of which it is composed, and only differs from it in colour, in which respect the beryls and aquamarines vary exceedingly, occurring of all shades of bluish-green, sea-green (whence the name of aquamarine) to yellow-green, yellow, and orange. Aquamarines are principally brought from Brazil, in which country a single aquamarine without a flaw was found weighing 18½ lbs. The East Indies, not very far from Madras, also produces some fine aquamarines. Many beautiful varieties in colour are found in the district of Nertschinsk and in other parts of Siberia. The Mourne mountains in Ireland have also produced some fine stones of a peculiar colour. The beryl is also found in America, and in various parts of Europe.

AQUAMARINES.

Specimens from No. 1 to 9 included are kept in the 15th Drawer.

No.	Oz.	Dwt.	Grs.
1. A superlatively fine aquamarine, of an oval shape and of the finest sea-green colour, most admirably cut, with seven rows of brilliant facets in front and steps at the back: this fine gem is of the purest fine deep green tint, free from any flaw or defect, and displays the highest degree of effulgence: its extraordinary size and charming hue, combined with its great perfection, entitle it to the denomination of matchless—Vide plate 17. Weight	-	-	5 17 12
2. A most beautiful oval-shaped aquamarine, most beautifully cut like the last, of a fine slightly yellowish sea-green colour: it is of very great brilliancy, and nearly free from flaws; a very trifling one lies near the edge, which is only detected upon a very close examination: some thin lines run in an horizontal direction near the surface of the stone; they are caused by the presence of some Titanite—Vide plate 18	-	-	3 4 18
3. A most exquisite oval-shaped aquamarine, cut by the most skilful hand in the same manner as the two former specimens: it is of a beautiful deep blue tint approaching the sapphire colour: there is, however, a slight mixture of green with the blue, constituting at once the character of the aquamarine. This superb gem is of the greatest purity and perfection,			

No.		Ozs.	Dwts.	Grs.
	as well as of a very captivating hue; it scarcely yields in brilliancy to any other precious gem: it may well be termed unique, and is fit to adorn the crown of a monarch—Vide plate 16 - - -	1	17	15
4.	A very fine aquamarine, of an oval shape and beautifully cut, with five rows of brilliant facets in front and steps at the back, of a true sea-green colour, a shade lighter than No. 1; it is very pure in its tint, and nearly perfect; a few trifling flaws lie on the edge of the stone, which are scarcely discernible on account of the fine work on it: this fine gem is of very great brilliancy—Vide plate 18 - - -	1	5	8
5.	A very fine aquamarine, of a long oval shape, beautifully cut, with five rows of brilliant facets in front, and steps at the back; of a decided yellowish colour, resembling the chrysolite: this beautiful gem is of the greatest purity, and free from defect: its fine brilliancy and pleasing hue cannot be too highly praised—Vide plate 16 - - -	1	3	2
6.	An extraordinarily fine aquamarine, of a perfectly circular shape, and most beautifully cut, with seven rows of brilliant facets in front, and steps at the back: it is of a beautiful sea-green colour, with a slight mixture of yellow, though, nevertheless, of a pure and decided tint: this beautiful gem is of the highest effulgence, and of the greatest perfection—Vide plate 16 - - -	2	7	10
7.	A very fine oval-shaped aquamarine, most beautifully cut, with five rows of brilliant facets in front, and steps at the back: of a yellowish-green resembling the chrysolite, not however of so deep a colour as No. 5, the yellow being more predominant: it is of a very pure tint, free from defect, and of the utmost brilliancy—Vide plate 16 - - -	0	17	17
8.	A fine aquamarine, of a square form, with rounded corners, cut with five rows of brilliant facets in front, and steps at the back, rather spread: of a very deep yellowish-green resembling the peridot: this stone is remarkable for its curious colour, but it has scarcely sufficient thickness for its size—Vide plate 18 - - -	0	11	14
9.	A fine aquamarine, of a long oval shape, cut with five rows of brilliant facets in front, and steps at the back; of a fine but light, green, strongly mixed with blue: it is very transparent, and free from any defect—Vide plate 18 - - -	0	11	22

6th Drawer.

10. A superlatively fine and large aquamarine, from Siberia, of a fine golden sherry colour and of an octagonal form, beautifully cut, with step facets in front and at the back; notwithstanding a few trifling flaws, which are scarcely perceptible, this gem is of the utmost brilliancy and of a charming hue; on account of its extraordinarily curious colour it may be called unique: it is set in a gold shank held by claws—Vide plate 18.

No.

11. A very beautiful oval-shaped aquamarine, from the Brazils, cut with five rows of brilliant facets in front and steps at the back; of a decided yellowish green, resembling the chrysolite; it is of the greatest brilliancy, and nearly perfect; a very slight flaw at the back and another at the edge of the stone are almost imperceptible: it is set as a gold ring—Vide plate 18.
12. A most exquisite aquamarine, from the Brazils, of an oblong shape, cut with brilliant facets in front and steps at the back: of a fine blue colour, which is, however, slightly intermixed with green; it is of a most charming hue, free from defect, and may, on account of its fine qualities, be called a “Pierre d’Echantillon:” it is set as a gold ring—Vide plate 17.
13. A fine aquamarine, from Siberia, of a square shape, with rounded corners, cut with three rows of brilliant facets in front and steps at the back; of a light-bluish colour, very brilliant, and free from defect: it is set as a gold ring—Vide plate 16.
14. A most beautiful aquamarine, from Siberia, of a long octagonal shape, and of a honey colour, cut with step facets; it is of the greatest perfection and brilliancy, and is very remarkable for its fine and decided yellow colour: it is set as a gold ring—Vide plate 17.
15. A fine aquamarine, from the Brazils, of an octagonal shape, cut with step facets, of a light-bluish colour, free from any defect, and of great brilliancy: set as a ring—Vide plate 17.
16. A very fine aquamarine, from the Brazils, of a much deeper blue than Nos. 12 and 13, but there is a little green intermixed with the blue; it is of an oblong shape, and very finely cut, with five rows of brilliant facets in front and steps at the back; this specimen is of the greatest perfection and brilliancy—Vide plate 16.
17. A curious aquamarine, from Ireland, of its natural hexagonal form, cut *en cabochon*, of a bluish colour and nearly opaque, with a fixed star of six rays—Vide plate 17.
18. A very curious aquamarine of an oval shape and light yellowish-green colour, with three rows of brilliant facets in front, but cut *en cabochon* at the back; this specimen is full of little flaws or cracks, from which it derives a most beautiful iridescent appearance—Vide plate 17.
19. An aquamarine of an oblong form, engraved in intaglio, apparently antique; it is of a light sea-greenish colour, and represents a female figure with a bagpipe in her hands; a slight drapery flows round the upper part of the body. The figure is very beautifully and spiritedly drawn, and bears very much the character of the antique. It is well known that the aquamarine was a favourite stone for engraving with the Greeks and Romans, which is proved by the number of engraved gems of this class, particularly in intaglio, which are found in all the col-

No.		Ozs. Dwt. Grs.
	lections of antique stones : to facilitate examination this specimen is set as a swivel ring—Vide plate 17.	
20.	A matchless aquamarine, in the form of a sword-handle, cut all round with long facets which cross each other obliquely ; it is of the most beautiful sea-green colour, and of the utmost perfection. This gem belonged to Murat, and was mounted in his sword ; it has been remounted in fine gold, ornamented with brilliants, turquois, and garnets, and a most beautiful carbuncle on the top ; it is four inches long, and weighs Vide plate 15. (This specimen is kept in the 16th drawer.)	3 6 0

J A R G O O N S.

THE Zircon or Jargoon, and the Hyacinth or Jacynth, must be considered as varieties of each other, since, in all their physical characters of hardness, chemical analysis, and crystallization, they are found to agree.

The primary form of this substance is a flat octohedron, but it more usually occurs in the secondary forms of a four or eight-sided prism, terminated at each extremity by the planes of the primary form. The crystals have usually bright and shining surfaces. Its usual colours are high red, orange red, various tints of reddish brown, yellowish brown, yellow, green, grey and white; it is seldom very transparent, but it has a high degree of lustre nearly resembling that of the diamond, from which circumstance it appears that fine cut jargoons have sometimes been sold as rose-diamonds. In hardness, however, all its varieties are found to be far inferior to the diamond, and rather below the topaz. Its specific gravity is higher than even that of the sapphire, ranging from 4·5 to 4·7.

The varieties of zircon, when found *in situ*, commonly occur in sienite and greenstone and in the older granitic rocks: but they are much more abundantly collected in isolated crystals in the beds of rivers, as in Ceylon, whence the finest jargoons are brought; also in the brook Expailly, in Auvergne, where hyacinths of a very brilliant colour are found.

J A R G O O N S, O R Z I R C O N S.

7th Drawer.

- | No. | | Grains. |
|-----|---|---------|
| 1. | A very large jargoon, of a round form, cut in front like a brilliant and with steps at the back; it is a very spread stone, of a dark yellowish-brown colour, resembling smoky rock crystal. This specimen, which is free from any defect, is very remarkable for its extraordinary size: it is set as a ring—
Vide plate 19. | |
| 2. | A very fine jargoon, of an oblong form, cut with step facets, of an olive-green colour, resembling the peridot. This specimen has several little flaws in the interior, but it is of a pure tint, which is not often the case with the green jargoons, they being generally very cloudy. It is set as a gold ring—
—Vide plate 19. | |

- | No. | Grains. |
|-----|---|
| 3. | A superlatively fine jargoon, of an octagonal form, cut with step facets, of a very fine deep orange colour of the purest tint, having the charming hue, prismatic play, and brilliancy of the diamond: it would be a difficult task to match this beautiful gem on account of its extraordinarily fine and unique colour. It is set as a ring—Vide plate 19. |
| 4. | An exquisitely fine jargoon, of a square form with rounded corners, cut like a brilliant, of an aquamarine blue colour, and having the prismatic play and brilliancy of the diamond: this beautiful specimen is of a very rare and fine tint, and free from any defect, and it may with propriety be called a matchless gem. It is set as a ring—Vide plate 19. |
| 5. | A very fine jargoon, of a long oval shape, cut like a brilliant, of a light yellowish-brown colour resembling the Brazilian topaz, of a very pure and fine tint. This beautiful gem is free from any defect and has the play of prismatic colours and brilliancy of the diamond. It is set as a ring, surrounded by small brilliants—Vide plate 19. |
| 6. | A very curious oval-shaped jargoon, cut like a brilliant, of a brown red colour, entirely resembling the garnet. It happens very rarely that a jargoon of the garnet tint is found of so large a size as the present specimen; it may therefore be considered as a very rare gem of its species. It is set as a ring—Vide plate 19. |
| 7. | A most beautiful jargoon, of an oval form, cut like a brilliant, and of a yellowish-green colour, resembling the chrysolite, with the prismatic play and brilliancy of the diamond, of a pure tint, and free from any flaw. This fine gem merits the highest eulogy for its beauty and great perfection: it is of such an effulgence, that its fire does not even yield to that of a yellow brilliant. It is set as a ring—Vide plate 19. |
| 8. | A small round-shaped jargoon, cut like a brilliant, of a cloudy or dull appearance and bluish-green colour, which however, by candlelight, changes into primrose, and the stone at the same time assumes a great deal more life than by daylight. It is set as a gold ring—Vide plate 19. |
| 9. | A small but very fine jargoon, of an oval shape and cut like a brilliant; its colour is a deep yellowish-brown, and it has the prismatic play and brilliancy of a diamond. It is set as a gold ring—Vide plate 19. |
| 10. | A curious jargoon, of an oval form, opaque throughout; half the stone is of a brownish black, the other part of a greenish tint with whitish streaks in an oblique direction, and of a <i>chatoyant</i> appearance. It is set as a gold ring—Vide plate 19. |
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HYACINTHS.

7th Drawer.

No.

Grains.

1. A very fine hyacinth, of an oblong form and beautifully cut: it is of the true hyacinth colour, or mixture of red and orange. This beautiful gem is very remarkable for its uncommonly fine colour, its extraordinary size, and its extreme purity. It is well known, in general, that hyacinths are full of little specks like sand-corns, or bubbles, such as are found in glass; but the present specimen, though not quite free from these defects, exhibits a much greater transparency than is usual in stones of this species: it is set as a ring with small brilliants—Vide plate 20.
2. An exquisitely fine hyacinth, of nearly the same form and colour as the last-described specimen, the orange tint being, however, a little more predominant: it is likewise of much greater transparency and perfection, and, from its being well cut, with three rows of brilliant facets in front, and steps in the back, it shows the highest degree of brilliancy. It may be regarded as a matchless specimen; and it is set as a ring with small brilliants—Vide plate 20.
3. An uncommonly fine hyacinth, of a nearly circular form, most exquisitely cut, with four rows of brilliant facets in front, and steps at the back: it is of the finest and truest hyacinth colour, the red tint being more predominant than in the two former-described specimens: it is of a most charming hue, and of a very high degree of perfection and transparency: it shows likewise great brilliancy, and is certainly one of the finest specimens of this species of gems: it is set as a ring—Vide plate 20.
4. An exquisitely fine hyacinth, of an oblong form and most charming hue; the orange tint is more predominant than the red: it is cut with three rows of brilliant facets in front, and steps at the back, and it is of great purity and transparency, and very brilliant: set as a gold ring—Vide plate 20.
5. A most beautiful hyacinth, approaching to oval in form, cut like a brilliant in front, and with steps at the back; of a very fine colour, the orange tint being rather predominant. This fine specimen is of great transparency and brilliancy, and of a high degree of perfection: it is set in a ring—Vide plate 20.

No.

Grains.

6. An exquisitely fine hyacinth, of an octagonal form, cut in front with three rows of brilliant facets, and steps at the back; of a beautiful colour, a shade lighter than the last-described specimen: it is of a high degree of perfection, great transparency and brilliancy, and is set as a ring with small roses—Vide plate 20.
 7. A very fine hyacinth, of an octagonal form, cut both in front and at the back with step facets, of a beautiful colour, similar to the last specimen, and equally fine in other respects: it is set as a gold ring—Vide plate 20.
 8. A curious hyacinth, of an oval form, and cut *en cabochon*; of a much paler colour than that usual to the hyacinth: it is of a pure orange tint, without the least mixture of red, and is of the greatest transparency: set as a gold ring—Vide plate 20.
 9. A very fine antique intaglio on a hyacinth, representing a kneeling fawn holding a wreath of vine leaves with both his hands. The drawing is very beautiful and spirited, and bears quite the character of the antique: set as a gold ring—Vide plate 20.
 10. An extraordinarily fine hyacinth, cut as a cameo, of an oval shape, representing the head of a cherub: the stone is of most beautiful colour and of great purity, and the work has undoubtedly been executed by one of the most skilful artists of the 15th century. The angel's head is of a lovely appearance, such as we see in the designs of the great Raffaele. This beautiful gem is not only remarkable for its fine qualities as a hyacinth, and for the high perfection of the workmanship; it is also of some interest in an historical point: it is mounted as a gold ring surrounded by eight Oriental pearls, and was worn by Pope Gregory XIII. It may be presumed that this ring was made to keep either an hostie or some relic, as the setting of the cameo drops into another setting, and is fastened by a peg, so that it opens easily. At the back of the ring is engraved the name of the first possessor, Gregory XIII., and at the back of the setting of the cameo is engraved Pius VII., who was the last owner. The shank is uncommonly wide, and it is supposed that the Popes wore this ring on their thumb.
 11. An extraordinarily large and fine hyacinth, cut as a cameo, representing a female bust, of very fine workmanship, and evidently of the Cinque Cento period: set in a gold ring: kept in the 16th drawer—Vide plate 20.
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CHRYSOBERYLL, OR CYMOPHANE.

THE primary form of this gem appears to be a square prism, but it usually occurs in unsymmetrical prismatic crystals with obtuse pyramidal terminations; and more commonly still in rolled fragments. The Cymophane is generally of a bright but light yellow colour, seldom approaching to green, but sometimes having a brownish cast. It has also frequently that peculiar lustre which is designated by the term *chatoyant*, from its resemblance to the cat's eye; from which jewellers have given it the characteristic appellation of *chatoyant* chrysolite. In hardness the Cymophane is rather superior to the topaz. Its specific gravity reaches as high as 3·8.

Analysts differ greatly as regards the chemical constitution of the Cymophane: it appears to consist principally of alumina, which, according to some, is united to glucina, silica, protoxide of iron, lime and oxide of titanium; and in the opinion of others is united to silica alone.

The best specimens of Cymophane for jewellery are brought from Brazil.

CHRYSO L I T E (C Y M O P H A N E).

7th Drawer.

No.	Grains.
1. A most superb chrysolite, nearly of a circular form, and of a deep yellowish-green tint, approaching the peridot colour, and most admirably cut like a brilliant. This extraordinarily fine gem is of the greatest transparency and brilliancy, and free from any speck or flaw; its uncommonly large size and great perfection entitle it to be called a matchless specimen. It is certainly to be considered one of the rarest specimens of the cymophane, there being very seldom a stone of this size and weight found in this class of gems, which exhibits such perfection: set as a ring with small brilliants—Vide plate 21	175
2. A very fine chrysolite, of an oval shape, cut with five rows of brilliant facets in front, and steps at the back; it is of a primrose colour, the light green being intermixed with yellow: there is a milky substance in the interior of the stone which produces a <i>chatoyance</i> at the surface like changeable taffety. This beautiful gem is free from flaw, and remarkable for its extraordinary size, as well as for its beautiful and peculiar colour: it is set as a ring with small roses—Vide plate 21	186
3. A fine oval-shaped chrysolite, beautifully cut like a brilliant, and of a deep honey colour, or dark yellow strongly mixed with brown: it is free from any	

No.	Grains.
flaw or defect, and remarkable for its uncommonly deep colour: it is set as a ring—Vide plate 22	53
4. A very fine oval-shaped chrysolite, cut as a brilliant, of a honey colour, much lighter than the last, and it has more green intermixed with the yellow; it is free from flaws, and of great brilliancy: set as a ring—Vide plate 22	46½
5. A very fine chrysolite of an oval shape, cut like a brilliant, of a fine deep yellowish green: this beautiful gem is of a very pure tint, free from any flaw, and of the greatest effulgence, and it may be considered as a very fine specimen of this class of stones: it is set as a ring—Vide plate 21	38½
6. A very extraordinary chrysolite, of an oval shape, cut as a brilliant, of a deep olive colour, resembling the green tourmaline; it is free from flaws, but on account of its very dark colour does not show such brilliancy as the last-described stone; it is, however, a very remarkable specimen, and it would perhaps be a difficult task to match it: set as a ring—Vide plate 21	34½
7. A fine chrysolite, of an octagonal shape, cut with step facets, of a very charming yellowish green colour: this specimen is of great transparency and brilliancy: it is set as a ring with small roses. Its weight cannot be exactly ascertained on account of the mounting, but, upon comparison with other stones, it may be estimated at about 18 grains—Vide plate 22.	
8. A chrysolite, of a form approaching to circular and cut as a brilliant, of a yellowish green colour; there is some white silky substance in the interior of the stone, which produces a <i>chatoyance</i> at the surface: it is set as a ring—Vide plate 21	34½
9. A most extraordinary specimen of a <i>chatoyant</i> cymophane, of uncommon grandeur and matchless beauty: this stone is nearly hemispherical, but longer in the direction of the splendid <i>chatoyant</i> ray of light in the centre: it is very remarkable that there is a perfect altar with a torch at the top, of which we have given a drawing in plate No. 22. This is presumed to be the largest and finest known: it is two inches in length, and formed part of the crown jewels taken from the King of Candy in the year 1815. It is kept in the 16th drawer.	
10. A <i>chatoyant</i> cymophane, of an oval shape, cut on both sides <i>en cabochon</i> , of a yellowish-green colour, and transparent; a silky substance, which lies at the end of the stone, produces on the surface a milky-bluish ray, which shows, however, more at the back than in front: it is set as a swivel ring—Vide plate 21.	
11. A <i>chatoyant</i> cymophane, of an oval shape, cut convex on both sides, and of a greenish colour: it does not show the ray so distinctly as the last-described specimen, and is an imperfect stone, having a number of small flaws in the interior; but it is remarkable for the peculiarity that its bezel is only semi-transparent, or of a dull appearance, while the centre, which forms a regular oval, is more transparent: it is set as a swivel ring—Vide plate 21.	

- No.
12. A most exquisite chatoyant cymophane, cut *en cabochon* on both sides, of a heart shape and olive colour, nearly opaque : it shows a most brilliant white ray, which plays from the centre of the stone, and which is as fine at the back as in front : this fine gem may, from its perfection and beauty, be called unique : it is set as a swivel ring—Vide plate 22.
 13. An extraordinarily fine chatoyant cymophane, of a circular form, cut at the top *en cabochon*, and flat at the back, of a yellowish-green colour, semi-transparent, and very thin. This specimen does not, like other chatoyant stones, show a sharp-drawn ray in the centre, but presents a vivid flash of a brilliant white, which moves all over the surface, according to the position in which it is held to reflect the light ; it may in this respect be compared to the play of the moonstone. It is impossible to describe sufficiently the beauty of this gem, and it may be called “unique:” it is set as a ring—Vide plate 22.
 14. A very extraordinary chatoyant cymophane, of a circular shape, cut on both sides *en cabochon*, and of a dark greenish-brown colour : it is semi-transparent, and shows a bluish ray in the centre, both in front and at the back. This specimen is very remarkable for its uncommonly deep colour, resembling the darkest smoky rock crystal : it is set as a gold ring—Vide plate 22.
 15. A fine chatoyant cymophane, of an oval shape, cut *en cabochon* : it is semi-transparent and of a yellowish-green colour, and shows in front a bluish-white ray, in a perpendicular direction, in the centre ; at the back two white opaque bodies are distinctly perceived : set as a gold ring—Vide plate 21.
 16. A chatoyant cymophane, cut *en cabochon*, of an oval shape, and of a greenish-yellow colour ; it is nearly opaque, and shows a white ray across the surface : it is set as a gold ring—Vide plate 21.
 17. A chatoyant cymophane, of a circular shape, and resembling the last, only that the ray is rather more brilliant, and runs in a more perpendicular direction : set as a gold ring—Vide plate 21.
 18. A fine chatoyant cymophane, of an approaching circular form, and semi-transparent : it is of a greenish yellow colour, with a very brilliant white ray in the centre—Vide plate 22.
 19. A superlatively fine chatoyant cymophane, of an oval shape, cut on both sides *en cabochon* : it is semi-transparent, of a dark olive-green colour, with a fine bluish ray, which plays in a perpendicular direction in the centre of the stone, as well in front as at the back. This beautiful gem is of a most charming appearance, and very remarkable for its curious colour : it is set as a ring—Vide plate 22.
 20. A very fine chatoyant cymophane, cut *en cabochon*, of an oval shape, of a yellowish-green colour, with a most brilliant white ray in the centre. This specimen has been drilled through, and has most probably been worn as an amulet : it is set as a ring—Vide plate 22.

G A R N E T S.

GARNET is one of the most variable minerals known in point of colour and composition. Indeed, almost every shade of colour, from perfectly white to perfectly black, may be found in the garnet. Red, of a more or less pure tint is, however, its predominant colour. Silica, alumina, lime, and oxide of iron, enter into the composition of its numerous varieties in different proportions. No trace of lime is discoverable in one variety, while in another nearly 35 per cent. is found. The oxide of iron, again, is only found in one to the amount of 5 per cent., while in another, and that the most precious, it exists to the amount of 36 per cent. Hence results a great disparity of appearance, as well as of transparency and chemical character, colour, and specific gravity. In one character, however, they all agree, namely, in primary crystalline form, which, in this species, appears to be the dodecahedron with rhombic planes, subject to modifications leading to the trapezoidal icositetrahedron and other more compound forms. The specific gravity varies from 3·5 to 4·3, probably in the ratio of the quantity of iron: thus we find that the precious garnet which contains the largest quantity of iron has the highest specific gravity. In hardness, also, the different varieties of garnet range from a degree below that of rock crystal, to nearly the hardness of topaz. Garnets are abundant in all countries. The best for the purposes of the lapidary are from Syria, from Ceylon, and from Bohemia. They occur principally in mica schist, gneiss, and the more ancient granite rocks, although they are also occasionally found in alluvial soil.

G A R N E T S.

8th Drawer.

- | No. | Grains. |
|-----|---|
| 1. | A very large and fine garnet, from Ceylon, of a deep colour, and of an irregularly-rounded heart shape; it is hollowed out at the back, as is customary with garnets, the depth of colour rendering it necessary: a slight chatoyant reflection may be observed near the lower part of this stone, where there is also a flaw, which, however, is not easily perceptible—Vide plate 23. |
| 2. | A large and extraordinarily fine garnet, from Ceylon, cut <i>en cabochon</i> , very deep, and of a circular form: it has distinctly the fine violaceous tint of the almandine, and may be regarded as matchless for size and transparency—Vide plate 25. |

No.

Grains.

3. A large and fine Ceylon garnet, similar in character and colour to the last, but engraved on its surface to represent a flower—Vide plate 23.
4. A garnet, from Ceylon, of large dimensions and extraordinary purity, cut *en cabochon*, rather flat. This has the fine violaceous hue of the almandine: it has a small flaw at one part, and a trifling foulness at another part of the edge; but these defects are scarcely perceptible: it is set as a gold ring with small brilliants—Vide plate 24.
5. A large and very fine Ceylon garnet, of an oval shape, rather wider at one end than at the other, cut *en cabochon*, very deep: it is of a fine colour, perfectly clear, and free from any defect—Vide plate 25.
6. A large and fine garnet, from Ceylon, of an oval shape, cut *en cabochon*: it is very clear, and of a good colour, having a tinge of the fire of the Bohemian garnet; but it has two small flaws near the edge, a small speck and a narrow vein running in an oblique direction across it—Vide plate 24.
7. A fine and large garnet, from Ceylon, nearly of a circular form, cut in front with brilliant facets, and steps at the back. It is exceedingly brilliant, and in its colour partakes of the hue of the almandine. A slight vein may be perceived upon a careful examination of this stone—Vide plate 24.
8. A very fine and large garnet, of an oval shape, from Ceylon, cut *en cabochon*, very deep. It is very clear and fine in colour, and exhibits a slight play of chatoyant lustre, and reflects, when the strong light of the sun is thrown upon it, the elliptical lines forming a star of four rays, similar to those exhibited by the gyrasol quartz—Vide plate 25.
9. An extraordinarily large and fine Bohemian garnet, of an oval shape, and cut with a slightly convex surface. It is remarkably clear and transparent, and shows most beautifully the peculiar fire of the pyrope. This may be considered as matchless: it is set in a gold swivel ring—Vide plate 25.
10. A large and fine Bohemian garnet, of an oval shape, and cut with a slightly-convex surface. This fine stone is nearly as large, and it has all the fire and beauty of the last; but it is remarkable for being filled with a dark-coloured granular substance, which renders it less transparent: it is set as a gold swivel ring—Vide plate 25.
11. A very fine and large garnet, from Ceylon, of an oblong square form, rounded at the corners, cut with brilliant facets in front, and steps at the back. This is of a very fine and deep colour and very brilliant: it is also perfectly free from defect; and set as a gold ring—Vide plate 24.
12. A very fine and large garnet, from Ceylon, of an elongated octagonal form; cut with brilliant facets in front, and steps at the back: it is of a very fine and deep colour, very clear and brilliant, and free from any defect: it is mounted as a gold ring—Vide plate 23.

- | No. | Grains. |
|---|---------|
| 13. A very fine and large Syrian garnet, nearly of a circular form, cut with brilliant facets in front, and steps at the back. This specimen is extremely brilliant, beautifully transparent, and shows most admirably the bright violaceous hue so characteristic of the Syrian garnet: it has an almost imperceptible flaw near the edge: it is set as a gold ring—Vide plate 24. | |
| 14. A fine and large Syrian garnet, of an oblong form, cut with brilliant facets in front, and steps at the back: it displays, in the most perfect manner, the beautiful transparency and fine violaceous tint of the Syrian garnet, and is entirely free from defect: it is set as a gold ring—Vide plate 24. | |
| 15. A very beautiful garnet, from Ceylon, of an oval shape, cut with brilliant facets in front, and steps at the back. This stone is very fine in colour and admirably cut; it is unusually clear and brilliant, and free from defect: it is set as a gold ring—Vide plate 25. | |
| 16. A small but exceedingly fine and brilliant specimen of the almandine or Syrian garnet, cut with brilliant facets in front, and steps at the back. The brilliancy and play of colour in this specimen vies with that of some of the finest hyacinths: it is free from defect, and set as a gold ring—Vide plate 25. | |
| 17. A remarkably fine specimen of a Scottish garnet, of an oval shape, cut <i>en cabochon</i> : its colour is of the deepest hyacinth red, and it is beautifully clear and brilliant, and free from defect: set in a gold ring with cramps—Vide plate 23. | |
| 18. An extraordinarily large and fine Syrian garnet, of a rather lengthened octagonal form, cut with step facets both in front and at the back. This magnificent stone is of the richest possible colour, approaching to that of the Oriental amethyst: it displays, moreover, the greatest purity, and the most splendid play of colours: it is most admirably cut, and must be regarded as a matchless gem: it is set as a ring with small brilliants. From the collection of the Marquis de Drée.—Vide plate 24. | |
| 19. A large and very fine specimen of the almandine or Syrian garnet, of an octagonal form, and most beautifully cut with step facets, both in front and at the back: it is perfectly clear and free from defect, and displays finely the true violaceous hue of the almandine, and is, indeed, a charming stone: it is set as a gold ring with small brilliants—Vide plate 24. | |
| 20. A large and fine specimen of garnet, from Ceylon, of an elongated octagonal form, cut with brilliant facets in front, and steps at the back. This specimen is of an unusually bright colour, possessing, in a great degree, the violaceous tint of the almandine: it has a few very small specks: set as a gold ring with small brilliants—Vide plate 23. | |

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|-----|--|---------|
| No. | | Grains. |
|-----|--|---------|
21. A fine octagonal-shaped Ceylon garnet, cut with step facets in front and at the back. This stone is remarkably clear and pure, and displays finely the beautiful violaceous tint of the almandine: it has a flaw at the back: set as a gold ring with small brilliants—Vide plate 23.
 22. An uncommonly fine specimen of almandine or Syrian garnet, of a rather lengthened octagonal form, cut with brilliant facets in front, and steps at the back. This stone is remarkable for its brilliancy, and for the brightness of its colour, nearly approaching that of the Oriental amethyst: it is beautifully clear, and free from defect: it is set as a gold ring with roses—Vide plate 23.
 23. An extraordinary specimen of the Ceylon garnet, of a rather lengthened square form, rounded at the corners; cut with brilliant facets in front and at the back. This specimen is remarkable for the richness of its colour, resembling that of the finest and deepest orange-red hyacinths: it vies with them, moreover, in brilliancy and fire. This stone is of the greatest purity, and free from defect: it is set as a gold ring with small diamonds—Vide plate 23.
 24. An engraved garnet, of an oblong form, cut *en cabochon*, with the figure of a young faun bearing his thyrsus and cup, in intaglio. The design is beautiful and graceful, and undoubtedly antique: it is set as a gold ring—Vide plate 25.
 25. An engraved garnet, of a circular form, representing, in intaglio, the head and wing of a Genius: set as a gold ring—Vide plate 24.
 26. A fine engraved garnet, of an oval shape, representing, in alto relievo, the portrait of Henri Quatre. The drawing is fine and bold, and is the work of F. Coldore: it is set as a gold ring—Vide plate 24.
 27. A small but very curious specimen of an engraved and enamelled garnet, from Bohemia: it is of an octagonal shape, and has a pair of white doves, and the flower commonly called "Forget me not" enamelled on its surface. This is a very remarkable specimen, inasmuch as it proves the Bohemian garnet to be capable of resisting the effect of the great degree of heat necessary to fix the enamel—Vide plate 25.
 28. A remarkably large specimen of garnet, from Ceylon, in the form of an oval cup, having an angle at each extremity. This specimen is of extraordinary size, measuring two inches and a tenth in its greater diameter, and being, in general, very clear and of fine colour, though not entirely free from flaws. Kept in the 16th drawer—Vide plate 25.
 29. A very remarkable and beautiful Asterias precious garnet. The stone is six-tenths of an inch long, and five-tenths wide, of an oval form, thin, flat on one side, and a little concave on the other, and mounted in a swivel ring, in order to display the very brilliant six-rayed star, which may be seen when

No.

Grains.

the light of the sun is reflected from its surface, or transmitted through it. The star, when seen by the reflected light of the sun, shows six very slender rays, which, when carefully examined, are each seen to be composed of two lines; but when the sun is seen through the stone, the six rays appear single, and much broader as well as brighter; and there is then another phenomenon to be observed, which consists, according to the position in which it is seen, either of two curved lines diverging from the centre of the star, or of a more or less hyperbolic ring: so that, in some directions, the star appears to consist of eight rays, and in others of six only, to which is then added a ring of light, one of whose sides cuts through the centre of the star. It is probable that this stone has been cut transversely to the axis of two of the obtuse solid angles of the primary dodecahedron—Vide plate 23.

30. A most extraordinary large and fine garnet, of the almandine species, of a fine violet colour, flat on both sides, and engraved as an intaglio. It is the work of a very clever artist, and represents Ceres having alighted from her car, drawn by two dragons, and lighting her torches on Mount Etna, in search of her daughter Proserpine—Vide plate 25*.
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THE TOPAZ.

THE Topaz is usually found in prismatic crystals, with a distinct cleavage, easily obtainable in a direction at right angles to its axis. It is also found in rolled masses of various dimensions. In colour this mineral presents great variety; the most usual colour, however, is a bright yellowish-brown tint, passing on the one side to yellow, and on the other to a brownish orange. There are naturally pink-coloured topazes, but the ordinary pink topazes are altered by heat. Many topazes are colourless, and they are also met with of a light sea-green colour, as well as of a pale blue. They are commonly very transparent, and of considerable hardness, being harder than rock crystal and amethyst, though not so hard as sapphire. The Oriental topaz of the jewellers must not be confounded with this; it is a variety of sapphire, and much harder than the common topaz. Its specific gravity is from 3·4 to 3·6, being much greater than that of rock-crystal. It usually becomes electric by heat, and exhibits polarity. Its essential constituents appear to be alumine, siliceous earth, and fluoric acid, and it frequently presents longitudinal striæ, both internally and externally, and minute cavities which commonly contain air or fluid. Topazes are found in several countries, as Siberia, in large and variously-coloured crystals with numerous modifications; in Saxony, usually of a pale yellowish colour; in South America and Van Diemen's Land, in rolled pieces, generally without colour, but sometimes having a slight tinge of blue; in Scotland, of a light bluish tint; and in Ireland, in transparent colourless crystals. But it is in Brazil that the principal topazes are found: in that country they occur very abundantly, in detached crystals, sometimes imbedded in quartz, but generally in an argillaceous earth. Most of the specimens brought from Brazil are of the bright brownish orange colour peculiar to the topaz; but occasionally they are found of a bright and light greenish-blue.

TOPAZES.

9th Drawer.

No.

Grains.

1. A most beautiful Brazilian topaz, of an oblong form, cut with seven rows of oblique facets in front and steps at the back; it is of a beautiful deep orange colour strongly mixed with red, and of great purity of tint: a trifling flaw lies on the edge of the stone, which is scarcely visible. This beautiful gem is of the utmost brilliancy, and may be considered as one of the finest specimens of this class of gems: set as a gold ring—Vide plate 26.

No.

Grains.

2. An extraordinarily large and fine Brazilian topaz, of an oblong form with rounded corners, cut with seven rows of brilliant facets in front, and steps at the back: it is of a beautiful orange colour intermixed with red, but the two tints are not so much blended as in the last-described specimen, the red tint showing more distinctly at the two ends of the stone: it is set as a gold ring—Vide plate 27.
3. A very fine Brazilian topaz, of an oblong form, cut with seven rows of oblique facets in front, and steps at the back: it is of a light orange colour intermixed with red, which latter tint is distinctly perceived around the bixel of the stone: a trifling flaw lies on the edge of the stone, but which can only be detected with difficulty upon the closest examination, being only perceptible when the stone is held up to the light in a particular direction. This beautiful gem is of a very fine tint and great brilliancy: it is set as a ring—Vide plate 27.
4. A large and fine Brazilian topaz, of a nearly circular form, beautifully cut with five rows of brilliant facets in front, and steps at the back; it is of a deep orange colour intermixed with red; the two colours are, however, so blended that it is difficult to distinguish them separately. This beautiful gem is of the greatest perfection and brilliancy, and it is set as a ring—Vide plate 26.
5. A curious Brazilian topaz, of an oblong form, cut with brilliant facets in front, and steps at the back; a deep orange colour, mixed with red plays from both ends, and the centre is of a pale yellow. This stone is free from defect, and is of great brilliancy: it is set as a ring—Vide plate 26.
6. A very curious Brazilian topaz, of a narrow oblong form. This specimen is very remarkable for the mixture of the tints: it illustrates the manner in which Nature composes the colour of the Brazilian topaz; for at one end it shows the deep orange, then it goes over to the yellow and mixes with the pink, which tint is most distinctly perceived, but is again blended with the yellow and forms the orange colour at the other end: the appearance of tints in this stone may be compared to the mixing of colours on the artist's palette, which gradually unite and produce a decided colour. On account of this distinct display of different tints, this curious gem is extremely interesting, as it at once explains the reason of the Brazilian topaz changing its colour, on being heated, from orange to pink; it is evident that this alteration is occasioned by the fire drawing out the yellow tint, which appears to be less fixed than the pink: set as a gold ring—Vide plate 27.
7. A very curious and beautiful Brazilian topaz, of an oval form, cut in front like a brilliant, and at the back with star facets: it is of a fine light claret colour, mixture of red and yellow, which latter tint can easily be distinguished from the former, which is, nevertheless, predominant. This curious specimen has a few flaws at the edge, but is, notwithstanding, of the utmost brilliancy and of a most charming appearance: it is set as a ring—Vide plate 27.

No.

Grains.

8. A very beautiful Brazilian topaz, of an octagonal form, cut in front like a brilliant, and with steps at the back: it is of a peach-blossom colour, or mixture of red and yellow, which latter tint is predominant; both colours are well blended, but the pink can still be distinguished. This fine gem is of the greatest perfection and brilliancy, and of a most charming hue; it would be a difficult task to match it, on account of its most extraordinary and curious colour: it is set as a ring—Vide plate 27.
9. A very fine Brazilian topaz, of an oval form, cut in front with brilliant facets, and steps at the back: it is of a very fine deep orange tint, strongly mixed with red, very much resembling the hyacinth colour; this specimen is very remarkable for its fine colour, but it has several flaws: it is set as a ring—Vide plate 26.
10. An extraordinarily fine Brazilian topaz, of an oblong form, cut with brilliant facets in front, and steps at the back: it is of a fine amaranth colour, or mixture of red and yellow, the latter tint predominating, but the red being more distinguishable at the two ends. This beautiful gem is free from any flaw or defect, and of the greatest brilliancy: its uncommonly fine colour, and its other high qualities, entitle it to a rank as one of the finest specimens of this class of stones: it is set as a gold ring—Vide plate 26.
11. A superlatively fine Brazilian topaz, of an elongated octagonal form and most admirably cut: it is of the finest amaranth colour, or mixture of red and yellow, but these two tints are so perfectly blended that they present only one decided and uniform tint: it is free from any defect or flaw, of a most charming hue, and, with regard to cutting, it is a perfect chef-d'œuvre of workmanship. It would be useless to attempt to convey to the reader by a description an idea of the beauties of this matchless gem; we need only add that it might be placed beside the finest Spinelle ruby without yielding any superiority to the latter; indeed it resembles that stone more than it does a topaz. This unique specimen is set as a ring with roses—Vide plate 26.
12. A most magnificent Brazilian topaz, of an elongated octagonal form, cut with step facets both in front and at the back: it is of a most beautiful amaranth colour, very pure in its tint, free from any flaw, and of very great brilliancy: it is set as a ring with roses—Vide plate 27.
13. A most beautiful natural pink topaz, of an oval form, cut in front with brilliant facets, and steps at the back: the centre of the stone presents a pink colour, pure without any mixture of yellow; the two ends, however, show a deep amaranth tint where the yellow may be discovered mixed with the red. This beautiful specimen is of a most charming and lovely hue, free from any flaw or defect, and of the greatest brilliancy: it is set as a ring with small roses—Vide plate 27.
14. A fine natural pink topaz, of a long narrow oval form, cut in front with brilliant facets, and with steps at the back: the centre of the stone presents a still deeper pink than the last specimen, but not so pure in its mixture, for some yellow can be detected: the two ends are of the deepest amaranth,

No.

Grains.

- showing distinctly the mixture of red and yellow. This specimen, though not of so agreeable a colour as No. 13, is nevertheless interesting, on account of its showing so distinctly the impregnation of its different tints: it is free from any flaw, and set as a gold ring—Vide plate 27.
15. A very fine natural pink topaz, of a long oval shape, cut with five rows of brilliant facets in front, and steps at the back: the centre shows a very fine pure pink; but the two ends are of a much deeper tint. This beautiful specimen is of the greatest perfection and beauty: it is set as a gold ring—Vide plate 27.
16. An unique natural pink topaz, of an oblong form, cut with oblique facets in front, and steps at the back; of a fine light claret colour, of the purest tint, very transparent, and of a most captivating hue. This matchless gem deserves well the name of the Brazilian ruby, as it has all the appearance of a ruby balais, and will certainly bear comparison with that stone as to beauty of colour and fire; and it may be valued much higher than a ruby balais, as it is evident that a natural pink topaz, of such perfection of colour, is much the more scarce: it is set as a ring with small roses—Vide plate 26.
17. An exquisitely fine and large natural pink topaz, of an oblong form, cut in front with oblique facets, and steps at the back, of a most beautiful pink, of the greatest purity, free from any flaw or defect. This extraordinarily fine gem is of the greatest brilliancy, and a most charming hue: it may be considered as matchless, on account of its uncommonly large size, its fine colour, and its great perfection: it is set as a gold ring—Vide plate 27.
18. A very fine burnt pink topaz, of a long oval form, cut in front with five rows of brilliant facets, and steps at the back: it shows a deeper colour at the two ends than in the centre: it is of a very fine hue, free from defect, and of the greatest brilliancy: set as a gold ring—Vide plate 26.
19. A very large and most beautiful burnt pink topaz, of a drop shape, cut in front with brilliant facets, and steps at the back. This superb specimen is of the finest pink colour, and of the greatest purity of tint; the yellow colour is entirely extracted by heat: it is of the greatest brilliancy: a few trifling flaws lie on the edge of the stone, which are scarcely perceptible: it has a cap set with roses on its small end—Vide plate 26.
20. An unique large white topaz, from Ceylon, of an oval form, cut like a brilliant: the white is slightly mixed with yellow, and it is of the greatest purity, brilliancy, and transparency, and free from any defect. This rare gem is most remarkable for its extraordinary lustre and display of prismatic colours, in which it resembles the zircon, or the diamond, even more than the topaz: it is set as a gold ring—Vide plate 26.
21. An unique large and fine Saxon topaz, of an oval form, and cut like a brilliant: it is of a fine honey colour, of great transparency, and free from any flaw. This superb gem, like the last-described specimen, displays the prismatic colours of the zircon, and shows as great an effulgence as the finest

No.

Grains.

yellow brilliant. It would be vain to attempt to convey to the reader an idea of the beauty of this stone; it certainly must be regarded as one of the finest specimens of this collection—Vide plate 26.

22. A superlatively large and fine blue topaz, from the Brazils, of an oval form, and most admirably cut with seven rows of brilliant facets in front, and steps at the back: it is of a greenish-blue colour, entirely resembling the aquamarine, from which it can only be distinguished by its greater specific gravity and hardness: it is of the utmost transparency, and free from any flaw or defect. This rare gem is very remarkable for its uncommonly large size, its great perfection, and its beautiful colour: the fine workmanship displayed in the cutting produces the greatest effulgence: it would be a difficult task to find a match for it, and we may presume that the Brazilian soil has never produced a finer gem—Vide plate 27.
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T O U R M A L I N E.

THE tourmaline is perhaps more interesting as a mineral than as a gem, because, *though never* so well cut and polished, it seldom possesses that high degree of lustre which renders most of the other gems so attractive and worthy of admiration. There is, however, a great variety in its tints, and, in some instances, a brilliancy of colouring nearly equal to that of the more precious gems.

The primary form of the tourmaline is an obtuse rhomboid; it is, however, usually found in prismatic crystals of three, six, or nine sides, and commonly longitudinally striated, the two terminations generally being dissimilar. It is found of a great variety of colours, such as green, from the pale and bright apple-green to the dark bottle-green; blue, from a light greenish-blue to a very deep indigo colour; red, from a pale rosy hue to a deep and dark purplish red or crimson; yellow; brown of various tints; and of a perfectly jet black. Some of these varieties in colour are transparent, others only translucent, and the black is most intensely opaque. The specific gravity of tourmaline is from about 3· to 3·2, and in hardness it is rather inferior to rock crystal. The tourmaline becomes electric upon being heated, one termination of the crystal being positively and the other negatively electric. Some of the crystals also are transparent in one direction, or when viewed transversely to the axis, and opaque, or of a different colour in another direction, or when viewed in the direction of the axis. The tourmaline consists principally of siliceous, alumine, iron, and manganese; boracic acid is considered as one of its essential ingredients, and soda, potash, and lithion, are found as component parts of some varieties. Its optical properties have rendered it a mineral of extraordinary interest of late. The best specimens for exhibiting the polarization of light are those of a deep brown colour, from St. Gothard and from Spain, and the bottle-green varieties from Brazil. The tourmaline is found in all parts of the world; but the translucent and transparent varieties, which are alone fit for cutting as gems, are principally brought from Ceylon, the Brazils, and Siberia: those of Ceylon are usually varieties of yellow and brown colours; those of the Brazils dark green; and those of Siberia show various tints of pink and red.

T O U R M A L I N E S.

10th Drawer.

- | No. | Grains. |
|--|---------|
| 1. | |
| A large and most beautiful tourmaline, of an oblong form with rounded corners, cut with step facets: it is of a deep olive-green colour, mixed with yellow, of the greatest purity and transparency, and free from flaw or other defect—Vide plate 30. | |
| 2. | |
| A very fine tourmaline, of the same colour as No. 1, only a little longer and narrower: it is equally free from flaws or defects—Vide plate 30. | |
| 3. | |
| A very fine tourmaline, of a lengthened octagon form, cut in front with brilliant facets, and steps at the back, and of a bottle-green colour. This specimen is free from any flaw or defect; it is very transparent, and of a fine hue: set as a gold ring—Vide plate 29. | |
| 4. | |
| A fine tourmaline, of a narrow oblong shape, with the corners rounded and cut with step facets: it is of a beautiful and fine green colour, approaching to that of the emerald, with great transparency and purity of tint; it is free from any flaw or defect, and of a very fine hue: set as a gold ring—Vide plate 29. | |
| 5. | |
| A fine tourmaline, of a narrow oblong form, cut with step facets, and of a greenish-yellow colour, resembling the peridot; this specimen is of great transparency and purity of tint; a few slight flaws lie at one end: set as a gold ring—Vide plate 29. | |
| 6. | |
| A most beautiful tourmaline, of an oblong form, cut with step facets, and of a very fine bottle-green colour of the purest tint: it is very transparent and of a pleasing hue, and set as a gold ring—Vide plate 29. | |
| 7. | |
| A tourmaline, of an oval form, cut as a brilliant in front, and with step facets at the back: it is of an olive-green colour, but the yellow is not well blended with the green, and the colour in the centre is much lighter than at the two ends, where it shows a blackish green: it is set as a gold ring—Vide plate 29. | |
| 8. | |
| A curious tourmaline, of an oblong form, cut with step facets, and of a very deep green: the colour of this specimen is composed of the blue and yellow tints; at one end the blue tint is distinctly perceived, and at the other end a yellowish green: it is set as a gold ring—Vide plate 29. | |
| 9. | |
| A tourmaline, of an oval form, cut <i>en cabochon</i> , of a smoky olive-green: it looks nearly black, and shows its transparency only when held up to the light: it is set as a gold ring—Vide plate 28. | |
| 10. | |
| A fine tourmaline, of an oblong form, cut with step facets both in front and at the back, and of a pure indigo colour, free from any flaw or defect: this approaches very near to the sapphire in colour, and must be considered as one of the rarest gems of this species: it is set as a gold ring—Vide plate 28. | |

- | No. | Grains. |
|--|---------|
| 11. | |
| A curious tourmaline, of an oblong form, cut with brilliant facets in front and steps at the back; of a bluish-green colour: the mixture of the green and bluish tints can be easily detected in this specimen: it is very transparent, and free from any flaw or speck, and is set as a gold ring—Vide plate 30. | |
| 12. | |
| A tourmaline, of an oval form, cut with brilliant facets in front, and steps at the back, and of a dark indigo colour, but of a blackish appearance when the light is reflected on it; this is not very transparent; it has several flaws in the interior, and is only placed in this collection as a variety of colour: it is set as a gold ring—Vide plate 30. | |
| 13. | |
| A very curious tourmaline, of a lengthened octagon shape, cut with step facets in front and at the back: when held in a horizontal position it has the appearance of an amethyst, and in a perpendicular one that of a sapphire: set as a gold ring—Vide plate 29. | |
| 14. | |
| A curious tourmaline, of an oval form and dark green colour, with an iris in the interior, which gives it the appearance of a green opal: it is set as a gold ring—Vide plate 30. | |
| 15. | |
| A tourmaline, of a triangular form, with a flat surface on both sides, and of a jet black colour, quite opaque: set as a gold ring—Vide plate 28. | |
| 16. | |
| A tourmaline, of a circular form, cut like a rose diamond, of a very brilliant jet black and quite opaque: set as a gold ring—Vide plate 28. | |
| 17. | |
| A very curious tourmaline, of an oval shape and with a flat surface on both sides, and of a blackish colour with a ruby-coloured stratum, but which can only be seen when the stone is held in a horizontal direction towards the light; if, on the contrary, it be held in a perpendicular direction, it appears quite opaque: for the convenience of examination this specimen is mounted as a swivel ring—Vide plate 28. | |
| 18. | |
| A very curious tourmaline, of an oval shape, cut very thin and flat on both sides: it is of a greenish-white colour, with a curious central figure of a deep indigo colour, which is decided and sharply drawn, presents an angle of 45 degrees, and is shaded by a cloudy bluish colour: this is set as a gold ring, and held by cramps—Vide plate 28. | |
| 19. | |
| A superlatively fine tourmaline, of an oval form, cut in front like a brilliant, and with steps at the back; it is of a very rich brown-sherry colour, very transparent and of great brilliancy, and free from any flaw or defect. This unique gem is very remarkable for its curious tint and pleasing hue as well as for its brilliant lustre—qualities which are indeed rarely met with in a tourmaline: it may be considered as the finest specimen ever known, and it would be a difficult task, if not impossible, to match it: it is set as a gold ring surrounded by brilliants—Vide plate 28. | |
| 20. | |
| A fine tourmaline, of an octagonal form, cut with step facets and of a brownish-yellow colour; free from flaws and transparent, but not very brilliant—Vide plate 28. | |

- No.
21. A tourmaline, of an oval form, cut in front *en cabochon*, and flat at the back; of a yellowish-brown colour, deeper than the last-described specimen: it is free from flaws but of no lustre, and shows its transparency only by transmitted light: it is set as a gold ring held by cramps—Vide plate 29.
 22. A very fine tourmaline, of an octagonal form, cut with step facets, and of a fine port-wine colour or mixture of red and purple, resembling a spinelle. This beautiful specimen, though not entirely free from flaws, is of great transparency and of very fine hue; it is also remarkable for its curious colour: it is set as a gold ring—Vide plate 29.
 23. A very fine tourmaline, of an oblong form with rounded corners, cut as a brilliant in front, and with step facets at the back: it is of a light claret colour mixed with purple, and of great transparency; it has, however, some flaws, which are not very conspicuous, and it may be considered a very fine specimen: it is set as a ring—Vide plate 30.
 24. A very fine tourmaline, of an oblong form, cut with brilliant facets in front, and steps at the back: it is of a beautiful pink colour, closely resembling the ruby balais. This beautiful specimen, though not free from flaws, is of very great transparency and of the utmost brilliancy, and in this respect does not yield to the Oriental ruby: it is set as a ring with small roses—Vide plate 29.
 25. A very curious tourmaline, of an oval form, flat on both sides and very thin: it is transparent and of a pink colour, and shows in the centre a mark of a smoky colour, similar to that of No. 18: it is set as a gold ring held by cramps—Vide plate 28.
 26. A very curious tourmaline, of an oval form, cut *en cabochon*, of a brownish red colour and semi-transparent: a whitish fibrous substance runs in a horizontal direction through the whole stone, and produces a *chatoyant* lustre at the surface, as is seen in the cat's eye—Vide plate 29.
 27. A fine tourmaline, of a circular form, cut in front like a rose-diamond and flat at the back, of a perfect ruby colour, red mixed with purple. This specimen is not very transparent on account of the numerous defects in the interior; it is, however, remarkable for its fine colour: it is set as a ring—Vide plate 29.
 28. A most extraordinary tourmaline, of a heart-shape, cut in front *en cabochon* and flat at the back, and most curiously coloured; the centre being of a fibrous substance and of a pink colour, in form of a heart, and surrounded regularly by a border three-tenths of an inch wide of a grass-green colour, which is more transparent than the centre. This curious specimen is very remarkable for the combination of colours and for its shape; it has a beautiful appearance, and is set as a gold swivel ring—Vide plate 28.
 29. A fine tourmaline, of an oval form, cut with five rows of small brilliant facets in front, and steps at the back; it is of a deep pink colour mixed with purple, and, though not free from flaws, is very transparent: it deserves its place in this collection on account of its fine colour: it is set as a ring—Vide plate 28.

DICHOITE, OR WATER SAPPHIRE.

THE mineralogical characters of this substance prove it to be essentially distinct from the true sapphire. It is of a deep indigo blue when viewed in the direction of the axis of its prism, and of a brownish colour when held perpendicularly to its axis, a circumstance which has given rise to the name of dichroite. Specific gravity lower than that of sapphire, being 2·5 to 2·6. It is rather harder than rock crystal, but not so hard as topaz. Its crystalline form is the hexahedral prism, subject to modification on all its edges.

Found in small water-worn masses in Ceylon.

DICHOITE, OR WATER SAPPHIRE.

16th Drawer.

- | No. | Grains. |
|--|---------|
| 1. A most beautiful water sapphire, of an oval form, cut in front with brilliant facets, and steps at the back; it is of a fine deep indigo tint and very even in its colour, very pure, and unusually transparent, and might be taken for an oriental sapphire: set as a gold ring—Vide plate 30. | |
| 2. A fine dichroite, from the East Indies, cut in an oblong parallelipedal shape, and having three of its angles variously truncated; when viewed through one pair of opposing planes, this stone is of a fine deep indigo blue colour, but through the other pair of opposing planes, it is of a dark greyish brown; this stone is very transparent, but there are in its interior several glistening indications of cleavage and irregularity of structure: set as a gold swivel ring—Vide plate 30. | |
| 3. A fine dichroite, or water sapphire, from the East Indies, of an oval shape and dull indigo colour, with the radiated head of Phœbus engraved on it in deep intaglio: the work is very fine and spirited, and most likely antique: set as a gold ring—Vide plate 30. | |

O P A L.

THIS is at the same time one of the most beautiful and brilliant, and one of the most brittle and softest, of the gems, its hardness not being equal to that of rock crystal. The phenomenon of the exceedingly brilliant play of colours, so conspicuous in the opal, is supposed to depend upon the refraction and reflection of the light in very numerous and minute cavities in the interior of the stone; and that the more or less regular arrangement of these cavities with respect to each other is the cause of the more or less fixed nature of the flashes of brilliant light and colour that emanate from them. The specific gravity of the opal never exceeds $2 \cdot 2$; it is sometimes as low as $1 \cdot 9$. It is never found crystallized, nor has it ever any traces of crystalline structure; but it occurs in portions of extremely irregular shape, in porphyry, at Cschervenitza, in Hungary; and in irregular masses in a trap-rock at Gracias a Dios, in the district of Honduras, in America. These latter are commonly more transparent than those of Hungary; they are also less valuable, because generally softer, and because they do not wear so well.

The opal consists of silex and water, and some varieties, which are opaque and destitute of brilliant reflections when dry, become more transparent and exceedingly brilliant on being wetted, imbibing a great quantity of water: these are called *hydrophane*.

O P A L S.

No.

Grains.

1. A most magnificent large opal, from Hungary, of an oval form, $1\frac{1}{2}$ inches long by $1\frac{1}{4}$ wide, semi-opaque, and of a milky-bluish colour: it presents in the interior in all directions the most vivid flashes of green, blue, and red. When held in a somewhat oblique position, it shows in front at one end a particularly large flash of red, blue, and green, which can only be compared in its effect to the appearance of a fine rainbow. The back of this unique gem is nearly as fine as the front: it exhibits likewise the red, blue, and green colours, but in larger flashes, in which the red is particularly predominant. This beautiful specimen may, on account of its extraordinary size and its great perfection, be ranked among the finest known gems, and from its brilliant and enchanting colours certainly will not yield in beauty to any. This fine opal is most tastefully and judiciously mounted in a gold frame, black enamelled, and ornamented with fine brilliants; the intense black of the enamel sets the stone off well and displays its colours to great advantage—Vide plate 31.

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Grains.

2. A very large and fine opal, from Hungary, of an oval form, $1\frac{1}{8}$ ths inch long by $1\frac{5}{8}$ ths wide, of a milky bluish-white colour, but more opaque than the last; it exhibits larger flashes of red, blue, and green, in which the red particularly predominates; at one end there is a dark spot where the green and blue are intermixed. In consequence of its greater opacity at the back, this stone has not the power of refracting the light of the sun to such a degree as to show the same vivid flashes as it does in front, but when held in an oblique position all the colours of the rainbow may be distinguished. The extremely brilliant iridescent colours of this beautiful gem, together with its extraordinary size (by far greater than No. 1), would have entitled it to contest the prize of beauty with any gem, had it not met with an accidental fracture, which runs across its surface; but the greater part, about three-fourths of its surface, is uninjured, and would, therefore, if the fractured part were taken away, still be a specimen of extraordinary size as an opal—Vide plate 31.
3. A large and very curious, highly transparent, precious opal, nearly 1 inch long and $\frac{3}{4}$ ths wide, very plump and rich in colour, and having engraved on it in alto relievo a figure of the Sun, a human face surrounded by blazing rays: the colours that are most vivid in the reflections of this opal are the green and yellow; in some directions a bright blue is conspicuous, and in others blazes of deep red. This opal is mounted in gold, and has probably been the representative idol of some temple dedicated to the Sun. The mounting, which appears to be Persian, consists, first, of a broad rim of gold bordered with black enamel, then 27 alternately undulating and straight-pointed golden rays, and at the back it is fixed in an oval gold enamelled box. The transparent character of this opal renders it probable that it is of Mexican origin, but the mounting and the superior character of the engraving favour the supposition that it has been the idol of a Persian temple. As it is probably of high antiquity, the questions arise, first, how a Mexican opal could have been carried to Persia to be engraved and mounted? Or, second, are precious opals of this character found in Persia? It is accompanied by an old engraving, apparently representing it in its temple, with an attendant priest or king—Vide plate 31.
4. A very large and most superb opal, from Mexico, of an irregular oval form, $1\frac{1}{8}$ ths inch long by $1\frac{1}{2}$ th wide, and of great transparency; it shows in every direction the most beautiful iris colours, among which the red and green are particularly vivid. This beautiful specimen, on account of its great display of colour and its brilliancy, might be assorted with an Hungarian opal without derogating from its merit—Vide plate 31.
5. A very curious and fine opal, from Hungary, of an oval form, $1\frac{1}{4}$ inch long by $\frac{7}{8}$ ths of an inch wide. This specimen is exceedingly thin, about two-thirds of it transparent and the remainder semi-opaque: the transparent part of this gem is of a bluish tint, and displays the most vivid green and purple

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Grains.

colours, slightly intermingled with yellow: if held in an oblique position several straight lines of a more opaque nature are to be observed. The other part of this stone shows a confused mass of red and green, the former being most predominant, but not in such distinct flashes as in the transparent part. This beautiful specimen may be compared in appearance to the shining and brilliant colours of the breast of the humming-bird, as, when held up to the light, the green and purple appear of a beautiful red: set as a gold ring with a purple enamelled border—Vide plate 32.

6. A very curious and fine large opal, from Mexico, of an oval form, $1\frac{1}{4}$ th of an inch long and $\frac{7}{8}$ ths of an inch wide, of a milky-bluish tint and very transparent. When held in an oblique position it shows, all over the surface, a large mass of the most beautiful iris colours, which, however, are more blended than in other opals—those small flakes which generally characterize the opal not being seen: set as a gold ring with a black enamelled border—Vide plate 32.
7. A most magnificent and large opal, from Hungary, of an oval form, 1 inch long and $1\frac{1}{4}$ ths of an inch wide, very plump, semi-opaque, and of a milky-bluish tint; it displays most abundantly in all directions the most beautiful prismatic colours, which are dispersed all over the surface in small flakes, and is equally fine at the back. This beautiful specimen may, on account of its size and good proportions, together with its great display of colour, be ranked among the finest opals: it is mounted as a gold ring, set round with rose diamonds—Vide plate 31.
8. A most superb opal, from Hungary, of a long, narrow, oval form, $1\frac{1}{4}$ th of an inch long and $\frac{7}{8}$ ths of an inch wide: it is semi-transparent and of a milky bluish tint, and displays very abundantly the most vivid flashes of red, green, and purple in all directions—the red, however, predominating; the back is equally fine, but here the green is seen in larger masses: this beautiful gem, on account of its eminent perfection, is entitled to rank among the finest opals: it is set as a gold ring with a black enamelled border—Vide plate 31.
9. A very fine and curious opal, from Hungary, of an oval form, semi-transparent and of a milky-bluish tint: it shows the iris colours in very large and vivid flashes, the red being particularly predominant; the back is not of such a brilliant appearance, but shows the red and green colours; in the centre is a large mass of small red flakes, which are perceived to more advantage when the stone is held in an oblique position: set as a gold ring—Vide plate 32.
10. A very fine opal, of a circular form, from Hungary; it is semi-transparent and of a milky-bluish tint, and displays most abundantly the finest prismatic colours; the red, the green, and the purple are most beautifully distributed; so that this fine gem has a most beautiful appearance in every direction, and the back is as fine as the front: set as a gold ring—Vide plate 32.

- No. Grains
11. A fine Hungarian opal, of an oval form, semi-transparent, and of a milky-bluish tint: it displays some beautiful prismatic colours, which are seen to greater advantage when the stone is held in a perfectly horizontal position, and which appear as large vivid flashes, the red predominating: the back, from its greater opacity, does not reflect the rays of light, and is therefore of a dull appearance—Vide plate 32.
 12. A most superb Hungarian opal, of a drop shape, of greater opacity, and of a milky-bluish tint: it shows the most beautiful prismatic colours in the greatest profusion; the red, green, and purple are distributed in beautiful harmony all over the stone, in small flakes, and produce the most charming effect; the back displays the iris colours in larger flashes, and would (on account of their brilliancy) be equally fine with the front, if part of it were not so opaque as to hide the fine colours of the interior of the stone: set as a gold ring—Vide plate 31.
 13. A very beautiful and very curious opal, from Hungary, of an oval form, and milky-bluish tint: it is semi-transparent, and displays the red, purple, and green colours very profusely in small flakes: on the front of the stone the green is predominant, but all the small green flakes are bordered with red: the back, though not quite so transparent, is equally rich in prismatic colours; the red is particularly predominant, so that this gem offers a peculiar appearance, one side being all over green, and the other red: the prismatic colours in this curious opal are more fixed, and not so flashing as in other opals; they are, nevertheless, most vivid in appearance: set as a gold swivel ring—Vide plate 33.
 14. A very beautiful irregularly drop-shaped opal, from Hungary: it has a milky-bluish tint, very great opacity, is very plump, and shows the prismatic colours very profusely: the red, green, and purple are distributed in equal proportion, in small flakes, all over the surface, and the colours are more fixed than usual: the back, being more opaque, does not display such vivid colours, but shows only very faintly the red and green in small grains, very closely connected; they are more perceptible when the stone is held in an oblique position: set as a gold ring—Vide plate 31.
 15. A very curious opal, from Hungary, of an oval form, and semi-transparent, with a milky-bluish tint: it shows the red and green colours very closely distributed in very small grains all over the stone, the red being most predominant: the back is more opaque, and does not show the prismatic colours so distinctly: this stone is set as a gold ring—Vide plate 33.
 16. A curious opal, of an oval form, from Mexico: it is very transparent, and of a milky-bluish tint interspersed with small green flakes in great abundance, which are of a fixed nature: very little purple is seen in this gem, and the border reflects the red colour, as when the last parting rays of the sun display a feeble flush of red on the firmament: set as a gold ring—Vide plate 33.

- No.
17. A very curious opal, from Hungary, of an oval form, semi-transparent, and having a milky-bluish tint. This specimen is not very rich in prismatic colours, but shows only the green in large flashes: a most beautiful hue of purple is cast on the surface, which moves in all directions in which the stone is held—Vide plate 33.
18. A most magnificent opal, from Hungary, of an oval form, and milky-bluish tint: it displays the most beautiful prismatic colours in large vivid flashes: red, green, yellow, and purple are intermingled, and produce, by their extraordinary brilliancy, a most enchanting appearance. This beautiful opal, though not of great size, may be called a matchless specimen: it is set as a gold ring, with six cramps to hold it; each cramp is surmounted with a rose diamond—Vide plate 33.
19. A very beautiful harlequin opal from Hungary: it is of a circular form, semi-transparent, and of a milky-bluish tint, and it shows the finest prismatic colours most profusely—the red, green, yellow, and purple in very brilliant fixed points. This gem derives its particular name from its chequered appearance, the colours being all fixed, and not moving according to the varied directions in which the stone may be held: it is a variety very rarely met with: set as a gold ring—Vide plate 32.
20. A very beautiful opal, of an oval form, from Hungary: it is very plump, rather opaque, of a milky-bluish tint, and displays the prismatic colours very profusely in all directions, in small red, green, purple, and yellow flakes, which are distributed in equal proportions all over the surface: the back is as fine as the front, but the red colour is more predominant: set as a gold ring—Vide plate 33.
21. A most beautiful opal, from Mexico, of an oval shape and dark-greenish tint: it displays, in an oblique position, the most vivid and brilliant colours, consisting of red, green, purple, and yellow, which move in large flashes all over the stone, and the green colour is particularly predominant: on one side there are some fixed red flakes, which may be seen in any position. This curious gem may very properly be compared, in its beautiful appearance, to the shining plumage of the humming-bird: it is set in an old-fashioned ring with a pierced shank, and surrounded with rose diamonds—Vide plate 32.
22. A very curious opal, of an oval form, from Mexico: it is very plump, semi-transparent, has a dark-brownish tint, and displays some beautiful prismatic colours, consisting of red, green, and yellow, which, however, are not so brilliant as those of the last-described specimen: it is set as a gold ring—Vide plate 32.
23. A most beautiful opal, from Mexico, of a triangular form, completely opaque, and of a greyish-white tint: it displays the most brilliant iris colours very profusely, in fixed flakes all over the surface of the stone: red, green, and yellow intermingled, offer the most charming appearance: the back of this

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gem is of a coffee-brown colour, and of such opacity as not to show the slightest prismatic colour. This specimen, from the great abundance of vivid and brilliant colours, may be ranked among the finest Mexican opals: it is remarkable for its complete opacity, a variation seldom met with in the Mexican opal: set in a gold ring—Vide plate 32.

24. A very curious opal, of a drop shape, from Mexico: it is translucent, and displays a most beautiful green colour, which appears internally in fixed flakes: a most charming purple hue is cast all over the stone, and the back is equally fine in appearance: there is a luminous reflection, of a whitish colour, around the border of this gem, something like the play of a moonstone: set as a gold ring—Vide plate 32.
25. A most magnificent opal, from Mexico, of an oval form, honey colour, and translucent: it displays the most beautiful prismatic colours, which consist of red, green, and yellow, in large, vivid, and brilliant flashes all over the stone, and the back is as fine as the front. The brilliant and moving flashes of this beautiful and curious stone produce a most peculiar appearance; so that, according to the different horizontal or oblique positions in which it may be held, its surface will appear, in one direction, all over green, and in another, the red alone will be visible, like the brilliant plumage of the humming-bird. It may be regarded as one of the finest Mexican opals, and was formerly in the collection of the Marquis de Drée. Set as a gold ring surrounded by 19 small brilliants—Vide plate 32.
26. A very fine opal, from Mexico, of an oval form, semi-opaque, and of a yellowish tint: it displays the finest prismatic colours very profusely: they consist of red, green, yellow, and purple (the latter colour rather faint), which appear in large and vivid flashes: the back is not quite so brilliant as the front, but shows the green and purple colours very beautifully, the purple being particularly predominant, but the red not so visible as in the front: set as a gold ring with a blue enamelled border—Vide plate 33.
27. A fine golden opal, from Hungary, of an oval form, completely opaque, and of a yellow tint: it shows the green colour very profusely in small fixed flakes all over the stone: the red is very faintly perceptible: the back, though quite as much covered with the green colour, is not so brilliant in appearance as the front: set as a gold ring—Vide plate 33.
28. A very fine golden opal, from Hungary, of an oval form, completely opaque, and of a yellow tint: it displays the prismatic colours very profusely; they consist of the red, green, yellow, and purple, which appear in very small and closely-connected fixed grains or points: a small part of the stone shows a vivid green flash: the back consists of the matrix of opal, of a brownish and grayish colour, showing very faintly a few sparks of prismatic colours: set as a gold ring—Vide plate 33.
29. A most beautiful and curious opal, from Mexico, of a lozenge shape, semi-opaque, and of a dark-brown colour: it displays very profusely the most

- No. beautiful iris colours, which are distributed in small brilliant flakes all over the surface, and consist of red, green, and yellow: the back shows the red alone in one large brilliant flash, and has the appearance of a burning coal. On account of its curious colour, and the singular display of the red colour in its interior, this may be called a matchless specimen: it is set as a gold swivel ring—Vide plate 33.
30. A very fine opal, from Hungary, of a long, narrow, oval form and translucent, with a milky-bluish tint: it displays the most vivid iris colours, in one large moving mass, consisting of red, green, yellow, and purple: the back has a still more brilliant appearance, there being one large vivid flash of green and yellow, which covers the entire surface. The border of this stone is of a red luminous aspect, and may be compared to the reflection of the parting sun on the firmament: set as a gold ring—Vide plate 33.
31. A most curious opal, of a circular form, from Hungary, which is translucent and of a milky-bluish tint. This gem is of a most peculiar aspect: when held in a perfectly horizontal position, it does not show the faintest spark of prismatic colours, and looks completely dull, but when turned in an oblique position, it shows in one direction, in the centre, a perfectly circular flash of red, like the pupil of the eye, and which is of the most brilliant and vivid appearance; its effect may be compared to the aspect of a brilliant sunset: when held in an opposite direction to the one just described, it shows nothing but a faint purple colour moving over the surface, and the back shows the red colour very faintly. The magnificent effect of this unique gem is more striking when a strong sun-light falls on it: set as a ring—Vide plate 32.
32. A very curious Hungarian opal, approaching to circular in form, very plump, semi-opaque, and of a milky-bluish tint: it displays the most perfect rainbow, in three distinct streaks, which are of the most brilliant appearance; the centre is of a purple cast, so also are the divisions between the brilliant streaks; the latter, however, seem to move over the surface as the stone is held in various positions, and produce a *chatoyant* effect. This curious and beautiful gem may be considered as matchless: it is set as a gold ring—Vide plate 32.
33. A very beautiful and curious opal, from Hungary, heart-shaped, opaque, and of a beautiful purple tint: it displays a very fine and brilliant green colour, in small flakes, interspersed with black dendritic marks: the back is of a grey colour, with the same dendritic marks as the front, but without any prismatic colours. This specimen is very curious and rare: it is set as a gold ring—Vide plate 32.
34. An extraordinarily curious oval-shaped opal, from Hungary: three parts of the stone are completely opaque, and of dark brown colour, interspersed with some beautiful and brilliant red flames, slightly intermixed with green: in one direction a faint purple flash is visible: the other end is semi-opaque,

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of a milky-bluish tint, displaying the red and green in small but vivid flashes. This curious gem has very much the appearance of a very brilliant Brazilian beetle, and may certainly be called unique: it is set as a gold ring—Vide plate 33.

35. A curious opal, from Mexico, of an oval form, translucent, of a light yellow colour, and cut like a topaz: it very much resembles a Saxon topaz, and is set as a gold ring—Vide plate 33.
36. A curious opal from Hungary, of an octagonal form, translucent, of an orange colour, and cut with step facets, both in front and at the back. It very much resembles a Brazilian topaz, and, though not possessed of the same fire, shows, nevertheless, a great degree of brilliancy: it is set as a gold ring—Vide plate 33.
37. A curious wax opal, from Hungary, of an oval form, cut *en cabochon*, very plump, translucent, and of a brownish-yellow tint: it shows very distinctly, in the interior, a group of moss: it is set as a gold ring—Vide plate 32.
38. A curious opal, from Mexico, of an oval form, and cut *en cabochon*: it is translucent, and of a light emerald colour: set as a gold ring—Vide plate 33.
39. A small but very curious Hungarian precious opal, of a somewhat irregular oval form, and of a pale liver colour, reflecting most beautiful and vivid flashes of the most brilliant lilac colour—Vide plate 33.
- 39*. A most beautiful opal, from Hungary, of a drop shape, translucent, presenting the most vivid flashes of purple, red, green, and yellow—Vide plate 32.
- 39**. A very fine opal, from Hungary, of a drop shape, which, from the great variety of colours, is called harlequin. The prismatic colours of this stone do not appear in moving flashes, but are of a more fixed nature: set as a gold ring—Vide plate 32.
- 39***. An opal, from Hungary. The stone is cut convex, with an intaglio engraving on it, representing the laureated head of Apollo. The work is very fine and very deep, and shows a front face. This specimen is of great curiosity, as an engraved opal of such fine work is very seldom met with: mounted in a gold chased ring—Vide plate 31.
40. A curious opal, from Hungary, of an oval shape, and greyish colour: it is opaque, and shows black dendritic marks all over the surface: set as a gold ring—Vide plate 33*.
41. A very curious oval-shaped opal, from Hungary, opaque and perfectly white: it shows numerous obliquely-placed translucent cylinders, having the appearance of holes made by worms in wood: set as a gold ring—Vide plate 33*.
42. An hydrophane, or oculus mundi, from Hungary, of an oval form, and milky-coffee colour: it displays prismatic colours faintly; they consist of

- green and purple in very small grains closely connected. This stone has the property of becoming transparent when put in water, and of reassuming its opacity when dry again: it is set as a gold ring—Vide plate 33*.
43. A most beautiful specimen of the matrix of opal, from Hungary, of an oval form, and blackish-grey colour: it displays a great profusion of small but very vivid and brilliant closely-connected sparks of red, green, yellow, and purple, intermingled in beautiful harmony: the back is very richly interspersed with small purple and green sparks, which are very vivid, and distributed in equal proportion over the whole surface; no other colour is visible. This is a matchless specimen, on account of its abundance of prismatic colours: it is set as a gold swivel ring—Vide plate 33*.
44. A curious opal, from Hungary, of an oval shape: three-fourths of the stone are of a yellowish-green colour and opaque; the remainder is of a milky-bluish tint and translucent, and is separated from the opaque part by an oblique line of a grass-green colour: it is set as a gold ring—Vide plate 33*.
45. A common opal, of an oval shape, opaque, and of an olive-green colour, from Hungary: set as a gold ring—Vide plate 33*.
46. An oval-shaped common opal, from Hungary, opaque, and of a dark-grey colour: set as a ring—Vide plate 33*.
47. An oval-shaped common opal, from Hungary, opaque, and of a chocolate colour: set as a gold ring—Vide plate 33*.
48. A semi-opaque wood opal, of an oval shape, from Hungary: half of the stone is of a yellowish-white, the other half of a blackish-brown colour, crossed by lines denoting its ligneous character—Vide plate 33*.
49. A curious round-shaped translucent opal, from Hungary, crossed by two yellow lines: it displays a few prismatic colours very faintly, and is set as a gold ring—Vide plate 33*.
50. A very magnificent snuff-box, of the matrix of opal, of an oval form, and dark-greyish colour, interspersed with the most beautiful and brilliant prismatic colours, consisting of green, yellow, red, and purple; the latter colour is very predominant and of a particularly beautiful hue. This matchless box is most richly mounted, and lined with fine gold.
51. A very superb snuff-box, of the matrix of opal, of an oblong octagonal form, and of a lighter greyish colour, intermixed with yellowish patches: it displays very profusely, in all directions, the most vivid and brilliant colours: it is richly mounted in gold.
52. A beautiful specimen of the golden opal on the matrix, from Hungary. The opal is of a fine yellow colour, and displays beautiful green flames; and the layer, or gangue, on which it rests, is of a milk-white colour and opaque.
53. A piece of emerald-green opal on the matrix, from Mexico: it is translucent, but has the property of becoming quite opaque when exposed to heat, and, when cool, of resuming its translucency.

P E R I D O T.

THE peridot, or chrysolite, is usually found in angular and somewhat rounded fragments, or in prismatic crystals, with obtuse pyramidal terminations: its primary form appears to be a square prism. It is usually of a yellowish-green colour, more or less approaching to olive green, and sometimes with a brownish tint. It has commonly an oily aspect. Specific gravity from 3·3 to 3·5. Hardness not equal to that of rock crystal. It consists principally of silex, magnesia, and oxide of iron; silex, according to some analysts, and magnesia, according to others, being the predominant ingredient.

The peridot used in jewellery is brought from the Levant; its exact locality is not known, though some assert it to be found in Cyprus—it is probably of volcanic origin.

P E R I D O T, OR C H R Y S O L I T E.

12th Drawer.

No.	Grains.
1. A very magnificent peridot, of a lengthened octagonal form, $1\frac{1}{2}$ inch by $1\frac{3}{8}$ ths of an inch; rather spread and cut both in front and at the back in steps; of a fine bottle-green velvet colour, the green being strongly mixed with yellow: this fine gem is of a most beautiful hue, free from any flaw or defect, and from its extraordinary size and perfection may be regarded as one of the finest peridots: it is set in a gold ring with cramps—Vide plate 34 -	93 $\frac{1}{2}$
2. A very superb peridot, of an octagonal shape, $1\frac{3}{8}$ ths of an inch by $1\frac{1}{8}$ th of an inch, of very good proportion as to thickness; cut in front with brilliant facets, and with steps at the back; of a deeper tint than No. 1, and without any defect or flaw: it is set in a gold shank held by cramps—Vide plate 34	103
3. A very beautiful peridot, of a lengthened octagonal shape, $1\frac{1}{8}$ ths of an inch by $\frac{7}{8}$ ths of an inch; of good proportions; cut in front with brilliant facets, and steps at the back: this stone is a shade lighter than No. 2, and is very pure and brilliant: it is set in a gold shank held by cramps—Vide plate 34	47 $\frac{1}{2}$
4. A fine peridot, of a lengthened octagonal shape, $1\frac{1}{8}$ th of an inch by $\frac{7}{8}$ ths of an inch, rather spread; cut in front with brilliant facets, and steps at the back: it is very pure and of the same tint as No. 3, but not so brilliant: it is set in a gold shank held by cramps—Vide plate 34	46 $\frac{1}{8}$

No.	Carats.
<p>5. A superlatively fine peridot, of an octagonal shape, $\frac{1}{4}$ths of an inch in diameter, and of good proportions; cut in front with brilliant facets, and steps at the back; it is of a very fine hue, the green being strongly mixed with yellow: this gem has a few flaws which are scarcely visible, and it is of the utmost brilliancy; in this respect it is the finest specimen of this class of stones in the collection: it is set in a gold shank held by cramps—Vide plate 34 - - - - -</p>	60 $\frac{1}{2}$
<p>6. A very fine peridot, of an octagonal shape, $\frac{1}{4}$ths of an inch in diameter, of good proportions; cut in front with brilliant facets, and steps at the back; it is a shade lighter in colour than the last-described specimen; of a fine hue, quite pure, and of very great brilliancy: it is set in a gold shank held by cramps—Vide plate 34 - - - - -</p>	35 $\frac{1}{2}$
<p>7. A very fine engraved peridot, of a pale green colour, representing Apollo and the lizard in intaglio; the naked figure of young Apollo, or Apollino, is standing near the trunk of a tree, with his left arm uplifted, coaxing the lizard to crawl up the tree: the drawing is very fine and spirited, by Calendrelli; the name of the artist is in Greek letters engraved on the stone: it is set as a gold swivel ring.</p>	

A M E T H Y S T.

THIS is a gem of great beauty, particularly when of a good size, deep uniform colour, and free from defect; it is generally regarded as a variety of quartz or rock crystal, with which it agrees in its primary form and crystalline structure as well as in hardness and specific gravity. It differs, however, from the other varieties of rock crystal in the peculiar undulated lines observed in its fractures, and also in colour, which, in the amethyst, is supposed to be owing to a minute admixture of iron and manganese. Hardness less than that of topaz and superior to that of opal; specific gravity from 2.5 to 2.7. The primary form of the amethyst is an obtuse rhomboid, but it usually occurs in hexahedral prismatic crystals, terminated by hexahedral pyramids, which are commonly found grouped together and lining the central cavities of agate geodes. It is also found associated with metallic ores in veins and also in rounded masses. The finest amethysts are brought from India, Ceylon, Persia, Siberia, and Brazil: from the latter country the greater part of the amethysts in commerce are imported. Fine specimens are also found in Ireland, in several parts of Britain, and of the European continent.

A M E T H Y S T S.

12th Drawer.

- | No. | | Grains. |
|-----|--|---------|
| 1. | An extraordinarily curious amethyst, from Siberia, of an oval form and convex on both sides; it is of a pale violet colour, very transparent, and shows in the interior four cavities, containing fluid, which is distinctly perceived upon moving the stone between the fingers, when the liquid will flow up and down in the cavities according to the position the stone is held in: three of these cavities are of an irregular shape, the fourth represents a tube of a conical form, half an inch in length. This specimen is of the greatest rarity; and it is worthy of remark, that it has been kept in this collection for many years without the least diminution or evaporation of the fluid: it is set as a gold swivel ring—Vide plate 36. | |
| 2. | A very curious amethyst, from Saxony, of an oval form, cut with four rows of brilliant facets in front and steps at the back; it is of a bad violet tint, partly stained with brown, and it has a very dull appearance, but it offers a very | |

- No. curious aspect, for in the interior, near the surface, is a silky substance, which shows some curved lines or streaks of a whitish colour, which may in form be compared to the water trickling down a pane of glass on a cold winter's day when there is considerable heat in the room: it is set as a gold ring—Vide plate 35.
3. A most beautiful amethyst, from Siberia, of a square shape with rounded corners: it is cut as a brilliant, and is of a beautiful violet colour, richly tinged with red; it is very pure and of the utmost brilliancy: set as a gold ring—Vide plate 36.
 4. A fine amethyst, from Ceylon, of a long octagonal shape, cut with step facets both in front and at the back; it is of a deep violet colour with a rich velvet, but not so brilliant as the last described specimen: it is set as a gold ring—Vide plate 36.
 5. A very fine and curious engraved amethyst, of an oval shape; the front is of a deep violet colour, cut *en cabochon*, and presents, in intaglio, the figure of a Bacchante, carrying the thyrsus on her shoulder; the back of the stone is composed of two strata or layers, *i. e.*, a whitish-grey stratum with brown spots on a velvet ground, of which the artist has taken the best advantage by engraving the figure of a panther *in relief*: the work is very clever and spirited: it is set as a gold swivel ring—Vide plate 35.
 6. A curious amethyst, from the Brazils, of an oval shape, cut in front with four rows of brilliant facets, and steps at the back; it is of a deep chrysolite colour, the green being strongly mixed with yellow; it is very pure and of great brilliancy; and it is set as a gold ring—Vide plate 37.
 7. A very curious and fine amethyst, from the Brazils, of an oval shape, cut in front with five rows of brilliant facets, and with steps at the back; it is of a deep hyacinth colour, very pure and brilliant: it is set as a gold ring—Vide plate 37.
 8. A curious amethyst, from Brazil, of an oval shape, cut in front with four rows of brilliant facets, and steps at the back; it is of a light chrysolite colour; the stone is very brilliant, but there is a very small flaw at the back: it is set as a gold ring—Vide plate 35.
 9. A curious and fine amethyst, from Saxony, of a lengthened octagonal shape, most beautifully cut with step facets both in front and at the back: it is of a light yellow colour, very pure, and of the utmost brilliancy; in which latter respect it does not even yield to a topaz: it is set as a gold ring—Vide plate 35.
 10. A very curious amethyst, from Brazil, having the appearance of two oblong faceted stones, owing to the peculiar and remarkable manner in which it is cut. One half of this stone is yellow, the other purple, and the two portions continue united to each other, side by side; and each portion being completely faceted, from the distinctness of the colours it has the appearance of two stones: it is set as a gold ring—Vide plate 36.

15th Drawer.

- | No. | Grains. |
|--|---------|
| 11. | |
| A most beautiful amethyst, from Siberia, of an oval shape, $1\frac{1}{8}$ th of an inch by $1\frac{1}{2}$ an inch thick, cut in front with five rows of brilliant facets and with steps at the back: it is of a pale violet tint, of the utmost brilliancy, quite pure, and of a charming aspect—Vide plate 35. | |
| 12. | |
| A fine amethyst, from Brazil, of an oval shape, $1\frac{5}{8}$ ths of an inch by $1\frac{1}{8}$ th of an inch, and $\frac{3}{8}$ ths of an inch thick; cut in front, with seven rows of brilliant facets, and steps at the back: it is of a fine and pure violet tint—Vide plate 37. | |
| 13. | |
| A fine amethyst, of an octagonal shape, from Siberia, $1\frac{1}{4}$ th of an inch by $1\frac{3}{8}$ ths and $\frac{7}{8}$ ths of an inch, cut both in front and at the back with step facets: it is of a pale violet tint with a rather brownish appearance, quite pure and of the utmost brilliancy—Vide plate 37. | |
| 14. | |
| A very fine amethyst, from Brazil, of a lengthened octagonal shape, $1\frac{3}{8}$ ths of an inch by $1\frac{1}{2}$ an inch thick; most beautifully cut, and of a deep violet tint, quite pure and of great brilliancy—Vide plate 36. | |
| 15. | |
| A most magnificent amethyst, from the Brazils, of an oval shape, 2 inches by $1\frac{1}{8}$ ths of an inch and 1 inch thick; cut in front with seven rows of brilliant facets, and steps at the back: this specimen is of a very deep violet tint, of a beautiful velvet, and very remarkable for its dimensions and extreme perfection—Vide plate 36. | |
| 16. | |
| A very fine amethyst, from Brazil, of a long octagonal shape, $1\frac{7}{8}$ ths of an inch by $1\frac{1}{4}$ th of an inch and $\frac{3}{4}$ ths of an inch thick: it is beautifully cut, and of a fine violet colour, richly tinged with red, very pure and brilliant—Vide plate 36. | |
| 17. | |
| A very curious amethyst, from the Brazils, of an oval shape, $1\frac{5}{8}$ ths of an inch by $1\frac{1}{4}$ th of an inch and $\frac{3}{8}$ ths of an inch thick; cut in front with five rows of brilliant facets, and steps at the back; about two-thirds of the stone are of a fine violet colour, the remainder is of a yellowish green, and the two colours are divided by an oblique line: when held in a perpendicular position the green reflects the violet, which produces at the two ends a brownish-red tint, the two opposite ends showing a fine violet colour: this specimen offers a most singular and beautiful aspect, and may be regarded as matchless—Vide plate 37. | |
| 18. | |
| A fine amethyst, from Brazil, of a square shape with rounded corners, 1 inch in diameter and $\frac{3}{8}$ ths of an inch thick; it is of a violet colour, strongly tinged with red and very brilliant—Vide plate 36. | |
| 19. | |
| A superlatively fine amethyst, from Ceylon, of an octagonal shape, $1\frac{1}{8}$ ths of an inch by $1\frac{3}{8}$ ths of an inch thick, most beautifully cut with oblique facets in front, and steps at the back; it is of the finest violet colour, richly tinged | |

- No. Grains.
- with purple, of the most beautiful hue, very pure, and of the most charming aspect, and displays a particularly rich lustre by candle-light: it would be difficult to match this gem—Vide plate 36.
20. A very fine amethyst, from Siberia, of a long octagonal shape, $\frac{7}{8}$ ths of an inch by $\frac{3}{4}$ ths of an inch and $\frac{5}{8}$ ths of an inch thick, cut in front with oblique facets, and steps at the back; of a fine violet colour, richly tinged with red, very pure and brilliant—Vide plate 37.
21. A most beautiful amethyst, from Siberia, of an oval shape, $\frac{1}{2}$ ths of an inch by $\frac{3}{4}$ ths of an inch and $\frac{3}{8}$ ths of an inch thick; cut in front with five rows of brilliant facets, and steps at the back; of a very deep violet colour, strongly tinged with purple, very pure, and of a charming hue: it may be considered one of the finest amethysts—Vide plate 37.
22. A brown amethyst, or fummy rock crystal, from Ceylon, of a long octagonal shape, $\frac{1}{2}$ ths of an inch by $\frac{1}{2}$ ths of an inch and $\frac{1}{2}$ an inch thick; it is cut with steps in front and at the back, and of an amber colour, very pure—Vide plate 35.
23. A very fine amethyst, from Siberia, of a lengthened octagonal shape, 1 inch by $\frac{5}{8}$ ths of an inch and $\frac{1}{2}$ an inch thick; cut in front with oblique facets, and with steps at the back: it is of a beautiful violet colour, richly tinged with red, very pure and brilliant—Vide plate 36.
24. A very curious amethyst, from the Brazils, of an oval shape, 2 inches by $1\frac{5}{8}$ ths of an inch and $\frac{7}{8}$ ths of an inch thick; cut in front with five rows of brilliant facets, and steps at the back; it is of a light violet tint, only partly coloured; it shows in the centre one streak of violet, and contains titanite, which gives it the appearance of having a number of thin white hairs in the interior—Vide plate 35.
25. A very beautiful amethyst, from Siberia, of a lengthened octagonal shape, $1\frac{1}{8}$ th of an inch by $\frac{1}{2}$ ths of an inch and $\frac{5}{8}$ ths of an inch thick; cut in front with oblique facets and steps at the back; it is of a beautiful violet colour, of a rich hue, strongly tinged with purple, very pure and brilliant—Vide plate 36.
26. A superb amethyst, from Siberia, of a lengthened octagonal shape, 1 inch by $\frac{3}{4}$ ths of an inch and $\frac{3}{8}$ ths of an inch thick; cut in front with oblique facets, and steps at the back; it is of a light violet colour, richly tinged with red, very pure and of the utmost brilliancy—Vide plate 37.
27. A very curious amethyst, from the Brazils, of an octagonal form, $\frac{7}{8}$ ths of an inch by $\frac{5}{8}$ ths of an inch and $\frac{1}{2}$ an inch thick; it is cut with steps both in front and at the back; part of the stone is green and the remainder of a violet colour, very pure and of great brilliancy—Vide plate 35.
28. A fine amethyst, from Spain, of an oval shape, $\frac{7}{8}$ ths of an inch by $\frac{3}{4}$ ths of an inch and $\frac{1}{2}$ an inch thick; cut in front with five rows of brilliant facets, and steps at the back; of a fine violet colour, richly tinged with purple, very pure and brilliant—Vide plate 35.

- | No. | Grains. |
|--|---------|
| 29. | |
| A fine amethyst, of a heart shape, from Siberia, $\frac{3}{4}$ ths of an inch in diameter and $\frac{1}{2}$ an inch thick; cut on both sides like a rose diamond, and of a ruby balais colour, very pure and of the utmost brilliancy—Vide plate 36. | |
| 30. | |
| A most beautiful specimen of yellow crystal (Cairngorum), from Scotland, of an oval shape, $2\frac{1}{4}$ th of an inch by $1\frac{1}{4}$ ths of an inch and 1 inch thick; cut with seven rows of brilliant facets in front, and steps at the back: it is of a deep brown sherry colour, very pure and of great brilliancy: this gem, on account of its fine colour and great perfection and size, may be considered as one of the finest specimens of this class of stones—Vide plate 37. | |
| 31. | |
| A very fine brown amethyst, from Ceylon, of an octagonal form, $1\frac{3}{4}$ ths of an inch by $1\frac{5}{16}$ ths of an inch; it is cut with step facets in front and at the back, and is of an umber colour, of great lustre—Vide plate 35. | |

TURQUOISE, OR CALAITE.

THE turquoise de la vieille roche, or the Oriental turquoise, and the turquoise de la nouvelle roche, or Occidental turquoise, are very different substances, the former being an hydrate of alumina, coloured by oxide of copper and oxide of iron, while the latter is fossil ivory, coloured by phosphate of iron. The Oriental turquoise, which alone is valued for jewellery, is found in Persia and Siberia, in irregular amorphous masses in alluvial clay, and in irregular veins in flinty slate, and it is this latter which is by far the best, both for colour and hardness. Specific gravity from 2·8 to 3·. Hardness inferior to that of rock crystal. Judging from the very great discrepancy in the analyses of John and Berzelius, it appears exceedingly probable that two distinct substances are still confounded under the name of Oriental turquoise.

T U R Q U O I S E.

12th Drawer.

No.

Grains.

1. A superlatively fine turquoise (de la vieille roche), of a drop shape, cut convex on both sides: it is of the finest light sky-blue, very pure, without any vein or speck, either in front or at the back, and its colour is of a most charming hue. This fine gem, on account of its uncommon size, combined with the greatest perfection, may rightly be termed matchless: it is set as a ring surrounded by small brilliants—Vide plate 41.
2. A very fine turquoise (de la vieille roche), of an oval shape, cut convex in front, and flat at the back: it is of a light sky-blue colour, but not of so pure a tint as No. 1; there is a little shade of green in it, and it presents some whitish specks on the surface: it is set as a gold ring—Vide plate 41, No. 7.
3. A most beautiful turquoise (de la nouvelle roche), of an oval shape, and cut convex in front: it is of the finest sky-blue, of the greatest purity, and most charming aspect: oblique lines run across the stone, which evidently denote its fossil origin: the back of this stone is not cut or polished; it has some black dendritic marks, like the impression of some moss, with which this gem might have come in contact in its formation: this accident is very rare in turquoise. This specimen may be considered as matchless, on account of its extraordinarily fine colour and purity: it is set as a gold ring—Vide plate 41, No. 8.

- No. Grains.
4. A fine turquoise (de la nouvelle roche), of a drop shape, cut convex in front, and flat at the back; of a darker sky-blue than No. 3: one part of this stone shows a slight shade of green: the fossil nature of this gem is more distinctly demonstrated in this than in the last-described specimen, as oblique lines may be seen crossing each other, and leaving, from their appearance, no doubt that this turquoise has been formerly the bone or tooth of some animal: it is set as a gold ring—Vide plate 41, No. 3.
 5. A fine turquoise (de la vieille roche), of an oval shape, and of a light sky blue, with a slight shade of green, engraved and inlaid with gold, representing Persian or Arabic characters, which compose sentences from the Koran: it is set as a gold ring—Vide plate 41, No. 4.
 6. A fine turquoise (de la vieille roche), of an oval shape, and of a lighter blue colour than the last, but very pure: it has engraved on it characters similar to those on No. 5, and is set as a gold ring—Vide plate 41, No. 6.
 7. A cameo on a turquoise (de la vieille roche), nearly circular, and of a pale blue colour. The cameo represents a female head, and the work appears to be ancient and is very good: it is set as a gold ring—Vide plate 41, No. 5.
 8. A very large turquoise (de la vieille roche), oblong form, cut in front *en cabochon*, and flat at the back: it is of a very pale blue colour, shaded with green, but is very pure, and shows a very agreeable colour at candlelight—Vide plate 41, No. 2.
-

ONYX AND SARDONYX.

12th Drawer.

- | No. | Grains. |
|-----|--|
| 1. | A most superb and beautiful Oriental sardonyx, of three strata, of an oval shape and quite opaque: the first stratum or layer is of a beautiful and brilliant black; the second is of a milky-bluish tint, and the third of a fine brown colour. This specimen, on account of its beautiful aspect and perfection, may be well called matchless: it is set as a gold ring—Vide plate 42. |
| 2. | A most beautiful Oriental sardonyx, of three strata: it is of an oval shape, cut <i>en cabochon</i> , and quite opaque: the first layer is of a very intense and brilliant black; the second of a milky-bluish tint; and the third of a yellowish-brown colour. This is equal in beauty to No. 1—Vide plate 42. |
| 3. | A fine Oriental sardonyx, of three strata, and of an oval shape: the first layer is of a dark green, and slightly translucent; the second of a milky-bluish tint; and the third of a yellowish-brown colour: it is set as a gold ring—Vide plate 42. |
| 4. | An Oriental sardonyx, of three strata, and of an oval shape. This specimen is similar in character to No. 3, and is set in a gold ring—Vide plate 42. |
| 5. | A curious Oriental sardonyx, of six strata, and of an oval shape, cut <i>en cabochon</i> : the first layer is greyish; the second has a milky-bluish tint; the third is brown; the fourth greyish; the fifth is of a milky-bluish tint; and the sixth light brown: it is set as a gold ring—Vide plate 42. |
| 6. | A very beautiful Oriental sardonyx, of three strata, of an oval shape, and semi-transparent: the first layer is of a fine brown; the second of a milky-bluish tint; and the third of a brown colour: it is set as a gold ring—Vide plate 42. |
| 7. | A fine Oriental sardonyx, of two strata, of an oval shape, and semi-transparent: the first layer is of a greyish-white, and the second of a yellowish-brown colour: it is set as a gold ring—Vide plate 42. |
| 8. | A curious Oriental sardonyx, of a perfectly circular shape, cut <i>en cabochon</i> , semi-transparent, and of a brownish-black colour: the centre presents a circular spot of a milky-bluish tint, like the pupil of an eye: it is set as a gold ring—Vide plate 42. |
| 9. | A fine Oriental sardonyx, engraved in intaglio, of an oval shape, with three strata, and semi-transparent: the first stratum is of a greyish-brown; the |

No.

Grains

second of a milky-bluish tint ; and the third of a yellowish-brown : it represents the bust of Priapus on a terminus, evidently antique work : it is set as a gold ring—Vide plate 42.

10. A very beautiful cameo, on an Oriental sardonyx, of three strata, of an oval shape, and semi-transparent : the first stratum is of a milky-bluish tint ; the second of a dark grey ; and the third of a pale red. The artist has most skilfully employed these different strata in representing a crowned negro head in Roman armour : he has first worked away the red stratum to form the head, leaving, however, some of the red for the laurel wreath, the eardrop, and the armour ; he then cut out the bust, clearing all away to the milky-bluish stratum, which he has kept as the back-ground : the whole is very finely cut, and has an excellent effect : it is most probably the work of some eminent artist of the 16th century—Vide plate 42.
 11. A most beautiful cameo of a mask with ruby eyes, on an Oriental sardonyx, of two strata ; the first is white calcedony, and the second of a beautiful brown—Vide plate 42.
 12. A most beautiful Oriental sardonyx, of two strata : it is of an oval shape, and semi-transparent : the first layer is white, and the second of a fine brown colour : it is kept in a morocco case in the 16th drawer.
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SUNSTONES AND AVENTURINE.

THE Sunstones form one of the most remarkable varieties of resplendent feldspar, consequently they are softer than the Aventurines, which are a variety of quartz. The effect is nearly the same in both, though probably produced by different causes. In the Sunstone it is probable that this brilliant effect is caused by numerous close set, extremely minute fissures in the stone, parallel to one of the cleavage planes, or to one of their diagonals; while in the Aventurine it appears in general to be caused by the admixture of very minute lamina of mica, arranged in one particular direction, and reflecting the light when admitted through the surface of the stone.

The Sunstones are of very rare occurrence, and are mostly brought from the East Indies. The best Aventurines are brought from Spain, others from the East Indies and Siberia.

S U N S T O N E S.

13th Drawer.

- | No. | Grains. |
|-----|---|
| 1. | A most magnificent sunstone, from the East Indies, of an oval shape, $1\frac{1}{4}$ ths of an inch by $\frac{3}{4}$ ths of an inch, cut <i>en cabochon</i> on both sides; it is semi-transparent, of a brownish-red colour, and shows in the interior small gold-coloured grains, or <i>pailliettes</i> , like the aventurine, but which are more brilliant and united in one mass, producing the most brilliant effect. It is impossible, by a description, to convey to the reader a just idea of the extraordinary brilliancy of this superb gem: it may, on account of its uncommon size and fine qualities, be considered unique: it is set as a gold swivel ring—Vide plate 38. |
| 2. | A very fine sunstone, of a pear shape, from the East Indies; it is more transparent, and of lighter colour, than No. 1, but not of such brilliancy, though very rich in the gold-coloured grains in the interior: it is set as a gold ring surrounded by small rose diamonds of a green colour—Vide plate 38. |
| 3. | A very curious sunstone, from the East Indies, of a long oval shape, $\frac{3}{4}$ ths of an inch by $\frac{1}{4}$ ths of an inch, cut <i>en cabochon</i> in front and flat at the back, quite translucent; in the interior is a mass of reddish gold-coloured grains, the reflection from which moves over the surface of the stone, but which disappear entirely when it is held up to the light: it is set as a gold ring—Vide plate 38. |

- No. Grains.
4. A very curious sunstone, from the East Indies, of a long oval shape, $\frac{1}{2}$ ths of an inch by $\frac{1}{4}$ th of an inch, cut *en cabochon* in front and flat at the back; it is quite translucent and of an olive-green colour, and it displays in the interior some reddish grains or *paillettes* of a metallic appearance, which disappear in the centre when held up to the light, but remain visible at one end of the stone: it is set as a gold ring—Vide plate 38.
5. A very curious cameo, on a sunstone of a yellowish colour, quite translucent; it represents a monkey's head, and the brilliant reddish effect falls just on the prominent parts of the face, which gives it a very singular appearance: it is set as a gold swivel ring—Vide plate 38.

A V E N T U R I N E S.

6. A very curious aventurine (quartz), from the East Indies, of an oval shape, and cut *en cabochon*: it is of a reddish-brown colour and semi-translucent, but has no metallic lustre; when held up to the light the stone is of a greyish colour, with a number of small reddish grains very closely connected in its interior, which communicate to it at the surface an opaque appearance of a reddish colour: it is set as a ring—Vide plate 38.
7. A very fine aventurine (slate), from Siberia, of an oval shape, cut *en cabochon*: it is of an opaque reddish-brown colour, extremely rich in metallic effect, which appears, not in grains, but in flakes, very closely united: it is set as a gold ring—Vide plate 38.
8. A fine aventurine (quartz), from Spain, of an oval shape, and cut *en cabochon*: it is opaque, of a lighter colour than No. 7, and rich in metallic effect, which is produced by small brilliant grains in the interior: it is set as a gold ring.—Vide plate 38.
9. A very curious aventurine (quartz), from Ceylon; it is of a circular shape, semi-opaque, and of a dark chrysoprase colour, and it has a number of small grains in the interior, which at the surface have a faint metallic appearance—Vide plate 38.
-

M O O N S T O N E.

THE name of this very elegant substance has evidently been derived from the *chatoyant* lustre peculiar to it, and which bears so exact a resemblance to the brilliant reflection of "nocturnal Cynthia." The substance itself is generally regarded as one of the varieties of feldspar or adularia; the character peculiar to all the varieties (or species, according to the most modern writers) of which is a similar resplendent reflection, probably caused in all by the same want of cohesion of the crystalline lamina. It appears always to have its position with reference either to one of the primary planes or one of their diagonals. Specific gravity 2·5. Hardness inferior to that of rock crystal.

The Moonstone in use among jewellers is never found in distinct crystals, but occurs usually in masses among alluvial sand: it has, nevertheless, always a crystalline structure. The finest moonstones are brought from Ceylon.

M O O N S T O N E S.

13th Drawer.

- | No. | Grains. |
|--|---------|
| 1. A most magnificent moonstone, from Ceylon, of an oval shape, $1\frac{1}{4}$ th of an inch by 1 inch, cut <i>en cabochon</i> , of a silvery white <i>chatoyant</i> lustre, resembling the brilliant shining of the moon, from which this gem has derived its name: this specimen is of extraordinary size, this circumstance, together with its great perfection, render it matchless: it is set as a gold ring—Vide plate 39. | |
| 2. A moonstone, from Greenland, of a long narrow oval shape, $1\frac{1}{4}$ th of an inch by $\frac{1}{7}$ ths of an inch; it is semi-opaque and of a light-blue tint, full of cracks or fissures, which produce iridescent colours in one side—Vide plate 39. | |
| 3. A very fine moonstone, from Ceylon, of a long oval shape, 1 inch by half an inch; cut <i>en cabochon</i> ; it is translucent, and of a silvery white <i>chatoyant</i> lustre, with a slight tinge of blue: it is set as a gold ring—Vide plate 39. | |
| 4. A very fine moonstone, from Ceylon, of a long narrow oval shape, $\frac{3}{4}$ ths of an inch by $\frac{3}{8}$ ths of an inch; it is translucent, and of a milky-bluish <i>chatoyant</i> lustre, and is set as a gold ring—Vide plate 39. | |

- No. Grains.
5. A very fine moonstone, from Ceylon, of an oval shape ; it is translucent, and of a very brilliant milky-bluish *chatoyant* lustre, and is set as a gold ring—Vide plate 39.
 6. A most exquisitely fine oval-shaped moonstone, from Ceylon ; it is translucent, and of a most beautiful sky-blue *chatoyant* lustre : this specimen is of a most charming appearance : it is set as a gold ring—Vide plate 39.
 7. A very curious moonstone, from Siberia, of an irregular shape, nearly opaque, and of a greyish-brown colour, interspersed with small grains of a silvery appearance, which produce an effect like aventurine : the *chatoyant* lustre, of a silvery white aspect, is seen on both ends of the stone. This specimen, together with another (the only two of the kind ever known), was found in the stomach of an eagle which had been shot ; it is presumed that the bird, in quenching his thirst in a rivulet, at the foot of a high mountain, swallowed these stones, which might have rolled down from the mountain : it is set with a gold shank—Vide plate 39.
 8. An engraved moonstone, from Ceylon, of an oval shape and translucent, representing an anchor, around which a dolphin is twisted—Vide plate 39.
-

C A T ' S E Y E S .

13th Drawer.

No.

Grains.

1. A beautiful cat's eye (quartz), from Ceylon, oval form, of a brownish colour, with a yellowish streak playing in the centre of the stone; it is of a very brilliant appearance; set as a gold ring—Vide plate 39.
 2. A curious cat's eye, from Ceylon, heart-shape, of a yellowish brown colour, cut *en cameo*, representing a monkey's head; the *chatoyant* play falls just on the prominent parts of the face and produces a curious effect; the work is very clever; set as a gold ring—Vide plate 39.
-

T H E C H R Y S O P R A S E .

THIS stone is a beautiful variety of calcedony, which occurs only at Kosemutz, in Silesia ; it is of the same hardness and specific gravity as calcedony, but differs in being of a more or less bright and clear apple or verdigris-green colour, which is caused by the presence of a small quantity of oxide of nickel. The chrysoprase is only found amorphous, without any traces of crystalline structure or form, but is always fine-grained and compact ; very seldom small cavities are discovered in it, and in these it assumes a somewhat stalactitical form.

C H R Y S O P R A S E .

13th Drawer.

- | No. | | Grains. |
|-----|---|---------|
| 1. | A most magnificent chrysoprase from Silesia, of an oval shape and semi-opaque : it is cut in front with three rows of brilliant facets around the bixel, and <i>en cabochon</i> at the back : it is of a fine verdigris colour, of a very pure tint and charming hue, and is set as a gold ring—Vide page 40. | |
| 2. | A chrysoprase, from Silesia, of an oval shape, cut in the same manner as No. 1, but more opaque ; of an apple-green colour, a little cloudy : some white specks are visible : it is set as a gold ring—Vide page 40. | |
| 3. | A fine chrysoprase, from Silesia, of a nearly circular shape, cut like the two former-described specimens, but more translucent and of a pale apple-green colour, which is very uniform : it is mounted as a gold ring—Vide plate 40. | |
| 4. | A fine chrysoprase, from Silesia, of a circular form, cut like the former, somewhat translucent and of a fine apple-green colour, charming hue and very pure : it is set as a gold ring—Vide plate 40. | |
| 5. | A very curious chrysoprase, from Silesia, of an oval shape, cut <i>en cabochon</i> , and of a yellowish-green colour, not very pure, but displaying a white dendrite : held by a gold shank with cramps—Vide plate 40. | |
| 6. | A curious chrysoprase, from Silesia, of an oval shape, and cut <i>en cabochon</i> ; it has some black dendritic marks representing a group of moss ; and is set as a gold ring—Vide plate 40. | |

No.

Grains.

7. A curious chrysoprase, from Silesia, of an oval shape, and cut *en cabochon*; of a light-green colour, with some black dendritic marks, forming nearly a straight line passing longitudinally across the stone and representing bushes; these marks have entirely penetrated the stone, and are equally distinctly seen on both sides: it is set as a gold swivel ring—Vide plate 40.
 8. A fine engraved intaglio on a chrysoprase, from Silesia, of an oval shape, cut with three rows of facets round the bivel of the stone; it is nearly opaque, of a light-green colour, and the engraving represents the head of Ariadne: it is set as a gold ring—Vide plate 40.
-

VARIOUS STONES.

- | No. | Grains. |
|--|---------|
| 1. A fine specimen of lapis lazuli, from Persia, of a long square shape, with rounded corners, and of a beautiful purple colour, with a few metallic marks on it: set as a gold ring. | |
| 2. A fine specimen of lapis lazuli, from Persia, of a long square shape; nearly of the same colour as No. 1, but with more metallic marks: it is set as a gold ring. | |
| 3. A fine specimen of lapis lazuli, from Siberia, of the same shape as the latter and of a lighter blue: set as a gold ring. | |
| 4. A specimen of white-satin stone, from Siberia, cut <i>en cabachon</i> , of an oval shape; it has the appearance of satin: set as a gold ring. | |
| 5. A specimen of marcasite, from Piedmont, of an oval shape, cut all over the surface with facets, like a rose diamond: it has the appearance of a piece of polished steel, and is set as a gold ring. | |
| 6. A fine specimen of malachite, from Siberia, of an oval shape and deep green colour, with some marks of an oval shape, and curved lines of a lighter green colour encircling them: it is set as a gold ring. | |
| 7. A curious specimen of malachite, from China, of an octagonal shape; half of the stone is of a dark green, the other half of a lighter-green colour; the two colours are separated by a curved line of several darker and lighter shades, and the dark part of the stone is marked with small round spots of a lighter green colour: it is set as a gold ring. | |
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AGATES, ROCK CRYSTALS, ETC.

14th Drawer.

- | No. | Grains. |
|-----|---|
| 1. | A polished oval mass of rock crystal, containing chlorite in vermicular forms, irregularly and fantastically arranged. |
| 2. | A polished oval of rock crystal, containing acicular brownish-black tourmaline, and showing several irregular but brilliant cleavages of iridescent colours. |
| 3. | A polished oval of rock crystal, with two acicular crystals of Titanium passing through it in different directions. |
| 4. | A polished oval of rock crystal, having a central cloud of chlorite, of a very pale colour, and mingled with numerous very minute vesicles. |
| 5. | A polished oval of rock crystal, one half of which is of a pale topazine colour, and the other half of a purplish-brown smoke colour. |
| 6. | A polished rock crystal, of a somewhat irregular quadrangular form, and containing a numerous congeries of minute drusy cavities, having the appearance of native silver. |
| 7. | Polished rock crystal, of an ovate form, pointed at the two extremities, and showing within a very brilliant irregular speculum of iridescent colours. |
| 8. | A polished oval of pale rose-coloured opalizing rock crystal, having a star with six rays reflected by the sun : brought from Greenland by Sir Charles Giesecke. |
| 9. | A brilliant faceted oval, of topaz-coloured rock crystal, containing a dendrite of manganese or iron : from the province of Minas-geraes, in Brazil. |
| 10. | A polished oval of rock crystal, aventurine, and having imbedded in its surface a circular lamina of opaque white quartz. |
| 11. | An oval of rock crystal, surmounted by a light wax-coloured, polished, and faceted plate of agate, in which may be perceived the circular sections of mammillary forms : from Catharinebourg, in Siberia. |
| 12. | A brilliant circular faceted specimen of slightly opaline rose-red rock crystal. |
| 13. | A very beautiful brilliant specimen of opaline transparent rock crystal : there is a flaw on one side. |
| 14. | A brilliant faceted oval of white topaz, containing very fine acicular crystals of Titanium. |

- No. Grains.
15. An oval of rock crystal, surmounted by a light wax-coloured, polished, and faceted plate of agate, forming an onyx.
 16. An oblong octagonal tabular faceted specimen of rock crystal, having an internal dendrite of manganese.
 17. A somewhat truncated, polished oval of rock crystal, containing an opaque, very dark-coloured prismatic crystal of Titanium, which is translucent near the termination, and it is, moreover, accompanied by a small separate needle of Titanium, placed in the rock crystal, near the base of the larger one, and which is translucent throughout.
 18. A circular polished rock crystal, containing numerous very fine straight acicular crystals of reddish Titanium.
 19. An oval polished, flat rock crystal, containing numerous very fine straight acicular crystals of Titanium, which are aggregated together into small fasciculi of satiny appearance.
 20. A polished oval of brownish rock crystal, containing numerous, close-pressed, acicular crystals of bright-brown Titanium.
 21. A polished oval of brownish rock crystal, containing drusy cavities, and acicular crystals of Titanium.
 22. A polished oval of colourless rock crystal, containing acicular crystals of green actinolite.
 23. A polished oval of rock crystal, containing a plume of diverging fibrous silky actinolite asbestos, irregularly intermingled with particles of green actinolite.
 24. A polished oval of rock crystal, pervaded by golden-brown fine fibrous compacted asbestos, producing the lustre, and showing the origin of cat's-eye.
 25. A polished octagon of rock crystal, about two-thirds pervaded by granular chlorite.
 26. A polished oval of rock crystal, with a longitudinal ligulate, irregular cavity, containing (probably) chlorite, part of which is of a dark green colour, and part, which appears to be decomposed, of an ochrey-brown colour: there are, moreover, numerous very minute vesicles, irregularly arranged on each side of the above-named cavity, and containing some transparent colourless fluid.
 27. A large and brilliant faceted *Mina nova*.
 28. A polished and faceted pale rose-red rock crystal.
 29. A polished oval of very pale yellowish rock crystal.
 30. A polished and faceted oval of rock crystal, containing lamellar native gold, from Boitza, in Transylvania.
 31. An hexagonal polished slice of colourless rock crystal, containing cinnamon-coloured crystallized dodecahedral garnets: there is also a slight cloudiness, which appears to be caused by very minute crystals of pyrites.
 32. A polished oval of Sicilian yellow jasper, in fragments, united into a mass by rock crystal.

- No.
33. A polished circular specimen of rock crystal, containing a laminar crystal of specular iron, upon the surfaces of which iridescent colours may be observed.
 34. A very fine pantaura, of an oval form and polished surfaces: it consists of hyaline, very pale amethystine rock crystal, pervaded by numerous splendid laminar crystals of bright red translucent oligiste iron.
 35. A polished oval of rock crystal, with brilliant small maculed crystals of arsenical iron, irregularly interspersed throughout.
 36. A polished globule of calcedony, containing a fluid, from Vicenza.
 37. A polished oval of calcedony, containing pale glaucous, green, ramose, vermicular chlorite.
 38. An oblong piece of calcedony, of an irregular form, combined on one side with turquoise.
 39. A polished oval of Oriental agate, of a light yellowish-grey colour, having a circular mark of a brown colour, darker on one side, representing a globe, set upon an inverted crescent of the same colour.
 40. An Oriental-eyed agate, of an oblong shape, and of a brown colour, showing two eyes in the shape of white cups, containing brownish horn-coloured centres, rather darker in the middle.
 41. A polished circular section of an agate stalactite, of a pale colour, with several various rings, and surrounded with an iris of light brown crystalline rock crystal.
 42. A polished specimen of yellowish-brown agate, of an elliptical form, containing an ovato-cylindrical substance, of a pale whitish colour, and varied with three or four brown rings, bearing some resemblance to a part of the chrysalis, or to the body of a silkworm moth.
 43. A polished circular agate, on one side white, with pale brown rings, and a dark brown centre, with a flat surface; on the other side of an uniform reddish colour, except at two sides, which are dark brown: on this side the stone is cut with a rounded surface: its colour is owing to numerous close-set, very minute specks of a deep red.
 44. An onyx, remarkable for the form in which it is cut, being that of two cones united at their bases, and having white summits and several rings of dark grey and white between the summits and the base, which is nearly black.
 45. An onyx, of a remarkable form, being convex on the upper side and concave beneath: it is circular, and composed of an external ring of sard, surrounding an opaque white ring: the middle is of a horn colour, and a small brilliant is mounted in the centre.
 46. A circular cabochon of Oriental agate, which appears to be a transverse section of a stalactite: it is of a light-brown colour, with a horny transparency, and having rings of a darker brown, which rings are, however, remarkable for being, most of them, not circular, but of an excentric form.

- | No. | Grain. |
|-----|---|
| 47. | A small circular agate, the circumference of which gives a bluish-green reflection, and in the centre of which is a white ring surrounding an ochraceous circular spot, with deeper coloured concentric lines. |
| 48. | An Oriental agate, of an oblong form, cut to represent an eye, with eyelids, its centre, representing the pupil, is of a dark greyish-brown colour; it is surrounded by a white and then by a dark-coloured narrow ring, representing the iris, around which that part of the agate which represents the ball of the eye is of a lighter colour and of a rather diverging fibrous structure. |
| 49. | A circular Oriental agate, of a very beautiful character, and representing an eye with singular exactness, the centre or pupil being of a yellowish horn-colour, and the iris being of a lighter colour, and having small whitish ramifying marks similar in lustre to the iris of the natural eye: the outer circumference is of a brownish-yellow colour and fortification structure. |
| 50. | An eyed agate, of a circular form and beautiful character, the basis of it consisting of cornelian of a bright red colour, slightly varied with darker rings and lines, and the centre of a somewhat opaque white appearance, with numerous lighter and darker rings. |
| 51. | A polished quadrangular flesh-red agate, in the centre of which is a section of an irregular somewhat globular concretion of diverging, indistinctly fibrous rock crystal. |
| 52. | A small Oriental eyed agate, of various character on the two sides, one showing a section of the lower part of two mammelons united together, each consisting of a central pupil of a yellowish colour, environed by a white ring and imbedded in a basis of an orange-yellow colour; on the other side this stone represents the sections of the upper part of the same two mammelons, and showing two white rings placed in juxta-position, in the middle of each of which are two concentric rings surrounding the central spot. |
| 53. | An Oriental agate, of an oval form and a yellowish colour, in the middle of which are several concentric white rings enclosing a centre of a yellowish horn colour. |
| 54. | A polished oval Oriental agate, representing an eye, of which the ball is for the most part of a dark brown colour, the iris and pupil represented by several concentric rings of opaque white and transparent brown, and with a small speck in the centre: the centre on the underside of this stone is circularly hollowed out. |
| 55. | An eyed agate, of a brown colour, cut to represent the head of an owl, the agate eyes forming the eyes of the bird in their proper position, and being of an uniform colour with the remainder of the stone, but with a white ring representing the iris. |
| 56. | An oblong polished specimen of eyed agate, in rock crystal; the external ring of each eye is of an orange-yellow colour, there is then a white ring, |

No.

Grains.

- and in the middle a circular brown pupil, paler in one than in the other, and the darker pupil, which is also larger, has a central red speck: there is also an irregular red band passing from one eye to the other.
57. An oval polished black and white onyx.
58. A ring, entirely formed of agate, the surface of which is of an oblong form, and encloses a beautiful congeries of dendrites, probably of a carbonaceous substance.
59. A polished oval, of a variegated greenish grey, light brown, and white jasper, displaying a representation of a cat, of a very light colour, with dark face, looking downwards as if watching the motions of some creature at her feet.
60. A polished oval, consisting of an eyed agate, imbedded in diverging fibrous quartz, and somewhat representing the foreneck and head of a horse, the eye having a dark centre with a ring of a dark horn colour, and the head of irregularly arranged, somewhat concentric layers, of a lighter colour; the neck is represented by agate of the same colour as the eye, and there are no ears.
61. A polished oval, with a flat surface, of moss agate, showing at a distant view a representation of a human face, of a lighter colour than the ground.
62. A very beautiful *lusus*, in white and brown agate, representing a miniature portrait of a white human face and neck, with light brown hair and white chaplet, surrounded by a dark brown ground colour.
63. Another remarkable *lusus*, in Egyptian pebble, representing a human face, as of a man carrying a load upon his head and shoulders.
64. An oval polished specimen of grey flint, showing a figure of a human bust, of a lighter colour.
65. Another oval polished specimen of flint, of a light horn colour, and showing a figure of a human head and face, of lighter colour, and partly turned away, and displaying a broad mark of the ground colour of the flint passing over the neck.
66. An oblong polished specimen of flint, of a brownish grey colour, displaying a half front miniature of an aged head and face, of a light brownish white.
67. A polished oval of Mocha, of a somewhat opaque milky-whitish colour at one end with a small dendrite of Manganese, and at the other end the appearance of a beetle with a large arched horn in front of his thorax, and standing upon two legs: the arched horn of the beetle extends nearly to touch the dendrites at the other end.
68. A polished oval, of bright red cornelian, displaying the appearance of a dead bird, of a reddish white colour, placed longitudinally upon it, to the ventral part of which appears to be appended a globular body of the same colour as the bird.

- | No. | Grains. |
|-----|--|
| 69. | An oval polished agate, of a brownish horn-colour and semi-transparency, through which passes obliquely, nearly from one end to the other, an irregular stalactite of the same substance and colour, with a drusy coating of opaque white. |
| 70. | A polished oval, of dark and light brown woodstone, in which is distinctly portrayed the form and appearance of a bird somewhat resembling a tern, with a light coloured head, neck, and breast, and posterior extremity of a dark brown colour. |
| 71. | A polished and faceted specimen of bottle-green transparent obsidian. |
| 72. | A polished oval, of translucent, brownish-green, aventurine obsidian, Mexico. |
| 73. | A polished oval, of slightly translucent, greyish black <i>chatoyant</i> obsidian, Mexico. |
| 74. | A polished oval, of greenish-yellow translucent prehnite, showing in some parts the compact diverging fibrous structure of the mineral, and on the under-side some parts of a whitish colour and opaque. |
| 75. | An oblong polished specimen of Labrador hornblend, or resplendent hypersthene. |
| 76. | Section of a prism of "macle" of Hauy, of the variety which he named "tetragramme," from Morbihan, in France. |
| 77. | A circular polished specimen of "crapaudine," or chatoyant nephrite. |
| 78. | A polished oval, of resplendent lumachelli, or fire-marble, from Carinthia. |

16th Drawer.

79. A large and very fine specimen of the calcedony, containing a fluid, from Vicenza: it is of an irregular oblong form, polished all over, and cut with a volute at one end, apparently intended to represent the body of a molluscous animal with its shell: the internal surface appears to be lined with crystals of quartz.
80. A very curious agate, of an oval shape, pale reddish-grey colour, and transparent, having internally the appearance of two groups of a remarkable sort of sea-weed, of a dark-red colour, and each fixed by a short irregular stem of the same substance to an oblong, also irregular mass of a rather darker colour, and consisting as it were of two layers, the lower one being still darker in colour. The substance resembling sea-weed consists of diverging radiated concretions, which are wider at their lower parts, and become gradually attenuated upwards, and they have a somewhat articulated appearance.
81. A very curious fortification agate, of an oval form. On the centre of this stone is crystalline quartz, which is immediately surrounded by an opaque black irregular line, next to which are placed numerous alternately dark-coloured and translucent concentric lines and white opaque concentric lines,

No.

Grains

each one becoming finer and finer until the distinction of lines becomes imperceptible; this arrangement of alternately translucent and opaque concentric lines gives a very singular and pleasing changeable play of light, which renders this stone extremely interesting. This part, which forms an irregular angular oval in the centre of the stone, is surrounded by an opaque black band, and the remainder of the stone consists of a translucent brownish-grey coloured agate.

82. A very remarkable and curious German agate, cut into a rather flat paraliipedal form, with one side rounded: the mass consists of a light-greyish coloured agate, that is but slightly translucent and varied with red and brown, with an irregular centre of fortification agate, consisting of white and purplish-grey lines with red dots, in the midst of which is an irregular cavity lined with quartz crystals. In the light-greyish coloured part of this stone, and near to the central cavity, two stalactitical formations have been cut through, which have a very singular and beautiful appearance, one of which we will endeavour to describe, and the other is like to it. In the centre of this circular portion is, first, a very minute white speck, which, for the space of 1-36th part of an inch, is surrounded by a dark-grey coloured translucent spot, which consists of alternately translucent and opaque concentric lines, and which is again surrounded by much more closely placed concentric lines of the same translucent and opaque character, giving the whole a very beautiful and curious moveable play of reflected light, resembling, in appearance, the motion of the mariner's compass.
83. A very curious specimen of resplendent labradorite, of an oval form and grey colour, with a very brilliant play of iridescent colours, arranged longitudinally as a double iris; externally on each side is a fine dark-purplish blue, passing in regular succession towards the middle, through bright blue, green, yellow, orange, red, and crimson, and meeting the opposite series in a rather dull purple.
84. A very extraordinary specimen of resplendent labradorite, of an octagonal form, and flat on both sides: the circumference of this specimen consists of large granular labradorite, but in the centre is seen, on both sides of the stone, the section of a most remarkable macled crystal of slightly translucent and highly resplendent labradorite in the form of two shields (ecussons), one laid upon the other, each shield being distinguished by a bright blue border; the colours reflected by the central part of the smaller shield are bluish and yellow green, mixed with a little orange, particularly toward the edges, where they are surrounded by the blue; then comes the darker green tint of the larger shield, also mixed with some orange, and then its deep blue border: the larger shield is rather less regular in its shape than the smaller.

R O C K C R Y S T A L.

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|-----|--|---------|
| No. | | Grains. |
|-----|--|---------|
85. A most interesting and curious specimen of transparent rock crystal, containing a fluid substance in a cavity. The mass of rock crystals is of a parallelepipedal general form, mostly polished on its surfaces, but irregular and retaining some of its natural planes at one end, which is rather acuminated. Within it is a somewhat cylindrical tubular cavity, setting off from near the smaller end and running nearly to the centre of the mass, which appears to have been formed over a crystal of titanium, or tourmaline, which now no longer exists in it, but which has given place to a transparent fluid resembling water, which about half fills the cavity, the remaining portion being occupied by an aeriform bubble. Some minute grains of an arenaceous substance fall to the bottom of the fluid when the specimen is turned. This specimen is kept in the 16th drawer.
86. A very beautiful crystal of precious emerald, in its natural position on the stone on which it was formed. The crystal is very bright in colour and brilliant; it is a regular hexahedral prism, having small tangent planes on its solid angles, and two annular modifications on its terminal edges; and it is accompanied by rock crystals, two varieties of crystallized calcareous spar, and a little sulphuret of iron. From Santa Fé di Bogota, in Columbia. This specimen is kept in the 16th drawer.
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A P P E N D I X.

14th Drawer.

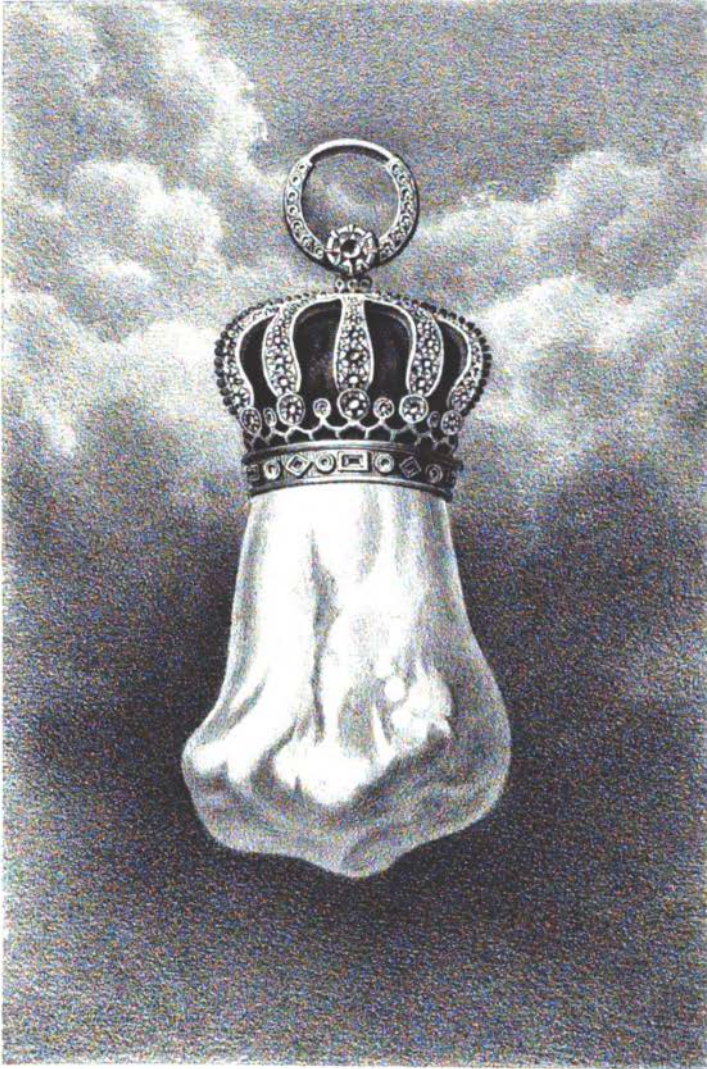
No.

Grains.

1. A very beautiful circular mocha stone, with an uncommonly fine dendrite : set in a ring with small brilliants.
2. A cornelian, of a very remarkable character, cut to resemble a monkey's face : the stone is of the ordinary red colour of the cornelian, but that part which represents the face, exclusive of the forehead, is of a white opaque tint : it is set in a gold ring with small brilliants.
3. A singular bright-coloured mocha, with an internal coarse granular unknown substance of reddish, yellowish, and greyish colour : set as a ring with small brilliants.
4. A very singular mocha, of an oval shape, displaying the form of a female figure in black in the centre, together with other more irregular black marks : it is set as a ring with roses.
5. A small circular mocha, with a side view of a negro infant's head and shoulders, beneath which there is the appearance of an inscription in Hebrew characters. This is set in a square tablet, with a small brilliant at each corner, and fixed to a ring : beneath the tablet is a Hebrew inscription.
6. A beautiful small mocha, of an oval form, and very curious symmetrical markings, of which the principal and central one has the appearance of a pillar or altar, of a dark-red colour, surmounting a rock of the same colour : the pillar is a little widened at its upper part, and from it appears to issue a dark-red double blaze of fire : it is set as a ring with roses.
7. A small nearly circular mocha, having a figure representing a monkey's head, set as a ring with brilliants.
8. A double-eyed agate, of a greyish colour : the centre, or pupil, of each eye is translucent, and has a red glare, probably being set upon a foil. This is set in a gold ring, which appears to be antique, with two diamonds.
9. A ring, of which the panier is heart-shaped, with an opal and a cat's-eye, each cut into the shape of a monkey's head : the opal is very brilliant, and it has an uncommon pink hue, probably communicated by a foil : the cat's-eye is set round with brilliants, the opal with rubies, and there is a small emerald in the centre, at the lower end.
10. An opal, of an oval shape, and nearly opaque, with a dark-brown stain on one side, and fractured at one end. This, notwithstanding its opacity, shows

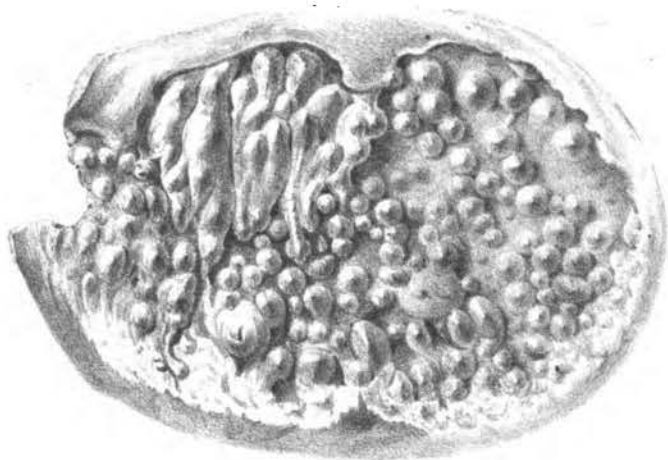
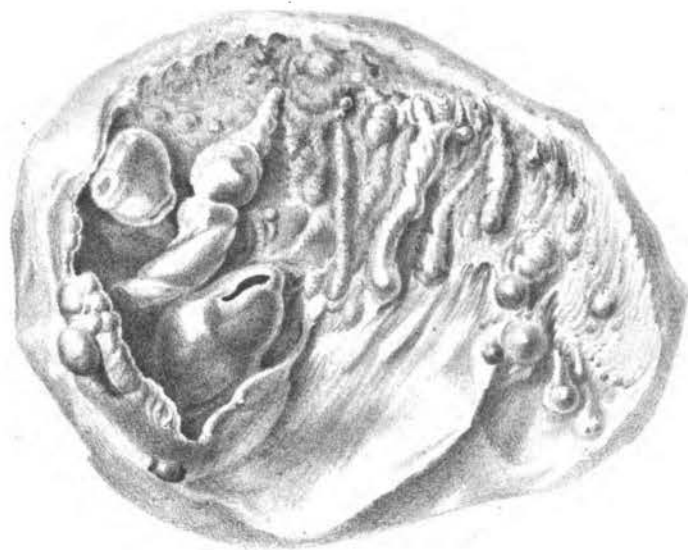
- No. Grains.
- brilliant reflections of green, yellow, and violet over the greater part of the stone, but some parts are colourless : it is set as a ring with cramps.
11. An allegorical ring, set with a sapphire, an Oriental amethyst, and an Oriental topaz : together with a small brownish diamond, a small emerald, and two hyacinths of different colours.
 12. A brilliant, of a square form, and cut with a single plane to each bizzle : it is mounted in an apparently antique gold enamelled ring.
 13. A curious pearl, of a perfect round shape, of a very dark-brown colour, approaching to black ; of a beautiful lustre, mounted on a gold enamelled ring, and held by cramps of rose diamonds.
 14. A curious pink pearl, carved en cameo, representing two hands mounted on a gold ring, with the flower of Forget-me-not of rose diamonds.
 15. A curious pearl, from Polynesia, of a circular form, convex in front, and flat at the back, of a cream colour, very much like the opal : at the summit it displays a lustre of a radiating appearance : set as a ring surrounded by small rubies.
-

Pearls

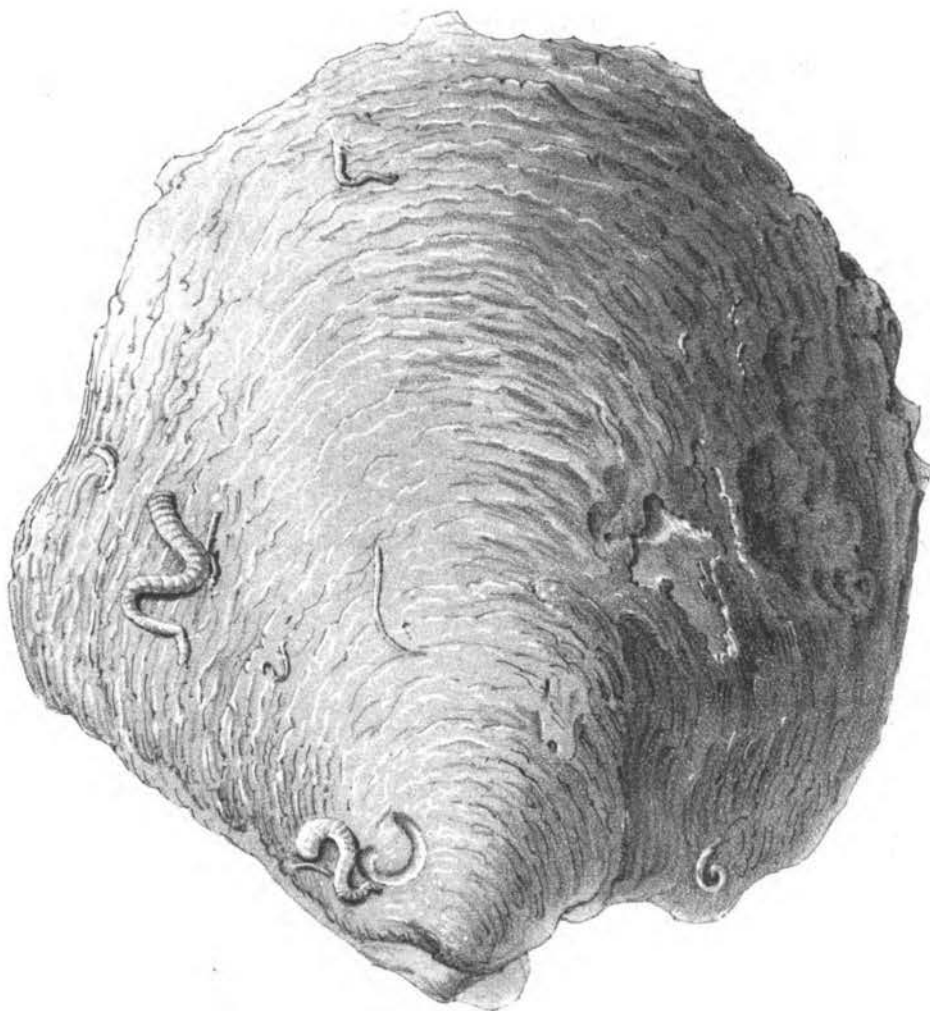


1800 grains.

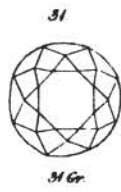
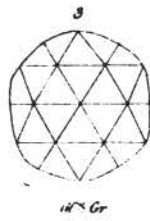
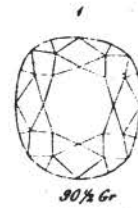
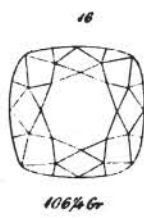
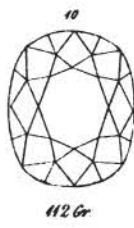
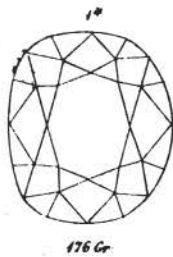
THE NEW YORK
PUBLIC LIBRARY,
ASTOR, LENOX AND
TILDEN FOUNDATIONS.

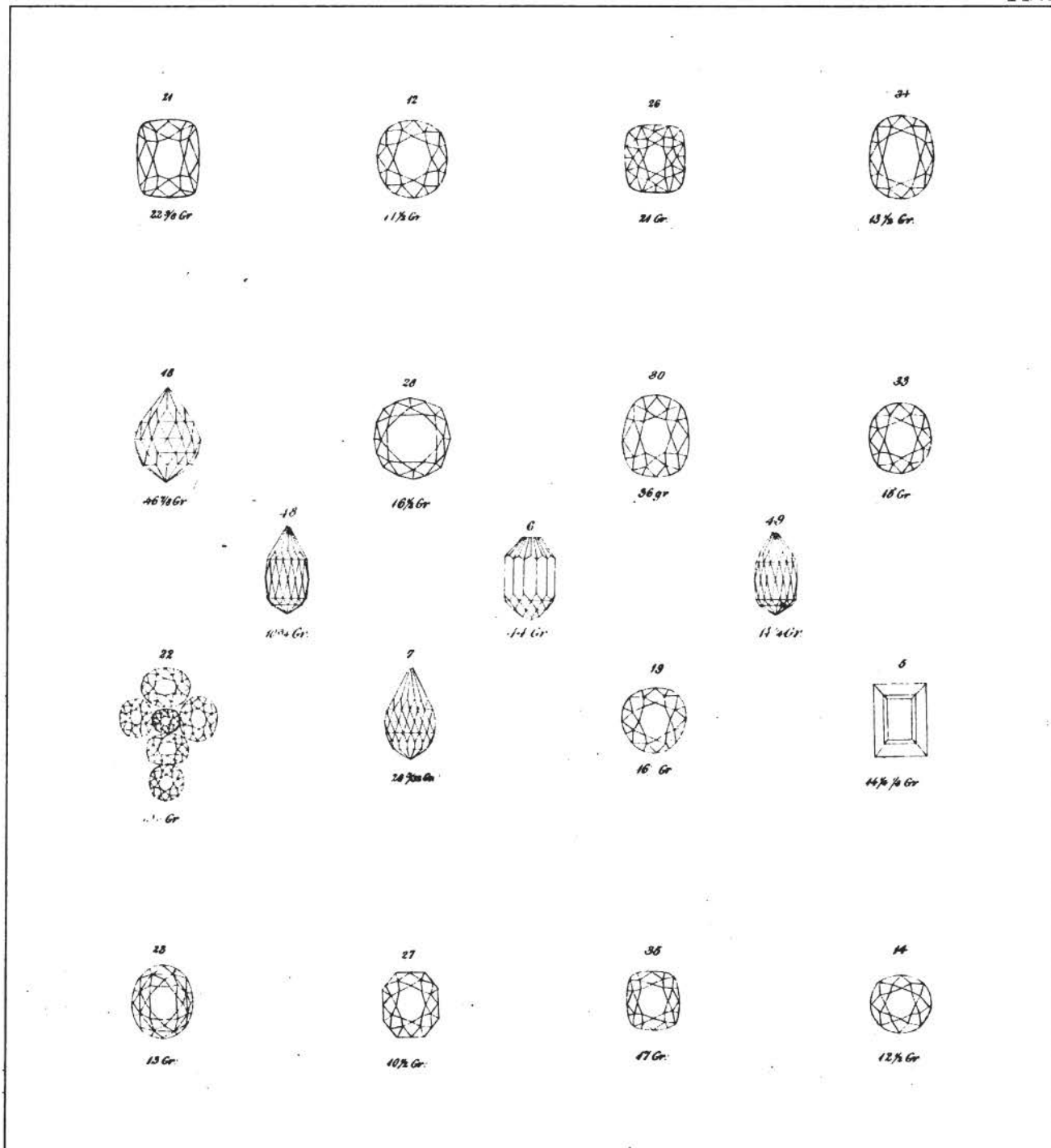






Diamonds





Diamonds



Oriental Rubies



84 Gr.



32 Gr.



23 Gr.



29 1/4 Gr.



22 Gr.



17 Gr.



21 1/2 Gr.



20 1/2 Gr.



10 1/2 Gr.



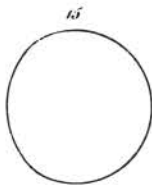
16 1/2 Gr.



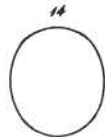
16 7/16 Gr.



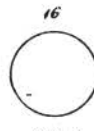
8 Gr.



115 1/2 Gr.



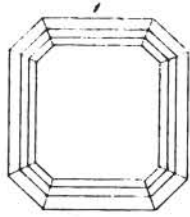
52 1/4 7/8 Gr.



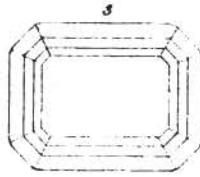
28 1/4 Gr.



Rubies Spinel & Balais



139 1/2 Gr.



211 Gr.



53 Gr.



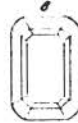
23 9/4 Gr.



22 1/4 Gr.



18 1/2 Gr.



25 Gr.



22 Gr.



18 1/2 Gr.



15 Gr.



17 Gr.



8 Gr.



15



7 9/4 Gr.



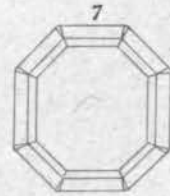
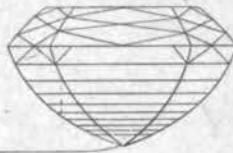
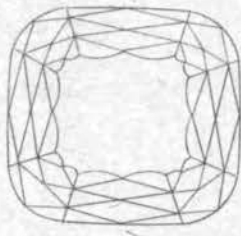
10 Gr.



1 1/2 Gr.

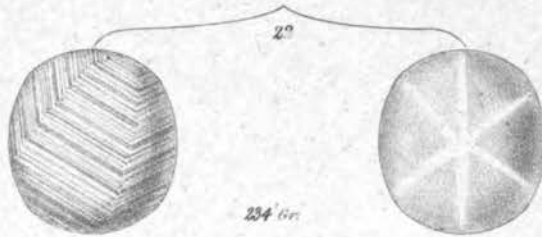
Sapphirs

PL. X

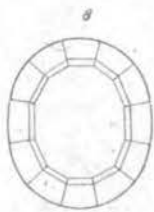


532 Gr.

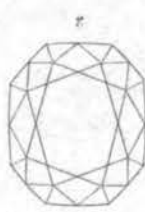
160 Gr.



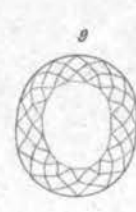
204 Gr.



116 3/4 Gr.



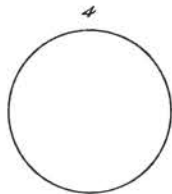
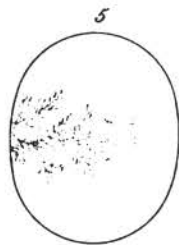
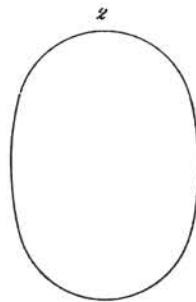
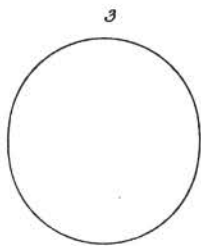
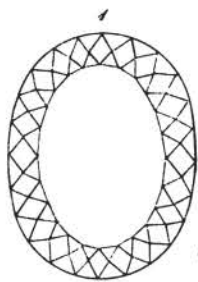
113 Gr.



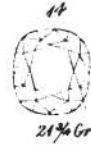
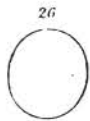
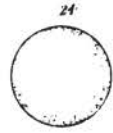
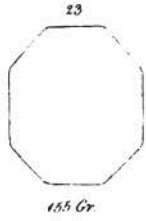
65 1/2 Gr.

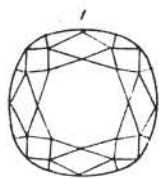
Chrysoprases

Pl. XL.



Sapphires

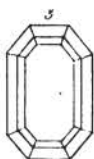




110 Gr



34 Gr



39 Gr



10 1/3 Gr

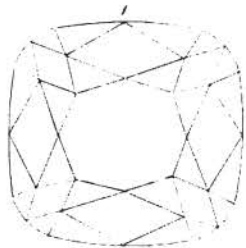


24 Gr.

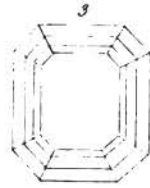


12 Gr

Emeralds.



532 1/4 Gr



63 Gr



87 Gr



26 1/2 Gr



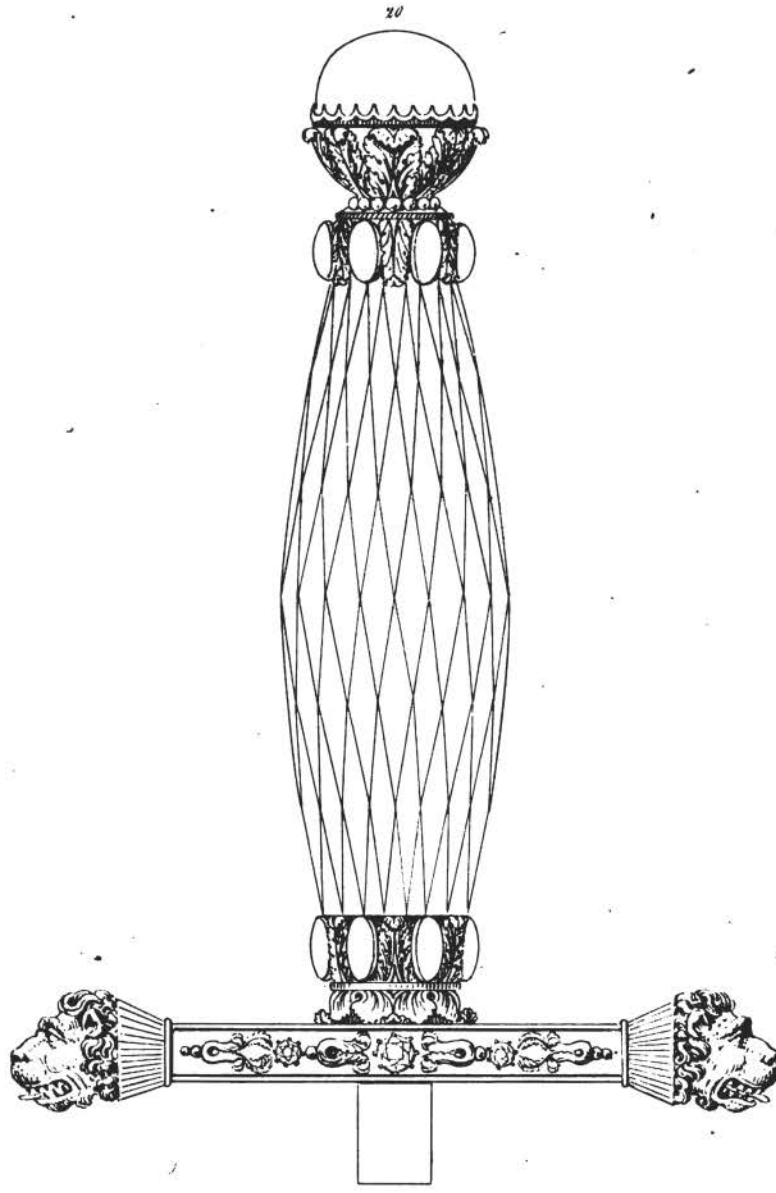
80 Gr



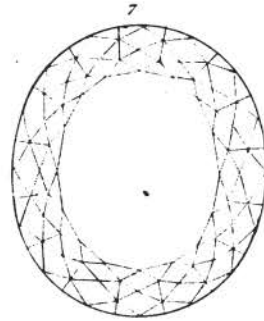
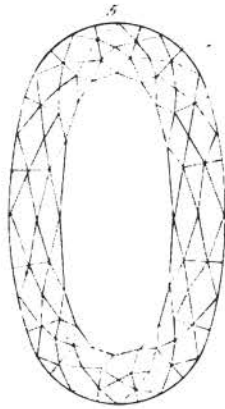
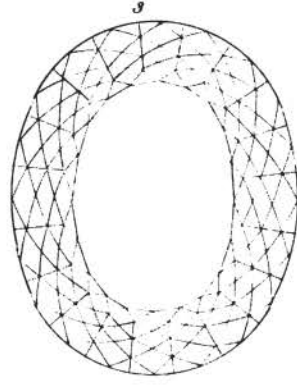
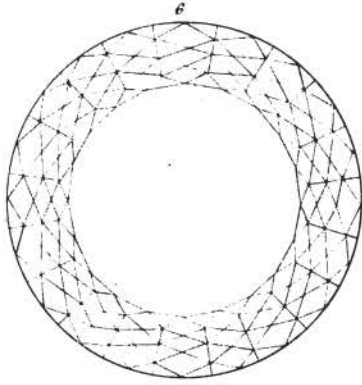
36 2/3 Gr



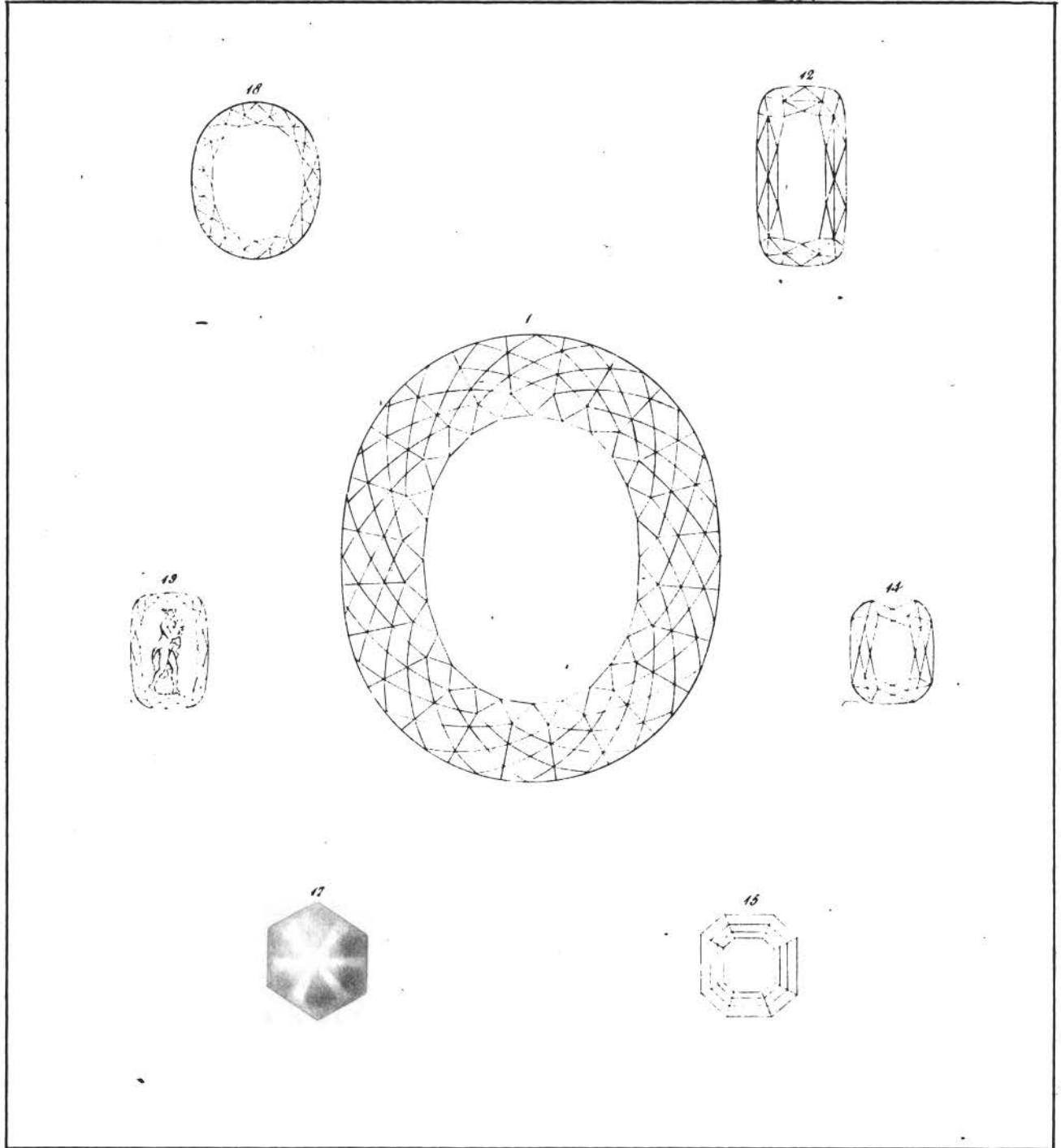
10



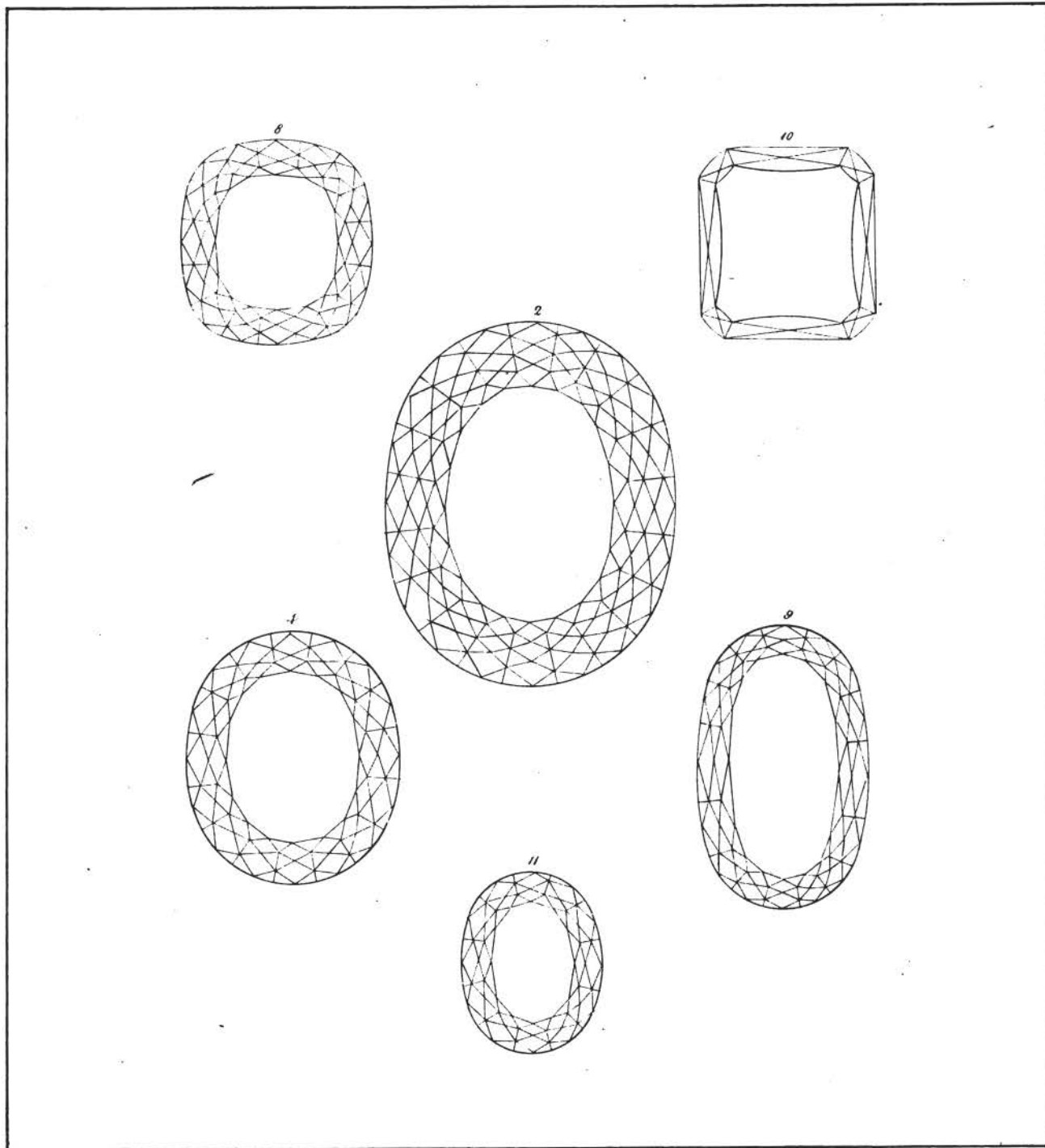
3 oz 6 dwt



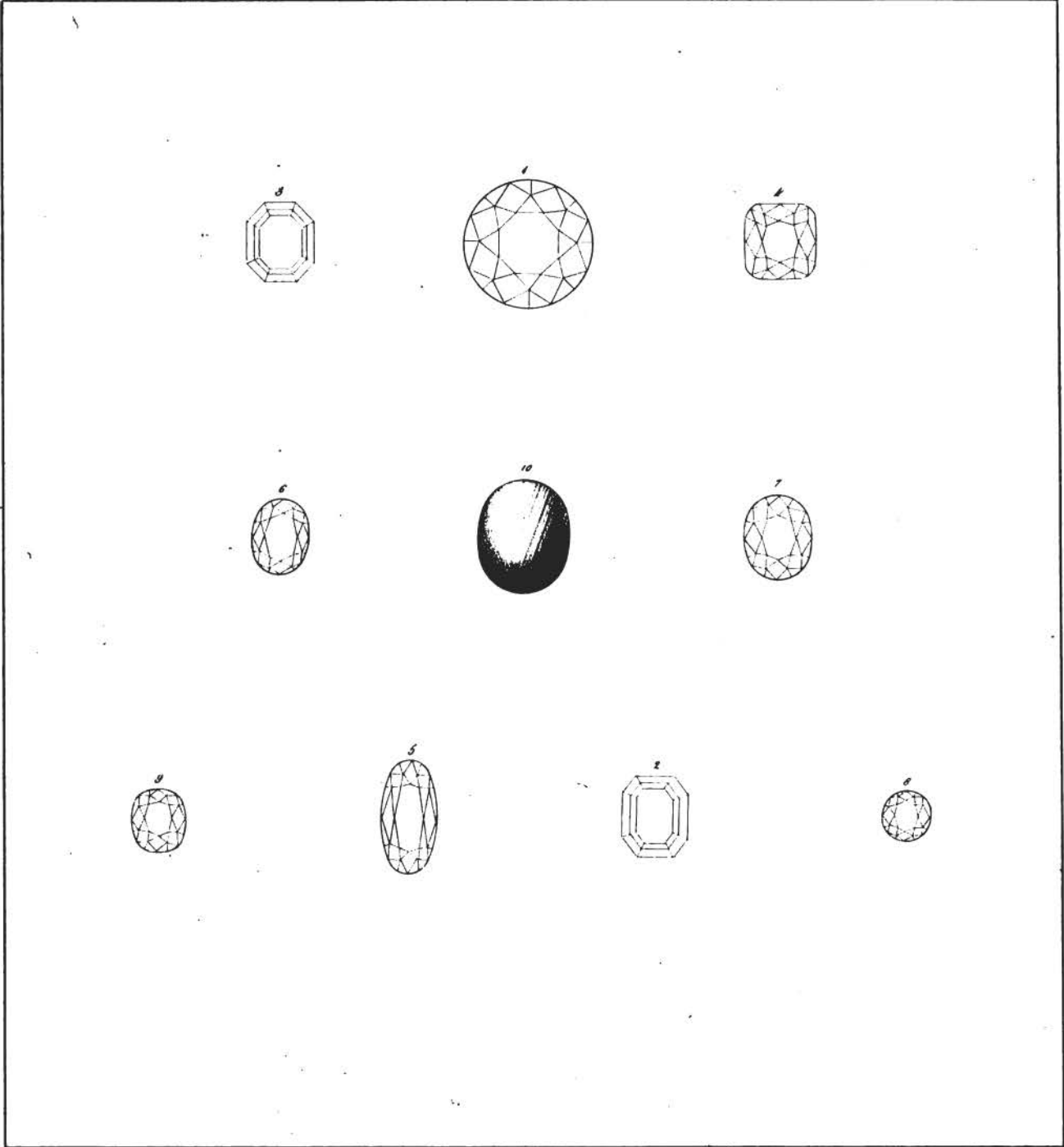
Aquamarines.

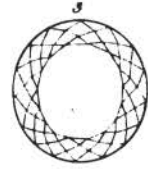
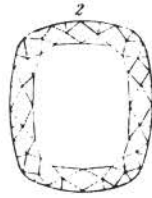
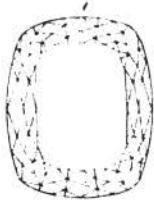


Aquamarines.



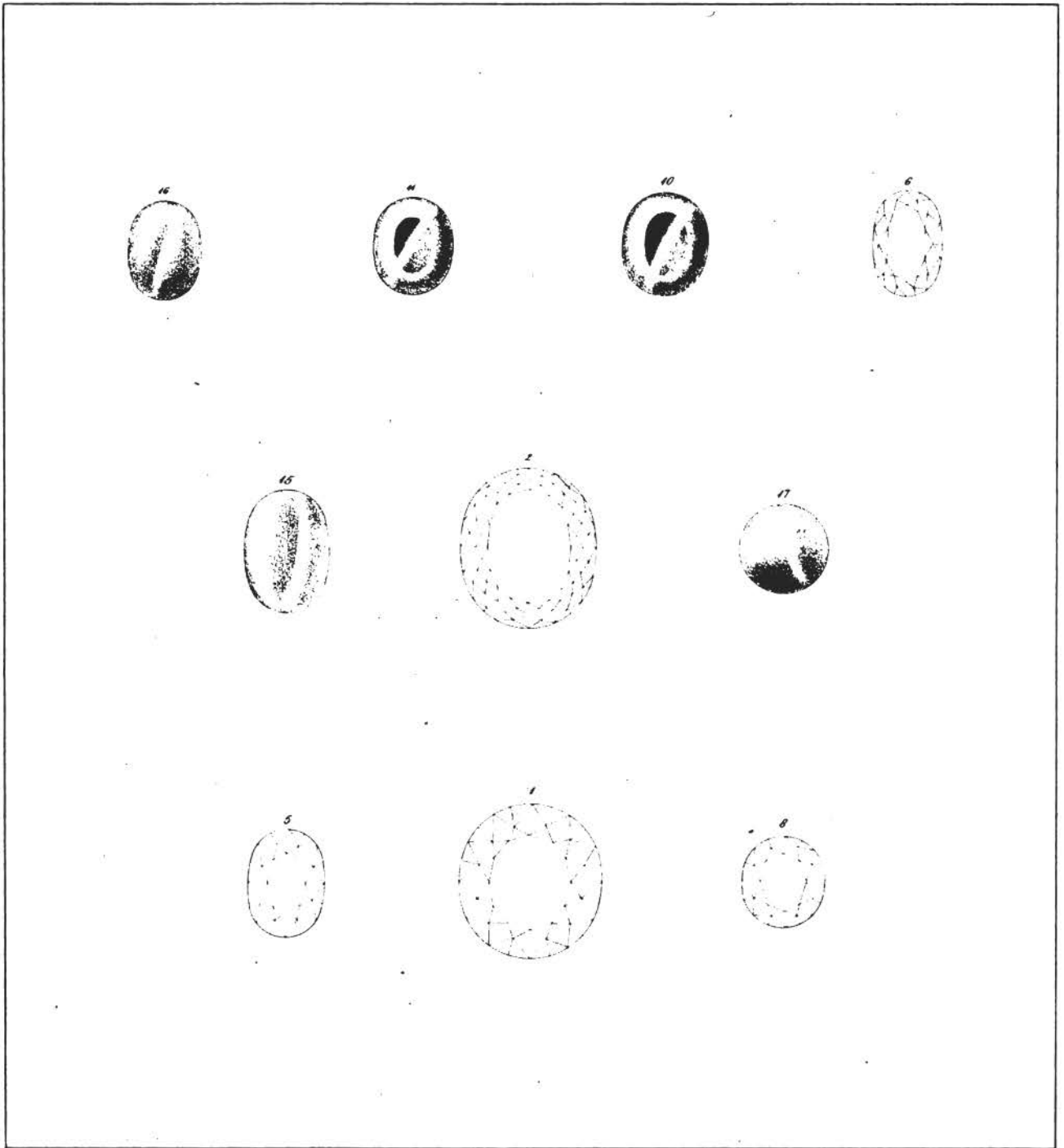
Jargoons or Zircons.



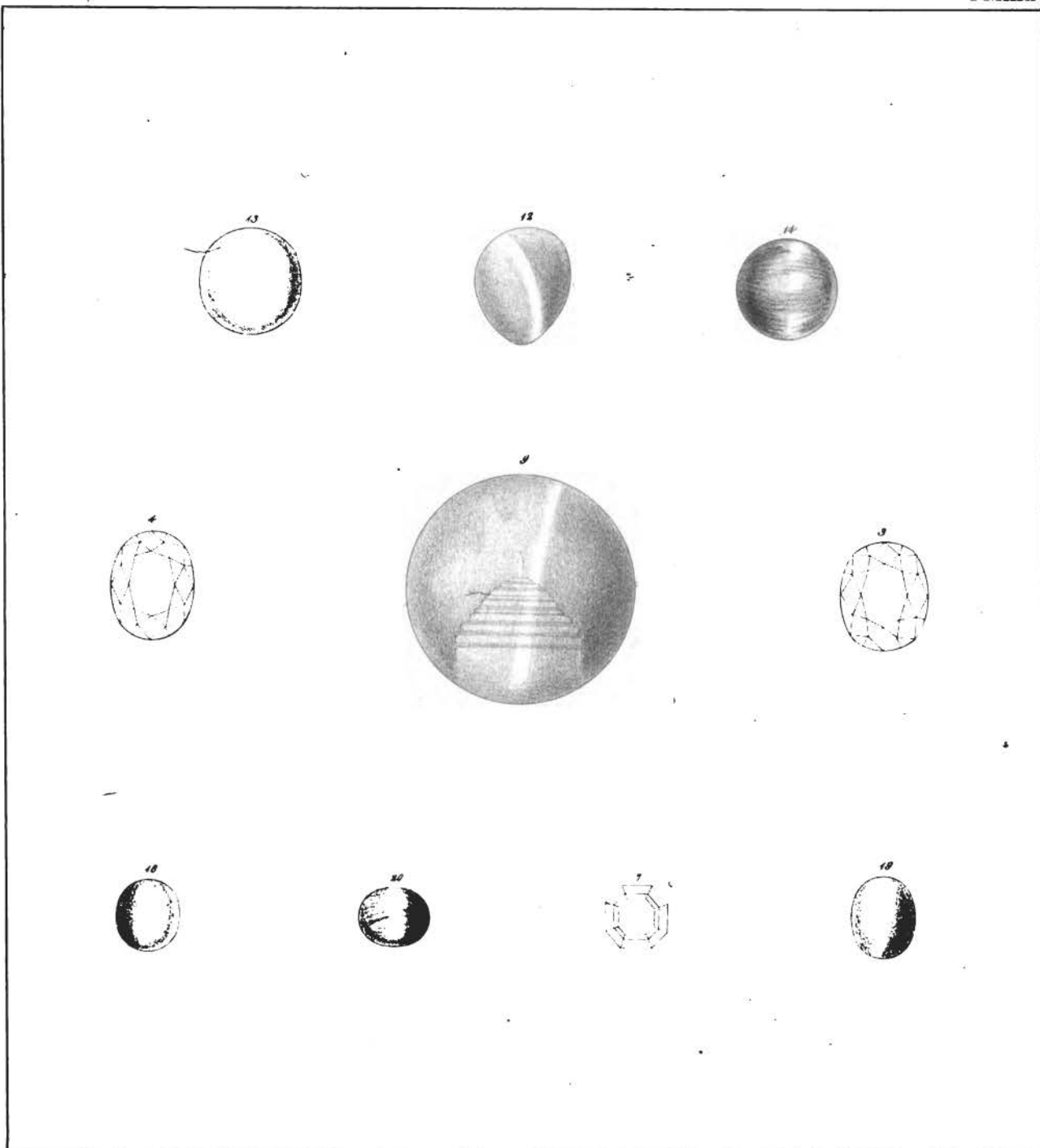


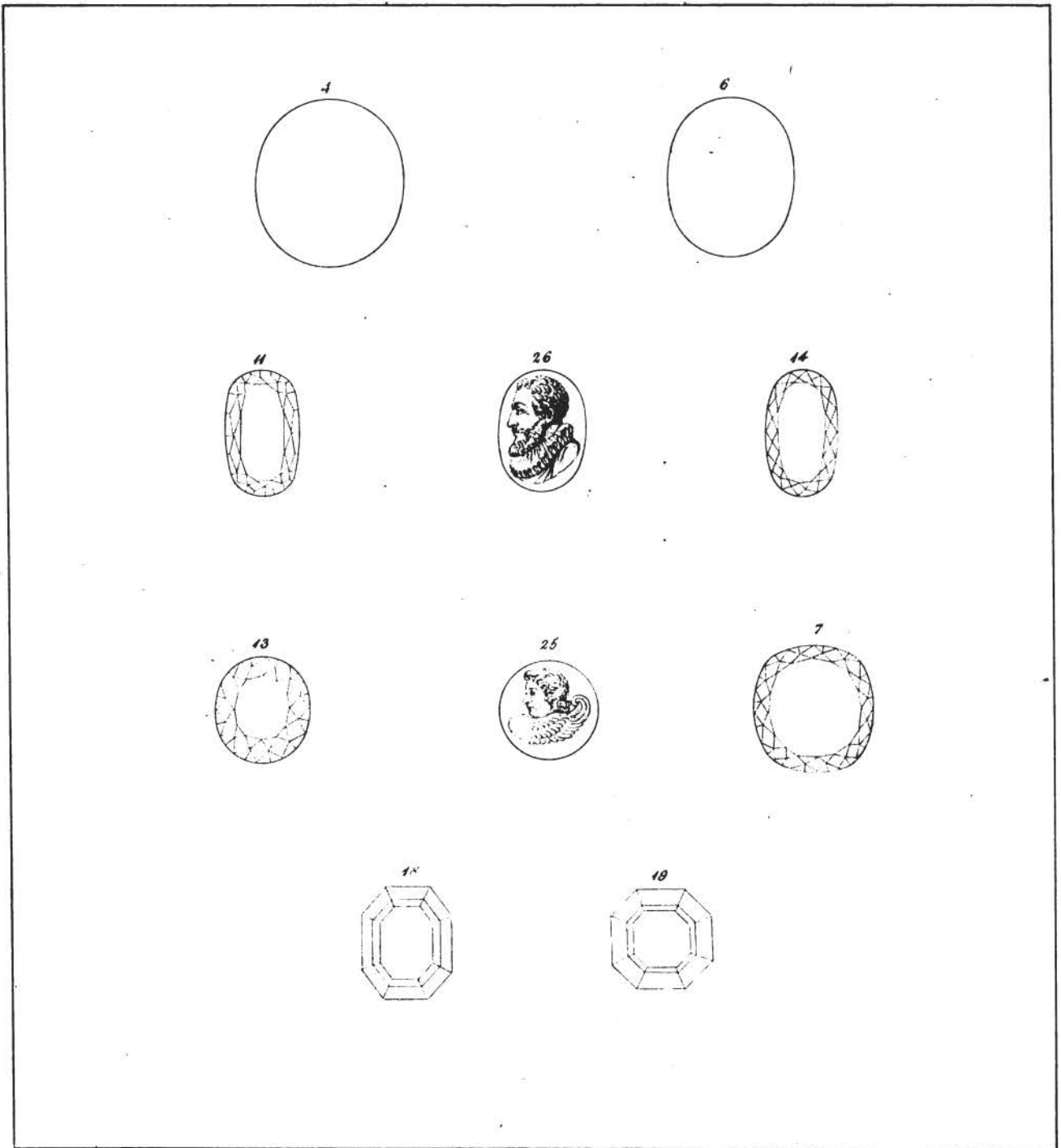
7

Chrysolites or Cymophanes.

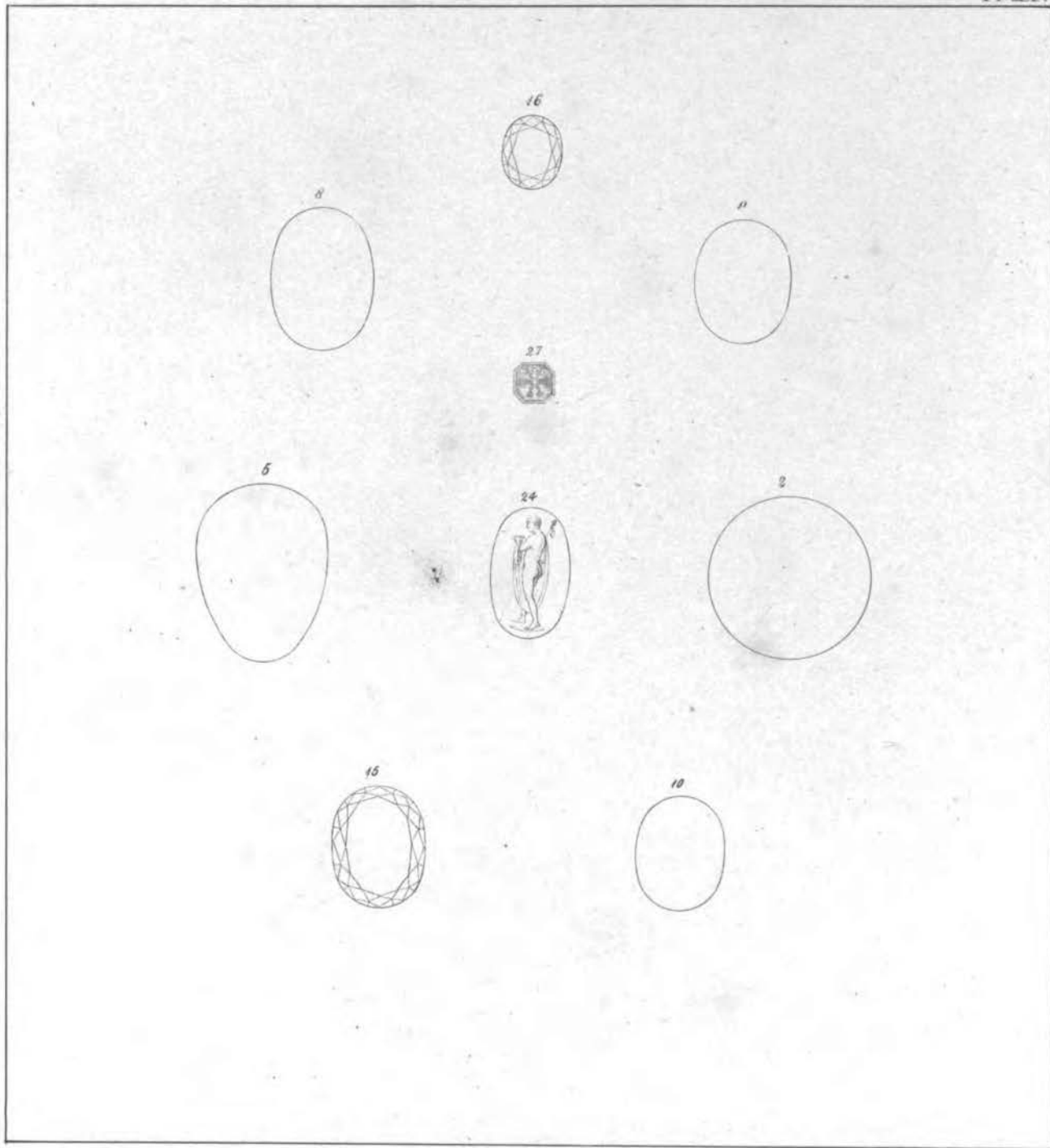


Chrysolites or Cymophanes.



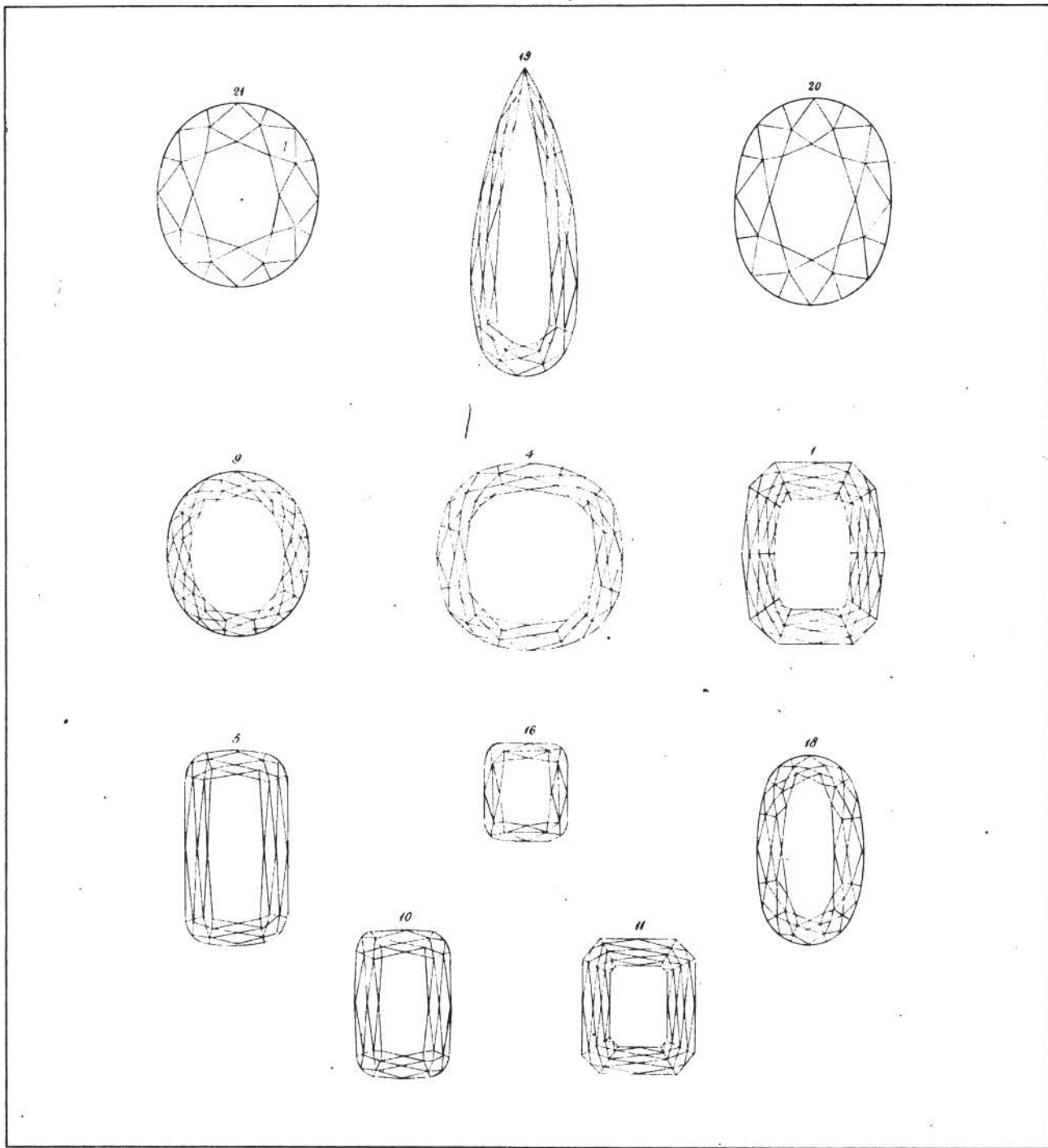


Garnets

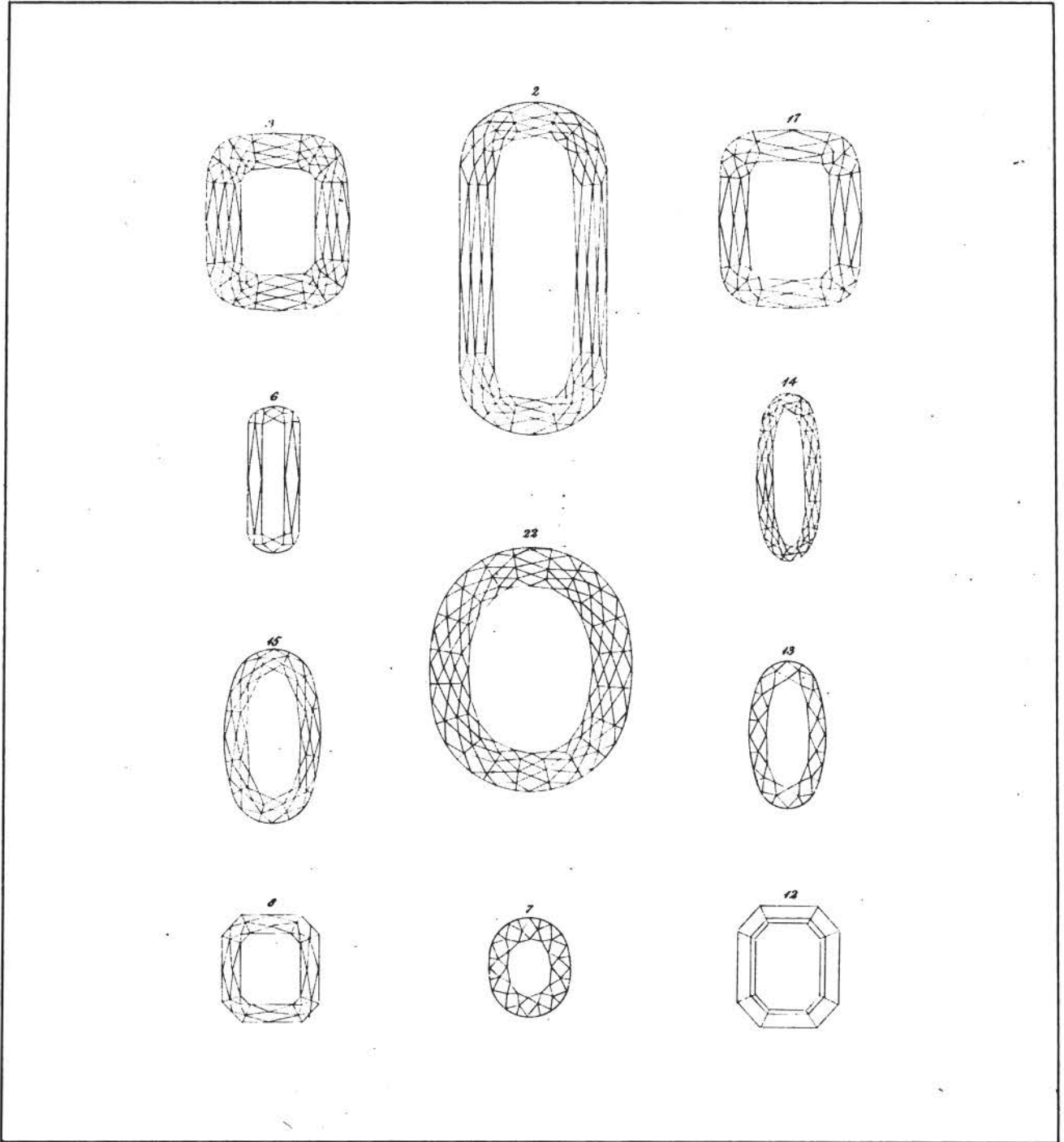




*Ceres having alighted from her Car drawn by two Dragons, setting on fire Mount
Etna to illumine her pursuit of Proserpine.*

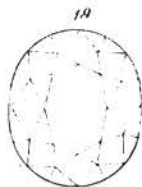
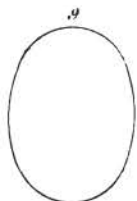


Topazes.



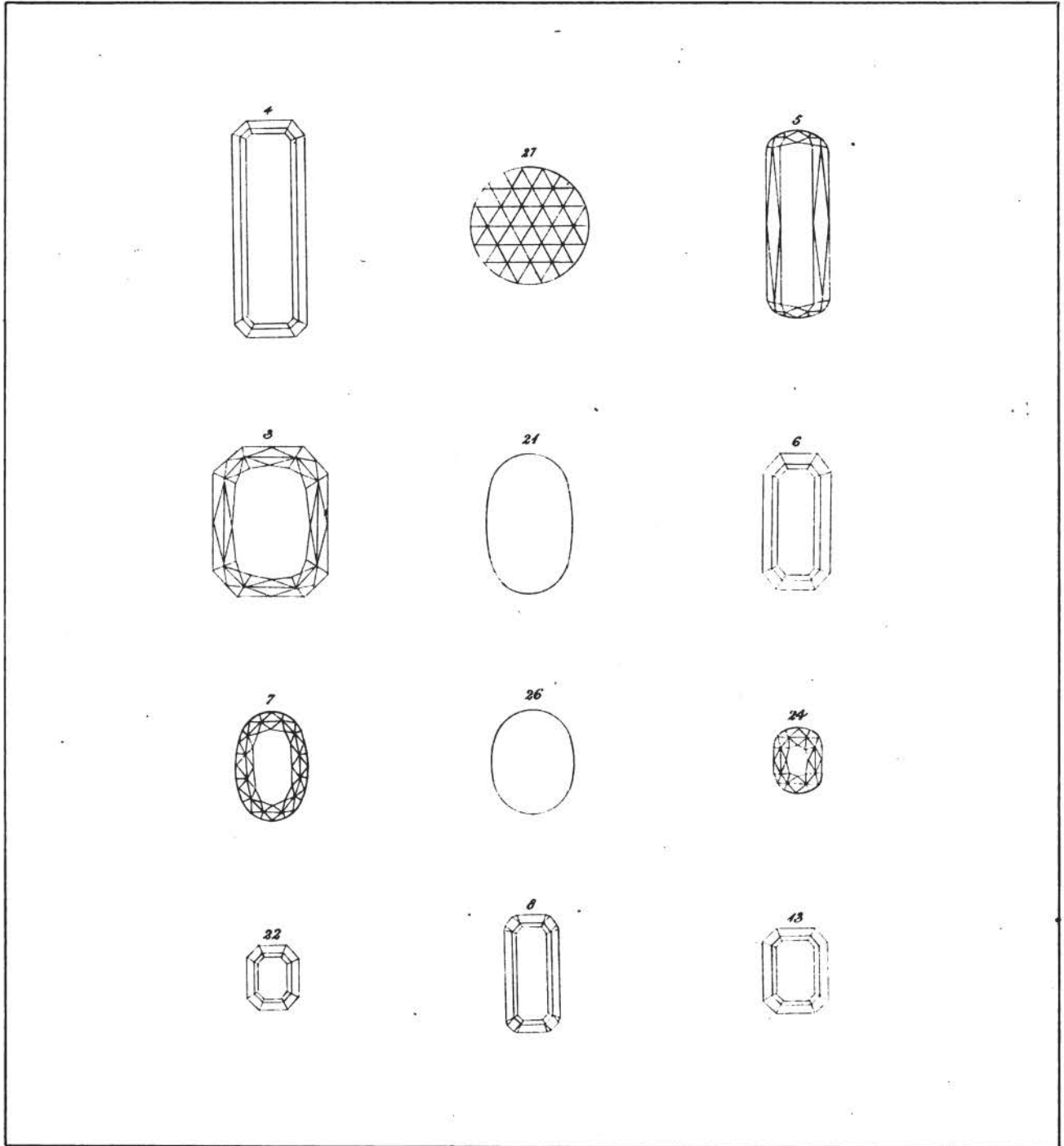
Tourmalones.

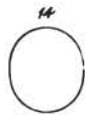
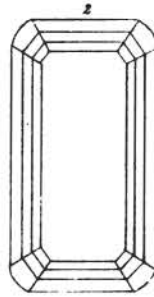
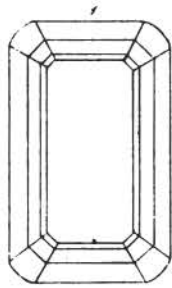
P1. XXVIII.



C. Hullmandel's lithography.

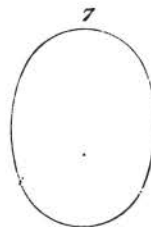
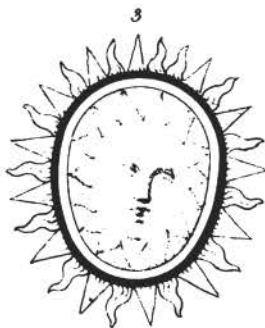
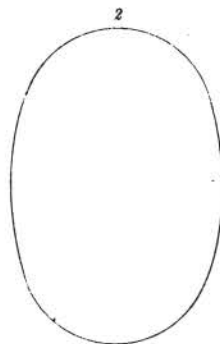
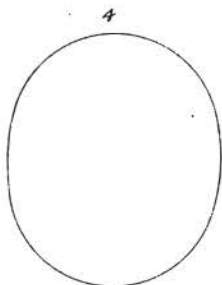
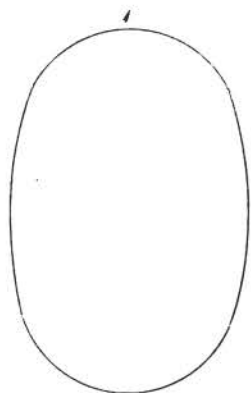
Tourmalines.

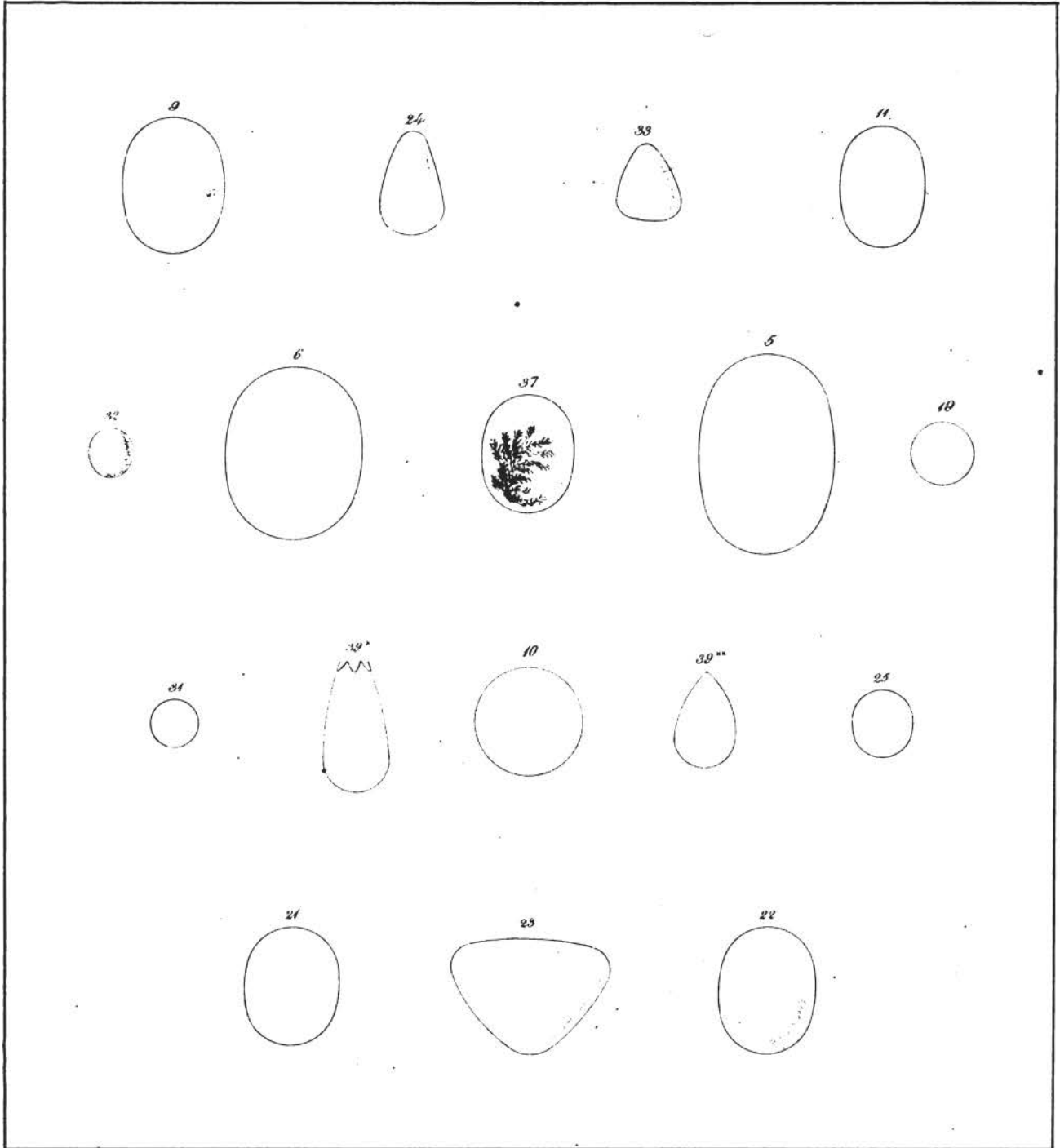




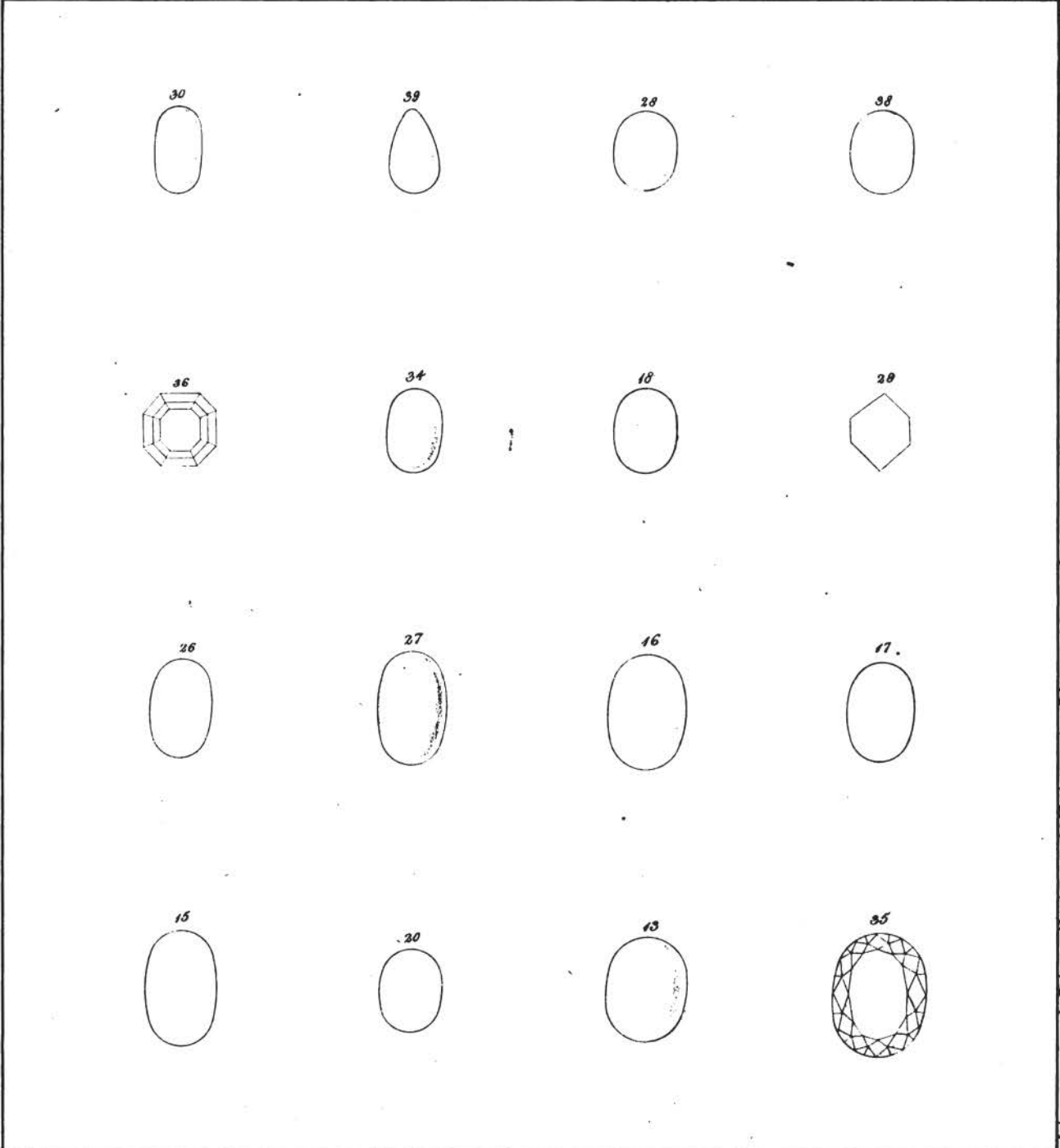
Dichroites.

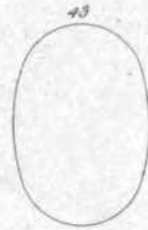




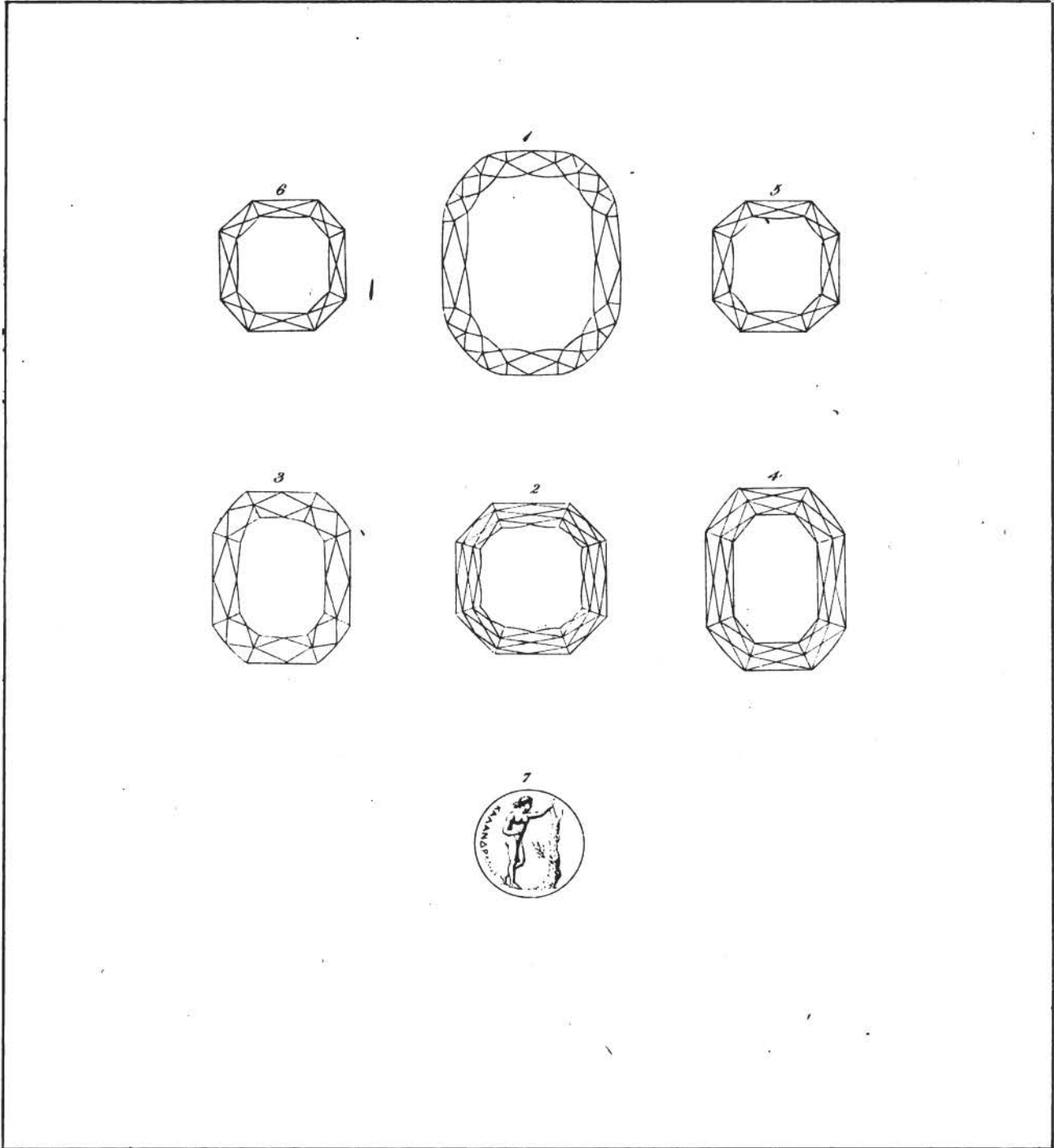


Opals

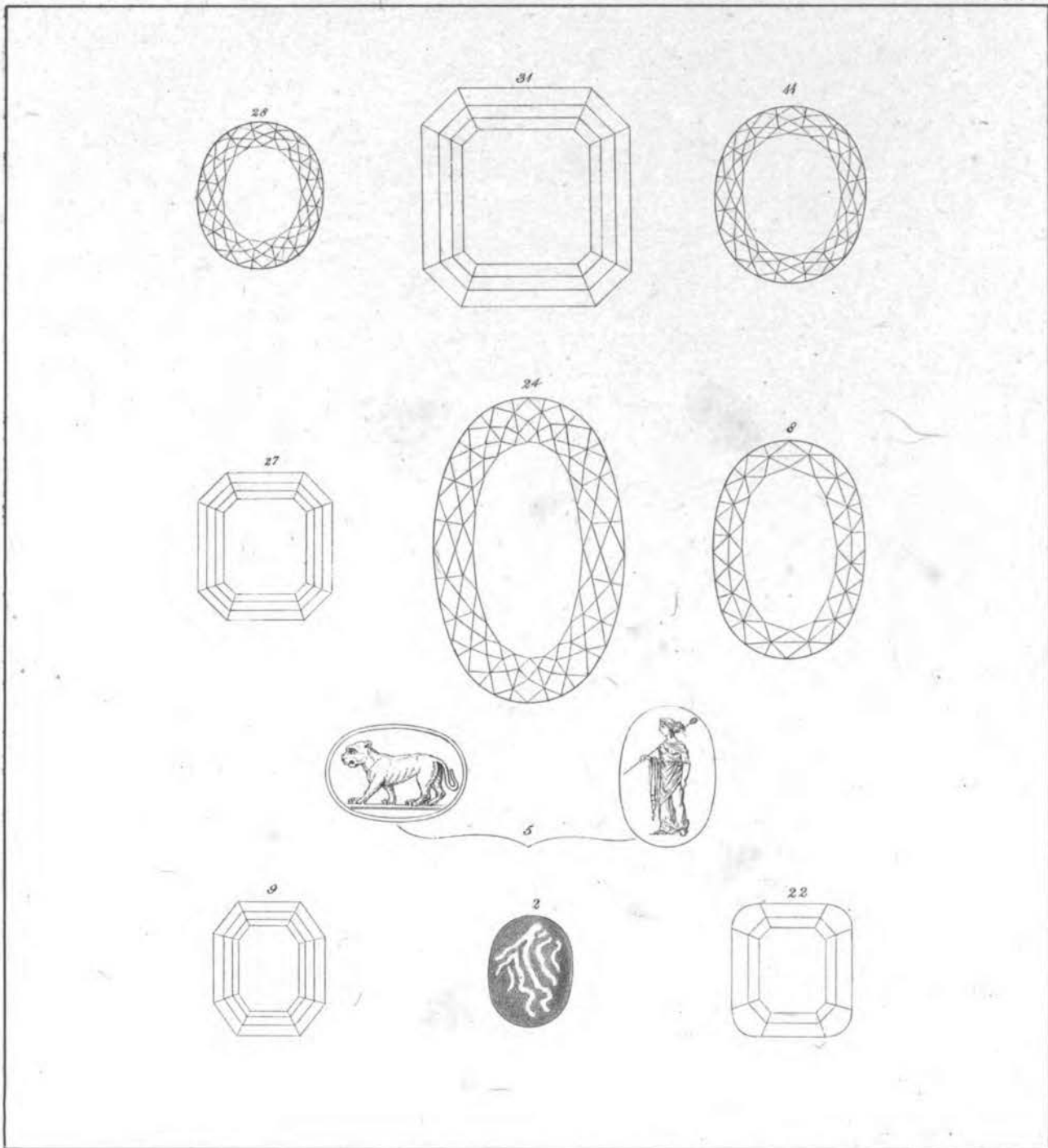


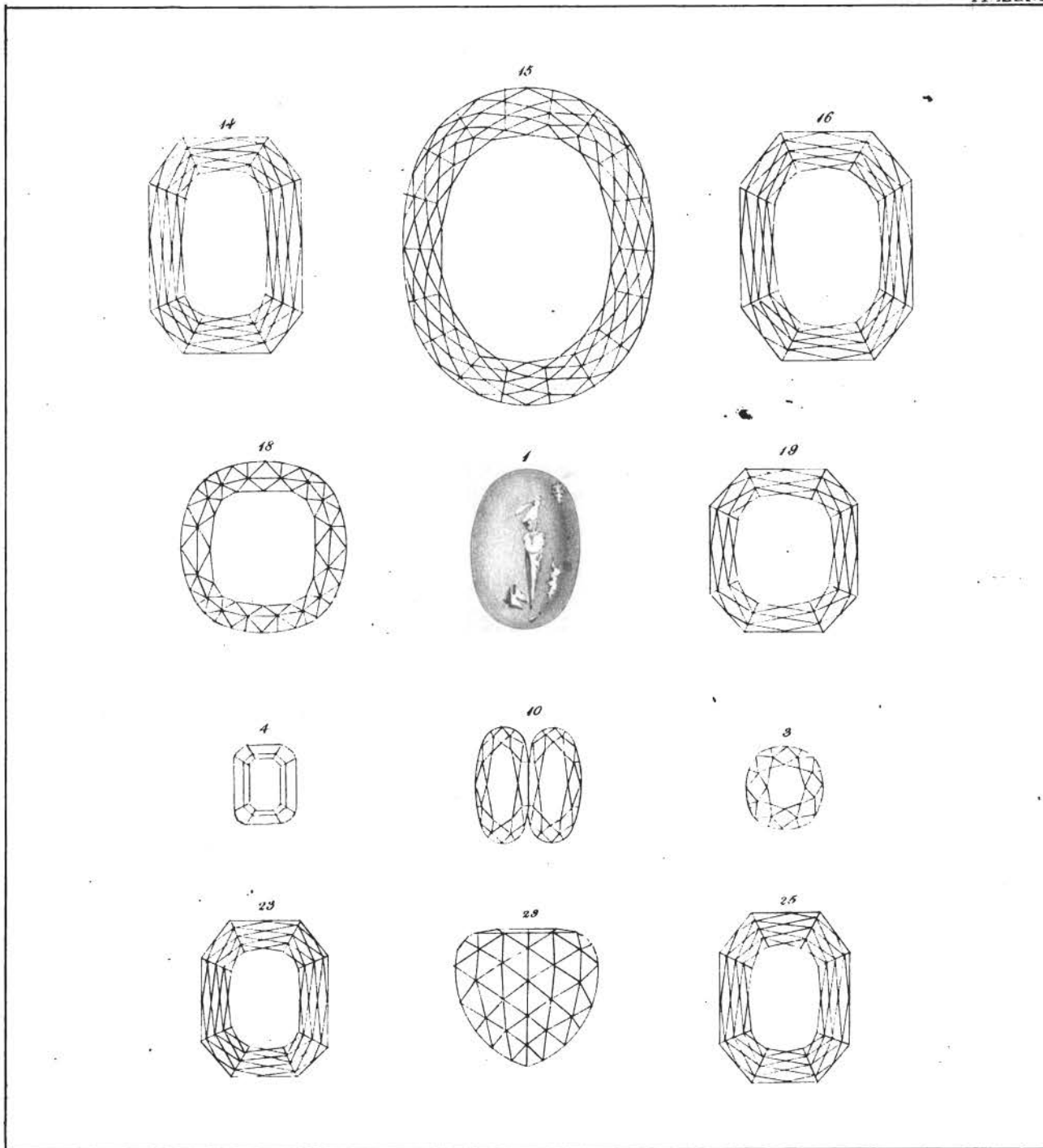


Peridots.

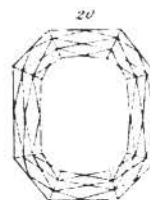
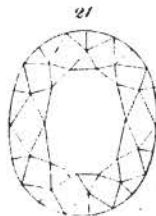
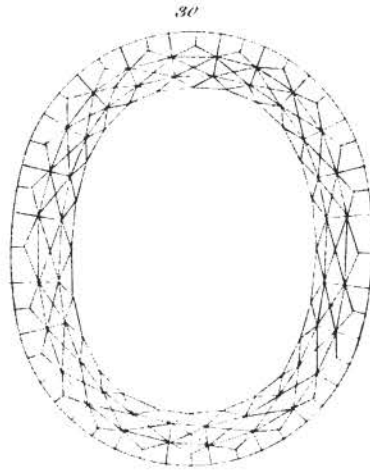
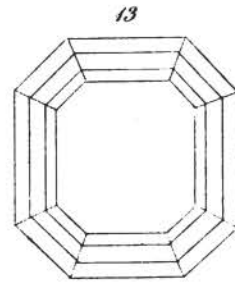
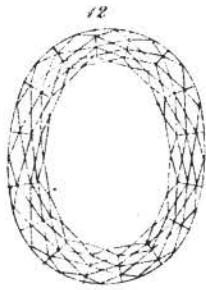


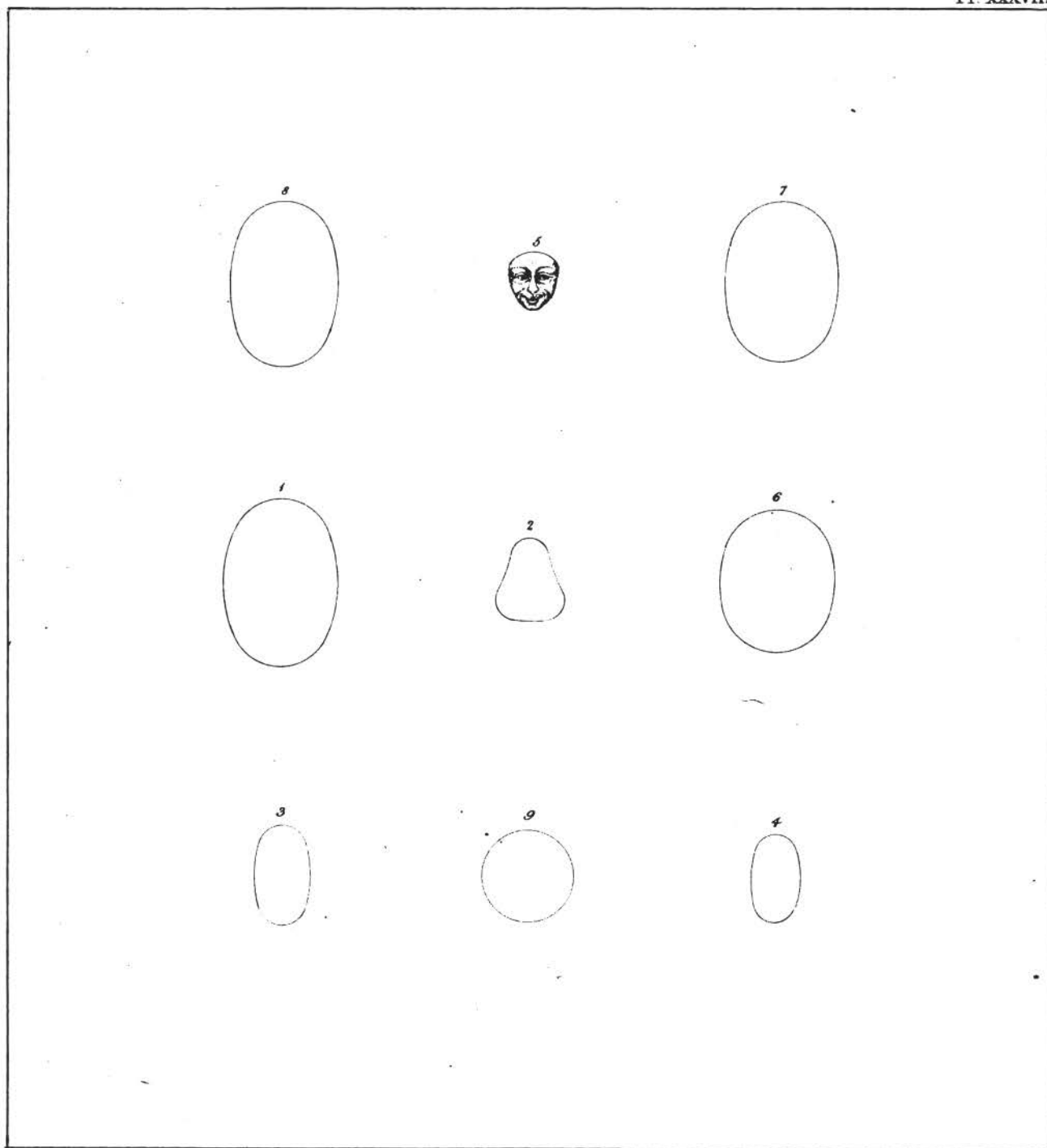
Amethysts.



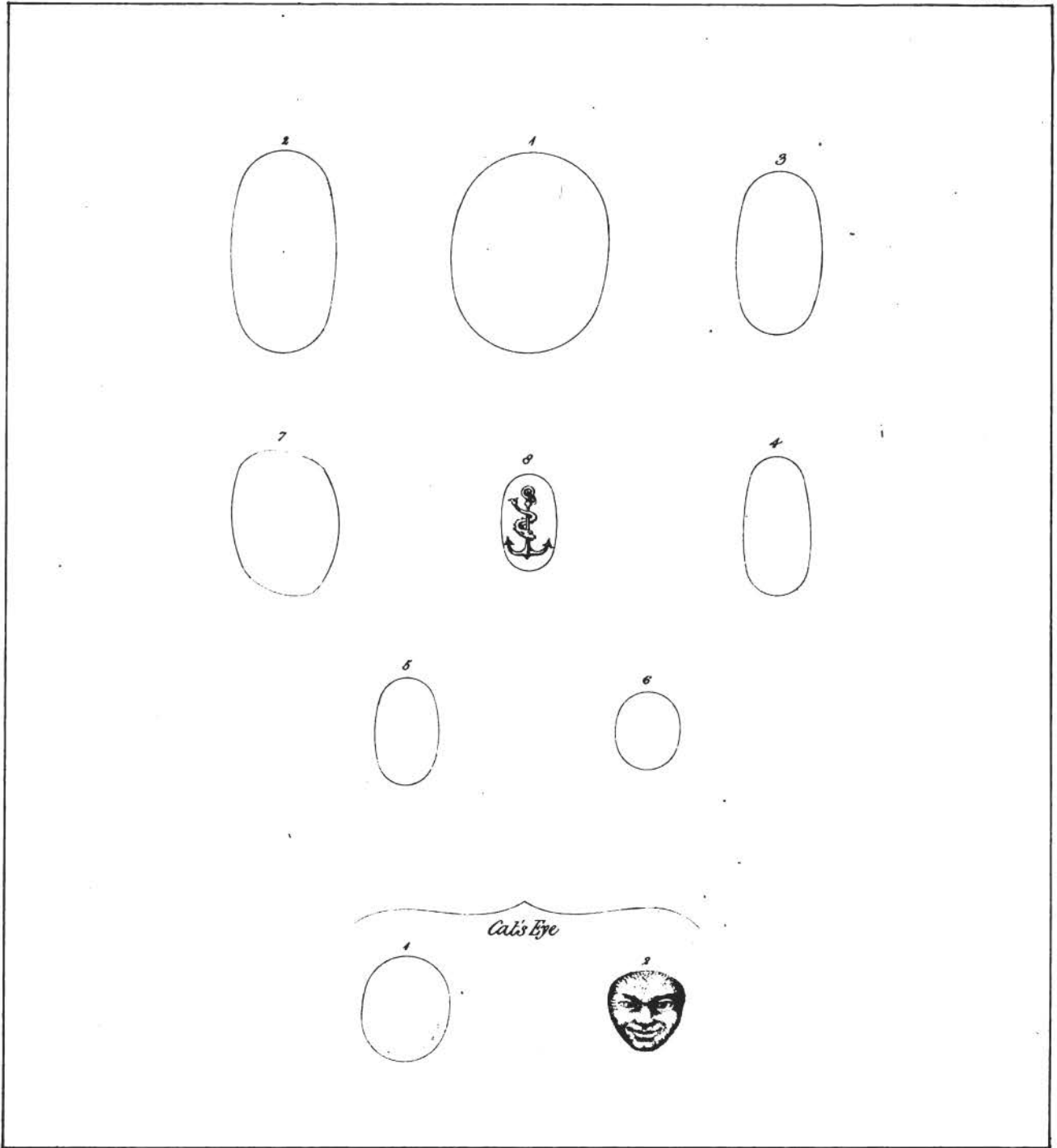


Amethysts



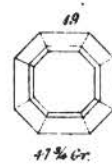
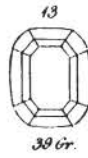
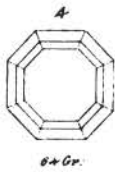
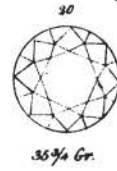
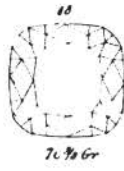
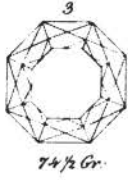


Moonstones.

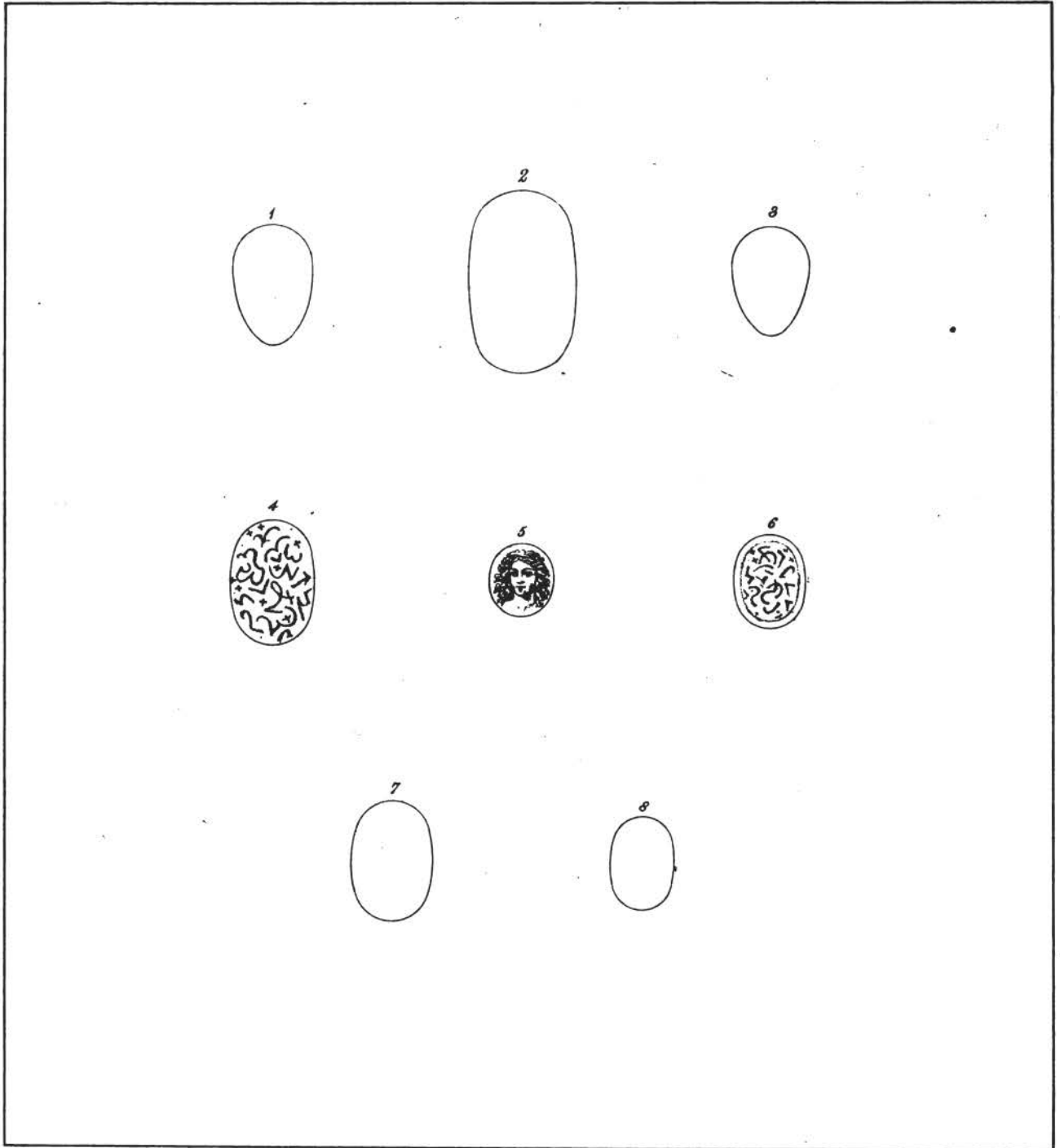


Cat's Eye

Sapphires.



Turquoises.



Onyxes.

