ETHNO-CONCHOLOGY—A STUDY OF PRIMITIVE MONEY.

By Robert E. C. Stearns.

The study of Nature leads through enchanted fields, full of new surprises and fresh delights. Whichever path we pursue, vistas open on either side equally inviting, with every charm of life and form and color, ever changing but never old.

"Who," wrote P. P. Carpenter, "has not admired the beauty of shells, the luster of the Cowries, the polish of the Olives, the painting of the Cones, the varied layers of the Cameos, the exquisite nacre of Mother-of-Pearl? Who has not listened to the mysterious 'sound of the sea' in the Whelks and Helmets, or wondered at the many chambers of the Nautilus? What child ever went to the sea-shore without picking up shells; or what lady ever spurned them as ornaments of her parlor? Shells are at once the attraction of the untutored savage, the delight of the refined artist, the wonder of the philosophic zoologist, and the most valued treasures of the geologist. They adorn the sands of sea-girt isles and continents now, and they form the earliest 'footprints on the sands of time' in the history of our globe. The astronomer wandering through boundless space with the grandest researches of his intellect and the most subtle workings of his analysis, may imagine indeed the history of past time and speculate on the formation of globes, but his science presents us with no records of the past; but the geologist, after watching the ebb of the ocean tide, examines into the soil on the surface of the earth and finds in it a book of chronicles, the letters of which are not unknown hieroglyphics but familiar shells."

Conchology, or the study of shells, in itself one of the most delightful studies, in its ethnological aspect is also full of interest.

Aside from the use of various species of mollusks as articles of human food all the world over, we find that several forms belonging to this division of the animal kingdom have in the past been curiously interwoven with the affairs of men, both in civilized and barbarous communities.

Some of these are still in use as of old, but to a comparatively limited extent.

As we follow the direction of ethno-conchological inquiry over the pathway of dead centuries, we catch glimpses of great events—events phenomenal, picturesque, and impressive; important in their time, characteristic of the period or epoch which they mark and in which they oc-

curred, and it seems strange that forms of animal production so insignificant should have had any connection therewith.

PEARL-BEARING MUSSELS.

The fresh-water mussels are widely distributed over the surface of the globe; the rivers and minor water-courses of the northern hemisphere contain a great number of species, and individuals of these species are wonderfully abundant. The freshets which swell the streams and tear away their banks, and make their waters turbid with silt, carry into the soft parts of the mussels particles of sand which irritate the delicate tissues. This irritation causes a flow of nacreous lymph, which is deposited on and coats over the rough surface of the disturbing atoms, or it may be that a shriveled egg-case of the mollusk itself becomes similarly lodged and causes a similar annoyance and is coated with nacre in the same way. And so a pearl is commenced, and afterward receives coating upon coating until the accumulated deposits of nacre have reached a thickness that gives the pearl not only size but translucency and iridescence, and if the color is good and the shape symmetrical, a pearl of value, a precious pearl, is formed. And so in Nature's laboratory an aborted egg or a grain of sand is transformed into a thing of beauty.

THE INVASION OF BRITAIN BY THE ROMANS (B. C. 55).

The pearls of Great Britain were famous throughout Europe in the century before Christ. They were obtained from the fresh-water mussels (*Margaritana margaritifera*) of the mountain rivers and streams. Doubtless the extent of the fishery was exaggerated, and the value of the yield in pearls greatly overestimated. History has preserved the tradition that it was this source of wealth that tempted the Romans to the shores of that country in the year 55 B. C., and ancient writers refer to the shield studded with British pearls which Cæsar* suspended as an offering in the temple of Venus at Rome.†

It is highly probable that the invasion of Britain by this famous general was not for the single purpose of punishing the Britons for the assistance they had rendered to the Veniti of Brittany, with whom Cæsar was at war, but with an eye to the pearls, which in his time were far more highly prized than at the present day.

The invasion of Britain by the Romans, in daring and romance must yield the palm to the enterprise and expeditions of the Spanish conquistadores centuries later.

THE CONQUEST OF FLORIDA BY DE SOTO.

"Never was the spirit of wild adventure more universally diffused than at the dawn of the sixteenth century. The wondrous discoveries

* His journey in Britain was attributed by Suetonius to avarice, which had been kindled by the report of enormous pearls of fine quality to be found in that country.

† Simmonds.

of Columbus and his hardy companions and followers, the descriptions of the beautiful summer isles of the west, and the tales of unexplored regions of wealth locked up in unbounded wildernesses, had an effect upon the imaginations of the young and the adventurous not unlike the preaching of the chivalric crusades for the recovery of the Holy Sepulchre. The gallant knight, the servile retainer, the soldier of fortune, the hooded friar, the painstaking mechanic, the toilful husbandman, the loose profligate, and the hardy mariner, all were touched with the pervading passion; all left home, country, friends, wives, children, loves, to seek some imaginary Eldorado, confidently expecting to return with countless treasure."*

The glamour of wealth in gold and silver, the precious metals and precious pearls, the presents of these articles made by the kindly, hospitable, and unsuspecting natives to the Spanish captain, Diego Miruelo, and to the subsequent visitors to their country connected with de Ayllon's enterprise, was followed in 1539 "by the most splendid expedition that had yet set out for the New World," commanded by Hernando De Soto, and the conquest of Florida was soon an accomplished fact. The Portuguese and Spanish chroniclers of the exploits and adventures of De Soto and his men have given fabulous accounts of the quantities of pearls seen in the possession of the natives. One Portuguese narrator says "they obtained fourteen bushels of pearls" from a certain sepulchre, and at another place in the text it is stated that a common foot soldier, whose name is given as Juan Terron, had "a linen bag, in which were six pounds of pearls," and pearls are elsewhere spoken of that are "as large as filberts." Garcillasso de la Vega says "while De Soto sojourned in the province of Ichiaha the cacique visited him one day and gave him a string of pearls about two fathoms long. This present might have been a valuable one if the pearls had not been pierced, for they were all of equal size and as large as hazelnuts." That pearls were abundant and that great quantities were seen in the possession of the natives has been fairly corroborated in these later times. Within a few years a great number have been discovered in aboriginal graves.

Professor Putnam† has stated that in excavating the mounds near Madisonville, Indiana, not less than fifty thousand pearls were found, most of them pierced and injured by heat. Squier and Davis found them on the hearths of five distinct groups of mounds in Ohio, and sometimes in such abundance that they could be gathered by the hundred. Like the British pearls, these also were obtained from the fresh-water mussels of the rivers and streams, from shells of various species, all different from the British form.

Before proceeding to the main theme of this paper mention may be made of the Pectens or scallop-shells, which have a place in history and in song. "In the days when Ossian sang, the flat valves were the plates, the hollow ones the drinking-cups of Fingal and his heroes."‡

* Irving's Conquest of Florida. † Proc. Am. Assn. Adv. Sci., 1884.

‡ The species referred to by the poet was most likely *Pecten (Vola) maximus.*

THE CRUSADES AND PILGRIMAGES OF THE MIDDLE AGES.

The common Mediterranean shell (*Pecten jacobæus*) or St. James's shell was, during the Middle Ages, worn by pilgrims to the Holy Land, and became the badge of several orders of knighthood. "When the monks of the ninth century converted the fisherman of Genneseret into a Spanish warrior they assigned him the scallop-shell for his 'cognizance.'"*

Sir Walter Scott in his poem, "Marmion," refers to this badge or emblem, as follows:

Here is a holy Palmer come
From Salem first and last from Rome;
One that hath kissed the blessed tomb,
And visited each holy shrine
In Araby and Palestine!

* * * * * * *

In Sinai's wilderness he saw
The Mount where Israel heard the law,
'Mid thunder-dint and flashing leven,
And shadows, mists, and darkness given.
He shows St. James's cockle-shell—
Of fair Montserrat, too, can tell.

The summoned Palmer came in place,
His sable cowl o'erhung his face;
In his black mantle was he clad,
With Peter's keys, in cloth of red,
On his broad shoulders wrought;
The Scallop-shell his cap did deck.

From the romantic pages of the past which relate to Pearls and famous Pearl-hunters, from the Pilgrims and Pecten shells of the Middle Ages, let us turn over a few leaves and briefly review

THE USE OF SHELLS FOR THE PURPOSES OF MONEY.

It would be quite difficult to point out any natural production better adapted for use as money, or more convenient, when size, shape, and substance are considered, than the Money cowry, and no species of shell or form of shell money has had so wide-spread, so general and extended use as this species. With a few exceptions, other forms of shell money have been made from portions of shells of larger species, necessitating considerable labor in the process of manipulation, the natural form of the shells not being preserved, the form or shape of the money being altogether conventional.†

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* Moule's Heraldry of Fish.

† When the division of labor was first introduced, commodities were directly bartered for each other. Those, for example, who had a surplus of corn and were in want of wine endeavored to find out those who were in the opposite circumstances, or who had a surplus of wine and wanted corn, and they exchanged one for the other. It is obvious, however, that the power of changing and, consequently, of dividing em-

The following extract from a paper on Early Hindoo Mathematics justifies the inference that the use of the *Cypræa moneta* for money has a very considerable antiquity, and quite likely extends back to a period many centuries earlier than the date of the treatise.

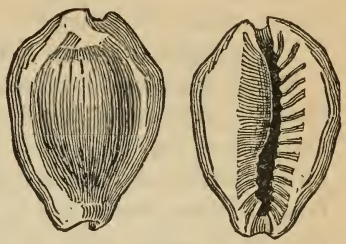

FIG. 1.

MONEY COWRY (*Cypræa moneta*).

(Pacific Islands. From specimens in the U. S. National Museum.)

This treatise, the Lilivati of Bhascara Acharya, is supposed to have been a compilation, and there are reasons for believing a portion of it to have been written about A. D. 628. However this may be, it is of the greatest interest, and its date is sufficiently remote to give to Hindoo mathematics a respectable antiquity.

"The treatise continues rapidly through the usual rules, but pauses at the reduction of fractions to hold up the avaricious man to scorn: 'The quarter of a sixteenth of the fifth of three-quarters of two-thirds of a moiety of a dramma was given to a beggar by a person from whom he asked alms. Tell me how many cowry shells the miser gave, if thou be conversant in arithmetic with the reduction termed subdivision of fractions.'"*

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ployments, must have been subjected to perpetual interruptions, so long as it was restricted to mere barter. A carries produce to market, and B is desirous to purchase it; but the produce belonging to B is not suitable for A. C, again, would like to buy B's produce, but B is already fully supplied with the equivalent C has to offer. In such cases—and they must be of constant occurrence wherever money is not introduced—no direct exchange could take place between the parties; and it might be very difficult to bring it about indirectly.

The extreme inconvenience attending such situations must early have forced themselves on the attention of every one. Efforts would, in consequence, be made to avoid them; and it would speedily appear that the best, or rather the only way in which this could be effected, was to exchange either the whole or a part of one's surplus produce for some commodity of known value, and in general demand; and which, consequently, few persons would be inclined to refuse to accept as an equivalent for whatever they had to dispose of.

After this commodity had begun to be employed as a means for exchanging other commodities, individuals would become willing to purchase a greater quantity of it than might be required to pay for the products they were desirous of immediately obtaining, knowing that should they at any future period want a further supply of either of these or other articles they would be able readily to procure them in exchange for this universally desired commodity. Though at first circulating slowly and with difficulty, it would, as the advantages arising from its use were better appreciated, begin to pass freely from hand to hand. Its value, as compared with other things, would thus become to be universally known, and it would at last be used, not only as the common medium of exchange, but as a standard by which to measure the value of other things.

Now this commodity, whatever it may be, is *money*. McCulloch's Com'l Dict'y. Vol. II, p. 193. Phila. ed., 1851.

* Prof. E. S. Holden, Popular Science Monthly, July, 1873.

This well-known species, an inhabitant of the Indo-Pacific waters, is still "used as money in Hindostan and many parts of Africa. Many tons are imported to Great Britain and exported for barter with the native tribes of Africa."*

These shells are used both strung and unstrung.

Reeve mentions in the second volume of the Conchologia Systematica that "a gentleman residing at Cuttack is said to have paid for the erection of his bungalow entirely in these cowries (*C. moneta*). The building cost him about 4,000 rupees sicca (£400 sterling), and as sixty-four of these shells are equivalent in value to one pice, and sixty-four pice to a rupee sicca, he paid for it with over 16,000,000 of these shells."

Though the number above mentioned is very large, this is an exceedingly abundant form. We have received in a single box from the East Indies not less than ten thousand specimens at one time. "In the year 1848, sixty tons were imported into Liverpool, and in 1849 nearly three hundred tons were brought to the same port." "Their relative currency value varies in different localities. In British India about four thousand pass for a shilling, and the erection of a church, which cost £4,000, is said to have been paid for entirely with cowries. The ordinary gradation or value on the west coast of Africa is as follows:

40	cowries=1 string.	10	heads=1 bag.
2½	strings=1 d.	2,000	cowries=1 head.
100	cowries=1 d.	3	heads=1 dollar.
50	strings=1 head of cowries.	20,000	cowries=1 bag.

"In other places they are valued at 1*s.* 3*d.* the 1,000. Sometimes 60,000 to 100,000 (or from £3 15*s.* to £7 10*s.*) are given for a young wife, whilst a common or ordinary wife may be had for 20,000 cowries, or 25*s.* In Sudan, as much as the people trade, they have no other currency than the cowry, of which 2,000 shells, weighing seven pounds, are worth only one dollar. Although completely depreciated in the territory of the Upper Nile, cowries form among the Mittoo tribes, between 5° and 6° north latitude, a favorite ornament.

"The Dyaks stick small white money-cowry shells in the eye sockets of the skulls of their enemies, which they keep. In India these shells are much used to ornament the trappings of horses and elephants. * * * Cowry shells are also strung like beads or sewed like buttons on their dress by Brinjari women as personal ornaments, and are in circulation as money in the Hyderabad State, and in other parts of the country." Besides the true money cowry (*Cypræa moneta*), the ring cowry (*Cypræa annulus*) passes current in many parts of Africa as a medium of exchange. A Hamburg house, probably the late firm of Godeffroy & Co., sent annually fourteen vessels to Zanzibar for cargoes

* Baird's Dictionary of Natural History.

of cowries, with which they purchased cargoes of palm-oil and other kinds of produce on the west coast of Africa.

Simmonds gives the following as the imports of cowries into the port of Lagos alone in three years:

	Cwts.
1868	65,496
1869	56,040
1870	50,340
Total	171,876

Or nearly 8,594 tons.

The statistics of late years are not accessible. It is not unlikely that the trade interests involved have led to the suppression or non-publication of the extent of the transactions.

According to Pickering this species was formerly used as money in the Sandwich Islands. He says:* "An estimable and intelligent Hawaiian lady gave me the following particulars respecting former customs: * * * Money was certainly known, for with a string of cowries (*Cypræa moneta*) it was possible to buy any article wanted. Specimens of the same shell that were finer than usual, having a high polish and deep yellow color, were extravagantly valued, and could only be worn by the highest chiefs, who also exclusively possessed wooden calabashes."

Pickering further remarks: "On ascending the Nile I met with the first instances of mixed descent at Kenneh, the modern capital of the Thebaud, about thirty miles below the site of ancient Thebes. Market women of the Ethiopian race likewise made their appearance at Kinneh, where a change took place in the weights and measures, and cowries were seen used as money." The same author observed that "cowries were seen used as money at Poona, the species being *Cypræa annulus*."

Cypræa moneta, also known as Guinea money, has been used as a financial medium in connection with the African slave trade, and doubtless many a poor negro has been kidnapped and sold, and lost his liberty for a greater or less number of these shells.

The main sources of supply of this species of shell are the Maldive and Laccadive Islands, two groups in the Arabian Sea.

Cypræa annulus, or the ringed cowry, so called, the back or upper side of the shell being ornamented with a bright orange-colored ring, aside from its use as money, as before mentioned, is also used by the Asiatic islanders to adorn their dress and to weight their fishing nets. Specimens of it were found by Dr. Layard in the ruins of Nimroud.†

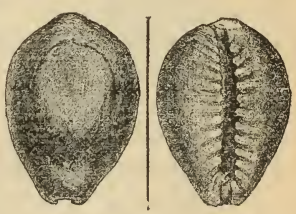

FIG. 2.

RINGED COWRY (*Cypræa annulus*).

(Pacific Islands. From specimens in the U. S. National Museum.)

* Races of Man, Bohn's ed., 1863. † Woodward's Manual, 2d ed., p. 233.

ACHATINA MONETARIA, ETC.

The shell of the land-snail, *Achatina monetaria*, cut into circles, with an open center, is the monetary sign employed in commerce and in payment of a part of tribute in Benguella.*

Another Indo-Pacific species, *Nerita polita*, described by Linnæus, a very abundant form in the general region of the Viti or Fiji Islands and the Navigator or Samoan group, and at certain localities in the Australasian seas, sometimes (once in a thousand) exhibits a banded or striped variety; this, it is said, passes as money and is used in trade.

DIWÁRA, TAMBU, LIDERAN, AND PELE.

In the islands of New Britain and New Ireland and those of the Duke of York group, situated about 10° south latitude and 150° west longitude, shell money is used by the natives. The name of this money in the Duke of York group and New Ireland is *Diwára*. In New Britain it is called *Tambu*. There are other kinds of money in the group made of shells broken into flakes and ground down to a circular form; this is called *Lideran*. In New Ireland 1 fathom of *Lideran* will purchase more than one fathom of *Diwára*. Still another kind of money is made at a place called Mioko, in the Duke of York group; the name of this last is *Pele*. Some forms of this native money are exceedingly special and restricted as a tender, being used only in the purchase of swine. The author† does not give the names of the species or genera of shells from which the money he refers to is made, but some forms of it, impliedly, are made from bivalves and others from gasteropod shells.

It is noteworthy that some of it is in the disk form, in this respect like the *hawock* and *tocalli* of the California aborigines.

WAMPUM AND SHELL MONEY OF THE NORTH AMERICAN INDIANS.

The early settlers of New England found a form of shell money in use among the aborigines of that region. In the Historical Collections of Massachusetts, and from other sources, as recorded by Governor Winthrop and Roger Williams, we are informed as to its character and the purposes for which it was used. This shell money, to which the Indian name *Wampum* was given, consisted of beads made from certain species of shells, and unlike the cowry money of India and Africa, before described, required a considerable degree of manipulation in its manufacture. The cowry money, it will be borne in mind, was used in the natural state, except when strung, and to prepare it for stringing only a simple perforation was necessary. The wampum or shell-bead money of the New England Indians involved much labor and no small degree of skill. It consisted of *two principal colors of beads*, of cylindrical form, a quarter of an inch, more or less, in length, the diameter or thickness being usually about

* Tryon's Conchology, vol. I, p. 149.

† Rev. B. Danks, in Jour. Anthrop. Inst., May, 1888.

half the length. The color of the wampum determined its value. The term *Wampum*, *Wampon*, or *Wampom*, and *Wampam-peege* was apparently applied to these beads when strung or otherwise connected, fastened, or woven together,* as in Fig. 3; also shown in Plate I.

Outside of New England it was otherwise known. By the Dutch settlers of New York it was called *Seawan*,† *Seawant*, or *Zeewand*, and *Roenoke*‡ in Virginia, and perhaps further south, for shell money was also known in the Carolinas, but whether the roenoke of the Virginia Indians was made from the same species of shells as the wampum beads of the more northern tribes is not definitely shown, as the common names given to "shell-fish" were then, as now, quite confusing.

Beverly§ says of Virginia wampum: "Peak is of two sorts, or rather of two colors, for both are made of one shell,‖ though or diffeent parts; one is a dark-purple cylinder, and the other a white; they are both made in size and figure alike, and commonly much resembling the English bugles, but not so transparent nor so brittle. They are wrought as smooth as glass, being one-third of an inch long, and about a quarter diameter, strung by a hole drilled through the center.

"The dark color is the dearest,¶ and distinguished by the name Wampum peak. The Englishmen, that are called Indian traders, value the wampum peak at eighteen

FIG. 3.—WAMPUM.
(New England coasts. From specimens in U. S. N. M.)

* Cylindrical shell beads similar to the wampampeege of the Atlantic coast Indians were made to some extent by the red men of the west coast, as is proven by examples in the National Museum from ancient graves, *vide* specimens as follows: Santa Rosa Island, California, 23698, 29123; San Miguel Island, 29122; San Luis Obispo, 21173; Santa Cruz, 18235; Santa Barbara, 15203. These are a modification of the *hawock* of the California tribes, and were made from the dark-purple shells of the mussel, *Mytilus californianus*, which abounds on the west coast.

† Weeden.

‡ Lawson.

§ History of Virginia, 1705.

‖ This certainly applies to the quahaug, *Venus mercenaria*.

¶ This difference in values is the same as among the New Englanders, whites and Indians.

pence per yard, and the white peak at nine pence. They also make runtees of the small shells, and grind them as smooth as peak; these are either large, like an oval bead, and drilled the length of the oval, or else they are circular and flat, almost an inch over, and drilled edgeways. * * * They also have another sort, which is current among them, but of less value; and this is made of the cockle-shell,* broken into small bits, with rough edges, drilled through in the same manner as beads, and this they call roenoke, and use it as peak. These sorts of money bear the rates set upon them as unalterably and current as the value our money are."

William Byrd,† F. R. S., wrote: "A vertuoso might divert himself here very well in picking up Shells of various Hue and Figure, and amongst the rest that species of Conque shells which the Indian Peak is made of. The extremities of them shells are Blue and the rest White, so that Peak of both these colors are drilled out of the same shell,‡ serving the Natives both for Ornament and Money, and are esteemed by them far beyond Gold and Silver."

"The money of the Carolina Indians," says Lawson,§ "is of different sorts, but all made of shells which are found on the coast of Carolina," etc. * * * "The general and current species of all the Indians in Carolina, and I believe * * * as far as the bay of Mexico, is that which we call peak || and roenoak; but peak more especially. This is that which at New York they call wampum, and have used it as current money among the inhabitants for a great many years," etc.

SUCKAUHOCK OR BLACK WAMPUM.

One of the most common bivalve shell-fish or clams of the southern coast of New England is the *Venus mercenaria*,¶ the "hard-shell clam" or "round clam" of the New York market, and in the market-stalls of Boston known as the "quahog." The valves or shells of this species frequently exhibit an interior purple edge, the rest of the shell being of an opaque white. From the darker-colored portion** the Indians made their purple or black money or beads, while from the axis of a

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* ? *Fulgur carica*, the *Pyrula* elsewhere so called.

† History of the Dividing Line between Virginia and North Carolinia, 1728, p. 24.

‡ *Venus mercenaria*.

§ History of Carolina.

|| "*Peak* and *Roenoak* beads and white shells, with Holes, which they wear in strings about their Arms and Neck." (Jones, Present State of Virginia, 1724.)

¶ *Mercenaria violacea* of authors.

** In describing the hard clam or quahaug (*Venus mercenaria*), Ingersoll says: "Toward the anterior end of the otherwise white interior of each of the valves of this mollusk's shell is a deep purple or brownish black scar, indicating the point of the muscular attachment; the fishermen call it the eye. This dark spot was broken out of the shell by the Indians, and formed the material of their more valuable coins." The above is quite misleading; the term "eye," often applied to the *mono-*

species of *Pyrula*,* or conch, and from other shells, as we are led to infer, they made their "white *wampum*." In reference to the first, and its use as a substance from which the *wampum* was made, we have the following: "The quahaug (*Venus mercenaria*), called by Roger Williams the *poquau* and the *hen*, is a round, thick shell-fish, or, to speak more properly, worm. It does not bury itself but a little in the sand; is generally found lying on it, in deep water, and is gathered by rakes made for the purpose. After the tide ebbs away a few are picked up on the shore below high-

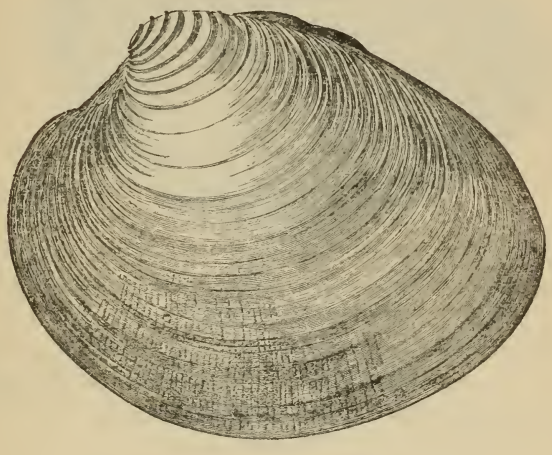

Fig. 4.

THE QUAHAUG (*Venus mercenaria*).

Atlantic Coast of North America. From specimen in U. S. N. M.

water mark. The quahaug is not much inferior in relish to the oyster, but is less digestible. It is not eaten raw, but is cooked in various modes being roasted in the shell or opened and broiled, fried, or made into soups and pies. About half an inch of the inside of the shell is of a purple color. This the Indians broke off and converted into beads, named by them *suckauhock*, or black money, which was twice the value of their *wompom*, or white money, made of the *metauhock* or periwinkle (*Pyrula*).*

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myarian oysters, where the muscular scar is in a general way central, does not apply to the *dimyarian quahaug* with *two* muscular scars—one anterior, the other posterior. In such shells as have a purple interior both of these scars are often more or less merged in that color, which is principally seen on the ventral or lower portion of the valves. Mr. Ingersoll refers to the periwinkle shells, "Meteaûhock" or Pyrula, from which the "white wampum" was made, thus: "It was only necessary to take out one or two small sections of the central column of the spire and smooth the edges; the hollow core made them natural beads." I am somewhat familiar with these shells, but have never observed a specimen with a perforated columella. (See "Wampum and its History.")

* Mass. Historical Society Collections, VIII, 192 (1802).

"As to the derivation of the word 'quahog,' Governor Winthrop refers to it as '*Poquahauges*, a rare shell and dainty food with the Indians. The flesh eats like veal; the English make pyes thereof; and of the

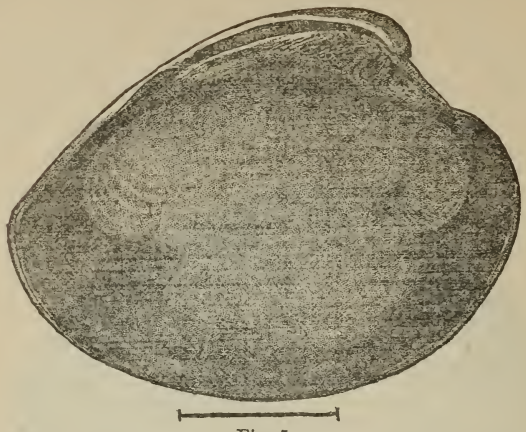


Fig. 5.

Quahaug (*Venus mercenaria*). Inside view of left valve, showing the dark ventral margin.

(Atlantic coast of North America. From specimen in U. S. N. M.)

shells the Indians make money.' He says of the money, 'it is called *wampampeege*.'* Also called by some English *hens po-qua-hock*. Three are equal to a penny; a fathom is worth 5 shillings.†

"*Poquahock*, corrupted into *quahaug* or *quahog*."

WHITE WAMPUM, OR WAMPUM-PEAGE.

In Cadwallader Colden's History of the Five Indian Nations, he says that wampum is made of the large whelk-shell *Buccinum*, and shaped like long beads; it is the current money of the Indians. Whether the shells of the true *Buccinum* (*B. undatum*, Linn.) or those of *Pyrula canaliculata*‡ and *Pyrula carica* were used is not satisfactorily explained. Probably all of these were used, the long columella of the two latter species causing them to be specially desirable for the purpose of bead making, particularly the latter for the white beads.

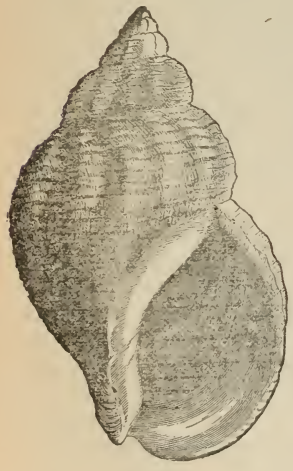


Fig. 6.

COMMON WHELK (*Buccinum undatum*).

(Atlantic coast of North America. From specimen in U. S. N. M.)

These shells are frequently referred to by the old colonial writers as "cunk" or "conch" shells; and the names "periwinkle," "winkle,"

* Journal Royal Society, June 27, 1634.

† *Vide* Invertebrata of Massachusetts, Binney's edition, p. 134. Specimens of wampum are contained in the National Museum from Newport, Rhode Island, No. 17975; Cuyahoga, New York, 17157; Georgia mounds, 10027; Franklin, Tennessee, 19974.

‡ *Fulgur* (*Sycotypus*) *canaliculatus*, the grooved whelk. (*See* Plate II.)

"coccle," "oyster," etc., were confusingly applied to the various species of shells out of which the wampum beads were made.

In the inevitable intercourse and early traffic between the white settlers and the Indians, the wampum or shell money of the latter, in the place of the ordinary money of civilization, naturally came into use as a medium in bartering and exchange, or in adjusting the differences arising in trade between buyer and seller; at first only to a limited extent, afterwards growing into such general use that its value was fixed by legal enactment.

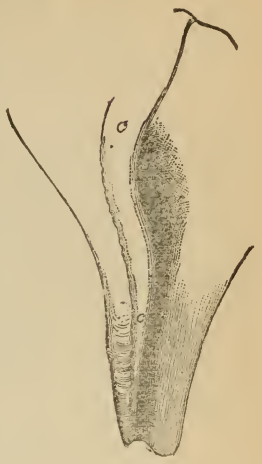


Fig. 7.

Fulgur carica: Portion of basal whorl, showing axis, *c c*, from which the white peage was made; ½ natural size.

(See, also, Plate III.)

Col. T. W. Higginson, of Massachusetts, in one of his Atlantic essays, "The Puritan Minister," says: "In coming to the private affairs of the Puritan divines, it is humiliating to find that anxieties about salary are of no modern origin. The highest compensation I can find recorded is that of John Higginson, in 1671, who had £160 voted him in country produce, which he was glad, however, to exchange for £120 in solid cash. 'Solid cash' included beaver-skins, black and white wampum, beads, and musket balls, value one farthing."

The value of wampum, as heretofore given on the authority of Governor Winthrop, was for that known as hens-po-qua-hock, three to a penny; and five shillings as the value of a fathom.

"The fathom was a name for a count, an enumeration of beads. * * * Sixty pence, the fathom of beads, was more or less, according to the number of beads allowed by the statute to be equivalent to a penny. If the number was six, then the fathom was 360; but if it was four, as under the Massachusetts standard of 1640, then the fathom numbered 240 beads. We are not to forget that this was a fluctuating standard of value. The tributes of the Indian tribes to the colonists were usually payable in fathoms. Contracts for the sale of land were made by the Indians for considerations of all kinds—wampum, coats, guns, bullets, and wares of all sorts. The island of Conanicut, in Narragansett Bay, was sold to Coddington and his associates in 1657 for 'one hundred pounds in wampum-peage.'

"The unit of the fathom of wampum brought it into correlation with the other currencies used in the colonies. The beads were at first worth more than five shillings a fathom, the price at which they passed current when Williams wrote in 1643. A few years before the fathom was worth nine or ten shillings. But beaver fell in England, and that reduced the price of wampum in the colonies. The wampum was virtually redeemable in beaver, as these changes of value show. As long as the natives

were active and furs were plenty there appears to have been no difficulty in passing any quantity of wampum in common with other currencies. The Bay annulled its statutes making the beads a legal tender in 1661. Rhode Island and Connecticut followed soon after. * * *

"In 1627 De Rasières, with a Dutch trading vessel, came into Plymouth from New Amsterdam. In her cargo was a lot of wampum valued at £50, for the Dutch had learned its uses as a currency in their traffic with the natives. They sent this first installment to the trading post on the river Kennebec, where it was kept in hand for two years. Meanwhile the interior Indians heard of it, and the assured supply brought a demand. For some years after the Plymouth men could hardly furnish wampum enough, etc. * * * In 1637 the trade in maize with the Indians up the Connecticut River was so important to the colonies below that they recorded an ordinance with penalties restricting it. * * * In 1638 the same authority fixed the price of corn * * * at 5*s.* 6*d.* per bushel in money, at 6*s.* per bushel in wampum at three a penny, or if in beaver according to the order at 9*s.* per pound. * * * This particular instance shows that wampum had then made itself nearly equal in purchasing power to money of any kind. The Bay authorities had fixed the rate in 1637 at six beads for a penny for any sum under 12*d.* In the early statutes only one rate is mentioned. Probably it was understood that the black was included at double the rate fixed for the white. In many of the later laws the two colors are mentioned in that proportion. The usual difficulty caused by a standard of value fluctuating between different markets was experienced now. Connecticut received wampum for taxes, in 1637, at four a penny. They tried to bring it to the Massachusetts standard, for the ordinance of 1640 says: 'The late order concerning Wampū at sixe a penny shall be disolued, and the former of fower a penny and two pence to be paid in the shilling shall be established.'

"In the same year Massachusetts came to the Connecticut standard, the white to pass at four and the 'bleuse' at two a penny, not above 12*d.* at a time, except at the will of the receiver. In 1641 they submitted to the inevitable and made the shell beads a legal tender at six a penny in sums of £10."

Mr. Weeden, whose admirable memoir* has been freely quoted herein, and who it is quite evident from numerous foot-notes has carefully gleaned the records of the colonial period in this connection, goes on to say: "Evidently the proud merchants and capitalists of the Bay had adopted the Indian money only when the absolute necessity of their community demanded the sanction of law. The precious maize which many writers have designated as an essential factor in the prosperity of the early colonists had yielded the first place, and shell money became the principal medium of intercourse with the natives. Stringent necessity forced men like Winthrop and Endicott to receive these bar-

* Indian Money as a Factor in New England Civilization. Baltimore, 1884.

baric trinkets on a par with solid coin of the old English realm. * * * The coin marks, the £ *s. d.* of their money, they adopted from the Lombard merchants who settled in London, and taught them the larger commerce. They brought these mystic symbols of civilization across the seas and stamped them on the shell treasures of Canonicus and Sassacus."

There was no restriction on the manufacture of wampum. Anybody could make it, and it was made by the whites as well as the Indians. "Seeing that profit and wealth lay in the possession of wampum the burghers [of New Amsterdam] as the easiest way of getting rich began to make it. With their tools of steel this could be done very rapidly, but with the loss of the painstaking care with which the Indians wrought came a loss of value and the wampum soon began to depreciate. To widen their market it was carried to New England."*

The inferior quality of much of the wampum in circulation about this time led to the legislation of 1648 and 1649, by Massachusetts and Connecticut, in the matter of "bad, false, and unfinished peage."

"In 1644 the Indian trade was at its height in New England. In 1661 and 1662 all the New England colonies ceased to receive wampum as a lawful currency, * * * but its use continued long after. * * * New York continued the beads in circulation longer than the regular use prevailed in New England."

The "Acts of Virginia,† 1655," show legislation as follows: "Be it enacted by this Grand Assembly that peeces of Eight that are good and of silver shall pass for five shillings sterling, and Roan only and Wompom peeke to keep their wonted value."

In 1693 they were recognized in the definite rates of the Brooklyn ferry. They continued to be circulated in the remoter districts of New England through the century, and even into the beginning of the eighteenth.‡

It was practically in use as change and was current with silver in Connecticut in 1704.

The knowledge and use of wampum or wampum-peage extended far into the interior of the country, or perhaps more properly wampum in some form was not uncommon among the aborigines of what was then the "far West."

The territory occupied by the Five Indian Nations being between that of the coast tribes and that of the remoter western Indians, indicates a path of distribution, and justifies the supposition that the wampum of the more distant was the same as that of the sea-board tribes.

Whether the interior tribes of the continent at that time, made use of it as money or as jewelry for personal adornment is a matter of conjecture. It is however highly probable that the wampum beads used

* Ingersoll *et al.*

† Acts of Virginia Assembly, IV, 1655.

‡ Weeden.

by them were received indirectly from the maritime or coast tribes in exchange for such articles as were peculiar to their interior position.

Without multiplying authorities, it may be safely asserted that this shell money was manufactured along the Atlantic coast from Maine to Florida, and on the Gulf coast certainly as far south as Central America. The use of this circulating medium was undoubtedly very general among the agricultural tribes east of the Mississippi River.* The ancient sepulchral tumuli of Georgia, Tennessee, Florida, and other Southern States, as well as those located in the valley of the Ohio and in valleys tributary both to it and to the Mississippi from the east, when opened, fully corroborate the historical narrative, and afford physical proof that this product of the skill and the patience of the coast tribes, sought and obtained through trade relations, was thus, and by means of subsequent migrations, widely disseminated among the red men dwelling far in the interior.

The proximity of the coast tribes to the sources whence the material was procured from which the wampum-peage was made would at once give to the latter superior commercial advantages, and it is quite likely that they were directly or indirectly liberal purchasers from the interior communities, who considered them, if not as merchants or bankers, at least as particularly fortunate and wealthy on account of the money they handled, just as the inhabitants of interior and agricultural districts among civilized people regard the traders and inhabitants of littoral cities and settlements.

There is some reason for believing that among the Five Nations wampum of home manufacture was made out of a species of fresh-water snail (shell) that lives in the streams and smaller lakes of the region occupied by said tribes.

From the foregoing some idea may be formed of the importance in the past of

SHELL MONEY AS A FACTOR IN AMERICAN CIVILIZATION.

Aside from the shell beads, or strings of shell beads, that were used as money, wampum was used for personal adornment,† and belts were made by embroidering wampum upon "strips of deer-skin," forming a girdle or scarf, and these belts and scarfs were not simply an evidence of wealth but a symbol of authority and power.

* C. C. Jones, Antiquities of the Southern Indians. Appleton & Co., 1873.

† "The Queen of Pamunkey was introduced * * * she having round her head a plat of black and white wampum peague three inches broad in imitation of a corown, and was cloathed in a mantle of dresst deer skins," etc. T[homas] M[atthews] The Begining and Progress and Conclusion of Bacon's Rebellion in Virginia in the year 1675 and 1676.

"Their hair was breeded with white and Blue Peak, and hung gracefully upon a large Roll upon their shoulders. This peak consists of small cylinders cut out of a Conque shell, drilled through and strung like Beads. It serves them both for Money and Jewels, the Blue being of much greater Value than the white." [Byrd, *l. c.* 73.]

In Major Rogers's Account of North America (London, 1765), in alluding to the wampum of the Indians, he says: "When they solicit the alliance, offensive or defensive, of a whole nation, they send an embassy with a large belt of *wampum* and a bloody hatchet, inviting them to come and drink the blood of their enemies. The *wampum* made use of on these and other occasions, before their acquaintance with the Europeans, was nothing but small shells, which they picked up by the sea-coast and on the banks of the lakes; and now it is nothing but a kind of cylindrical beads, made of shells, white and black, which are esteemed among them as silver and gold are among us. They have the art of stringing, twisting, and interweaving them into their belts, collars, blankets, moccasins, etc., in ten thousand different sizes, forms, and figures, so as to be ornaments for every part of dress, and expressive to them of all their important transactions.

"They dye the *wampum* of various colors and shades, and mix and dispose them with great ingenuity and order, so as to be significant among themselves of almost everything they please; so that by these their words are kept and their thoughts communicated to one another, as ours by writing. The belts that pass from one nation to another in all treaties, declarations, and important transactions, are very carefully preserved in the cabins of their chiefs, and serve not only as a kind of record or history, but as a public treasure.

"According to the Indian conception these belts could tell, by means of an interpreter, the exact rule, provision, or transaction talked into them at the time, and of which they were the exclusive record. A strand of wampum consisting of purple and white shell beads, or a belt woven with figures formed by beads of different colors, operated on the principle of associating a particular fact with a particular string or figure; thus giving a serial arrangement to the facts as well as fidelity to the memory. These strands and belts were the only visible records of the Iroquois; but they required those trained interpreters who could draw from their strings and figures [the acts and intentions] locked up in their remembrance."*

After the defeat of the great chief Philip of the Wampanoags, Anawan, the most trusted warrior, counselor, and friend of Philip, went out quietly, brought the three or four wampum scarfs—splendid in his eyes—and gave them to his conqueror. The trinkets were not only valuable in themselves, they also symbolized and embodied a complete submission to the more mighty men whose prowess had prevailed over the Indians. The largest scarf, 9 inches wide, pictured with birds and beasts and flowers, when laid over the shoulders of the sturdy Rhode Islander, swept his ankles. Another belt designed for the head carried two flags attached to it. Governor Winslow in his letter to the King, accompanying the spoils of Philip, speaks of them as "being his Crowne, his Gorge and two Belts of their own making of their goulde

* Morgan, Ancient Society.

and silver." Gold it was not, coin it was not; but the governor correctly described it as "their gold." This quality gave it the attributes of a currency in the growing intercourse with the colonists. It was this quality, this costliness, which impressed the barbaric imagination and made wampum a high symbol in every ceremony, political or religious.

Whenever the Indians made an important statement in their frequent negotiations, they presented a belt to prove it, to give force to their words. "The hatchet fixed in the head," one of the most forcible of their many figures, expressing a sense of wrong, a legitimate grievance—this hatchet must be removed by something more powerful than words. A belt was presented to discharge the grievance, and not by mere purchase. The value of the beads could hardly have been of consequence to a haughty confederacy like the Iroquois or Five Nations. It marked the gravity of the apology. It gave to the words the weight of hard physical facts, and made the expression an emblem of great force and significance.*

It is not the object of this paper to present or consider the use of shells or wampum beads for other purposes than money or a medium in trade. As Mr. Holmes† remarks in his elaborate memoir, "the literature of wampum would fill a volume."

So, from a passing glance at the symbolic uses of wampum and the important mnemonic use of these insignificant shell beads to the ancient Americans of the Atlantic sea-board, we will cross the continent and consider

THE SHELL MONEY OF THE CALIFORNIA ABORIGINES.

The use of shells for the purposes of money by the Indians of the northwest coast of North America prevailed no doubt for a long time before any members of the European races had any knowledge of the aborigines of this portion of the continent. At the time of the earliest contact of white men with the red men of the Pacific slope, shell money was found to be in use, and the same forms have been obtained from the graves and ancient burial places of the aborigines of California, etc.

Our knowledge of the Indians of the west coast is, unfortunately, exceedingly limited and indefinite. Limited in time, as we find when we seek to trace back, prior to the date of the transfer of the territory of what are termed the Pacific States to the United States, and indefinite as to the minor features of the west coast Indians, in matters which pertain or relate to their ordinary habits, customs, etc.

Powers, referring to shell money, says: "Immense quantities of it were formerly in circulation among the California Indians, and the manufacture of it was large and constant to replace the continual wastage * * * caused by the sacrifice of so much upon the death of wealthy men, and by the propitiatory sacrifices performed by many

* Weeden.

† Art in Shell of the Ancient Americans, Ann. Rept. Bureau Ethnology, 1880–'81.

tribes, especially those of the Coast Range. From my own observations, which have not been limited, and from the statements of pioneers and the Indians themselves, I hesitate little to express the belief that every Indian in the State, in early days, possessed an average of at least $100 worth of shell money. This would represent the value of about two women (though the Nishinam never actually bought their wives), or two grizzly-bear skins, or twenty-five cinnamon bear skins, or about three average ponies. This may be considered a fair statement of the diffusion of wealth among them in their primitive condition."

The late George Gibbs,* in writing (prior to 1873) of the Indians of the northwest coast, says: "Measures of length were probably all referred to parts of the body, the principal being the extent of the outstretched arms, which was used in valuing their money, the haikwa or wampum of the Pacific."

HAIK-WA, HI-A-QUA, OR TUSK-SHELL MONEY.

Of these shells, a species of *Dentalium*, Mr. Lord writes:†

"The money-shells are procured upon the north end of Vancouver Island; also in the bays and inlets along the mainland coast north of

Fig. 8.

DENTALIUM.

(Pacific coast. From specimen in U. S. N. M.)

latitude of 49 degrees to Sitka, and is common likewise round Queen Charlotte's Island. The genus has an enormous geographical range, and it is, perhaps, strange that the shells from Northwest America, from California, and those obtained on our own coast, when placed side by side, scarcely present any material specific difference."‡

The Tusk-shells are collected in the following manner: "An Indian when shell-fishing arms himself with a long spear, the haft of which is light deal; to the end of it is fastened a strip of wood placed transversely, but driven full of teeth made of bone. The whole affair resembles a long comb affixed to the end of a stick with the teeth very wide apart. A squaw sits in the stern of the canoe, and paddles it slowly along, whilst the Indian with the spear stands in the bow. He stabs this comb-like affair into the sand at the bottom of the water, and after giving two or three prods draws it up to look at it. If he has been

* Tribes of Western Washington and Northwestern Oregon.

† The Naturalist in British Columbia, vol. II.

‡ There are several unquestionably distinct species on the west coast from Sitka to Central America.

successful perhaps four or five money-shells have been impaled on the teeth of the spear. It is a very ingenious mode of procuring them, for it would be quite impracticable either to dredge or net them out, and they are never, as far as I know, found between tide-marks."

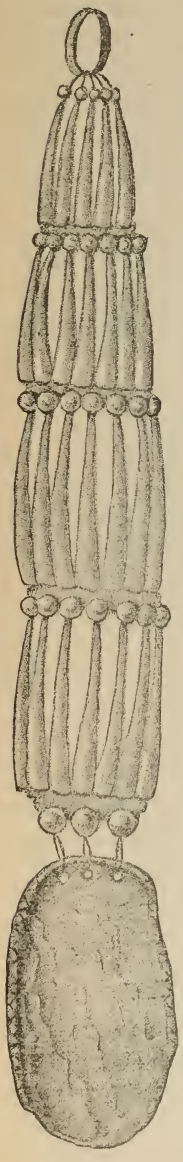


Fig. 9.

Ear ornament made of short Tusk-shells *kop-kops* with pendant of ear-shell, *Haliotis, uhl-lo*.

(West coast of North America. From specimen in U. S. N. M.)

Gibbs also describes the method of obtaining them as follows: "This shell is a species of *Dentalium*, which was procured on the northern coast by letting down long poles to which was attached a piece of wood filled with spikes or teeth, between which the shell became fixed. The squaws string them very neatly. A small bit of dried sinew, taken from * * * the caribou is passed through the shell lengthwise, there being a hole at each end. The string is generally ornamented with fragments of the * * * Haliotis shell and tufts of dry wool taken from the mountain goat (*Capra americana*)."

KOP-KOPS; SHORT TUSK-SHELLS.

The short, broken, and inferior shells are strung together in the same manner, but in various lengths, and represent shillings or pence, as the string is either long or short or the shells defective. All inferior strings, irrespective of either length or quality, are called *kop-kops*. The *hi-qua* represents the sovereign, the highest standard of currency, and, as a rule, would purchase one male or two female slaves. The value of the slave, estimating it by the sum paid in blankets for a slave at the present day, would be about £50 sterling. Forty *kop-kops* equal a *hi-qua* in value, but various small bargains are made and small debts paid with *kop-kops*, only just as we pay away shillings or lesser coin.

Gibbs also says: "Its price depended entirely upon its length; forty to the fathom being the standard of value. When the shells were so short that it required more to make up the required length, they were of inferior account, but rose proportionately with increased size. A fathom of forty was formerly worth a slave, and even now will bring five dollars in money.

"Single shells were shown me on the Tsihalis for which the owner refused one dollar apiece. This money is, however, becoming scarce, and is far less used than formerly, at least by the tribes who have much intercourse with the whites. It was the universal currency through an extensive district. On the Klamath River

it is valued even more highly than on the Sound and the Columbia, and those aboriginal peddlers, the Klikitat, frequently carry it to southern Oregon for sale. * * * I have never met with mnemonical signs or pictorial help to memory."

Mr. Lord also says that the use of these shells (*Dentalium*) as money had at the time he wrote to a great extent died out. This was due to the introduction of blankets by the Hudson Bay Company. "A slave, a canoe, or a squaw is worth in these days so many blankets; formerly it was so many strings of *Dentalia*."*

Further touching the value of the tusk shell money the same writer remarks: "The value depends upon its length. Those representing the greater value are called, when strung together end to end, a *hi-qua*, but the standard by which *Dentalium* is calculated to be fit for a *hi-qua* is that twenty-five shells placed end to end must make a fathom, or 6 feet in length."

In 1810† these were the circulating medium of the country, and twenty [? shells] of them would buy a good beaver-skin.

Pickering‡ says "the Chinooks have '*wampum*' of the usual description, but strings and bands of *Dentalium* shells of somewhat similar model seem principally to subserve the purposes of currency."

"In early days, ere the red and white men knew each other, the *Dentalium* was the only currency in use. It is quite clear, and also a very curious fact, that the *hi-qua* and *kop-kop* were known and used by the Indians of the interior at some distant period, although no trace of their use or knowledge of the shell exists among them at present; for in digging out some flint implements, stone beads, and other things I need not here enumerate, from the drift, I found numbers of *dentaliums* and round buttons made of the Haliotis nacre. The distance from the nearest sea-board was about 1,000 miles, and the language spoken by these inland Indians quite incomprehensible to the Indians on the coast."§

Among the *Tah ka-li* or *Ta cullies*, regarded by Gibbs as belonging to the Tinnehs, inhabiting a region extending from the Cascade Range in British Columbia eastward to the Rocky Mountains, their avarice it was said "lies in the direction of hiaqua shells,|| which they obtain indirectly from the sea-coast or of the maritime tribes through intervening tribes."

Whymper,¶ describing an Indian muster of various tribes at or near Fort Yukon, Alaska, in 1867, said: "Their clothing was much befringed with beads, and many of them wore through the nose (as did most of the other Indian *men* present) an ornament composed of the *hya-qua*

* Proc. Zool. Soc. London, March, 1864.

† Harmon's Jour., Voyages and Travels, 1820.

‡ Races of Man. This was in 1841.

§ Lord, *l. c.*

|| Harmon's Journal.

¶ Whymper's Alaska.

shell (*Dentalium entalis* or *Entalis vulgaris*). Both of the fur companies on the river trade with them, and at very high prices." He further remarks that his spelling "*hya-qua*" conveys a closer approximation to the usual pronunciation of the word then Mr. Lord's "*hi-qua*."

The use of these shells for nasal ornamentation,* as observed by Mr. Whymper, at Fort Yukon, is practiced by the Californian Indians. While at Crescent City in 1861 we saw a medicine-man belonging to one of the neighboring tribes thus curiously decorated. He had perforated the partition which separates the nostrils, and into the hole had inserted from each side, point passed by point, two of these shells.

This unique ornamentation was further improved by the sticking of the feathers of some species of wild fowl into the larger end of each of the hollow shells.

Whymper gives the scientific name of the Tusk-shell as *Dentalium entalis* or *Entalis vulgaris*. Now, this species of Tusk-shell is a North Atlantic form; the Pacific coast species is *Dentalium indianorum*.†

The Atlantic form, which is abundantly obtained in Europe, has been largely imported for the Indian trade; it is highly probable that a great part of the Tusk-shells that have been in circulation of late years do not belong to the indigenous species, but have been worked off upon the Indians by the traders.

Among the California tribes the Tusk-shells were called *Alli-co-cheek*, or *álli-co-chick*,‡ the latter being the orthography of Mr. Powers. The same writer observed the use of this species of money-shell among the Cahrocs or Karoks, who arrange it on strings, the shortest being worth with them 25 cents, the longest $2. * * * The unit of currency is a string the length of a man's arm, with a certain number of the longer shells below the elbow, and a certain number of the shorter ones above. This shell money is called *állicochick*, not only on the Klamath, but from Crescent City to Eel River, though the tribes using it speak different languages.

When the Americans first arrived in the country an Indian would give from $40 to $50 in gold for a string of it; but now it is principally the old Indians who value it at all.§

"Hupa *álli-co-chick* is rated a little differently from the Karok. The standard of measurement is a string of five shells. Nearly every man has ten lines tattooed across the inside of his left arm, about half way between the wrist and elbow, and in measuring shell money he takes the string in his right hand, draws one end over his left thumb nail and if the other end reaches to the uppermost of the tattoo-lines the five shells are worth $25 in gold, or $5 a shell. Of course it is only one in

* Mentioned also in Franklin's narrative: Journey to the Shores of the Polar Sea, vol. II, p. 84.

† Sometimes called *Dentalium pretiosum*.

‡ Meaning among the Yuroks, literally, Indian money.

§ Overland Monthly, vol. VIII.

ten thousand that is long enough to reach this high value. The longest ones usually seen are worth about $2, that is, $10 the string."

Powers says of the Indians of Del Norte County, that they are more avaricious than others in California. "Money makes the chief among them, and he is entitled to that honor who possesses the most *alli-ko-chick*."

After describing the puberty dance (*Kin'-alkh-ta*) of the Hupâs, he says: "She is now ready for marriage, and she will bring in the market from three to ten strings (about half the valuation of a man), that is, from $15 to $50."

I have heretofore referred to the *Pectens* or scallop shells, and their place in history and song. So also with the *Dentalia* or money-shells of the Indians, which it will be seen have a place in their simple rhythm and music.

Among the Moädocs, or Modoks "when a maiden arrives at womanhood her father makes a kind of party in her honor. Her young companions assemble, and together they dance and sing wild, dithyrambic roundelays, improvised songs of the woods and the waters:

"'Jumping echoes of the rock;
Squirrels turning somersaults;
Green leaves, dancing in the air;
Fishes white as money-shells
Running in the water, green and deep and still.
Hi-ho, hi-ho, hi-hay!
Hi-ho, hi-ho, hi-hay!'

"This is the substance of one of the songs, as translated for me."*

In describing marriage among the Yúroks or Eurocs, he says: "When a young Indian becomes enamored of a maiden and can not wait to collect the amount of shells demanded by her father, he is sometimes allowed to pay half the amount and become what is termed 'half married.' Instead of bringing her to his cabin and making her his slave, he goes to live in *her* cabin and becomes *her* slave." Again he says: "Since the advent of the Americans the honorable estate of matrimony has fallen sadly into desuetude among the young braves, because they seldom have shell money nowadays, and the old Indians prefer that in exchange for their daughters. * * * The old generation dislike the white man's money, but hoard up shell money like true misers," etc.

The Patawat have reduced the science and practice of law down to a tolerably accurate mechanism in one matter at least—that of mulctuary punishment. The average fine imposed for the murder of a man is ten strings of *ál-li-co-chik*, each string consisting of ten pieces, and for that of a squaw five strings of equal length. As the pieces of shell money generally average, and as it was first valued in American coin, these fines amount to about $100 and $50, respectively.

Among the Patwats "a wife is always acquired by purchase, and her

* Powers, Overland Monthly, vol. x.

market value is regulated on a sliding scale, on which the prices range all the way from two up to fifteen strings." Among the Hupâs or Hoopas, Powers* says: "Murder is generally compounded for by the payment of shell money."

Besides the *alli-co-cheek* or Tusk-shell money; *Dentalia*, which so far as general use as *money* is considered, had the widest circulation, we will now briefly glance at certain other forms that were used to a greater or less extent for the same purpose.

The Tusk-shell money, *al-li-ko-chik*, it seems, was principally used by the coast tribes from Mendocino, California, northward to Alaska, and by such other tribes to the eastward of the coast tribes whose territory joined on or was proximate to that of the coast tribes; and that it was known and highly prized still farther to the eastward, we have the following testimony:

"The Hidatsa,† Minnataree, or Gros Ventre Indians, are one of the three tribes which at present [1854–'62]) inhabit the permanent village at Fort Berthold, Dakota Territory, and hunt on the waters of the Upper Missouri and Yellowstone Rivers, in northwestern Dakota and eastern Montana."‡

"It appears probable that they once carried on a trade indirectly with the tribes of the Pacific coast, for they had *Dentalium* shells similar to those obtained on the Pacific, and they prized them so highly that the white traders found it advisable to obtain them for the trade. As late as 1866, ten of these shells, of inferior size, costing the traders only a cent apiece, would buy a superior buffalo robe, and formerly only two or three of the same quality were paid for a robe. Modern traders, with whom the writer has conversed, obtain their shells from the Eastern importers, and know nothing of the original source of supply. They suppose them to come from the Atlantic coast or the Great Lakes, and call them 'Iroquois shells,' which is probably their corruption of the Chinook *Hyakwa*, but it is possible the reverse is the case."

They also used, and still use as ornaments, fragments of the *Abalone* shells (one or more species of Haliotis) of the Pacific. These are now supplied to the trade under the name of California shells. Ten years ago one of these shells, unpolished, sold for a good robe. There is little doubt that they used *Abalone*, *Dentalium*, and other sea-shells before the traders brought them. Old traders and Indians say so. Even as late as 1833 it would seem that they had not yet become a regular part of a trader's outfit; for Maximilian§ says of the Mandans: "They do not disfigure the bodies; only they make some apertures in the outer rim of the ear, in which they have strings of beads, brass or iron rings of different sizes, or shells, the last of which they obtain from other

* Overland Monthly, vol. IX.

† Ethnography and Philology of the Hidatsa Indians, etc., p. 3.

‡ *Id.*, p. 28.

§ Travels in the Interior of North America by Maximilian * * * in 1832, 1833, 1834. London ed. Ackerman & Co. 1843.

Indian tribes. If they are questioned respecting these shells, they answer that they were brought from the sea."

It had but a limited use among the west-coast Indians, if we may judge by the rarity of its occurrence in old graves. Of the small number of specimens in the National Museum named in the foot-note* nearly all belong to a different species of *Dentalium*, namely, *D. hexagonum*, and it is not certain that such examples as do not belong to this species should be regarded as the same as the northern form. *D. hexagonum*, though a smaller, slenderer, and more delicate shell, and in these respects less desirable through being less serviceable than *D. indianorum*, is fully as abundant along the coast in the region around San Diego as *D. indianorum* is in the Puget Sound region.

HAWOCK OR HA-WOK.

Powers expresses the opinion "that the staple currency of all the tribes in central and southern California is made from the same mate-

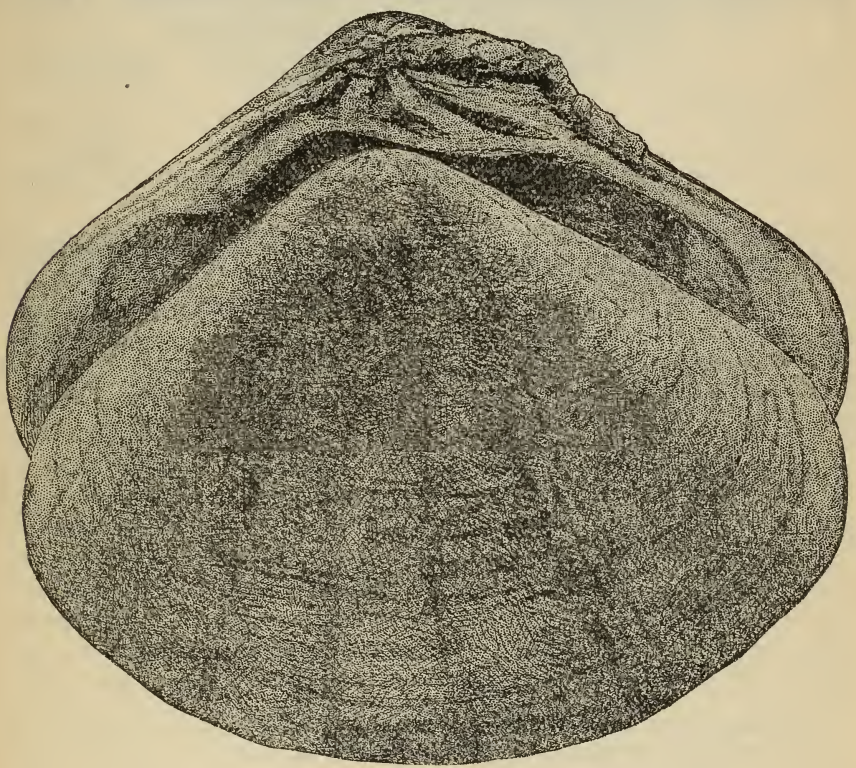


Fig. 10.

TIVELA CRASSATELLOIDES.†

(Southern coast of California. From specimen in U. S. N. M.)

* San Miguel Island: *D. hexagonum* and perhaps *D. indianorum* on same string. [29144.] San Luis Obispo: Fragments of both of above, or possibly (artificially shortened and strung) beads, mixed. [21773.]

† = *Pachydesma crassatelloides.*

rial," but he is not positive of that except among the Nishinam [Maidu]. Here it is made from the heavy shells of a bivalve, a ponderous clam when adult, of very compact texture, peculiar to the southern coast of California; abundant at Morro or Estero Bay and other places southward to San Diego. This is cut into circular pieces of the diameter as shown in the annexed figures, or even smaller, the thickness of the pieces varying with the thickness of the shells, or of that portion of the valve from which the disks are made. The larger pieces* (Figs. 11 and 12) of the value of twenty-five cents are cut from the thicker part of the valves of large or adult clams of said species, and the smaller (Figs. 13 and 14) of the value of four cents each from the thinner portions. This

Fig. 11.
HAWOCK OR HA-WOK.

Fig. 12.
HAWOCK OR HA-WOK.

Fig. 13.
HAWOCK OR HA-WOK.

Fig. 14.
HAWOCK OR HA-WOK.

money, of which the smaller pieces closely resemble the disk-shaped beads of the natives of the Paumotu Islands in the South Pacific, except in being of twice the diameter and thickness, is strung upon strings the same as beads in a necklace, for which it is also used. Figs. 13 and 14 are the same in form and about the size of the pieces made from *Saxidomus aratus*,† according to Yates, and in use among the Indian Pomos [Wailakki] of Lake County,‡ and probably by the neighboring Wintuns. While on a collecting tour along the coast in the neighborhood of Bodega, in 1867 or 1868, we were told by some of the old settlers thereabout that the Indians formerly visited this region for the purpose of digging this particular species of clam. The meats were dried for food purposes and the shells were used to make this form of money, which is called *hawock*, according to Mr. Powers, though, as he says, different tribes call it by different names and attach different values to it. He says: "The Bear River Indians (*Neeshenams*) are the only ones I have

* Similar disks were sometimes made by the Indians of the Atlantic side, as may be seen by examining specimen 21618 in the National Museum, from Cocke County, Tennessee; probably cut out of a Busycon shell.

† = *Saxidomus gracilis*. A form closely related to the foregoing, *Saxidomus nuttallii*, is used to a certain extent by the Indians in Washington Territory for making these disk heads or money. They make two sizes of it, like the figures in this respect. *S. nuttallii* is a common clam in Puget Sound.

‡ Yates states the value of these small disks as being 80 for $1 among the Indians of Lake County.

seen who count it by the single piece; the others rate it by the foot or yard. * * * It is sometimes strung upon a string many yards long,

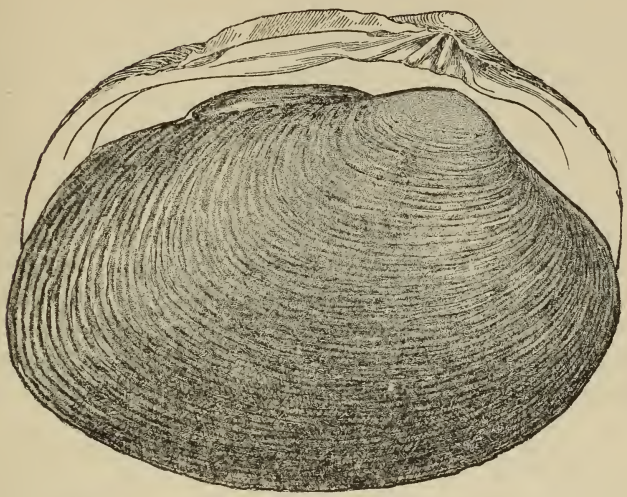


Fig. 15.

SAXIDOMUS ARATUS.

(Southern coast of California. From specimen in U. S. N. M.)

in hundreds of pieces, and doubled into lengths of about a yard. The Wai'-lak-kis make the buttons thin, then every tenth one thicker, so that it looks like a Catholic rosary, and their name for it is *tocalli*."

In a photograph of a young woman of the Bear River Indians, named Válputteh, sent to me by Mr. Powers, her person is adorned with a necklace of *hawock*, which, it is stated, is ten yards long, requiring to be wound several times about her neck. It consists of about 1,160 pieces, valued at $232. "Sometimes disks of *hawock* are made two inches in diameter and half an inch thick, which are rated at one dollar apiece, but such large pieces are seldom seen." These disk-beads or *Hawock* "are strung on strings made of the inner bark of wild cotton or milkweed (*Asclepias*); and either all the pieces on a string or all in one section of it are of the same size."

In connection with the use of money in traffic among the interior Indians, it appears that "all the dwellers on the plains, and as far up on the mountain as the cedar line, bought all their bows and most of their arrows from the upper mountaineers. An Indian is about ten days making a bow, and it costs $3, $4, or $5, according to the workmanship; an arrow 12½ cents. Three kinds of money were employed in this traffic. White shell beads, or rather buttons, pierced in the center and strung together were rated at $5 per yard (*hawock*); periwinkles, at $1 a yard; fancy marine shells, at various prices, from $3 to $10 or $15, according to their beauty.

"Among the Yocuts, whose dominion covers the Kern and Tulare basins and the middle San Joaquin, etc., their money consists of the usual shell buttons (*hawock*), and a string of them reaching from the point of the middle finger to the elbow is valued at twenty-five cents."

The use of hāwok was quite general no doubt throughout central and southern California, and to some extent much farther to the east. One example* in the National Museum is from New Mexico. Hāwok was often made of much smaller size than the figures illustrate; as small as the smaller beads or *peage* of the Atlantic coast and equally well finished, sometimes even neatly ornamented by serrating the edges,† which must have been a difficult and painstaking work in beads so small. Again we find cylindrical beads sometimes five inches in length, either curved or straight, made from the heavy clam *Tivela;* these we may regard, however, rather as ornaments than money; they have been found in the graves on most of the islands in the Santa Barbara Channel, as well as infrequently in similar situations on the mainland.

KOL-KOL OR OLIVELLA SHELL MONEY.

The periwinkles mentioned by Mr. Powers are *Olivella* shells of the species known as *O. biplicata*, a form that is exceedingly abundant in numerous places along the Californian coast. They were prepared by simply rubbing or grinding off the apex, and were called *col-col* or *kol-kol*. This form was strung in a double string, the shells lying mouth to

Fig. 16.

OLIVELLA BIPLICATA.

(Coast of California. From specimens in U. S. N. M.)

mouth, and it is stated were "slightly esteemed." This was no doubt owing to the abundance of this species. They were, however, extensively used for personal decoration, for they have been found in ancient graves at various places in southern, central, and northern California on the mainland, and also the islands in the Santa Barbara Channel.‡

* Museum number 9538.

† Santa Barbara (15221) graves. See also specimens from San Miguel Island, 15768, 29127, 29129; Santa Rosa Island, 23696; Santa Cruz Island, 18190, 26253; Santa Barbara, 20244; Dos Pueblos, 18773; Stockton, 32316.

‡ "We found *O. biplicata* in great numbers in the graves on San Miguel Island, many of which had been bored, seemingly for the purpose of stringing. I observed also many of them with the apex ground off, so that a string might be readily passed through lengthwise."—(W. G. W. Harford, 1876.) "The shell of *Olivella biplicata* Sby., is also (or was) used as money, the writer having found them occasionally in the 'mounds' of Contra Costa and Alameda Counties mixed with small flat disks described above."—(Dr. L. G. Yates.)

These shells were not only strung whole, but disk-shaped beads were cut out of the body whorl as shown in figure. These *Olivella* shells

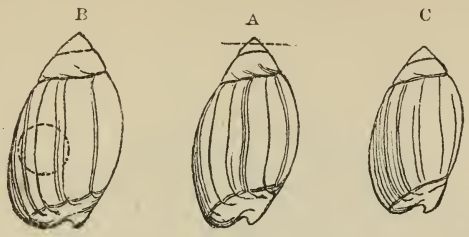


Fig. 17.

OLIVELLA BIPLICATA.

A, the portion above the line was ground off to admit of stringing; B, the circle shows the part of the shell from which the disks were cut; C, a specimen of the shell in the natural state.

(Coast of California. From specimens in U. S. N. M.)

vary considerably in size, often measuring an inch or more in length. The smaller ones were apparently preferred for stringing whole, while the larger ones were required for making the disks.

This way of treating the *Olivella* shells seems to have been formerly rather popular, if we may judge by the specimens in the National Museum* from Indian graves. In the majority of instances these disks were rather rudely finished, with rough and uneven edges, but sometimes, as shown in a specimen from Santa Rosa Island,† the disks are made quite small and very neatly finished.

Mr. Barber‡ says: "Through eastern Utah and south into Arizona many *Olivas* [Olivellas] were found scattered through the débris of crumbling walls and broken pottery. The perforation has been effected by grinding down the apex." * * * He describes other beads that "were of two sizes, and usually white. The smaller variety was flat on both sides, or slightly convex on one side and concave on the other, * * * as thin as a wafer, and the circumference of an ordinary pea. In the center a neatly bored hole enabled the owner to string them together in the form of a necklace. The larger variety was about the circumference of an average buckshot."

Capt. John Moss, of Parrott City, Colorado, says that these beads are valued highly by the present Navajo Indians to the south, a small string, when such can be found, bringing in exchange a good horse. The Navajoes are constantly grubbing about the old buildings and adjacent graves in search of these trinkets. This accounts in some measure for their great scarcity among the ruins to-day. They were undoubtedly obtained by the ancients from other tribes, who brought them, or at least the shells from which they were fashioned, from the Pacific coast. We know that these ruins extend as far west as the junction of the San Juan and Colorado Rivers, so that communication

* Santa Cruz Island, 26,425; San Miguel Island, 14988, 26428, 29024, 29623.

† Santa Rosa Island, 23693; Santa Barbara County, 21846, 21848; Santa Cruz, 18231, 26254; Contra Costa County, 9453.

‡ American Naturalist, vol. XI, 1277.

between the tribe in question and others situated along the Pacific Ocean or Gulf of California was rendered easy. Don José Cortez, writing of the tribes near the Colorado in 1799, speaks of "the white beads they get on the shores of the Gulf of California."

The more general form of kol-kol, combined or arranged in various ways, single and double strings, bracelets, etc., from as far east as southern Utah,* may be seen in the National Museum.

The finest example extant is probably that obtained by Lieutenant Ray† from the Hupa or Hoopah Indians of northern California. It is made of quite small *Olivellas* of the two species, *O. biplicata* and *O. intorta*, carefully selected specimens, and neatly strung. If extended in a single length it would measure nearly thirty feet, and includes probably over a thousand shells.

Occasionally large specimens of *O. biplicata* were cut, or more likely ground down, lengthwise‡ and then perforated, so as to admit of attachment or stringing; but this is not a common form, and was most likely for ornament only.

Powers, writing about *hawock*, says: "This may be called their silver, and is the great medium of all transactions, while the money answering to gold is made from various species of the ear shell" (*Haliotis*) and is called "*Uhl-lo* or *ül-lo*."

UHL-LO, ÜL-LO, OR ABALONE MONEY.

These shells are without doubt the "fancy marine shells" previously mentioned, which were valued at "$3 to $10, or $15, according to their beauty," and belong to one or the other of the species known to conchologists as *Haliotis rufescens*, *H. splendens*, and *H. cracherodii*, all indigenous forms, popularly known as *abalones;*§ the aulones of the Spanish.

It is not a matter of wonder that these beautiful shells excited the admiration of the savage. Many tons of them have within the last twenty years been collected and shipped to Europe and China as well as to the Eastern United States, where they are manipulated into various forms for useful and decorative purposes. The California Indians, with their primitive tools of obsidian, cut them up "into oblong strips from 1 to 2 inches in length, according to the curvature of the shell, and about a third as broad as they are long. * * * Holes are drilled near one end and they are thereby fastened to a string, * * * hanging edge to edge. Ten pieces generally constitute a string, and the larger pieces rate at $1 apiece, $10 a string; the smaller in proportion,

* 14621, also 11986, southern Utah.

† 77185, Hoopah Valley, California.

‡ San Miguel Island, California [No. 29156], in National Museum.

§ Holmes says that "*H. kamtchatkana*, which furnishes a dark-green nacre, is much used farther north." This is probably a mistake, and *H. splendens* the species intended, as the former is the least brilliant and has the thinnest shell of any of the west American species.

or less, if they are not pretty. Being susceptible of a high polish, this money forms a beautiful ornament, and is worn for necklaces on gala days. But as money it is rather too large and cumbersome, and the Indians generally seek to exchange it for the less brilliant but more useful *ha-wock*. The *ül-lo* may be considered rather as jewelry."

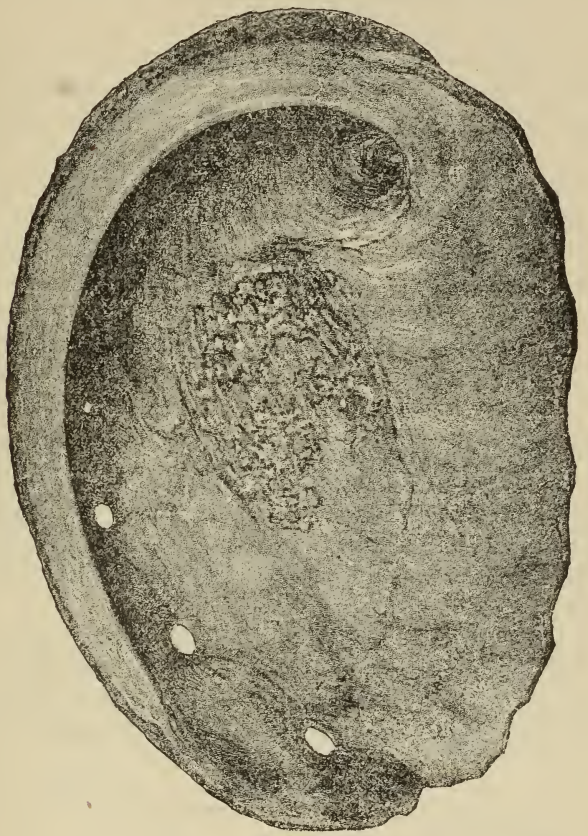


Fig. 18.

RED-BACKED ABALONE (*Haliotis rufescens*). From nature, reduced one-half.

(Coast of California. From specimen in U. S. N. M.)

The *ühl-lo* pieces are of a uniform size on the same string; they do not mix them. The dollar pieces (Figs. 19, 20) are generally about 1¼ inches long and 1 inch wide; the smaller about as long, but narrower; * * * a couple of fragments I picked up in an old Indian camp are worth twenty-five cents each.

The Indians are very ingenious and economical in working up the aulones. Wherever there is a broad, flat space they take out a dollar piece; where the curve is sharper, smaller ones. They especially value the outer edge (columella) of the whorl or lip, where the color is brilliant, and these they are obliged to cut into twenty-five-cent pieces. You will see that the *ühl-lo* is cut into pieces of different sizes, and even pieces

of the same size vary in value, according to their brilliancy. * * * All the money that I have seen was strung on grocery twine, but they often use sinew of various kinds; also the bark of a milkweed that grows about here.*

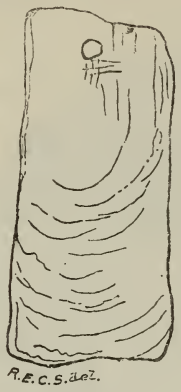


Fig. 19.
UHL-LO.

Fig. 20.
UHL-LO.

"The aulone or *ühl-lo* necklace has three or four strings of very small glass beads above the shells, forming a band about a quarter of an inch wide, which encircles the neck. * * * A common deep conical basket, of about a bushel and a half capacity, such as the squaws use for carrying their household effects, is worth one and one-half or two strings of *ühl-lo*, that is, fifteen or twenty dollars."

The shells of the various species of *Haliotis* were as highly prized by the red men of the west coast in the past as in later times, and were worked by them into a great variety of forms. These forms, as well as entire shells, have been found in the older burial places, mounds, and

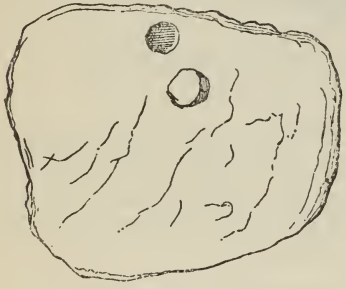


Fig. 21.

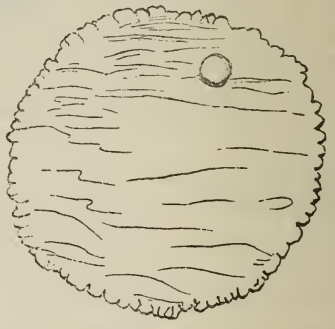


Fig. 22.

FROM INDIAN MOUND, VALLEJO, SOLANE COUNTY, CALIFORNIA. FOUND IN 1872 BY C. D. VOY.

graves throughout the entire coast, and far to the eastward in interior localities.

* Placer County, California.

Disks of different sizes, perforated or otherwise, some with plain edges,* others with the edges crenulated† or regularly notched; also other shapes, crescentic, elliptic, lanceolate, falciform, leaf-shaped, and a number of other forms occur; but, with the exception of the discoidal pieces, which may have been sometimes used as money, it is probable that these were jewelry, and were used as pendants, buttons, spangles, etc.

One instance of the purchasing power of an abalone was related to me many years ago by Dr. Edward Palmer. While in New Mexico, upon one occasion, he was witness to a trade wherein the consideration for a horse was a California abalone shell.

How far or to what extent the use of the *uhl-lo* for the purposes of money prevailed is quite uncertain, or where the use of it as money left off or as jewelry began, is too vague even for conjecture. It is, however, highly probable that it was used in both of these ways; less as money and more as jewelry or for personal decoration, and for the ornamentation of the implements and appurtenances of the red man.

As before the termination of what may be termed the wampum period in the colonial history of the Atlantic sea-board States, shell money, "bad, false, and unfinished peage," got into circulation, so the shell money of the west coast Indians was counterfeited or made by white men with machinery, and the purchasing power consequently declined. But the decline was not from this cause alone. At the time when Mr. Powers wrote, he stated that "the younger English-speaking Indians scarcely use it at all, except in a few dealings with their elders or for gambling. One sometimes lays away a few strings of it, for he knows he can not squander it at the stores, and is thus removed from temptation and possible bankruptcy; and when he wishes for a few dollars of American money he can raise it by exchanging with some old Indian who happens to have gold. * * * It is singular how the old Indians cling to this currency, when they know that it will purchase nothing from the shops; but then their wants are few and mostly supplied from the sources of nature, and besides that, this money has a certain religious value in their minds as being alone worthy to be offered up on the funeral pyre of departed friends or famous chiefs of their tribe."

Shell money made by white men was introduced among the Indians probably more than half a century ago, and quite likely by the American Fur Company at a still earlier period. In Mr. Norton's paper‡ it is stated that Mr. Astor was one of the patrons of "The Last Wampum Coinage" or had been a customer, and Mr. Astor has always been regarded as the leading spirit and controlling genius of that famous commercial enterprise whose field of operations extended to the western

* San Miguel Island, 29132, 29134, 29135; Santa Rosa Island, 23711; Santa Barbara, 21854, 30398; Santa Cruz, 18319.

† San Miguel Island, 29133; Santa Barbara, 15222, 20239; Santa Cruz, 18198; Dos Pueblos, 18769. Imperforate disks: San Miguel Island, 29646; Santa Barbara, 20239.

‡ Am. Magazine, March, 1888.

shores of the continent. A large number of specimens or pieces of Au-lo-ne or Ab-a-lone money (*ühl-lo*), of recent (white man's) manufacture—all alike, too much alike to be genuine—made from the columella, or "outer edge," as Mr. Powers calls it, are in the collection of the National Museum. These came from the west coast, but they are simply samples of "false peage," as the bogus shell money of the Atlantic side was termed.

Unlike the shell money of the east coast Indians, the shell money of the red men of the west coast had no status as "a medium or currency" with the whites. The necessities of the period and of the situation that led to and caused the very general use of wampum or shell money in the intercourse and relations of the red men and white settlers of the Atlantic sea-board never existed on the western slope of the continent.

The Indian money of the west coast was practically used only among the Indians themselves. Neither, so far as we can perceive, has the hi-qua, hai-qua, or alli-co-chick, the kol-kol, ha-wock, or ühl-lo, in whatever manner or form used or combined, ever held as high or a similar place or function as o. with the wampum or Indian money of the ancient Americans of the East in its symbolic, historical, governmental, and mnemonic aspects.

There is, it will be admitted, a touch of pathos, a gleam of sentiment, exhibited in the preference of the "old Indians" for *their money*, "a touch of nature" in their esteeming it "as alone worthy to be offered up on the funeral pyre of departed friends or famous chiefs of their tribe."

The Indian money of the Pacific coast* was hardly more than money, jewelry, or ornament. However used it was never more than these—an evidence of the acquisitive spirit and wealth of its possessor. The Indian money of the Atlantic coast had other uses and served higher purposes, and in these latter aspects indicated the intelligence and latent intellectual power and strength of the native red men of that side, and by comparison from this point of view serves also to show the superiority of the aborigines of the eastern to those of the western side of the continent.

SHELL MONEY AND THE SLAVE TRADE.

The use of cowry money in the African slave trade has heretofore been mentioned. It will be seen upon investigation that the shell money of the red men of North America was commonly used for a similar purpose, as well as for the compounding of crimes and the evasion of the penalties demanded by justice. In these latter respects the *black and white peage* of the east, and the *haik-wa*, *alli-co-chick* and *ha-wock* of the west coast, were of equal potency with the most ap-

* The Mojaves have a species of currency called *pook*, consisting of strings of shell beads, whose value is determined by the length. (Whipple, Pac. R. R. Reports, vol. III, p. 115.)

proved forms of gold and silver money of the present time, when applied, as the latter has been and not infrequently, to similar unworthy purposes in modern civilized communities. In other respects the Indians of the East and the West were alike, simply savages, before the advent of the white man as well as after—to use a homely expression, "chips off the same block." Lawson,* commenting upon the power of peage in the matters just presented, says:

"This is the money with which you may buy skins, furs, slaves, or anything the Indians have; it being the mammon (as our money is to us) that entices and persuades them to do anything and part with everything they possess except their children for slaves. As for their wives, they are often sold, and their daughters violated for it. With this they buy off murders; and whatsoever a man can do that is ill, this wampum will quit him of and make him, in their opinion, good and virtuous, though never so black before."

Gibbs states that among the Indians of the coast section of Oregon and Washington, "slavery is thoroughly interwoven with their social polity. East of the Cascades, though it exists it is not so common, the equestrian habit of the tribes living there probably rendering it less profitable, etc. * * * The system most likely originated in wars, all prisoners becoming slaves as a matter of course. * * * If one Indian has wronged another and failed to make compensation, or if a debtor is insolvent, he may be taken as a slave. And this slavery is final degradation. If a man purchase his father or mother they become his slave and are treated as such."

From other sources corroboratory of Gibbs, we find that "with the Classets† slaves are held by all the tribes, and are treated very much like their dogs, being looked upon as property and not within the category of humanity. For a master to kill half a dozen slaves is no wrong or cruelty; it only tends to illustrate the owner's noble disposition in freely sacrificing his property. Slaves are obtained by kidnapping, and are sold in large numbers to northern tribes. * * * The Classets, a rich and powerful tribe, encourage the slave-hunting incursions of the Nootkas against their weaker neighbors."

Slavery, common to all the coast families, is also practiced by the Chinooks, but there is less difference here perhaps than elsewhere between the condition of the slaves and the free.

In this connection, of the tribes farther to the north we read that "the Thlinket slaves are either captured in war, bought from other tribes who may themselves have captured them, or the children of female slaves. The wars between the tribes, being now of rare occurrence, the supply of slaves is kept up by barter with the more southern tribes, and hence many of the slaves are the Flatheads of Oregon. The slaves of

* History of Carolina.

† Bancroft: Native Races, etc., vol. I, pp. 217–218, and elsewhere.

the Thlinkets * * * have no rights that the master is bound to respect."*

Among the Tacullies "slavery is common with them; all who can afford it keeping slaves;" and so with the Nootkas. Slavery is practiced by all the tribes and the slave trade forms an important part of their commerce. Among the Haidahs "slavery is universal, and as the life of the slave is of no value to the owner except as property, they are treated with extreme cruelty;" and Lord says of the Indians of British Columbia, "slaves are bought and sold after the fashion of dogs and horses, and shells of the *Dentalium* are the sovereigns and shillings used to pay for them."

SHELL MONEY AND THE COMPOUNDING OF CRIMES.

Proceeding along the west coast from Alaska to California, various authorities have reported that among the Kutchins of the Yukon, "in the absence of law, murder and all other crimes are compounded for."

Of the littoral or maritime tribes of British Columbia, among the Haidahs, "crimes have no punishment by law; murder is settled for with relatives of the victim by death or by the payment of a large sum." With the Indians farther to the eastward, Harmon, referring to the Tacullies, says, "Murder is not considered as a crime of great magnitude."

To the southward of Puget Sound and British Columbia, in addition to what has been incidentally quoted elsewhere in the text, powers says of the Hupas, "Murder is generally compounded for by the payment of shell money," and among the Gallinomero, a branch of the Pomos, the same author states that "no crime is known for which the malefactor can not atone with money." Among the Karoks "the murder of a man's dearest relative may be compounded for by the payment of money, the price of the average Indian's life being *i-sa-pa-só-ra* (one string). * * * "A man may own as many women for slaves as he can purchase." * * * No adultery is so flagrant but that the husband can be placated with money at about the rate that would be paid for murder."

SHELL-MONEY ARISTOCRACY.

Amid the dreary repulsiveness of sensualism and cruelty we catch a gleam of the ludicrous as well as a revelation of the weakness and vanity of these primitive barbarians, that reads like a satire or seems like a burlesque on certain facies of modern society among civilized pale-faces. The influence of the almighty dollar in many of the polite circles of nineteenth-century civilization seems like a travesty with variations and improvements upon the magic power of *haik-wa*, *alli-cochick*, *hawock*, and *kol-kol*, etc., in the matter of social status among

* Dall's Alaska, 1870.

the shell-money aristocracy of the Karoks, Hupas, Haidahs, and others of the ancient families of western America.

Among the Karoks "no marriage is legal or binding unless preceded by the payment of money, and that family is most aristocratic in which the most money was paid for the wife. For this reason it stands a young man well in hand to be diligent in accumulating shell money and not to be a niggard in bargaining with his father-in-law. So far is this shell aristocracy carried, that the children of a woman for whom no money was paid are accounted no better than bastards, and the whole family are condemned."

The Hupas have the same shell aristocracy as the Karok, the amount paid for the wife determining her rank in society.

Among the Haidahs "rank and power depend greatly upon wealth, which consists of implements, wives, and slaves. Wealth, which is quite as important here as in any civilized communities and of much more importance than is customary among savage nations, consists in shell money, called alli-co-chick, white deer-skins, canoes, and indirectly in women." Again: "Wives, as they must be bought, are a sign of wealth, and the owner of many is respected accordingly."

Two centuries have nearly passed since the "peage" and "wampum" of the eastern aborigines ceased to be an implement in the current activities in the colonial life of the Atlantic sea-board. A century later and the red men themselves had become as obsolete as their "coinage;" outcasts and wanderers from their native haunts, overlooked and forgotten in the tumult, or trampled out in the triumphant westward march of a conquering race.

The past of the red men of the Pacific has not yet been reached. They still live and wander, but the twilight is upon them. The glimpse that we get incidentally in our brief review is that of forty or fifty years ago rather than to day.

On the shores of British Columbia and at many places to the north, to Alaska and inclusive of that Territory, they are numerous even now. To the southward it is different. We may follow the westerly slopes of the Sierra Nevada, or either flank of the picturesque Coast Ranges, or the shore line from southern California to Puget Sound without meeting a solitary sample of the native stock. Again, perchance while hunting in the valleys or fishing in the streams a few "bucks and squaws" may be met with, disguised in the cast-off garments of the alien whites.

In the pleasant valleys where the Wintuns, Matsuns, and Shastas once roamed in all the pomp and circumstance of savage pride, adorned with glittering fragments of *aulone*, or necklaces of *hawock* or *kol-kol*, a few arrow-heads or mortars may be found to verify the traditions of former occupancy. Here and there the shriveled remnants of the tribes and families, the former tenants of this vast region, are gathered into reservations, human drift-weed in the eddies of the stream, thrust aside by the pitiless current of a resistless civilization.

BIBLIOGRAPHY.

Should the reader be desirous of pursuing this subject further, the writer would particularly recommend Mr. Holmes's memoir, as well as that of Mr. W. B. Weeden, the title of which has previously been given. These memoirs are not only especially valuable for the foot-notes and copious references to the bibliography of the subjects treated, but as well for their intelligent arrangement and the judicious comments of the authors; Stearns's "Shell Money," in the American Naturalist, vol. III, March, 1869; "Aboriginal Shell Money," Proceedings of the California Academy of Sciences, July, 1873; "Aboriginal Shell Money," in Overland Monthly (San Francisco), September, 1873; also "Aboriginal Shell Money," American Naturalist, vol. XI, 1877, with figures; Dr. L. G. Yates's Notes on the Aboriginal Money of California, American Naturalist, vol. XI, 1877; "Wampum and its History," E. Ingersoll, American Naturalist, vol. XVII, 1883; Horatio Hale "On the Origin and Nature of Wampum," American Naturalist, vol. XVIII, 1884; Stephen Powers, Contributions to North American Ethnology, vol. III, Washington, 1877 (a most entertaining volume); W. H. Pratt, Proceedings of the Davenport Academy of Natural Sciences, vol. II; J. K. Lord, "The Naturalist in British Columbia," vol. II; "The Last Wampum Coinage," by C. L. Norton, in the American Magazine, March, 1888; Bancroft's "Native Races of the Pacific States of North America," 1874.

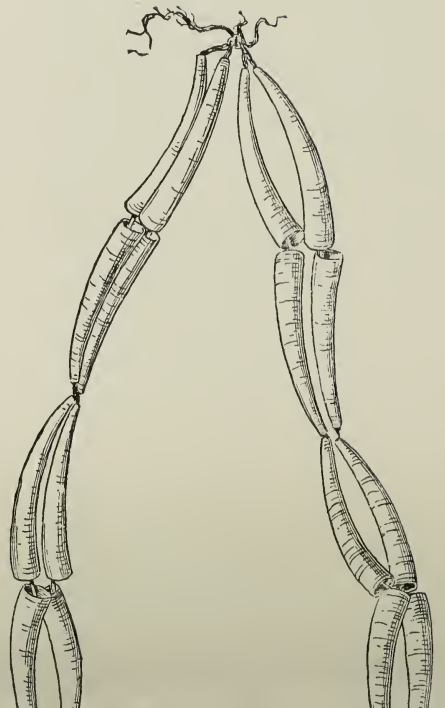


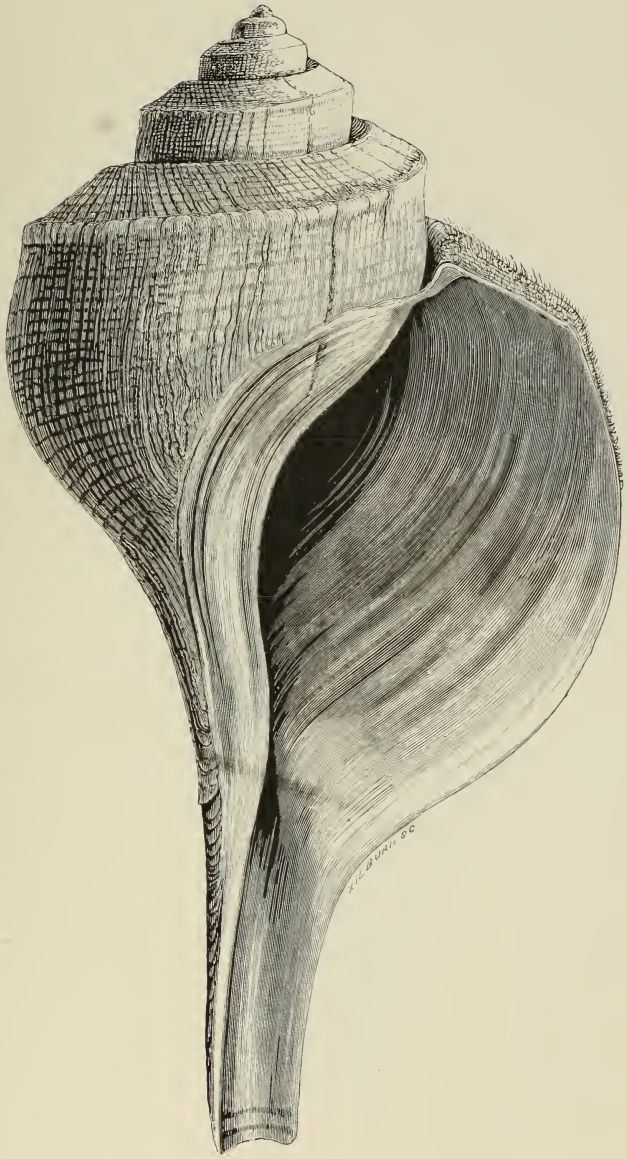
Fig. 1.

Fig. 2.

WAMPUM AND ALLICOCHICK.

FIG. 1. East coast of North America. (Page 304.)

FIG. 2. West coast of North America. (Page 314.)



GROOVED WHELK.

Sycotypus canaliculatus Linn. (Page 305.)

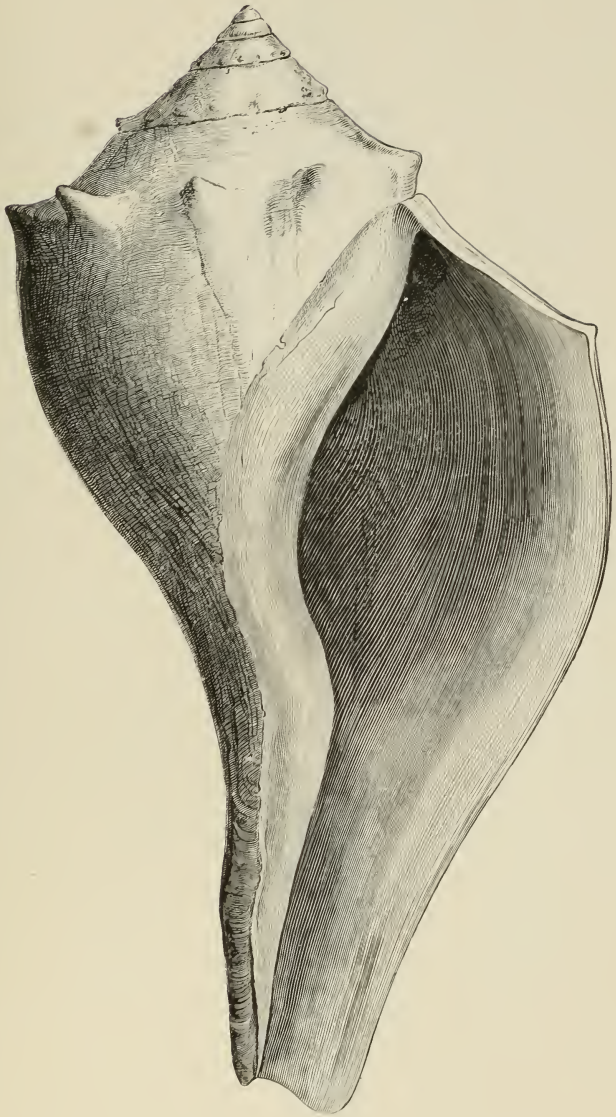


FIG WHELK.

Fulgur carica Linn. (Pages 308, 309.)

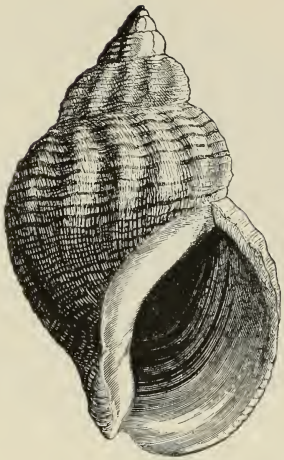


Fig. 1.

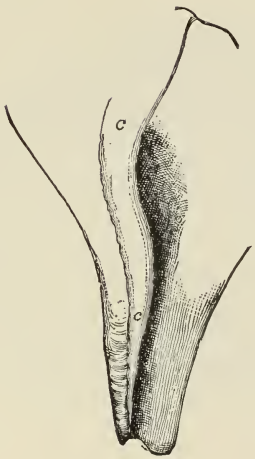


Fig. 2.

FIG. 1. *Buccinum undatum* Linn., common whelk. (Page 308.)

FIG. 2. Columella and part of body whorl of *Fulgur carica*. *c*, *c*, portion from which the longer white wampum beads were made. (Page 309.)

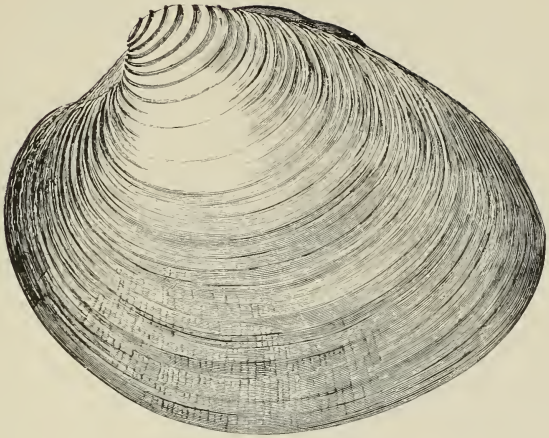


Fig. 1.

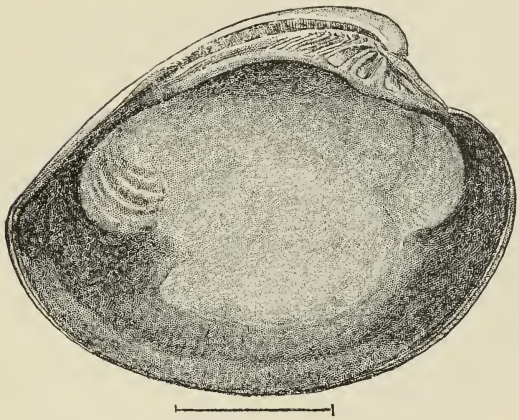


Fig. 2.

FIG. 1. The Quahaug, *Venus mercenaria*; outside view. (Pages 306, 307.)
FIG. 2. Inside view of same species.

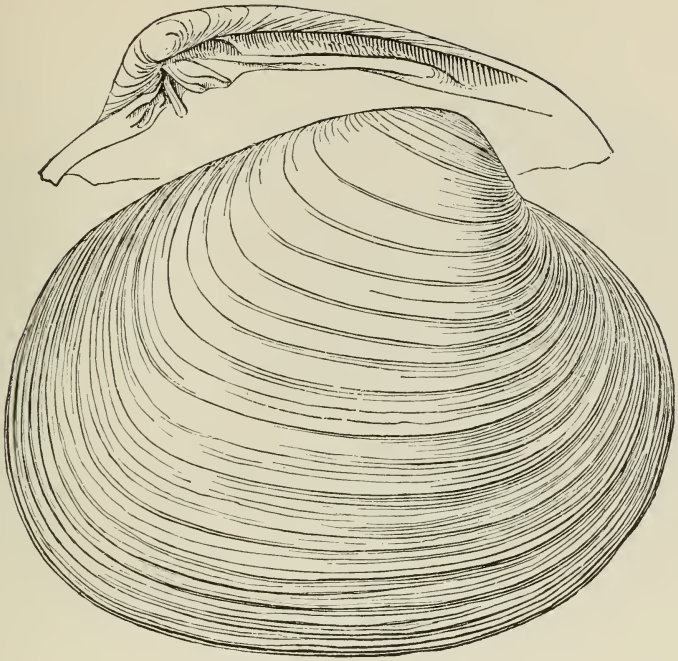


Fig. 1.

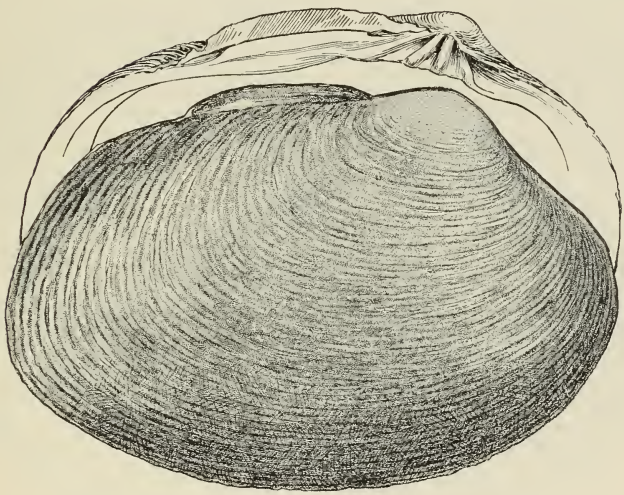


Fig. 2.

SHELLS USED IN MAKING HAWOCK. (Pages 321–323.)

FIG. 1. *Saxidomus Nuttallii.* FIG. 2. *Saxidomus aratus.*

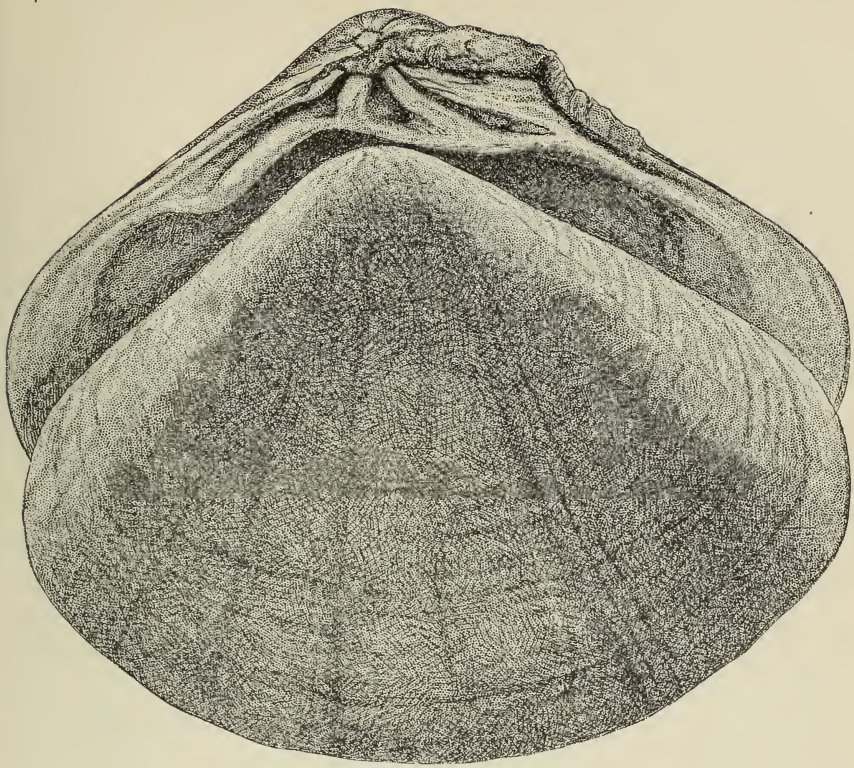


Fig. 1.

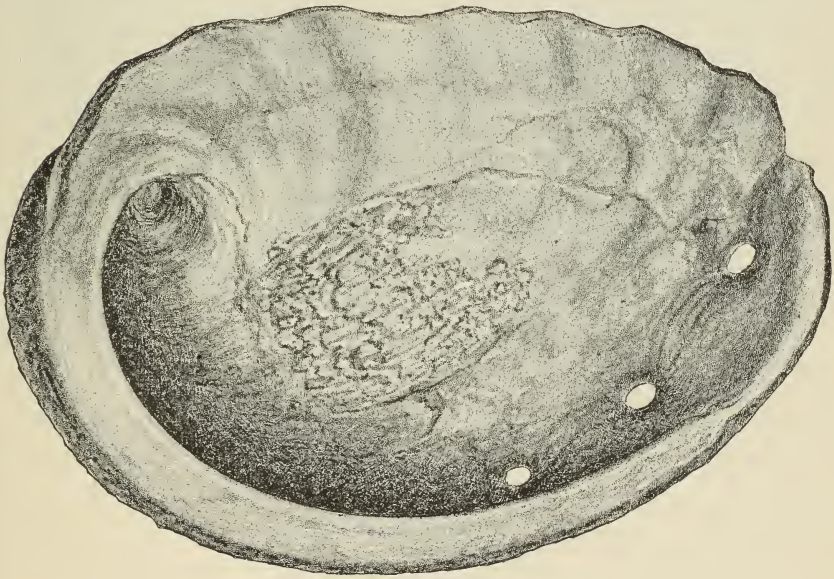
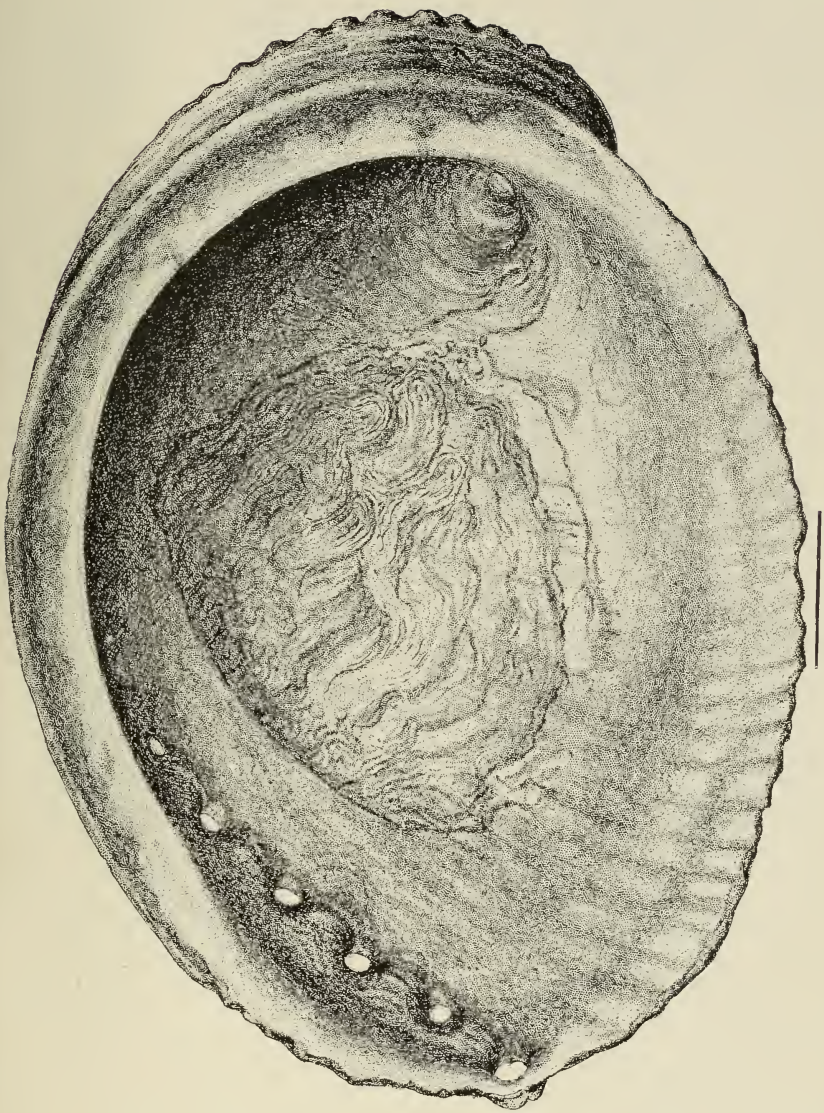


Fig. 2.

FIG. 1. Heavy Clam, *Tivela crassatelloides*. (Pages 321, 322.)
FIG. 2. Red-backed Ear-shell or Abalone, *Haliotis rufescens*. (Page 326.)



Abalone or Ear-shell, *Haliotis splendens* Reeve. (Pages 326 et seq.)

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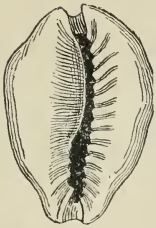

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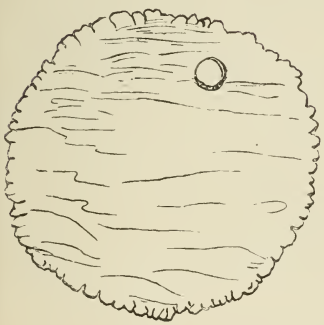

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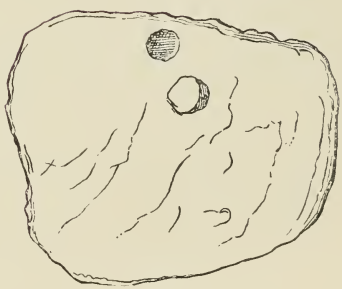

13

MONEY SHELLS AND SHELL MONEY.

FIGS. 1, 2, 3, 4. Cowry Shells. (Pages 300 et seq.)
FIGS. 5, 6, 7, 8. Hawock disks. (Pages 321 et seq.)
FIG. 9. Kolkol, of Olivella shells. (Page 324.)
FIGS. 10, 11. Uhl-lo, of Ear-shells. (Pages 326–328.)
FIGS. 12, 13. Uhl-lo money or jewelry. (Page 328.)