INTRODUCTION.

"Dumb jewels often in their silent kind
More than quick words do move a woman’s mind."—Two Gentlemen of Verona.

Of the many exquisite things nature turns out from her laboratories, precious stones carry away the palm both for beauty and fascination. The mystery of their origin, the peculiarities of their native homes, their special characteristics, their medicinal qualities, their rarity and great value, the romances and tragedies in which they have played conspicuous parts, together with their marked influence on the lives of individuals and nations intensify our interest in them and sharpen our curiosity concerning them.

Beautiful and wonderful specimens as they are of nature’s handiwork, they do not as a rule shine in all their splendour until they have passed through the hands of man, but this we shall see for ourselves as we follow each gem from its ancient home until, in its perfection, it adds grace and beauty to the persons of the rich and the great.

All through the ages the method adopted by nature to form and perfect these gems has been enveloped in mystery, and, notwithstanding the intellect and knowledge which have been brought to bear upon this subject by successive generations, nature still manages to baffl us, and she has evidently no intention of gratifying our curiosity as to her process of manufacture.

One or two facts, however, the genius of man has wrested from her, for example, that she carries on her work in a particular class of rock and mountain, and that the materials she uses are quite of a common kind such as carbon, alumina, clay, and silica, with which we are all acquainted. A French scientist, Mons. Babinet, noting this, fact, says, “It would seem as though the mighty creative and shaping Power had chosen to manifest his omnipotence by producing the most valuable substances from the most ordinary elements.”

But, when we come to the detail of nature’s work, we are brought to a standstill, for she has not yet informed us how she brought together the elements of the stones, nor how she solidified the liquid or vaporous matters, for they could not have amalgamated in a solid state, nor even in a powdered form. Scientific men believe that she employed one of three means—volcanic heat and pressure, the aid of foreign materials to dissolve the solution, or the slow decomposition of vegetable matter, but which they cannot decide. Nor do we know how long she takes to form and complete these gems.

One thing, however, is quite evident, viz., that no workshop on the earth’s surface has ever produced such treasures as the laboratories beneath it.

Flint said “that in gems we have all the majesty of nature gathered in a small compass, and that in no other of her works has she produced anything so admirable.” Yet considering her boundless wealth of material and working power, it is surprising how small a number of precious stones have found their way into the world. Of course there may be many waiting and in readiness to be discovered, either by the skill of man, or by the freaks of their “Mother Nature,” for her method of dealing with them is often curious. She produces them with the utmost care, sparing neither skill nor time to render them the most perfect of her treasures, and, when at length there is nothing more to desire, she wraps them round with quite common garments, which hide from view their exquisite form and colour, and with scant courtesy starts them on their career.

Not till the hand of man has touched them, and with skill removed their coverings do they stand forth in the light pure, transparent, splendid, fit emblems of all heavenly graces. The object in writing these articles on precious stones is to introduce the readers of The Girl’s Own Paper to their “habits” or native homes, whether in mountain, rock, sea, or river, and to bring before them their characteristics and influence, and hastily to gather up their histories, which are often stranger than fiction.

The study is one of fascinating interest, and could we trace the individual career of some gem we should understand many an enigma in the history of nations, and gain a deeper insight into the mysteries of the human heart. Not only have precious stones been favourites of wealth and fashion, but they have been studied with passionate devotion by men of science, and Mons. Babinet says that “the study of gems, which may seem frivolous when looked upon as mere ornaments, appears in another light when considered with regard to important questions of trade, and as connected with the two sciences of minerals and optics.”

It would be of great interest if we were only to study under what conditions of soil, climate, and labour nature forms them; indeed, those who bestow upon precious stones the attention they deserve will be gradually led to acquire some knowledge of the geography, mineralogy, physics (natural objects) and chemistry of the countries which produce them.

It seems to us that everything that brings before us the treasures of Nature and the course of the gem of man upon them must be a healthy and interesting study, and one which lifts the mind above the petty cares of daily life.

In the study of precious stones, our thoughts go at once to the diamond as the king of them all, and as the most valuable; and yet this is not exactly correct, for the ruby has ten times the intrinsic worth of the diamond. But I do not purpose to commence with either of these, but rather choose the pearl as being specially the ornament of unmarried girls, for it is of all gems the most fitted to represent purity, grace of form, and exceeding worth.

CHAPTER I.

THE PEARL.

“As the rain from the sky
Which turns into pearl as it falls in the sea.”—Thomas Moore.

“Oceana’s gem the purest of nature’s
Pearls are the only gems that derive nothing from art, and any attempt to improve them or increase their worth often turns out a complete failure.”—Dryden.

Unlike other members of the aristocratic family of gems and precious stones, they are, as a rule, perfect in their native condition both.
as to form, colour, and purity. Their home or habitat is altogether peculiar to them, for while other gems are formed and brought up within the mine, pearls are born and bred beneath the waves, their origin is surrounded with mystery and has afforded matter for the imagination and poetic fancy in ages of the ages, for all the world can never know, although all the knowledge of the highest kind is capable of giving occasion to the wildest conjectures.

An idea very widely accepted was that pearls were the tears of angels captured by the oyster; while another equally popular was that they were formed of drops of rain falling into the open shell. This last is expressed in a quaint and wonderful way by the ancient Romans, and indeed it may be supposed that a drop of water fell one day from a cloud into the sea, became a drop of water, and then was transformed by the power of the oyster into a pearl. This explanation has merited the attention of all the naturalists who have written on the subject, and it is generally admitted that the pearl is the result of the union of water and the power of nature.

The pearl is a single, perfect concretion, and it is the result of the action of the oyster. A drop of water falls into the shell of the oyster, and the oyster uses its shell to protect the water from the air and the sun. The water becomes a drop of water, and it is transformed by the power of the oyster into a pearl. This explanation has merited the attention of all the naturalists who have written on the subject, and it is generally admitted that the pearl is the result of the union of water and the power of nature.

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succeeds in settling in its submarine habitat which is generally at a depth of from 36 to 48 feet. The pearl is generally found in the soft part of the oyster or attached loosely to the shell, and to be in a really good condition the oyster should be at least three or four years old.

The pearl-bearing oyster is very much adorned by a little creature called the hanen, which is very fond of feeding on it, and makes an entrance for itself by piercing the shell. The oyster resists this and rolls the pearl out of the way of mischief, and uses against the intruder a little bag of acid which it carries in its beard, in the meantime making for itself a fellow of a heavy flow of acid as long as it is active. The time to the moment when all parts of the world we are to look for the habitats or homes of pearls, and by what process they are conveyed there.

In ancient times the principal fisheries or homes of pearls were in the Persian Gulf, the Indian Ocean, the Red Sea and Ceylon. These are still flourishing, but we have now additional ones in North-West Australia and America well inhabited. As the methods of fishing are, in the main, the same, we will look into the pearl's home at Ceylon, because it is not only well known to the Phoenicians who traded here for pearls, but is even now of scientific interest owing to the great care with which the industry is conducted.

The special habitat of the pearl-bearing oyster is in the sand-banks off the west coast of Ceylon under the Bay of Mannar about two miles long. These banks are favourite because they are sandy and interspersed with small patches of mud, a substance which attracts the oyster. Once the oyster has settled, it is arranged in seven lots which are worked in succession one every year. Sometimes the banks of the oyster's nest in oil which is introduced by boats of the trade, and that seven years it is thought that the pearls so conveniently the oyster that they would omit them.

In the sixteenth century people of all classes collected here to the number of fifty or sixty thousand all intent on obtaining pearls, or at all events interested in the pearl harvest. In the seventeenth century the Dutch and English made this a very popular industry by allowing the divers twenty alternate days to fish for themselves, as many as two hundred thousand people on the banks of the banks. In the eighteenth century, owing to some quarrel between the Dutch and the Rajah, the banks of the oyster's nest were thinned down by thirty thousand from 1750 to 1766, at which time the English gained Ceylon and reaped the benefit of the rest, which resulted in 1778 in a net profit of £120,000.

The fishing commences in February and continues until the middle of April, and great are the preparations made for it. The fleet consists of a hundred and fifty boats, each being from eight to fifteen tons burden, without decks, and with a stage on each side of which the divers descent.

The other end of each boat includes a master or head pilot, ten divers and ten other men who manage the boat and look after the divers, and keep the crew as far as possible from the shark-charmer, without whom the men will not stir. The distance between the shore and the banks is about twelve miles, and the time of departure is ten o'clock at night when the tide is in the right direction for the gear, and the returning of the men not in the wrong direction for the shark-charmer.

The obtaining of pearls is a very difficult and dangerous operation, and those whose occupation it is to be long at sea have no idea of the hardships of the work. The divers are not allowed to eat or drink while under water, and are not permitted to step on the bottom except for the purpose of hastening their descent, and in their right hand a knife. So furnished the divers throw themselves into the boats, and keep them down with the time. As soon as they are down they cast off the stone from the feet, and with the knife loose the oysters from the bank or collect them in the net; the average time of remaining under water is a minute or a minute and a half, in which eight or ten oysters are obtained.

A signal is given and the men are at once ordered to bring the boats to the surface, and the other five divers go down. Native divers will descend forty or fifty times in the day, but the effect of this constant submersion and strain on the nerves is seen in the faintness and bleeding from nose, nose and mouth of the men at the end of the season. The enemy of the divers is the shark, most of which is not of the least harm, and if alarmed at the approach of a diver they will not appear in the surface, the other will go down on the same day. Few of the divers live to old age, but while they can work they receive good and fixed wages. I hear that the majority of the divers in Ceylon are Roman Catholics and profess no other religion, and the Portuguese, and one of the most that stands them in good stead, is the dexterity and skill with which they use their feet; they can pick up the smallest thing from the greatest depths as easily as we can with our fingers.

On the return of the boats, the boats, unloaded at the quay are immediately taken to the fresh water, and brought ashore, and until they become patrid, when the pearls are easily removed from the tough matter surrounding them. The heaps are sold, as a rule, unopened, and their contents being unknown to both buyer and seller, the transaction is not so much one of commerce as a lottery. Many oysters contain no pearls, and there are instances where the pearl produce one worth 1200 or 1200. Great care and vigilance are exercised during the washing which takes place for the separation of the pearls, but, notwithstanding all this care, there are only about 600 left, the pilferers generally choosing the best pearls. These are often stored for safety, and if they are placed in solitary confinement, and drenched with oil.

Shells having pearls attached are handed to clipsers, whose business it is to discharge the pearls by means of forceps. The part which adheres to the shell is polished by a powder made of pearls. In the year 1825 Captain Stuart related having seen ten pearls and some crushed oyster shells taken from the stomach of a fish called chartrere.

The most peculiar phenomenon which fishes in the Indian seas and off the western coast of Australia, using the diving dress most successfully, and during its twenty years of existence the fish were impounded to the sharks. The peculiar dress used by the divers has a little pocket at the side, easily reached by the man. When he notes the approach of a shark he puts in another pocket, but comes a certain acid, which, coming into contact with the salt water, illumines it, and frightens the shark, who leaves the man.

The scientific men on board have made some interesting discoveries about the daily life of the oyster as lived in its submarine home. They are to mention of the observations through the kindness of the owner of the fleet.

To keep a roof over its head it has to work incessantly to repair the misleaf done to its shell by the force of the currents sifting it and fro, causing a constant wear and tear of its shelly home, which admits of no delay in mending. When, at its ease, and in good form, it opens its valves to survey its surroundings, and lays its heart wide open in perfect enjoyment; and wonderful to relate, it extends and narrows, and is of the most exquisite magenta colour.

Again, it is not generally known that each oyster has a general servant or scavenger, but so it is. The eel feeds on the oyster, and employs divers to do its dirty work, while in Ræburn, Western Australia, they employ eels.

There have been very good pearls found in our rivers, especially in the Conway in North Wales, and in the rivers of Cumberland and Scotland; but the pearls of the Canadian rivers exceed ours.

The number of famous pearls which have helped to make history is not large—seventeen of them would fill all. Among these are the "Cleopatra Pearls," one of which the Queen of Egypt dissolved in acid, and drank the liquid, while she gave in honour of Antony. The second fell into the hands of the Roman Emperor, and was subsequently sold at auction, and made into earrings by Augustus for the statue of Venus in the Pantheon.

Then about the same period, B.C. 44, there was the "Servilia Pearl," valued at £13,000, and so well liked by the Emperor Augustus that he gave her, as Caesar had done to the Queen of Egypt, the "Sassanian Pearl," A.D. 500. This lady was the wife of Caligula, and possessed pearls and emeralds to the value of £5,000,000. These she sold for £5,000, and said Pliny, "became possessed of them by robbing and spoiling whole provinces." She appeared in public literally hung with pearls.

Among those with a history is the "Sassanian Pearl," A.D. 500. It was considered a miracle of nature. The Sassanian monarch, the king of Persia, was so impressed by the beauty of the pearl that he ordered it to be kept in a small box. The other kings who followed him copied this practice, and the pearls of these kings always represent a huge pearl in the right ear. It seems that a daring diver obtained it by the sacrifice of his life, and not without reason. For on one occasion he lost it while fighting with the Huns. He was killed by the enemy into a pitfall, and the pearl was found in the ear and cost him before. It was never found, although a large reward was offered for it.

The "Gresham Pearl," Sir Thomas had often refused £15,000 for it, but in order to prove the Spanish Ambassador that his country and the king of Spain and his subjects for the most part of this pearl to powder and drink it in a glass of wine to the health of Queen Elizabeth.

Another large pearl was brought from India and sold to Philip IV. of Spain for a sum equal to £18,000. It is pear-shaped, and believed to be in the possession of a woman of great beauty of the Russian Princess Yousoufoff.

The "Shah Pearls." One of these was bought from an Arab at a cost of £26,000. Its shape was an almost perfect heart, which
would detract from its value at the present time.

The “Hope Pearl,” 1839. The late Mr. Henry Hope, of Piccadilly and Betchworth, took a fancy to collecting pearls. The largest was a baroque, a very fine specimen of an Oriental pearl of an irregular pear-shape measuring two inches in length, four inches and a half in circumference, weighing three ounces or 1,800 grains. It was detached from the shell, but it was deemed necessary to leave a small portion of the shell adhering to it, which is of such an orient and so well polished that it is not distinctly perceived to be of the nature of shell. This mass of pearl must surely have been formed as, which it formed.

The “Russian Pearl” has a peculiar story attached to it by the traveller J. C. Kohl, and which occurred about fifty years ago. He says, “There died in a convent, whose father had retired after the manner of the wealthy pious ones of his nation, a rich merchant. Feeling the approach of age he had by degrees given up the toils of business to his son. His wife was dead, and the only beloved object which even in the cloister was not divided from him was one large beautiful Oriental pearl. It had been purchased for him at a high price, and so enchanted was he by its water, magnificent size and colour, its perfect shape and lustre, he would never part with it, however large a sum was offered for it. He fairly worshipped the costly globule. While he himself inhabitated an ordinary cell in the convent, this object of his love was bedded on silk in a golden coffer. It required very powerful recommendations to obtain a sight of it. No one ever dared touch this pearl of pearls. During the last illness he never let his pearl out of his hand, and after death it was with difficulty removed from his stiffened fingers. It was found its way afterwards to the Imperial Treasury. The “Southern Cross Pearl” is perhaps the most remarkable product of its kind that nature has ever produced, and it is by Mr. Streater’s kindness I am able to give an account of it. It consists of a group of nine pearls; seven compose the shield, one and a half inch long, and the two arms of the cross are formed by one pearl on each side. The pearls are of fine orient, and would be of good shape if they had not become slightly flattened at the back. This cross of pearls was discovered by a man named Clark while pearl-fishing at Rarotonga in Western Australia. The owner of the boat was a Roman Catholic, and both boat and crew were struck with awe and amazement, looking upon it as a heaven-wrought miracle, and with superstitious dread they buried it, for how long it is not known. It was discovered in 1794, since which date it has changed hands many times, and was exhibited in the Western Australian Court of the Indian Exhibition of 1886. It is valued at £30,000.

No one has been able satisfactorily to explain the regular grouping of these pearls; but it has been suggested by Dr. MacSarty that a fragment of a sea urchin may have gained access to the shell, and that the succession of teeth along the margin of the fovea may have determined the deposits of small, but regular intervals, so as to form a string of pearls running in a straight line. This cruciform group of pearls was found in the Southern Hemisphere it has received the name of the southern cross, from the famous constellation so called.

The necklace of the Empress Eugénie contains a row of matchless black pearls.

There was in the market lately a round black pearl of surpassing lustre weighing sixty-seven grains; the value of this has been increased by finding another exactly like it.

It is computed that out of twenty million oysters four million or one-fifth contain pearls. The medicinal qualities of pearls will be shown later.

* Over twenty grains the pearl is equal to the diamond in value.

THINGS IN SEASON, IN MARKET AND KITCHEN.

JANUARY.

By LE MÉNAGÈRE.

THIS is one of the coldest, if not the coldest, months of the year; the time when we most need to put our thinking-cap on in order to provide such things as will best supply that extra consumption of fuel that goes on in the human engine. Some starchy foods we must have and a goodly proportion of fats and oils—more so than at any other time of the year. Now we find both these elements in grains and "pulses," peas, beans, lentils, etc., and we can supply the necessary amount by good wholesome puddings that contain a little suet, and home-made cakes, also in eating a fair amount of nuts.

For breakfast every morning we might begin with a plateful of Quaker oats, "H. O.," or any other kind; these are splendid food, and however small the portion, everybody would be better for having some. Some people like sugar with their porridge, but it is a fact that sugar does not help the digestion of starchy food—rather retards it in fact.

Coffee is a better breakfast on winter mornings than tea, for all who can take it: not because it is more nourishing, but because it gives you the stay and tone. Whether you take it black or with cream and sugar, it seems to do you good.

Eggs, bacon, fish, or a well-cooked sausage should be ready to tempt the appetite of the older members of the family, but a little stewed fruit and brown bread and butter would be better than these for children. Say stewed apples, figs, or prunes, and a cupful of milk or coffee.

Cheese is a good and nourishing food for cold weather, perhaps because it contains so much of that essential oil that we need. Toasted cheese should never be given to anyone of weak digestion, however, for it is one of the most difficult of all things to deal with, especially in the line of "savories," I would recommend the trial of grated cheese with a plate of oats; it is by no means to be despised.

A typical menu for January would be the following—

Cheesnut Soup.
Fried Lemon Sole.
Frog of Mutton.
Creamed Potatoes and Jerusalem Artichokes.
Roast Swine on Toast.
Chelsea Pudding.

Cheesnut Soup—Boil a pound of chestnuts until they seem tender, peel off the shell and brown skin; return the white part to the stewpan and cover with water, add a finely-minced onion, an ounce of butter, pepper and salt. Let this simmer for an hour or more, then rub all carefully through a sieve, add a pint or more of boiling milk and a dessertspoonful of cornflour previously mixed smooth with cold water, and stir this again over the fire until it boils. Serve fried croutons with this soup.

Lemon Sole should be filleted before frying them, and they should be dipped in beaten egg and fresh crumbs of bread and sprinkled with half a teaspoonful of brown sugar in boiling lard or beef dripping, squeeze a little lemon juice over them and serve garnished with fried parsley.

Roast of Sturgeon—A piece of the middle neck, or the Shank half of the shoulder, the meat taken from the bones and trimmed into nice pieces, is browned in the fat, flour each side lightly, laid in a stewpan with thinly-sliced onions, sliced turnips, a few sprigs of savoury herbs and seasoning. Pour over all a teacupful of water and cover tightly. Let this simmer in a corner of the oven for about two hours, and then arrange the meat on a dish, add a spoonful of mushroom ketchup to the gravy, if it seems too thin, and pour over the meat.

Mash the potatoes and beat them up with milk till thick cream; pile this up in a buttered pie-dish, and put the dish into a quick oven to brown the surface.

Mix the artichokes also and put them into a shallow dish, sprinkling breadcrumbs over the top and a bit of butter, and brown these also.

Soup require a very quick hot oven for their roasting, and about fifteen minutes is long enough to allow. Place them on a strip of crisp toast, and some tiny frizzles of bacon with them, and sprinkle fried crumbs over.

No sauce will be needed.

Chelsea Pudding—Shred and chop very finely two ounces of suet, add four ounces of flour into which a teaspoonful of baking powder has been rubbed, also a pinch of salt and two ounces of castor sugar, the grated rind of a fresh lemon or a pinch of spice, mix well, and make into a soft dough with a beaten egg and a teacupful of milk. Grease a shaped pudding-basin and sprinkle the inside with brown sugar, pour in the pudding-mixture and bake until it has risen well and is of a rich brown colour.

The sauce for this pudding is made by placing a pint of claret in a saucepan, with a few lumps of sugar and an equal amount of water. Let this boil for a little while, then strain it through a sieve and pour over the pudding when that has been turned out.

Suitable dishes for the dinner-table in cold weather are the following: Beefsteak pudding, Irish stew, stewed steak, sea pie, camp pie, haricot mutton, liver and bacon, etc.—very homely dishes, it is true, but good and nourishing for all that.

Avoid having large joints that would leave much cold meat on hand in cold weather. Not many families care much about cold meat when the thermometer is not plus forty; but two-cooked meat is not nearly so nourishing as fresh, however savoury it may be made.
articles are embedded in putty, and then the whole is gilded over. The effect is odd, and unless carefully looked at, no one could imagine what it was made of, for the shape had been made very elegant by the addition of the long and slender neck, and the brightness of the gilding made the beautiful jug look like a mass of gold.

Now some one may say that such things as "crazy china" and novelty jugs are rubbish, and that people who make them waste their time. Perhaps, in case, when there really is another occupation which ought to be followed, or some duty which ought to be performed, such a thing may be true. But there are other people—those who are delicate, invalids, and many advancing in life for whom amusing occupation must be found; and all these things prove a blessing to them, diverting their thoughts, and giving an element of interest and amusement, and adding the chief pleasure of all as well, i.e., the feeling of creating a thing that did not exist before.

CHAPTER II.

Precious Stones; Their Homes, Histories, and Influence.

By Emma Brewer.

Precious stones are of most importance in the adornment of our homes, and the furniture therein, and their influence on us is often overlooked. They are found in various forms and colors, and their beauty and value are due to their rare and precious nature. The diamond, for instance, is the hardest substance known to man, and is highly prized for its durability and brilliance. The ruby is also highly valued for its deep red color and its ability to hold a polish. The emerald is green and is prized for its clarity and transparency. The sapphire is blue and is highly prized for its beauty and rarity. The topaz is yellow and is highly prized for its brilliance and ability to hold a polish. The amethyst is purple and is highly prized for its ability to hold a polish and its beauty. The tourmaline is red and is highly prized for its beauty and rarity. The aquamarine is blue and is highly prized for its beauty and rarity. The diamond is the hardest substance known to man, and is highly prized for its durability and brilliance. The ruby is also highly valued for its deep red color and its ability to hold a polish. The emerald is green and is prized for its clarity and transparency. The sapphire is blue and is highly prized for its beauty and rarity. The topaz is yellow and is highly prized for its brilliance and ability to hold a polish. The amethyst is purple and is highly prized for its ability to hold a polish and its beauty. The tourmaline is red and is highly prized for its beauty and rarity. The aquamarine is blue and is highly prized for its beauty and rarity.

An old writer, speaking of the diamond, says: "The true diamond is the hardest of all stones, without colour, lime, and water." Another quality inseparable from a precious stone is hardiness; not as we understand it in common talk, but rather a power within it which prevents it from being scratched or impressed by other stones. The diamond possesses this to the highest degree, and the two which come next are the ruby and the sapphire, which are simply retired clay. If a stone refuses to be scratched by these you may be quite sure it is a diamond. In a conflict between crystallised carbon and crystallised ice, the former is always victorious because it is the hardest of all. Its hardness is represented by x, while that of the ruby and sapphire is stated at nine.

Hardness is the quality which allows the proper polish and lustre, and is, therefore, of great importance. A circumstance which characterises the diamond is that the hardest substances in nature have the slightest power to dissolve or decompose it, while very great heat will entirely consume it, as applied in a special manner. A test of precious stones is well known, and consists in exposing them to the ancients and perceived in India many centuries ago, which is called the "specific gravity" of a stone. It enables us to detect the class of stone without injuring it in the least. To make it clear—equal volumes of different substances very rarely have the same weight; a piece of lead, for instance, is heavier than a piece of wood equal in size. Bearing this in mind, it is essential to understand that the specific gravity of a stone is the proportion of its weight to an equal volume of water, and the way to arrive at this is first to weight it in air and then in water, and to divide the weight in air by the difference between the weight in water. For example, suppose the weight in air to be 17 carats and the weight in water 12 carats, the difference between the two would be 5 carats. Divide the 17 by the 5 and you would have 3 as the specific gravity.

May qualities for which the diamond is valued, such as its lustre, transparency, reflection and dispersion of light are only seen in a slight degree in the rough; in order to bring out these to the fullest extent they must be submitted to cleaving, grinding, and polishing.

* Oriental and Occidental originally applied to precious stones in their literal sense, but at the present time they are applied, not to indicate the regions from which precious stones are brought, but rather to establish between stones of the same name a comparative value. The most precious variety of any precious stone is called Oriental, and the inferior variety Occidental, whatever may be the countries in which they are found.
"They are," says a French scientist, "an inheritance to man from an age when there was no foreshadowing of his existence in the world."

The ancients valued and preserved precious stones thousands of years ago, investing them with an importance far above that which they obtain in the present day. They attributed to a person a special power—cure diseases, to avert calamity, and to drive away demons. This alliance of religion with science is one of the distinguishing characteristics of the myths of the Indo-European race. The stone from the plain, the many actors. The vestige of the high priest, which was made of "glory and for beauty," was adorned with symbolic gems: he was said to be a minor god that embodied the essence of justice.

The twelve stones were set in the form of a double square, the adamantine, or diamond, being the third in the second row. During the Middle Ages the habitat of the diamond was quite as much a mystery as its composition, and many vague stories concerning it have been preserved. It was said that when Alexander the Great approached the inaccessible valley of diamonds in Asia he directed pieces of meat to be thrown in, as the only means of procuring the gems. The story was said, picked up by the precious stones attacked, and dropped them in their flight.

The valley of diamonds was an article of trade to the Phoenicians, Greeks, and Romans. During the thirteenth century, the more famous story of the manner of getting the diamonds, viz., by means of pieces of meat thrown in, was acted out by the rocks. As to the composition of diamonds, there were many theories. One was, that precious stones were engendered by juices disintegration of veins in the rocks. Another was the derivation from gold; another that precious stones were living beings. The most prominent one was that diamonds were formed from the very general decomposition of vegetable matter with or without heat. The chemical composition of the diamond was not made clear until the discovery of its discovery at forty-four years after Sir Isaac Newton's death.

The diamonds earliest known to the Romans were furnished by Ethiopia, but when Pliny the Elder, writing of the diamonds he had been brought from India, and thenceforth, until the eighteenth century, no diamond mines were known but those of the East Indies, in the empires of the Great Mogul, and of Borneo.

The first reliable accounts we obtained of the diamonds in India were from traveling merchants and traders, the notoriety of whom was Tavener. He was born in Paris in 1605, and spent forty years of his life travelling in the East, where he made a large fortune in the precious stones trade. The first to give a detailed account of the diamond mines, the manner in which they were worked, and the trade carried on in them.

Up to the beginning of the eighteenth century the question had been asked, "Where is the home of the diamond?" the answer was equally complete up to the time the gem was discovered. The reply was, "Asia," and if for "Asia," the reply would surely have been "Golconda." But now, with increased knowledge and experience, we should acknowledge that the industries of the diamond are not confined to India, but include the adjoining parts of South Africa, parts of North America, and Australia. It is true that the diamond known to European trade was brought from Golconda, the old name of what is now known as the most famous diamond mines in the world. It is also true that the diamond is a poor shepherd, who, while tending his flock, stumbled upon what appeared to be a pretty pebble. It must be remembered that the discovery of diamonds was not a sudden one, for if it is not so, as the qualities of brilliancy and light are only brought out after man has removed the covering.

Well, the shepherd, knowing nothing of its value, exchanged it with a friend, who, ignorant as himself, for a little rice. It subsequently fell into the hands of a merchant, who realized a fortune by selling it, and the diamond was sought for the home whence it had come. He found it and other mines as well, not in Golconda itself, but five or six days' journey from it, at the foot of the Kirtha and Pnomor rivers. When the diamonds were found in these mines, they were taken in the rough to Golconda, there to be cut, polished, and stored, and therefore called Golconda diamonds. In which district they were found was sandy, and full of rocks which contained many veins and fissures; the miners observed these with little iron rods crooked in the sandy earth. Unfortunately, they were not always content with this, but gave the rocks such harsh blows with levers of iron that they frequently cracked them, and the diamonds em- bedded within them. The process was a long and careful process, to see if it had any diamonds.

In 1662, the diamond was as many as sixty thousand people at work in these special diamond mines. The number and size of the diamonds discovered were remarkable, but they were not, as a rule, of the finest water, to fulfill this condition "a diamond should be a drop of liquid hanging from a damask rose leaf!"

Taverner asserted that the Great Mogul Diamond was found in one of these mines; if so, it was quite sufficient to distinguish these so-called Golconda mines, for few diamonds have had such a career. Indeed, the advantage of discovering to it is so startling. The time of its first appearance in the world (1650 to 1651) was one of trouble and conflict both in England and in India, and, like all other great diamonds, it seemed to bring ill-luck to its possessor.

Taverner, who was the first European to see it, spoke of it as the heaviest of which he had any knowledge, and weighed it in the rough 973 cents. At the time he saw it it was in the Palace of Agra, which was for the time turned into the prison of the convicts. It was brought to light in the midst of tumults and wars, the Great Mogul Diamond, after an existence of a hundred years, went out with the expiration of its contract known in history as the Indian Mutiny. It was probably stolen either at the sack of Delhi or at the death of Nadir Shah, and in order to avoid the treasure, it likely had it broken by cleavage into two or more stones.

It will be a surprise to many that the chief negotiators in the sale of Golconda diamonds were boys under sixteen years of age. Taverner gives a very99.99999999999999% very good description of the way they conducted their business—"It is pleasant to see the children of merchants and other people of the country, between the age of ten and fifteen, coming every morning and beating it in the market-place of the town. Each has his diamond—weights in a little pouch hanging on one side, and at the other a purse attached to it. And if someone happens to pass who has a diamond he has only to pass in front of the merchant or the diamond by itself, and he will be taken to him. He looks at it, and hands it to the next person, and so it passes from hand to hand in perfect silence till it returns to the merchant, who takes it into his hands. But if the diamond is more than possible, to make a bargain; and if the little man happens to buy it too dear, he has to take it on his own account. As soon as evening comes, the boys bring together all the stones they have bought during the day, examine them, and arrange them according to their quality, their weight, and their cleanness; and it is probable that they intend to sell the merchants, and by the latter price they see how much profit they will have. They now carry them to the large merchants, and the profit is divided among the boys themselves, while the one who sells it one-fourth cent. more than the others.

Young as they are, they know the price of every stone.

Thus through the diamond, from the first moment in which it is seen, sharpens the wits and arouses ambition for gain. Even the poor children in the days gone by were managed, as now, to make the sleepers of the night take pride in their work. In one of these so-called Golconda mines Taverner saw a poor creature, who desired to keep a large diamond for himself, force it in the crib of his eye so as completely to conceal it. That thing is no better to-day, as it is to-day, as a state occurred a few months ago at the Cape. A known diamond thief was seen to leave Kimberley with a box for the Transvaal; the police felt certain of the object of the man's journey, and seized him on the border and thoroughly searched him, and as he was found on him, they had to let him go. When well across the border and under the eyes of the detective, he shot and cut open his horse, extracting a large parcel of diamonds from its intestines, which, before starting on his journey, he had given to the horses in the shape of a ball.

Many of the mines round about Golconda, which were once so prolific, seem now to be dead. In Brazil diamonds came to the front in a curious manner. In 1730, some singular pebbles were found by miners while searching for gold; these they carried home to their masters as curiosities. These in their turn regarded them as pretty, bidders Poland, and they either gave them to their children as playthings, or used them as counter.

At length they attracted the attention of an officer who had spent some years in India. Strecruck with their form and weight, he weighed them against a scale of equal size, and found that used as a counter much heavier; then he rubbed the counter on a stone with water, but could make no impression on it, while the common pebble, which he treated in the same way, a flat surface was easily produced. He sent a few of the counters to a friend in Lisbon, begging him to have them carefully examined; but the friend, who had probably never seen rough diamonds, replied that their instruments could make no impression on them. The Dutch Consul, on being shown some diamonds, said they were rough, and begged to send one or two of them to Holland; here they were cut and polished, and declared to be equal to the very finest Golconda diamonds. The astonishing
numbers perished. "It seemed," says Emanuel, "as if the genie, guardians of the treasure, were indignant at the presumption of man, and tried by every means to prevent the dispersion of the buried treasure. As the news spread across the world the first effect was a panic in the diamond trade. No one would believe in the existence of a rival to the diamond mines of India, but of course the Brazil diamonds could not be ignored. The two great mines were Minas-Gerais and Bahia. In the former 144,000 carats were found annually for the space of twenty years, and during the first fifty years it is supposed that twelve millions of money's worth were exported. When once the search began, the riches were found to be almost without limit. The crops of the fields were turned into treasure, and it was found that in picking up their food they often swallowed diamonds, and it is recorded, that a negro once found a diamond of five carats. The heifer which he had placed for his dinner; they seemed to be in every direction. (To be continued.)

"CANDIES."

By the Author of "We Wives," etc.

"EVER since an enterprising brother, intent on scientific research, found that a lump of sugar applied to the flame of a candle resulted in beads of crimson colour, candle-making has been a favourite pastime of ours. "Candle-beads," pretty as they look, are apt to taste of tallow and smoke. Sugared candles of other sorts are, or ought to be, free from such drawbacks. Our "popped-corn parties" (vide THE GIRL'S OWN PAPER for April, 1869) could assemble all the year round if approved of. But our "candy club" only met at stated seasons. It was as a law of the Medes and Persians that butter-scutch (for instance) should be made when the first blizzard powdered our wide prairie land with soft flakes of snow. That raspberry-rock should be baked only when butter and shaker-ridge were pink with the wild camas. That "cream-toffee" and "honey-ball" should only make their appearance when a cow came into the dairy for the first time, or a hive of wild bees were rife of their store.

If any reader of THE GIRL'S OWN PAPER is inclined to follow our family pattern and start a candy club, I would advise some such rules to be made. Sweetness generally, do not trugle other flavourings and fire.

Most likely when this paper appears, every gardener in "Ee-rop" will be rich in raspberries, or have just picked the seedy jam or crimson syrup. So I will begin by telling you how our candy club made Raspberry Rock.—To every pound of lump sugar or refined molasses we allowed three-quarters of a teacupful of cold water. We boiled it until the syrup thickened, and "beads" of heat broke out on the surface. Very careful we were to keep stirring all the time, especially when the candy began to "crack.*

We tried if it was done enough by dropping a little into a cup of cold water. When a "snap" followed and the droppings looked crisp and cinkly, we removed the pan from the fire and stirred in one of two things, either three dessert-spoons of flour boiled with a little water, and run through a sieve, or as much raspberry acid as I tell, at the end of this paper, how to make this acid. But, as our candy is popping and cracking, it is a good idea to keep the acid on hand. On the deal-table we always had some well-buttered plates. After stirring in the flavouring (and adding a few drops of cochineal, if needed, to improve the colour), we filled each with the hot syrup. It cooled slowly, and after a few minutes its face had to be scored with a knife, in diamonds or squares. The rock is too hard to break when cold, except with a sledge-hammer, unless this is done.

Some of the candy we used to "pull" into twists and true lovers' knots. This is fascinating work, a feat of the soft, yielding, smooth stuff between one's fingers being especially delightful to a child, whilst well-boiled candy can take such pretty shapes! The syrup used in this is made as follows:—It can be used as a delightful summer drink mixed with plain cold water. But it is (a brother's expression comes in here) "scrumpations," if added to a tumbler of "fizz" either soda-water or lemonade.

Take twelve pounds of raspberries. Put them in a pan, and pour over them two quarts of cold water, previously acidulated with five ounces of tartaric acid. Let all remain undisturbed for twenty-four hours, then strain through a flannel jelly-bag or piece of fine muslin, taking care not to bruise the fruit.

To each pint of this clear crimson liquid, add one pound and a half of finely-powdered sugar. Stir frequently. When quite dissolved, and after removing every scum that may have risen, bottle the syrup and store in a dry place.

This acid requires no boiling and will keep for a year if properly stored. It can be made from ripe strawberries in the same way, but, to my taste, the latter fruit is too luminous and the syrup lacks just the zephyr of tartness necessary.

Crum Toffee.—This is just a variation of the ordinary butter-scotch. To every pound of brown sugar, or molasses, we allowed a pint of thick cream. When the sugar boiled we stirred it in the yellow, leathery stuff, instead of using mother's freshly-churned butter.

It was all boiled together until it "snapped," then turned into fanciful buttered tins and left till cold. Cream toffee is crisper and "shorter" than the ordinary stuff, but not quite as rich.

Butter Candy, heralded in, as it was, by the first snowstorm, was perhaps our favourite. It meant two red-tinged stoves and Hickory fires and winter sleighing. It meant the approach of evenings spent in the pine-panelled kitchen with book or brown on the plate. It meant home lessons instead of school nams. So it was altogether suggestive of cosiness and cuddling and crooning and a great many other "C's".

To make this, we always took half and half of butter and sugar. The browner the sugar, the better the candy. It had to be boiled until clear and transparent, then poured into buttered paper. Some roughly chopped almonds sprinkled on it turned butter-scotch into almond candy. Or desiccated coconut strained on its face masked it into coconut candy. It was always stored in wide-mouthed bottles with tin tops. How long it lasted depended on how much we made, and on how many of the young fry were at home.

For "honey balls" we took half as much honey as butter and of course no sugar. We boiled until the "beads" appeared as in raspberry rock. When nearly cold, instead of "pulling" the honey candy, we rolled it into balls and set it aside to dry.

I think our candy club had one advantage many readers of this paper fail to appreciate. Of course we had gâteaux. Sugar "catches" easily, and burnt molasses is an abomination. But to our door sometimes came the charming looks of a young woman in buffalo and fringed and beads. On their backs always—"we never saw a squaw unaccompanied in this manner—were one or two brown-feather, black-eyed, soft-skinned, papooses.* What better way of taking care of our failures (at the same time of propitiating the brave) than presenting a potful of "candy" to the dear things? They do not mind smoke, or tallow, or burn. A papoose with a cold potato in one hand and a bunch of burnt cream toffee in the other, is a sight to remember. And is there a more treasured gift than the Red Indians on the London streets? Whenever you fail in your candies call in the next little gamin that passes and see!
THINGS IN SEASON, IN MARKET AND KITCHEN.

MARCH.

BY LA MENAGÈRE.

With March we are in Lent. Nevertheless, we may not approve of any restriction being placed on our dietary with regard to Lent, all the same as spring is approaching, we shall find that those restrictions have their foundation laid in sound common sense. We do not now need such substantial fare as we did a month or two earlier; we shall be all the better for occasionally substituting fish for meat, for more eggs, and for fewer cakes and puddings.

March does not bring us much that is new in the way of provisions, but imported fruits and vegetables are not quite so dear as they were, and in our gardens we shall be beginning to have mustard and cress and radishes. The first shoots of young sorrel—and how good they are—will be coming above ground, and forced rhubarb is plentiful and cheap.

We are now the worst off for the wheather to make our tarts pretty, just before the spring flowers come in. We can supply the deficit by having some of the pretty little green ferns in fancy pottery—peters, ivy, hart's tongues, and so forth, and few things look nicer. Try, too, for special occasions, the effect of crossed ribbons on the white tablecloth. A table that is well-set with regard to its minor points, namely, salt-cellars, mustard pots, bright knives and forks, clear sparkling glasses, and a clean tablecloth, can hardly ever fail to look attractive, even if it has to go without other decoration; just as the most elaborate decoration will never make up for deficiencies in these respects.

At this time of the year we may make plentiful use of such things as rice, macaroni, polenta, and other nutritious foods; remembering, too, that eggs are at their best as well and fairly reasonable in price.

PRECIOUS STONES; THEIR HOMES, HISTORIES, AND INFLUENCE.

BY EMMA BREWER.

CHAPTER III.

The rich diamond district of Bahia, which was the old capital of Brazil, was discovered in a very strange manner. At the time of the discovery it was a densely populated and fruitful province, and its agriculture proved its blessing and health. A slave from Minas Gerais, keeping his master's flocks in Bahia, thought he observed a similarity of soil to that of his native place. He sought therefore in the sand, and in a short time found seven hundred carats of diamonds. With these he fled and offered them for sale in a distant city. Such wealth in the hands of a slave raised suspicion and he was arrested, but would not betray the secret of how they had come into his possession. At length he was given over to his master, who also failed in obtaining the confidence of the man, and therefore resorted to cunning; he restored the slave to his former occupation in Bahia, without penalty or punishment, and had him strictly watched, and readily found the solution.

As soon as the secret became known, numbers of people came flocking in from Minas Gerais and other parts of Brazil, so that the following year as many as 25,000 people were occupied there in searching for diamonds. In 1846 and 1847 Brazil was obliged to pay her debt in diamonds, which caused a depreciation of this precious stone, reducing it from £10 to £4 or £5 a carat. The rich field of Bahia diamonds was about eighty miles long and forty miles broad. Efforts were made to ensure honesty among the slave-miners by rewards for it. If a slave found a diamond of 18 carats, he was crowned with flowers and led in a triumphal procession amid the rejoicings of his friends to the manager, from whom he received his freedom, a suit of clothes, and permission to work for wages; but, notwithstanding, one-third of the produce is irrecoverably disposed of by the workers. In the very presence of the overseers they manage to conceal them in their hair, their mouths, their ears, and between their fingers. One of the celebrated diamonds of the world, the "Star of the South," was found by a negro engaged in the works at Minas Gerais in 1853; it weighed before it was cut 54 carats. She received her freedom and a pension for life in recognition of her exceptional find. The owner sold it for £3,000, so little did he know of its real value. Its fame reached the remotest corners of the globe. It was forwarded to India, and a bid made first of £110,000. This fell through, and eventually it was purchased for £80,000, exclusive of the mountings, which were very costly, by the ex-Gallkwar of Baroda. "But," says Streeter, in his Great Diamonds of the World, "the ill-luck which seems to follow the possessors of great diamonds, overtook the new owner of the "Star of the South." He fell into trouble for the murderous practice of destroying his refractory subjects with diamond-tips, and, having tried the same to get rid of the British resident in Baroda, Colonel Playfair, whose presence acted as an inconvenient check, the Galkwar was arraigned and found guilty, and deposed henceforth from the throne of his ancestors.

The discovery of the Brazil diamond-districts created, as we have seen, an excitement in the world; but the opening up of the diamond-fields in South Africa, considerably more than...
a century later, created a panic and excitement no less striking.

The discovery of these vast riches was brought about in a simple and unpremeditated manner as in the case of Golconda and Brazil.

Somewhat more than a quarter of a century ago a child of Jacobs, a Dutch farmer, settled at the Cape, amused himself by collecting pebbles from the neighbourhood of the farm, which was near to Hope Town. One of the stones he picked up was sufficiently bright to attract his mother's notice, and she put it on one side; but in the midst of household cares it was forgotten, until a neighbouring farmer came upon it, who was curious in the matter of stones. He was puzzled with its appearance, and offered to buy it of Mrs. Jacobs; but she laughed at the idea of selling a common pebble, and willingly gave it to him. Subsequently it was submitted to Dr. Atherstone of Graham's Town, who was an excellent mineralogist; but even he had some difficulty in deciding what it could be. After careful examination, however, he pronounced it to be a genuine diamond. It was sent to the Paris Exhibition as the greatest novelty the Colony could exhibit.

It remained during the whole of the summer, examined by learned men of all nations; and, at the close of the exhibition, Sir Philip Wood, the then Governor of the Colony, purchased it for £500, and it was sold by him to Gouraud, who cut it as a brilliant. Its weight was 213 carats.

This is the simple history of the first Cape diamond.

In the autumn of 1868 news reached us from Cape Town that diamonds had been found in the gold districts on the Orange River, midway between the east and west coasts of South Africa; and all doubts ceased, as to the truth of the statement, they were utterly put to flight by the discovery in the following spring of the African Koh-i-noor or Star of South Africa, valued at about £3,000,000.

It was purchased by the late firm of Hunt and Roskell, by whom it was cut and sold to Lord Dudley. It is now known as the Dudley Diamond. It is of a white colour beautifully crystallised, and in the rough the size of a small walnut. This stone was found by a poor herdsman who disposed of it for five hundred shillings on the farm called the Dudley. The herdsman was very happy by the exchange. The origin of the Kimberley and Do Tolls pans was, that a Dutch Boer named Van Wyk, who occupied a farm-house in this locality, was surprised to find diamonds actually embedded in the walls of his house, which had been built of mud from a neighbouring pond. This led to an examination of the surrounding soil, and the digging thus commenced formed the only diamond pan known. The habit of the diamond is not the same in Africa as in other diamond localities. Instead of being in the rock itself, the diamond is embedded in the walls of his house, which had been built of mud from a neighbouring pond. This led to an examination of the surrounding soil, and the digging thus commenced formed the only diamond pan known. The habit of the diamond is not the same in Africa as in other diamond localities. Instead of being in the rock itself, the diamond is embedded in the walls of his house, which had been built of mud from a neighbouring pond.

I have before me a diamond about the size of a large pea, which from continual washings of thousands of years, has become perfectly round; this is rare indeed.

By 1870 public attention had become thoroughly roused; every town of South Africa emptied itself of men for the diggings, and diamond hunters poured from in every quarter of the world.

The South African diamonds are found over many square miles of territory. The area reaches as far as Pretoria, the capital of the Transvaal, on the north, and south of the Orange River to the north-west of Hope Town.

Jagersfontein and Mamma are well-known localities for diamonds.

The diamonds are found also in the beds of rivers and what are called pans or dry diggings, such as Do Tolls pan and Kimberley. A pan is a local depression in the flat basin-like hollows which extend often to a length of two or three miles. They receive the drainage of the surrounding districts, but having no outlet, the water, as it evaporates, acquires a brackish taste, and in dry seasons the pans exhibit a whitish saline incrustation.

It is supposed that in 1871 the diamonds exported from the Cape were of the value of £1,500,000, and there have been more large diamonds found here in a short time than in centuries in other parts of the world. Up to the spring of this year, 1873, the three great diamonds of the Cape were the Dudley, the Stew- art, and Du Toit I.; but in June last the largest ever known was found in the New Jagersfontein Company's mine in the Orange Free State, and is known as the Excelsior. Its weight is 973 carats and its colour is blue-white and almost perfect. It has some black spots in it which is said can be cut out; it is supposed by some to be worth half a million. It was found by a Kaffir working in the mine shortly after blasting, in company of a red diamond; he received for his find £500, a horse, saddle, and bridle. The extraordinary thing about it is that some gentlemen were under contract to buy all stones good, bad, and indifferent at so much a carat within a certain time from this mine. The contract terminated on June 30th, and the Excelsior was the last stone found on that day. It is about 3 inches high and 2 wide, while the flat base measures near 2 inches by 1.5. Mr. Streeter, who has had great experience in the South African mines, tells us that "20 per cent. of the Cape diamonds are of the pears which they have passed from the possession of their Indian owners, who sold them to "If the European fair one could dare to deck her brow with these dearly-bought gems.

The letter of the Times correspondent with the array of Lucknow had the following passage in it. "Ere this letter reaches England, many a diamond, emerald, and delicate pearl will have told its tale in quite a pleasant way of the storm and each of the scenes, and as well as that the fair wearer—though jewelry after all has a degrading effect on the sensitivity of the female conscience—saw not how the glittering hundred were to bear the scene in which the treasure was trove."

It seems as though the diamond needed even in history a background to show us its dazzling brightness, and how it came to be in the hands of those who would possess it. Australian diamonds have not yet made any great excitement, for the reason that they are so difficult to cut; they hang on the wheel, and the lapidary who takes up the works with those which are most quickly manipulated. A great authority told me two days ago, that if the time should come when the lapidary can work the stone, and make a gem in the world, there are plenty of them and of good quality.
CHAPTER IV.

THE RUBY AND THE SAPPHIRE.—Hardness, 9; Specific Gravity, 4.

The ruby signifies divine power and love, dignity and royalty, while the blue-colored sapphire is an emblem of heaven, virtue, truth, constancy, heavenly love and contemplation.

"The ruby doth cast forth the glory of its splendour and its sparklings like lightning."—Thom. Nashe, 1552.

"And there was under his feet as it were a paved work of sapphire-stone, and as it were the body of heaven in his clearness."—Ezek. xxiv. 10.

In all the world and in every age there has been but one idea of a perfect ruby, viz., that it is the most rare of all the productions of nature, that it forms the highest known standard of perfection, and excels in value the diamond itself.

When the ancients desired to convey the idea of something more precious than this they compared it with the ruby, for example, "The price of wisdom is above rubies," and "Who can find a virtuous woman? for her price is above rubies."—Proverbs, 31:10.

It is not difficult to imagine that in the age of superstition wonderful qualities were ascribed to it, for whatever startled the imagination of the ancients and augmented the beauty of a new and mysterious beauty was at once invested with supernatural power.

It was firmly believed that the ruby furnished light to certain great personages or dragons whose eyes had become feeble through old age; also that it had the power of shining brilliantly in darkness, and that its light was so that nothing could be seen in it. It was a matter of firm faith that if the ruby were worn in an amulet it was good against poison and the plague, and that so worn it would drive away evil thoughts, sadness, bad dreams and wicked spirits. It was also credited with the attribute of cheering the mind and keeping the body in safety, and even of warning the wearer of the approach of danger by growing black and obscure, and returning to its former colour when the danger was past. In fact the belief prevailed that the presiding genius of a man's fate might be carried with him in the shape of a ruby.

The following occurrence is related by Wolfangus Gabelschoerner—

"This have I often heard from celebrated men of high estate and also know I it, was I met with from my own experience; for on the 6th day of December, 1699 after the birth of Christ Jesus, as I was going with my beloved wife of pious memory, from Stadlach to Caluna I observed by the way that a very fine ruby which I wore mounted in a gold ring, the ring which she gave me, lost repeatedly and its splendid color changed, but that it assumed a sombre blackish hue which blackness lasted not one day but several; so much so that being greatly astonished I drew the ring from my finger and put it into the casket. I also warned my wife that some evil followed her or me, the which I surmised from the change in the ruby. And truly I was not deceived, for within a few days she was taken mortally sick. After her death the ruby resumed its pristine color and brilliance."

It was related by Sir John Maundeville, a traveller in the fourteenth century, that he visited a royal court in the East, that the emperor had in his chamber pillars of gold, in one of which was a ruby the size of a chicken's egg; that long before, when the night came on and he gave so much light and brilliancy as to be equal to the light of day, and by Louis Verhondt the story was told that the king of it was one of such a size and lustre that whoever looked at him in the dark saw him as resplendent as though he were illuminated by the sun. It is related also in "Elian's Book of Animals" that "a woman of the name of Heraclea, having cured a steed of a broken leg, the grateful bird brought and dropped into her bosom a carbuncle or true ruby which shone in the darkness of night like a lighted lamp."

Putting aside, however, all the quaint pretty stories, beliefs and mystic powers with which the fanciers of the thousand and one magnificent stones have endowed precious stones, and this one especially, we come face to face with facts important for us to know, viz., the composition, the home and surroundings of the ruby and the sapphire, which are one and the same stone varying only in colour.

These two stones do not always grow up together, and their colour is derived from their surroundings. In a family a family exhibit different characteristics if brought up under different influences.

We have seen that the pearl is composed of lime and sand and clay, and from it it has been thought by some that the calc-spar is derived from their surroundings. We see that the pearl and the sapphire are formed, and that is quite common as lime and carbon.

It scarcely seems possible that the material with which children make mud pies can have anything in common with the ruby and the sapphire, but so it is.

The basis of clay is alumina, a substance which exists largely in vegetable mould and in most of the rocks of the world, and is of alumina partly pure that the ruby and the sapphire are formed. I say nearly pure, because some faint traces of foreign matter, such as oxide of iron or chromic acid are detected in them. They are composed of small particles, and coming into contact with the alumina which afford the colouring to these exquisite gems.

Just as we saw that the diamond had a double in an inferior variety, so the ruby has an inferior in the Oriental topaz, the first being a hundred times more valuable than the last. There exists but one true ruby, of colour which is not equal to the sapphire's, and that is the Oriental ruby. When its colour is of good quality it has that tint of arterial blood, a tint known in commerce as "pigeon's blood." Some of the reds in the stained glass of our ancient cathedrals, and the day-light pours through, give an idea of this brilliant colour.

Formerly the people of the East called all coloured stones the name of ruby, and in the language of Persia was a blue stone in ruby, the topaz pink ruby, the amethyst a violet ruby, and so on.

The rubies and carnelians which comes from its fiery appearance, is easily distinguished by a property shared by the sapphire and the emerald, and which is known as dichroism, and belongs to stones whose办公 are divided or crystallized into two distinct layers, and whose position in the specter allows the light which passes through, when viewed in different directions, exhibit two distinct colours—the ruby, aurora red and carmine; the sapphire, greenish straw and blue, the emerald, yellowish green and bluish green, while diamonds, garnets, and topaz, which consist of crystals which exist in one system, show a pair of images identical in colour.

The name given to all minerals consisting of alumina nearly pure, is corundum. This is very largely distributed over the world, but the fine red varieties are extremely rare; indeed, it may be said that they have no home outside Burma, Siam, and Ceylon, and even of these the Burmese are the only ones that are found. As a matter of fact, the Burmese ruby quarries are situated in the small district of Mogok, one of the most famous in the world, and is a favourite tint known as the true pigeon blood; those of Siam being too dark and those of Ceylon too light to satisfy the connoisseur. It is only of late years that we have learnt anything definite about the home and surroundings of the ruby, and great thanks are due to Mr. Streeter, whose skill, energy, and organisation have opened up to us a mass of information respecting the Burmese Ruby district, and have revealed that they are first colourless and crude, and gradually as that they ripe become yellow, green, blue, and red, which they considered the highest stage of beauty and ripeness. I go from one country to another without encountering a colour that is not a mixture of some of these.
The country which is the chief centre of the ruby mining district is a dense mass of forest jungle rising above the valleys, which are cultivated for rice, and the climate is very unhealthy both for Europeans and natives. The mines may be divided into three classes—the pit, the hill-side-work, and the cavern. The first of these is worked in the valley-bottoms; the second, along the hill-sides by ditches, forming a large item of expense. The third class, or cave-workings, are very interesting, but attended with considerable danger; the air, too, is so foul that it is often impossible to work or to keep lights burning. The third class is that of the yellowish-brown colour; the water for working, which is used for miles along the hill-side, is used in the hill-side by ditches, forming a large item of expense. The third class, or cave-workings, are very interesting, but attended with considerable danger; the air, too, is so foul that it is often impossible to work or to keep lights burning.

The second class, or cave-workings, is that of the yellowish-brown colour; the water for working, which is used for miles along the hill-side, is used in the hill-side by ditches, forming a large item of expense. The third class, or cave-workings, are very interesting, but attended with considerable danger; the air, too, is so foul that it is often impossible to work or to keep lights burning.

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The smaller of the two was perhaps the more valuable; it was a badly-shaped stone, but when re-cut in London and all defects removed it was a splendid gem of 165 carats, and worth from £5000 to £8000.

In the Hope Collection there was a large sapphire of a rich colour, which retained its beauty as well by candle as by daylight.

Among the jewels of the Baroness Burdett-Coutts are two magnificent sapphires, said to be worth £30,000. Among celebrated sapphires is the one found in Bengal by a poor man who sold wooden spoons. It is over 133 carats in weight, and is without spot or fault. It was brought to Europe and bought by the house of Raspoli in Rome. Later it became the property of a German prince, who sold it to the French jewel-merchant Perret for £6800. It forms one of a collection in the Jardin des Plantes in Paris.

The ancients engraved the sapphire, notwithstanding its hardness, and a beautiful specimen of this may be seen among the Crown jewels of Russia, representing a female figure enveloped in drapery. The stone is of two tints, and the artist has made use of the dark tint for the woman and the light for the drapery. Another specimen in the Strozzi Cabinet in Rome is a perfect marvel of skill, representing a young Hercules.

We have now disposed of those gems whose composition is carbonate of lime (the pearl), pure carbon (the diamond), and clay, the basis of which is alumina (ruby and sapphire); and it would be difficult to say which of all these common materials have turned out, with the help of mother Nature, the most perfect and exquisite gem.

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**Home Art and Home Comfort.**

**Easter-Egg Tea-Sets, AND OTHER ORNAMENTS.**

**ANY** of the charming conceits which pass from one to another as gifts or remembrances at Easter-tide, are either eggs or in egg-shape, and may often be as well made by the home-worker as by those who supply the dealers with these pretty devices.

As many of the daintyest articles of food are concocted with eggs for chief ingredients, so no less dainty, though different, usage may be made of the discarded, empty egg-shells “with white-washed wall as white as milk,”—nature’s own porcelain fabrication, more fragile and delicate than anything human skill has yet succeeded in creating.

Our pretty tea-set is made of this exquisite ware, and with the body of the design at hand, the manufacturer has only to complete and embellish.

The set comprises four pieces: tray, tea-pot, sugar-bowl, and cream-jug. The first illustration shows three different patterns of “egg-shell china,” but we give working designs for one only; and as the variations in the shapes of the spouts and handles constitute the only real difference in the patterns, these modifications can be made by reference to the illustration.

No. 3 is the tea-pot of the first set, in actual size. The first thing to be done is to remove the contents from the eggs, from the pointed end. You will not be able to make the aperture very even, but this will be concealed by the bands.

Then cut out of white card-board the bands, handles, spouts, etc. Eight pieces, cut after the pattern given, will be required for the handles for the set,—two pieces for each handle; two pieces each for the spouts of the pitcher and tea-pot; three bands for the bottoms, and four
ALL ABOUT THE EMERALD.

By EMMA BREWER.

"The emerald burns intensely bright, With radiance of an olive light; This is the faith that highest shines, No need of charity declines, And seeks no rest and slum no strife In working out a holy life."

STANGLY curious are the traditions concerning the emerald, and the way they have been guarded from falling into the hands of wrong men. It seems as though the spirit of evil recognised the purifying influence of these stones upon the human race, and therefore put every possible obstacle in the way of those who sought them. And oddly enough the belief that demons, griffins and wicked spirits guard the emerald mines, wherever they may be, is as potent in this nineteenth century as in times gone by. A miraculous solution of the origin of emeralds is given in Forbes' Oriental Antiquities, where it is related that in the time of the great fire of Athens, a watchman, who had been on fire-flies in an Indian grove on one moonlight night, after having for a time in the moon-beams one particular fire-fly more brilliant than the rest, he thought on it and died. The emeralds, they are found embedded in mica slate in the sides of two tall perpendicular rocks, which are so steep as to be inaccessible except to the very few, who, when they chance to find them, have learned to rest themselves down by means of ropes or sledges and remain suspended over the cliffy crags, while they detach the emeralds with their tools. Among those who have thus ventured is a woman, who had reward in the number of fine emeralds she secured.

For the last two centuries and more the finest emeralds have been the bright green of roofs of Zohar. They are superior in colour to the African; their tints are purer, and they have less of foreign matter, which is apt to render the reflection unreliable. One of the finest Zohar emeralds was that owned by M. Callier, of 16 carats, by weight, of an emerald, which is valued at 15,000 dollars. It is well known in Cairo and Constantinople, where it is carefully preserved for the emeralds of the Sultan's collection are covered with emeralds of this kind taken from Egyptian mines. The finest emeralds are of a very dark, velvety green, and these are more frequently found in Egypt than in any other country. One of the best of the last few of Santa Fé. They are worked by a company who pay an annual rent of 24,000 dollars to the Republic of Columbia. The green of the emerald is a sort of tunnel of about one hundred yards deep, with very inclined walls. Mr. Streeter says that on the summit of the mountains and quite near to the mouth of the mine are large lakes shut off by means of water-gates, which can be easily shifted when the miners require water. The matrix of the emerald is like a sort of agate, on which are embedded in red sandstone and clay slate. To obtain the emeralds, Mr. Streeter continues, the workmen begin by cutting steps on the inclined walls of the mine in order to get firm resting-places for their feet. The overseer places the men at certain distances from each other to cut a wide step with the help of pickaxes. The loosen stones fall by their own weight to the bottom of the mine. When this begins to fill, a sign is given to let the waters loose. These rush down with great velocity, carrying the fragments of rock, which are then washed through the mountains into the basin. This operation is repeated until the beds are exhausted in which the emeralds lie. The stones are then broken by beautiful crystals of iron pyrites. Sometimes an emerald is found in fragments, which when placed together form one beautiful crystal. Again it is not an unusual thing for the emerald to break after its separation from the matrix or stone, but this can be prevented by placing it in a bottle of water for a few days, and protecting them from the rays of the sun.

The emeralds occur in pockets, therefore the emerald may for some time be unattached and disappointing, when suddenly the reward comes in a discovery of good stones. It may be a matter of surprise that India, where the stones are best obtained, possesses this rare and beautiful stone, for many of the things rare and beautiful, was not enthrusted by mother nature with the habitat of the emerald, which is a gem of high perfection, exquisite, subtle and exquisite colour, and possessed of the power of increasing and causing a person to be happy. India loves it and imports it, but has not the wonder of producing it. It has, however, the credit of naming it—the origin of emerald being a Sanskrit word signifying green—the root of the word in Eastern tongues means something that waves about like a bright green seaweed.

How the emerald came by its beautiful colour is far from being perfectly understood, notwithstanding all that science has taught us. There is nothing for it but to take M. Botta, the ancient Egyptian, who has penetrated the secret of the unparallel rod of the ruby, the pure yellow of the topaz, the unmingled greenness of the emerald, the soft green of the amethyst, and the bright amethyst, and be content to leave the unearthing of the mystery to posterity.

Of course the age in which we live is not behind the ages of the ancient emeralds as to the colouring of the emerald. According to some scientific men it is derived from the decomposition of animals which have lived in a bygone age and whose remains are now found fossilised in the stone and which forms the home of this precious stone, while others are of opinion that the colour is due to oxide of chromium.

When an emerald is possessed of a tint of beautiful quality is it one of the rarest and most precious of stones and valued at a quarter above that of the diamond of like size. It is said that few have ever seen a full-sized perfect emerald. The following anecdote will show the value set upon it and why.

It is related by a physician that his brother, a merchant, received from the Prince of Urbin a very large sum of money to buy him an emerald, of the weight of eight grains of wheat, most pure and Oriental, that he might receive alleviation in an infirmity with which he was troubled with.

A bishop writing A.D. 640, says, "The emerald surpasses in its greenness all green things, even the leaves of plants, and imparts to the air around it a green simmer, and its colour is most soothing to the eyes of those engaged in cutting and polishing the stone."

Pliny recognised it as being refreshing to weak eyes. "If," he says, "the sight hath been wearied and dimmed by intention prolonging to nothing else, beholding of this stone doth refresh and restore it again."

Before we go into the interesting subject of the mysterious properties of the emerald, which has endowed it to the rich and wise in all ages, we must look into the matter of its composition and observe what materials mother nature has formed it for. To see how many great powers were appointed to guard its exit from being made to be of superior materials to those which she formed the pearl, the diamond, and the ruby. And yet we are not surprised on the
whole to find that if she could make pearls of lime, diamonds of carbon, and rubies of clay, she could have no difficulty in forming emeralds out of sand or silica, and this is exactly what she has done with the help of a little alumina and glucina. This last is a rare substance, and up to this time has only been found in the emerald and two other stones; it is a colorless gemstone derived from other stones by its sweetness. Chemists say that the greater the quantity of glueina in an emerald the deeper is its green tint.

Silica, or sand, which forms the basis of the emerald, is used in many other ways; it is a chief ingredient in all kinds of glass, from the green bottle to the plate and flint glass. It is the peculiar treatment that these materials undergo that gives them the lustre and brilliance of the emerald, even to the aristocracy of precious stones. It seems to us scarcely possible that the silver sand used in our kitchens and sculleries can have anything in common with the exquisite and valuable emerald.

Just as the precious stones we have already noticed have their doubles in an inferior variety, so in the emerald we have the beryl and aquamarine, which are practically the same mineral, though with certain differences. To the chemist, these may be perhaps the least precious, but to the jeweller they are as important as the one is almost priceless, while the others, although not so attractive, can scarcely be reckoned as valuable. One great distinction is that the emerald is green, while the beryl is yellow and the aquamarine, a light blue, probably due to the presence of a small quantity of oxide of iron. The system of crystallisation is the same in all these, viz., hexagonal or six-sided prisms.

A rough green-beryl is about 25 cents per carat, and fine from 10 to 20 a carat, while that of a lighter shade is worth much less, varying from 25 to 15 a carat. An emerald, green, fine-grained, and free from flaws, is worth from 20 to 40 a carat, while that of a lighter shade is worth much less, varying from 15 to 12 a carat.

An emerald of 10 carats weighs 5 grams, and is supposed to dwell in an emerald of the shape and size of an ostrich egg. These emeralds are the kind that the goddesses of Egypt and India used. They were popularly supposed to be able to present a hundredweight of emeralds to the King of Spain, besides several of exquisite and rare beauty which he gave to his bride or his wife, and which were kept in the temple of the heart of the Queen of Spain and his loss of favour at court. There can be no doubt that emeralds were known and venerated in remote ages. It was the fourth from the gods mentioned in the Bible as woe in the breastplate of the high priest. They are mentioned in the 27th Chapter of Ezekiel: "Syria was thy merchant by reason of the multitude of worth of every kind of merchandise; they took of thy wheat and flour and wine and oil, and they trafficked in thy carved images, and in the clothes of thy labourers, and in the labourers' meat, and in the wine of them that dwell on the sea." The emerald was mentioned also in Rev. xxxi, 19, to denote the eyes of the Lord in Jerusalem, and again in the 4th chapter and 3rd verse, where the rainbow of the New Covenant is spoken of as like unto an emerald, ever precious, beautiful, and lovely.

The emerald held a very high place in the esteem of the ancients; it represented them to hope in immortality, exulted faith and victory over sin, and united with very high attributes. It was an Old Hebrew tradition that a snake or serpent fixed its eye upon the emerald, it immediately became blind. Thus Moore in "Lalla Rookh" says,

"Blinded like serpents, when they gaze
Upon the emerald's virgin blaze."

It was supposed to possess powerful medicinal qualities. Taken internally, it was considered a cure for venemous bites, fever and leprosy; if powerless to cure the evil, it driven into storms; applied to the lips it was declared to stop hemorrhage; worn round the neck, it dispelled evil, was a restorer of sight and memory, and brought victory to the wearer. It was a first belief that it taught the knowledge of secrets and future events. It is wonderful how these little bits of stones became endowed with such extraordinary virtues!

Objects were supposed to appear in a more favourable light when seen through an emerald, which explains why Nero used one when looking at the combats of the gladiators. It was an old belief that he who dreamed of green gems would become renowned and meet with truth and fidelity, while on the other hand, the falling of an emerald from its setting was regarded as an ill-omen to the wearer, and this last superstition obtained even in our day.

When George III. was crowned, a large emerald was lost which was intended for America; it was lost in his reign, and was considered by many to have been thus foreshadowed.

When the tomb of Charlemagne at Aix-la-Chapelle was opened his bones were enveloped in Roman vestments, and round his neck, attached to a large chain of gold links, there hung a talisman consisting of a piece of the true cross that guarded. The burgheurs of Aix-la-Chapelle presented it to Napoleon when he entered that town in 1811. One day in playful mood he threw it over the neck of Queen Hortense, declaring that he had worn it on his breast at battles as he supposed Charlemagne had done before him. From that time it was never laid aside the precious relic.

Queen Elizabeth sent to Henry IV., the champion of the reformed faith, a beautiful emerald which she herself had worn. She gave it as a token of esteem, and reminded him that the gem possessed the virtue of not losing its lustre so long as faith remained firm and entire.

The superstitious beliefs concerning the emerald suggested to Miss Landon the following beautiful lines—

"It is the gem which hath the power to show
When all the plighted lovers keep their faith or no;
If faithful, it is like leaves of spring;
If faithless, like those leaves when withering.

Take back again your emerald gem;
There is no colour in the stone;
It might have graced a diadem,
But now its hue and light are gone.

Take back your gift and give me mine,
The kiss that sealed our love for vow;
Ah, other lips have been on thine,
My kiss is lost and swallowed now!

The gem is pale, the kiss forgotten,
And more than either you are changed;
But my true love has not altered;
My heart is broken, not estranged."

Very few engraved emeralds have descended to us from ancient times. This is not due to the hardness of the stone, but that it was evidently esteemed on account of its beauty and great value. There is one, however, in the Devouenems of gems of great antiquity and of great value, a large emerald cut into a gorgan's head in high relief, which probably with a history was the ring belonging to Polycrates, A.C. 539, which he introduced to the sea as an offering to the gods for forty years of prosperity. It was an emerald, and he grieved over the loss of it, but a few days later he received a present of a large fish in which his ring was found.

The Shih of Persia has a little casket of gold studded with emeralds which is said to have been blessed by Mahomet, and has the property of rendering the royal wearer invisible as long as he remains unmarried.

The emerald was formerly used for ornaments of dress and carriages. At the famous marriage-feast of Alexander and his eighty companions with their beautiful Persian brides, emeralds seem to have been the favourite gem worn, and to have been esteemed above all other ornaments except the beautiful pearls of the Persian Gulf.

Pliny says that Paulina at the banquet was literally covered with emeralds and pearls in alternate rows.

Queen Elizabeth used precious stones almost recklessly. On the occasion of her visit to Tilbury a quantity of gems were—

"He was happy that he could not see her coach, The sides whereof was set with emeralds And diamonds, with sparkling rubies red In checkerwise by strange invention With curious knots embroidered with gold."

Queen Elizabeth was the first to present emeralds to the Spanish monarchs and the emerald was the favourite gem of the Spanish monarchs. In the fabulous line of Alexander the Great, the hero found in the palace of the vanished monarch many and great treasures, among which was a vine having its branches of gold, its leaves of emeralds, and its fruit of other precious stones.

Victorian Times • 30 • May 2017
THE "UNLUCKY" OPAL.

By Emma Brewer.

"What radiant changes strike the astonished eye..."

"What glowing hues of mingled shade and light!"—Falconer.

The lover of the rare and beautiful who is untroubled by caprice or fashion there is no gem so dear as the opal. Its flashes of brilliance have charmed writer, 300 a.c., "The delicate colour and tenderness of the opal reminds me of a loving and beautiful child;" and Pliny described it as well as he could. "The opal unites in itself the colours of the ruby, amethyst, and emerald, in the most marvellous mixture, and its fire is like the flame of burning sulphur."

It has been considered by some that a gem so beautiful, delicate, and pure, ought to be of celestial origin; but although this cannot be proved, it may with truth be affirmed that there is a deep mystery connected with the opal both in the physical and the spiritual world. That which gives value to this gem is its wonderful play of coloured reflections, which concentrates within it all the gleams of the rainbow, and yet if the interior of the opal is examined there is nothing to account for it. Indeed, this precious stone has no colour that may be properly called its own, except a faint bluish tinge something like the tint of quartz, to which mineral it is evidently closely related.

For proof of this, break an opal, when it will be seen that all its colours perish. The best conclusion arrived at is that the opal is full of nearly invisible fissures, and that water and air are the mysterious agents working in these tiny crevices in producing and perfecting the beauty of the gem.

The opal, like the emerald, is formed of silica or sand, but without the aid of glucon and alumina—it is simply sand with the addition of ten to twelve per cent. of water.

In two or three points it differs from other precious stones. 1st. It cannot possibly be imitated. 2nd. It never crystallizes in regular and definite form. 3rd. When it is first taken from the earth it is soft, but hardens and diminishes in bulk by exposure to the air.

The true beauties of the opal are only to be seen when it is moved about, then it appears to have an actual life within it. It is a very fragile stone and requires great skill and care in cutting. It has from time to time been suspected, but it is always hazardous to depend on the number of fissures in the stone which it is dangerous to open in the air.

The precious or noble opal came formerly almost entirely from Hungary, and although it was taken hence to India to gain for it the name of Oriental, it has no home there. The matrix of the Hungarian opal is in a mass of felspar rock which yields also lead, silver and gold. The peculiarities of these special opals is that they show a uniform milkiness of surface more or less iridescent, and experience teaches that they resist the effects of wear longer than any other sort, and for this cause are the most valuable.

Opals are found also in Honduras in much the same condition, but they are not so transparent. They are at present largely used for cameos, the brilliant colours of the gem forming a marked contrast to the dark background afforded by the ironstone matrix.

The opal has also been discovered in New South Wales in beds of sandstone. Fine stones of large size are rarely found anywhere, indeed they seldom exceed an inch in diameter, and are sold by the piece and not by the carat, if we except a few of the finest specimens of Hungary.

Mr. Suter says "There is no doubt that the opal gem originated in a liquid or gelatinous condition, filled up the cavities in the felspar veins and became gradually solidified." That these were the opals of early times, an observation that makes the opal one of the most fascinating jewels of the present day, as they have the glow of the ruby seen through a mist like a coal ignited at one end. It is a curious fact that opals are much more brilliant on a hot day, and therefore a jeweler always holds one in his warm hand before showing it.

In ancient times and during the Middle Ages, indeed, the time of Sir Walter Scott, the opal was believed to bestow on the wearer an unfixed good. It was certainly the favorite gem of the Romans in their best periods of intelligence and refinement; so far from being feared in these early times it was eagerly sought for, as it was supposed to possess the power of warning against disaster, and as being "the royal herald of joy." The beautiful fire of the opal may be imagined by the fact that at a time when the Romans were more than ever, one of the senators preferred this parting with his gem.

This opal, the most famous in history, was the property of the Roman Senator Nonius, who wore it as a ring. Its size was scarcely larger than a pea, but it was so beautiful and perfect that it was valued at the enormous sum of £125,000. Marc Antony desired earnestly to possess this opal in order to make it a present to Cleopatra Queen of Egypt, but Nonius refused to part with it, for it was the idol of his heart, and he sought safety in flight, content to be a beggar also for its sake. After many centuries of prosperity a time of adversity came to the opal. It was deprived of everything save its beauty, and instead of being the harbinger of good was looked upon with superstitious dread and as a gem to be avoided; however, it was supposed to have been brought about by Sir Walter Scott, who had no love for jewels, and who introduced this among others in his "Anne of Geierstein," and made it play so ignoble a part that henceforth no one cared to wear it for fear of its bringing ill-humour. He makes Anne of Geierstein say, "Of all the gauds which the face of fashion have owned, this (the opal) perhaps has been the most fatal to its possessors." If a Russian of either sex or of any rank should happen to see an opal among a list of gems for purchase he or she will buy nothing that day, for the opal to a Russian is an embodiment of the evil eye.

Fortunately the good successor of our Queen in giving her daughters an opal ring as a marriage gift is gradually removing the ban imposed by Sir Walter Scott, and allowing us once again to enjoy its beauty without fear of dire consequences.

A very interesting story is told of the mysterious action of an opal by A. C. Hamlin. He quotes it in full. "Man the Traveller," he says, "from Central America brought home a splendid rough fire opal which dazzled the eye with its fiery reflections. We took it to an honest jeweller, who examined it with a doubting look. The next day the opal was returned to the jeweller and his assistant, but the laugh of the wheel had been neglected and the fire of the surface the light was interrupted and the peculiar property of the mineral displayed. Unfortunately the lesson was not concluded here. At the last touch of the wheel the beautiful gem flew into two parts and its glory departed in an instant. Saddened with the day's experience we took the two fragments and bound them together and tossed the stone into a drawer with closing lid, among other mineral specimens of no great value. Some months after while searching for a misplaced stone a gleam of light suddenly flashed out as we opened the drawer. It was the neglected and abused opal which now gleamed with the energy of a living coal of fire. It had recovered its beautiful reflections, and still adorns, notwithstanding its fracture, a most cherished jewel."

There have been one or two famous opals besides that of Nonius; one was an exquisite harlequin opal belonging to the financier D'Anguy before the revolution of the last century. By harlequin it is meant an opal with patches of colour of every hue.

The two beautiful opals known in this country were found in the Hungarian mines in 1866, and exhibited by the late Madame Goldschmidt in the Paris Exhibition of 1867. One weighed 186 carats and the other, a magnificent harlequin opal, 160 carats.

One of the finest known in modern times was that belonging to the Empress Josephine; it was called the Burning of Troy, from the number of red flames blazing on its surface; and there were some good specimens in the Hope Collection, one of which was an inch high and three quarters of an inch wide, whose reflected rays were green and yellow interspersed with flashes of bright blue and deep red. A representation of Apollo's head surrounded by rays of fire, cast in high relief. It is supposed to be very ancient and of Persian workmanship.

Another of value is an intaglio on a large opal of the portrait of Louis XIII when he was a child.

* The opal is cut and polished first upon a lead plate covered with emery, next on a wooden wheel covered with emery, and lastly on a wheel covered with felt, so delicate is the handling necessary to turn an opal to best advantage.
discredit upon mistresses; for, being members of our families, they ought to find their recreation with us just as our children do. Outside influences are very little, if within the home content and happiness have no existence. We should be ashamed to keep our servants without a proper supply of food, yet it is equally reprehensible to keep them from early morning till late at night, and that day after day, week after week, without any hope of happiness outside the work. Block up the highways of moderate recreation, and the by-ways will be filled to overflowing.

It may be asked what more can be required of mistresses than to give good wages, board, and lodging to those members of the family whom we designate as our friends the servants. Certainly, these items of wage, board, and lodging are a necessary exchange for good and honest service; but there is a large margin outside these for both mistresses and maids to shine in if they want the full amount of happiness each can afford the other, and one does not know how much that is till one tries.

It is the fashion, I know, to let servants have a Sunday out, and an evening in the week besides, without enquiry as to how or with whom these hours are to be spent; and thus the amount of sin and sorrow strown broadcast over the lives of these members of our families would terrify mistresses if they could see into the future. Indeed, I had no idea until a year or two ago, when I was looking into the causes which sent so many domestic servants into a special part of the various workhouses of the country, that the pernicious rule was so prevalent of mistresses sending out their maidens on certain evenings, called their evenings out, from two o'clock till ten, often without a choice permitted them of remaining in the house. In many cases out they must go by the law of the house, and not return until the specified time. Imagine a young girl fresh from the country, without friends or experience, not even knowing a street or a square beyond that in which she lives, being turned out to amuse herself for eight hours, more or less, no question asked as to where she is going or with whom, or if she has money to get a cup of tea or pay for an omnibus! While she stands considering what she is to do with this liberty, some smooth-tongued person comes to her assistance and solves for her the difficulty. She thinks the stranger kind, and falls into the trap of making undesirable acquaintances, if nothing worse. This evil is more the fashion in small households, where one, two, or three servants only are kept; but that which obtains in houses of greater pretensions is equally objectionable, and even more disastrous in results— I refer to the late hours ladies' maids have to keep during the season, while the mistresses are at balls and receptions, even till three or four o'clock in the morning several times in the week. These are disastrous to the poor girls in every way. They are too tired for work, and they dare not sleep, lest they fall to hear the mistress's return; and it is no wonder if they choose to spend the weary hours in the company of those who are sitting up for the masters of the establishments. Much of the mischief is wrought unconsciously, and only wants thinking over to be mitigated.

(To be continued.)

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PRECIOUS STONES; THEIR HOMES, HISTORIES, AND INFLUENCE.

THE TURQUOISE, AND CAT'S EYE.

By EMMA BREWER.

THE TURQUOISE.

A clear sky, free from all clouds, will most excellently discover the beauty of a true turquoise.—Thos. Nicols.

The turquoise, which is an emblem of prosperity, has, by reason of its beauty and mysterious gifts, attained to the high rank of a precious stone. It is, as it has ever been, a general favourite, although it is neither transparent nor does it occur in crystals.

Old writers delight to tell of its power and influence for good, and its detestation of vice, and were never tired of declaring that it was one of God's wonderful gifts to man bestowed upon him for his use and contemplation in order that he might be strengthened in grace and virtue and in the avoidance of evil.

The sympathy of the turquoise with its owner has been rich in suggestions for poets—

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* Don Johnson.

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Though many persons, admirers of its extraordinary beauty during its late master's lifetime, were now come to buy it, no one would offer for it, so entirely had it lost its colour. In fact it was more like a malachite than a turquoise. My father and brother, who had also gone with the intention of purchasing it, being well acquainted with its peculiarities, were amazed with the change. My father bought it notwithstanding, being induced to do so by the low price put upon it. On his return home, however, ashamed to wear so mean-looking a gem, he gave it to me, saying, 'Son, as the virtues of the turquoise are said to exist only when the stone has been given, I can try its efficacy by bestowing it on thee.' Little appreciating the gift, I had my arms engraved upon it as though it had been an agate or other less precious stone. So as are used for seals and not for ornaments. I had not worn it a month before it resumed its pristine beauty and daily seemed to increase in splendour.
which was like to have caused him a broken limb, and again the turquiose took the fracture upon itself and had to be reset.

Queen Elizabeth always wore a turquoise ring, by whom given is not recorded. At her death it was taken from her finger by a lady in waiting and thrown out of the window by Sir John Harrington, who hurled it to James VI. of Scotland as a sign of the death of the queen.

The turquiose with a history is the turquoise of Shyllock stolen by his daughter. Although this gem was so highly prized in the Middle Ages it does not appear to have been the scene of any ancient, for among the numerous precious stones furnished by Persia and noted in the literary remains of antiquity the turquiose has no place.

The best, however, the gem par excellence of Persia is the turquoise, and a very interesting account of its mines and miners has been drawn up by Mr. Schindler, the recent director of the mines, and forwarded to us in the following:

The celebrated turquoise mines, evidently those mentioned by Tavernier as three days journey from Meshed, and furnishing the most beautiful specimens of turquoise, are situated in a district which Mr. Schindler calls Meden, about forty square miles in extent within the province of Nishapur, Khurasan. The village of Meden is about a hundred miles from Meshed, and about 1,200, who are almost entirely occupied with the obtaining, cutting, and selling of turquoises.

The turquoise veins run between porphyry, limestone, and sandstone, never higher than 500 feet above the level of the sea, nor lower than 4000. The climate is excellent; wheat, barley, and other grains grow in profusion; the trees are of a height of 5000 feet, and fig-trees on the slopes 6000 feet above the level of the sea.

Nearly all the men engaged in the turquoise industry are inveeter opium smokers, and many have also acquired the vice. The gain of turquoises has made the people careless of all else, and yet there are very few of the inhabitants who possess anything worth speaking of; in fact they live from hand to mouth like most people whose income is uncertain. A good turquoise is found, and the money obtained by its sale is spent at once. It is no unusual thing at the mines to see men who pay yearly to the Government a tax of sixty tomans; that is about £20, and who beyond this gain one hundred and fifty tomans, the laying literally nothing at all.

The turquoise mines are of two kinds: first, the mines proper having shafts and galleries in the rocks, and secondly, the khalif mines or diggings in the detritus of disintegrated rock washed down towards the plain.

The treasures of the former are difficult to arrive at, seeing that they are partly filled by rubbish. The digging man does not work for him, but is only during the last thirty or forty years that blasting with gunpowder has been resorted to by the miners; formerly all the work was done by hand, but, for they extracted the turquoise entirely, while the

* November 11, 1893.
+ A tomah is about 4s. 6d.

gunpowder, doing more work, often breaks the stones into small pieces.

The khalif or diggings extend from the foot of the mountains to the plain, and a large part of them here in alluvial soil some of the best stones are found. Work is carried on without any system; the earth is brought to the surface, sifted and picked, the latter being done by women and children. The fine turquoise presented to the Shah, valued at £20,000, as many as other very fine ones, have been found in the diggings or khalif. Still the work here is more of the character of a speculation than in the mines proper.

The findings are divided into three classes, the very best are called "ring-stones," and sold by the pound; those of the second class are of a yellowish green color; they must be fast and of the deep blue of the sky; a small speck of a lighter shade or an almost imperceptible tinge of green decreases the value of these stones. Also that indefinable property of a good turquoise called the "zit," something like the "water" of a diamond and the "lustre" of a pearl, and even a few without the "zit" is of very little worth.

The second best are called "darshâhâneh" turquoises, and are sold by the pound at the rate of £20 per pound for the best, and about £25 per pound for the lowest or fourth quality.

Only the best of these stones find their way into the market, and although some are used by jewellers for rings, the fact that the miners do not class them as "ring-stones" proves that they are not of the first quality. One can be of two kinds: small and small cut turquoises of third quality in Persia at the rate of two or three shillings a thousand. These "darshâhâneh" stones are frequently used by Persians for daggers, sword-hilts, and armlets, and is also a part of his Gold and Silver Jewellery. "Mines of Median" mentions having seen a bright blue turquoise set in the stock of a Bedouin matchlock, which had been exposed to wear and use for fifty years, but had lost nothing of its colour.

Then there is the third class of findings called "Arab" turquoises, a term used by the Persians for these stones. Some of the miners when on a pilgrimage to Mecca had taken with them a quantity of bad turquoises, and had sold them well to the Arab, knowing well that the Bedouin would buy the bad stones at any price, and thus make a profit.

Work in the mines proper is difficult owing to the unsafe condition of the galleries; but a miner rarely returns empty-handed, whereas at the diggings the work is very easy, but the finding of turquoises a matter of chance. It often happens that a miner, after working hard for a few months in the mine, and having earned a few tomans, gets a fever fit on him to try his luck at the diggings, and he works till his savings have vanished and his tools spoiled and nothing of worth to show for it, and then he goes back to the mines. The majority of good workmen rarely work at the diggings, but send their children to the diggings—there being no danger in the work there and maybe a chance of luck—and a sight at the diggings will show you the young, the old, and the idle. During the summer months strangers come to Meden trying to catch their luck at the diggings.

The original finders of the turquoises do not gain much. The elders generally buy the stones direct from the workmen, and then sell rubies and emeralds to the agents who visit the mines. The first profit on turquoises is never less than ten per cent, and is often twenty per cent; for example, one of the ancient tomans at the diggings is valued at £120, while from that stone (that is ten times six shillings and eightpence) from the miners and sells them to an agent or middleman for twelve tomans, the agent sells them to the dealers in Meshed for fourteen or fifteen tomans. The dealer sorts them and sells some in the country, and the remainder he sends to Moscow, where they are sold by special middlemen.

It is a safe calculation that turquoises bought of the miners for ten tomans are sold for twenty-five tomans in Europe. Mr. Schindler says it is strange that up to now European dealers have not thought it worth while to send their own agents to the mines.

The miners rarely cut their own findings, and therefore do not often know the quality of the stones.

Enormous profits are often made on "ringstones;" for example, a turquoise valued at £100 in Persia brought £1000 in France by the finder by an elder; he sold it incut in Meshed for £38. After being cut it went to Paris, where it was valued at £600. The second best turquoises are sold for £20 and £25, the difference being gained by the agents.

The annual output of the mines proper and the diggings averaged for the last few years over £3,000. Possibly pay twice this amount.

The turquoise in Persia is now a rule cut by wheels made of composition of emery and sandstone formerly used by the sandstone. The polishing is done generally by children on a slab of very fine grained sandstone.

The discovery of the true turquoise in Victoria, described by the Melbourne Argus a month or two since, and copied in the Times of Oct. 18, 1893, is looked upon as a phase of mining industry that is likely to be rich in results.

The pioneer, a man named Gascogne, was a member of the Victorian mounted police force, whose hobby was collecting specimens of precious stones. He was also a miner in Australia. He was placed in the King River district, and while there made the acquaintance of a young man, a thorough bushranger. Asking him if he had any rare gem material in the district, he answered "No;" but that twelve miles away over the hills he had noticed veins of blue stone in the rocks, and nobody seemed to know what it was, the two men went off together, the bushman leaving the other to his search while he went further on to look for wild horses. Gascogne, after a search, at length discovered some quartz which had a blue veining, and on his return an expert, who found it to be the true turquoise, a judgment which has since been thoroughly confirmed. Mining leases have been taken up, and everything is prospering, and it is believed that large quantities of turquoise from Australia will be competing in European markets with those that have been found for centuries in the famous mines of the Persian province of Xorasan.

One note worthy feature of the Victoria mining is, that minerals are found on or near the surface, the stone so found is generally affected by the surface-drainage and the earth-mover's interference of centuries. Experience proves that the deeper down the miner goes, the better is his chance of finding stones of first-rate quality.

From the ancient tomans of Sinai, the stones being here based in a matrix very much like that in which diamonds are found in Brazil. One of the hieroglyphics in the temple at Sinai namely reads of a goddess of Hithor, mistress of the land of the turquoises.

We have had some very good turquoises from Mexico. Among the ancient Mexicans...
it was a favourite material for inlay mosaic work, of which some beautiful specimens may be seen in the British Museum.

The turquoise is the gem most frequently employed for amulets by the Orientals, who engrave sentences of the Koran upon it, filling in the characters with gold.

In 1808 a magnificent necklace of turquoise, consisting of twelve stones, was in the market; each stone was engraved in relief with a figure of one of the Caesars.

The chemical nature of the turquoise has hitherto remained problematic as the results of investigations have never agreed; the only elements invariably present were alumina and copper. Mr. Streeter, however, has given its chemical composition thus—

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphorous pentoxide</td>
<td>32.8%</td>
</tr>
<tr>
<td>Alumina</td>
<td>49.2%</td>
</tr>
<tr>
<td>Water</td>
<td>19.2%</td>
</tr>
<tr>
<td>Copper oxide</td>
<td>5.3%</td>
</tr>
<tr>
<td>Iron and manganese oxides</td>
<td>2.5%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

The turquoise, like all other precious stones, has its double. In this case it is the occidental turquoise, which is in fact a fossil ivory produced from the teeth of a past race of animals brought into contact with substances containing copper and iron. It differs entirely from the Oriental or old rock turquoise both in structure and in composition. It is also softer and more opaque than the true gem, and in some Eastern lands is preferred to the Oriental.

**THE CAT’S EYE**

stands next to the diamond and sapphire in hardness, and notwithstanding its name is a very beautiful gem, and one that has always been held in high esteem in India, where it is venerated as a charm against witchcraft; and in Ceylon, which is its special home, a native would rather part with anything in his possession than give up his cat’s-eye, if he be lucky enough to have one.

The cat’s-eye, which is a rare variety of chrysoberyl, is found in the form of rolled pebbles in the river-sands of Ceylon in company with sapphires, topaz, and other gems. Twin crystals of great beauty have been also found in the emerald mines of the Ural.

Its chief characteristic is a remarkable play of light running from end to end, the result, no doubt, of its internal structure, which seems to be full of minute channels. No matter what colour the ground-work may be, the line of light is nearly always white, and more or less iridescent, and it is upon the beauty, perfection, and number of these lines, which run across the middle of the stone, that the value of the gem is based.

The stone is of various colours from pale straw through all shades of brown, and from very pale apple green to the deepest olive. As the gem is moved about, it is beautiful with its soft deep colour, and its mysterious, luminous streak shifting restlessly from side to side, especially under a bright sunlight or glistening.

It is not difficult to conceive an imaginative and supertitious people regarding this precious stone with awe; and, believing it to be the abode of spirits, they hold it sacred, fit only to be dedicated to their gods.

There are three stones which bear a resemblance to the Oriental cat’s-eye, but they will not bear the test of close comparison. The one which approaches most nearly is a variety of quartz called quartz cat’s-eye, and it ought not to be possible for even the unlearned in precious stones to mistake this for the true; for example, the true gem is iridescent, in the false dull; the hardness in the real is 8.5, in the false 7; the specific gravity of the real is 3.8, of the false 2.5. The real cat’s-eye often shows a beautiful dichroism, the false never. The composition also differs; in the true gem we find 80 parts alumina, 20 silica, and for colouring matter oxide of iron: in the false 45 parts are silicon and 51 oxygen, with a small amount of oxide of iron and lime.

The difference between the two is also great in intrinsic value, the one of great value, the other of little; the one used for personal ornaments, while the other is made into snuff-boxes or to form a thin veneer to small tables.

Shipton was born. “We will be able to construct machines,” he wrote, “which will propel large ships with greater speed than a whole garrison of rowers, and which will need only one pilot to direct them; we will be able to propel carriages with incredible speed without the assistance of any animal; and we will be able to make machines which, by means of wings, will enable us to fly in the air like birds.”

The idea of mechanical carriages was itself “in the air” during succeeding centuries, and the great Sir Isaac Newton designed a steam coach of a very simple order in the year 1680. But it was not until 1763 that Nicholas Cugnot, a French inventor, actually made one
PRECIOUS STONES; THEIR HOMES, HISTORIES, AND INFLUENCE.

BY EMMA BREWER.

SEMI-PRECIOUS STONES.
Chrysopele, Amethyst, Garnet, Amber, and Coral.

For stones yet to be spoken of, though classed as semi-precious, occupy places scarcely inferior to those of precious, and are certainly equal to them in honour and interest. Chief among these are the stones mentioned at the head of this chapter.

The Chrysopele is a beautiful apple-green colour, nearly transparent, and capable of high polish. It is a green variety of chalcedony, and is generally found in company with the opal and other varieties of chalcedony and quartz.

It seems to have been known and used far back in the past, but it is only within the last hundred years that it has been traced to its true home and companions.

Its position in the walls of the new Jerusalem, Rev. xx., gives it a sacred and honourable display. As far back as King Solomon's reign the chrysopele was highly valued as one of the most fortunate of stones.

All through the reigns of the Georges, and up to about forty years ago, it was very fashionable for brooches and necklaces. These last were as a rule composed of nine oval half-slaves of chrysopele, in form like the half of a small hen's egg, mounted with diamonds. One of the last made was by Mr. Streeter for the late Mrs. Henry Hepe, of Piccadilly and Betchworth, and cost £1,000.

Soon after this, chrysopele completely fell out of fashion, and became a forgotten by the public; for, as the chrysopele ornaments fell into the hands of firms like Randell and Bridge, of Ludgate Hill, they were unceremoniously placed in a drawer as useless, and Hunt and Roskell, who were the successors of this firm, treated the chrysopele ornaments in the same manner.

As a result the accumulation steadily increased, and on the retirement of Hunt and Roskell all these unmortared and broken pieces of chrysopele were put up to auction and bought in by Mr. Streeter, who had them reduced to small pieces and cut en cabochon, and mounted in the most exquisite manner.

The consequence was that the public taste was taken captive, and the stone so long despised and forgotten is now to be seen in the foremost ranks of fashionable life.

The Empress Frederick, who has been greatly interested in the reproduction of this stone, sent a quantity of it to Mr. Streeter from a mine on one of her estates, which he bought for her. Many of the present generation look upon this stone as a new production of nature, while in reality it is but a long-forgotten and now used as a charm to attract and delight all who look upon it; and it is not likely that it will ever again be subject to contempt and forgetfulness.

Beside being pleasant to the eye to look upon, it is believed to possess the power of bestowing certain blessings on the owner, such as assiduity in good works, gladness of heart, and an utter absence of covetousness.

It is no wonder, therefore, that at present the supply is not equal to the demand, and that accounts for the number of imitations offered for sale, and which consist principally of dyed agate. The beautiful apple-green tint of the true chrysopele is derived from oxide of nickel, which with a little water forms 25% of its composition; the 75% being silica.

Its real home is in Silesia, where it lives in the society of its friends and relations, the opal, chalcedony, and quartz.

THE AMETHYST.
"Last in the Holy City set,
With hues of glorious violet,
Forth from the amethyst are rolled
Sparkles crimson bright and flames of gold;"

The humble heart it signifies
That with its dying Matter dies."

The word amethyst is supposed to be derived from the Greek verb to inodorate, probably because of the belief that this stone was an antidote to drink and a charm against intoxication; indeed the ancients went so far as to say that wine, however strong, drunk from an amethyst cup, was incapable of producing intoxication.

It receives other names, according to the places where it is found. Its composition is very much like that of the chrysopele, viz., silica, but with a different colouring matter, viz., oxide of magnesia, which gives it the beautiful violet tint.

It is dichroic, like the emerald; one distinct tint being reddish-purple, and the other a bluish-purple. As an instance of its former value and subsequent fall, we would mention that Queen Charlotte had an amethyst necklace valued at £160, which, apart from its historical associations, would not realise to-day more than £100.*

A very good amethyst was formerly equal to an Oriental carnelian of the same size.

It was one of the stones of the sceptre of judgment, Ex. xxviii., and had its position in the walls of the New Jerusalem, Rev. xxi.

It is emblematized of earthly sorrow, deep love, and faithfulness unto death.

The very best, called Oriental amethyst, is found in Brazil, Uruguay and Siberia, while the less rare may be found in many parts of the world.

Turkish women have always been fond of adorning themselves with it. As a rule the stones are polished in Venice and brought to Constantinople.

The composition of the amethyst is, as I have said, silica coloured by oxide of magnesia. Its hardness is the same as that of the chrysopele, viz. 7.

THE GARNET.
The group of minerals known as garnet is extremely interesting to all who love precious and semi-precious stones. It has characteristics peculiarly its own, one of which is that it admits into its circle stones varying in colour, chemical composition, and even in specific gravity, insisting only upon their crystallisation and the unchangeableness of their fundamental form.

The beauty of colour is, as I have noticed, a hindrance to their admission into the circle, for garnets are red, orange red, green, a beautiful yellow or no colour at all, the tone of colouring being the amount of iron more or less they have taken from the fire, for "iron is the great colourist of nature."

The garnet that most of us know best is of a beautiful red colour which approaches very closely to that of the ruby, for which gem it is not infrequently mistaken, as you will have seen in the chapter on rubies. It ought not to be possible to make this error because of the difference in the hardness of the two, the one being 9, the other only 7.

It probably derives its name from its colour being like that of the blossom and kernel of the pomegranate, or it may be from "granum," a grain, because it is so often found in granular form.

The surroundings of its home depend very much upon the part of the world in which the stone is found; it suits the habitat of the places as we should say. In Austria the crystals are found in serpentine, in the Zillerthal in chlorite slate, in Sweden in mica-schist. In the Simplon Pass between Brig and Como d'Ossola they are discovered in the glacier streams, and in the United States they are found in granite, while in Brazil their companions are diamonds. As a rule they are found in alluvial soils in the form of pebbles, granules, or masses. Very good garnets come from the Ural, and those of Bohemia are quite famous; you may see them beautifully mounted in the jewellers' shops in Dresden, Prague, and Vienna.

The most beautiful is the Oriental or Srian garnet, so called from the river Sia in Pegu and not from the country Syria; and there are some lovely ones found in Ceylon and Brazil, nearly if not quite equal to these in beauty and value.

There are eight kinds of garnet, two of which only are used for jewellery. It was much more valuable in early days, being equal to a diamond of its own size. The Pegu garnet is the only one at present which commands a high price.

Quite lately some lovely garnets have been found in Central South Australia; they are called Australian rubies, and it has been difficult even for experts to decide whether they are rubies or garnets.

New varieties of garnet have lately come into our market from Siberia; they are very brilliant, of a beautiful green colour and unlike any stones we know of.

AMBER.
The Eastern fictions about precious and semi-precious stones were, as we know, transmitted through many ages, and were the delight of old writers, and often, as in the case of amber, prevented any desire to know the true nature of the stone.

An imaginative abbe, for example, was of opinion that amber was honey melted by the sun, dropped into the sea from the mountains and converted by water; while Niels the historian asserts that "the sun is so intense in some regions that it causes the earth to perspire and the drops, coagulating, form the substance called amber, and
that these drops of perspiration are carried by the sea into Germany."

There is a couple of the fire-worshippers which give a still stranger origin, and is as follows:

"Around thee shall glister the loveliest amber. That ever the sorrowing sea-bird bath wept."

According to some poets, the sisters of Pholus, who were changed into poplar-trees on the banks of the Po, wept tears of amber precipitated by their brother, who was slain by lightning.

The Greeks held the following graceful tradition:—"The juices distilled from new trees, by the sun are received by the shining river, and borne as offerings to the bride of Italy;" while the Gauls accounted for amber as being the divine drops that fall from the eyes of Apollo at the death of his son Eteocles.

Amber has been known from the earliest times, and a philosopher who lived 600 B.C. and admired the light bodies, such as chalk and straw, in the same way that amber attracts iron; and it is more than probable that this simple observation was the foundation of the modern science of electricity. Certainly, it is from the Greek name electron that we derive our modern term electric.

No doubt the regard of the ancients for amber was increased by the fabulous tales of its origin and the mystery connected with it.

The earliest history of amber is to be found in the Odyssey of Homer, where, in the list of jewels ordered by the Phœnician traders to the Queen of Sardis, stands a gold necklace hung with bits of amber. In such repute was it in Rome in the time of Pliny that he sacrifices the price of a small figure in amber, however minute, exceeds that of a living healthy slave. In his time, too, it was fully believed that a collar of amber, worn round the neck of a child, was a preservation against secret poison and a counter-charm against witchcraft and sorceries, and it has been the fashion through many generations for young children to wear necklaces of amber beads; indeed, it is only during the last fifty years it has fallen into disuse.

Among precious substances employed as ornaments, the yellow amber played a grand rôle in ancient times, and the efforts to procure it were largely instrumental in carrying the germs of civilization into countries which up to that time had remained outside the culture of the world.

Without the commerce of amber the ancient navigators, especially the Phœnicians, would never have heard mention of the Western seas, where this substance has its origin. During the reign of Nero an expedition was sent from Rome to explore the amber-producing country (the Baltic coast), and so successful was it that it brought back as a present to the emperor 3,000 lbs. of it.

The yellow amber, which is transparent, forms insects, sponges, and mosses, showing that it formerly was in a liquid state, and that the process of solidifying was slow.

And notwithstanding all the mystery which has surrounded it, is in reality only a fossil resin, composed of carbon, hydrogen, oxygen, a little clay, alumina, and silica, the two latter parts being the most constant in every sea.

When heated, it gives off certain organic matter, and leaves a black residue, which is used in the manufacture of the finest black varnishes.

The amber most esteemed is transparent amber, and is known by the name of Baltic amber. It is such in the East for mouthpieces for pipes and cigars because of the belief that amber never allows the transmission of any infection. It is found most in the great plains of Germany and Sweden, with twisted branches, and the wood as it ruffles along the surface of the rocks breaks off the coral branches, which get entangled in the netting and are thus drawn to the surface. Coral remains in reality beds of limestone; the largest existing coral structure is the great Barrier Reef of Australia.

It is as difficult to describe the coral-building animal as it was for Punch's railway porter to describe an old lady's tortoise. He declared, "that being neither a dog nor a bird, it must needs be a horse!"

Until the 18th century it was believed that coral was a tree living and developing itself under the sea. It was a Frenchman in 1727 who established its real nature, and showed that the flowers of the tree were coral animals, and that the coral was gradually formed by them. There are few objects which seem more clearly than coral the power of Nature to create her dependents, and it requires an intimate knowledge of the habits of the coral-building creatures to credit what stupendous submarine reefs and islands are inhabited by these tiny architects.

Coral is of various colours, but the red is by far the best and commands the highest price. The ancient Greeks called it '*korallon,*' from two Greek words signifying 'ornament' and 'sea.'

Orpheus, the poet of the Greeks, attributed wonderful powers to the gift of Minerva; it baffled witchcraft, counteracted poison, protected from tempests and robbers, and, mixed in powder with seed-corn, secured growing crops from thundersstorms, blight, caterpillars and locusts, and was regarded as the farmer's friend.

Most erroneous ideas were held concerning it. Theophrastus called it a precious stone, and Pliny spoke of its medicinal properties and the employment of it as an article of luxury.

Indians had the same passion for grains of coral as Europeans had for pearls. The ancient Gauls ornamented their bucklers and helmets with coral, while the Romans placed pieces of coral on the cradles of new-born infants, to preserve them from infantile maladies; and Roman potters made delicate preparations of coral to invalidate suffering from fever, fainting-fit and ophthalmia.

Of course coral forms a fruitful source of fairy-tales among all the fishes, some of which are very fascinating, and indeed they should be so; the dullest imagination must be stimulated by a sight of the submarine picture presented to it when the sun is low; the extensive coral groves are indeed beautiful, planted as they are in beds of white smooth sand, and showing through the transparent water various colours of pink, blue, white, and yellow.

There is a very interesting property possessed by coral, which gives it even now the high price it has always commanded. It seems that there are people who cannot wear coral against their skin without discouraging it; as a rule they are invalids who set so curiously on the coral. The ancients declared that if a person wearing a coral necklace was on the verge of an illness, the coral showed discolouration before the person was conscious of any approach of disease. Naturalists and chemists have tried to discover the cause of this curious property, but at present there is no solution of it.