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PHILIPPINE BASKETS.

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THE purpose of this article is to give an idea of what has been done and what is being done with basketry in the schools of the Philippines, in order that the materials and technique of the various types which have been originated or evolved in certain schools may be understood throughout the Islands, and that the best of these may be standardized in shape, design, and workmanship. Before discussing these, however, it will be well to note



Plate I. Common bamboo baskets, decorated.

briefly the baskets commonly made and used throughout the Archipelago.

Practically every non-Christian tribe in the Philippines has one or more types of baskets peculiar to it which are of interest but which can not be taken up in this article. Some of these, such as certain Igorot, Mangyan, and Moro types, show possibilities, but their development can best be left to the schools and peoples that have originated them.

Common bamboo baskets are of great economic importance to the Christian Filipinos. The winnowing, rice, and betel baskets are unadorned, but each can be made very attractive by means of nito or irao decorations, and with slight changes in form may serve other purposes, as trays, work baskets, and button boxes.

BASKET MATERIALS.

Baskets were among the first industrial articles made in Philippine schools. Naturally, those produced followed closely the shapes of the common bamboo and rattan baskets found in the immediate locality. A few have been evolved from these beginnings. But most baskets, the making of which is now taught in Philippine schools, were originated as the result of effort to obtain material which would not break in turning sharp corners, as does bamboo, and would be stiffer and cheaper than rattan. Still other types now made in our schools are the results of adaptations of local materials to basket forms originated in other countries. Thus it can be seen how important a part the basket materials available here have played in determining the types and forms which have been originated or evolved. The variety of basket materials found in the Islands is so great that the subject cannot be treated exhaustively here and hence only the most important are briefly discussed. It is believed that from the descriptions and illustrations given it will be possible to understand the preparation of these materials and to identify the plants from which they are obtained. Speed in the preparation of materials is of the utmost importance in basketry and a large field is open for the working out of new methods and devices.

PALMS.

Materials derived from palms are most important in basketry taught in Philippine schools. They are obtained from the petiole, the midrib and the unopened leaf.

Tipon-tipon.—This palm¹ furnishes the finest basket material that has so far been found in the Philippines. The plant is one of the smaller palms. It reaches a height of about 6 meters and has a short trunk but a few centimeters in diameter. It may be compared in a very rough way to the nipa palm, if it is borne in mind that the petioles are more slender and are covered with a fuzz. The leaflets are short and narrow, and

¹ *Arenga mindorensis*, tipon-tipon, bilis (Albay), belis (Sorsogon), gayumaka (Laguna), abigui (Camarines), romaka (Camarines, Albay), dumayaka (Batangas, Tayabas). Also *A. tremula*.

the whole plant presents a more graceful appearance than the nipa. Unlike the nipa palm, it is not found in swamps but should be looked for in thickets. The lower part of the petiole is from two to three meters long and free from leaflets, thus doing away with the waste incident to palms having leaves on both sides of most of the petiole. Of such, only the front and back parts can be used.

In basketry work, the outer part of the petiole is used. This is prepared by dividing it into halves, quarters, and eighths and



Plate II. Tipon-tipon palm.

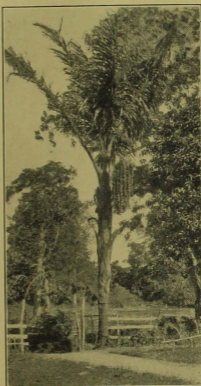


Plate III. The sugar palm.

removing the soft interior. The inside is still further shaved down until the splint is of the desired thickness, and has the required width and length. The epidermis has a grayish-green color, finely speckled and very pretty in appearance. Underneath this there is an inner tissue (cortex), which varies in shade from light to dark brown according to the age of the petiole, and which is exposed by scraping away the green epidermis. The beauty of Polangui baskets depends upon the green splints and the shades of brown thus produced.

The sugar palm.—This palm² sometimes attains a height of 12 meters. The petiole is remarkably long, the base surrounded by coarse, black, horsehair-like, matted sheaths, which furnish the cabonegro fiber used for rope. The palm fruits profusely. On account of the position of the leaflets only the front and back parts of the petiole can be utilized. A very dark brown material can be obtained from this palm, but the splints are not so tough as those from tipon-tipon.

The midribs, when fresh and well stripped of their leaflets, are woven into trays and baskets.

The coconut palm.—The splints from the petiole of the coconut palm³ have fewer shades than those from tipon-tipon but are quite satisfactory for spokes. The midrib of the leaflets furnishes a good material for certain types of trays and baskets.

The nipa palm.—Nipa palms⁴ occur along tidal streams throughout the Philippines. Splints are prepared from the petioles in the same way as those of other palms, but they are entirely unsuited for spokes, being too brittle. The middle-aged petioles, however, may be utilized for weavers. The colors are not very satisfactory.

The buri palm.—In basketry, the buri palm⁵ is important principally because of its "raffia," midribs and petioles.

Buri raffia is nothing more than the thin skin carefully stripped from the leaf blades. It is not every buri leaf that will give up its raffia. In fact none of the leaves that have opened up to the light are suitable for raffia since on these the skin will not separate from the blade. Unopened leaves are the only ones from which raffia may be obtained. It has been found that the raffia strips with less difficulty from the blades of the younger trees; yet this material, being necessarily shorter than that obtained from the older trees, is less desirable for general purposes.

The raffia should be stripped from the leaf blades immediately after the leaf has been cut from the trees. If permitted to remain longer, it is very apt to strip with difficulty,

² *Arenga saccharifera*, kaong (Cavite, Laguna), irok (Mindoro, Cavite, Zambales), hibiok (Capiz, Iloilo, Occ. Negros), hidyok (Albay), hidiok (Antique, Capiz, Tablas), hiduik (Capiz), palma criste (Capiz), habiok (Capiz), igok (Antique), onao (Surigao), batbat (Mindoro), bagot-bat (Or. Negros), ebiok (Bohol), idiok (Or. Negros) idyok (Capiz), yunot (Batangas), yonot (Cavite).

³ *Cocos nucifera*.

⁴ *Nipa fructicans*.

⁵ *Corypha elata*, buli (Filipino), silag (Ilocano), ebus (Pampango), bagatay (Nueva Vizcaya).

much of it being broken and rendered useless. The stripper selects a leaf-blade and cuts away the midrib with a knife. He takes one-half of the leaf-blade and first proceeds to take the raffia from the top or outside. To do this, the end of the leaflet is bent back about 2 inches from the point and placed upon the knee, the base of the thumb of the left hand bearing down upon it. The large end of the leaf is then grasped by the right hand and pulled so that the leaf is straightened out and a sort of blister formed at the crease. The base of the leaf is placed firmly under the foot so that it will be held tightly. The skin



Plate IV. Stripping buri raffia.

is picked up at the blister with the right hand. The remaining portion of the leaf is grasped with the left hand and pulled taut. With a little care the cuticle can be stripped off by pulling it with the right hand. Care must be taken, however, that the leaf be kept taut, or the skin will tear into several pieces. If the whitest material is desired the raffia obtained must be freed of the pulp which still adheres to it by being scraped with a knife. It is immediately placed in the sun for three hours. If it becomes wet, as from rain or dew, it will turn a dark shade.

In practice the inner skin is seldom used for raffia. It can be prepared by scraping away the pulp with a sharp knife, a process which requires considerably more time than that needed in preparing the outside skin. The inner skin is stronger than the outer, but it is not so light in color and must not be used in combination with it, if a uniform effect is desired.

Buri raffia is easily manipulated by little hands and is consequently an excellent material for use by young children. Another notable quality is the ease with which it is dyed and the beautiful tones which are obtained on it. In the latter respect it equals abaca and is at the same time much more easily colored. It is a very good material for coiled baskets. It should be dampened before being used.

The petiole of the palm yields unsatisfactory splints. The midribs are very pliable and should receive more attention as a basket material. Buri straw, which is made from the leaf blades, is also used in basketry.

Minor palms.—Among the minor palms whose petioles yield



Plate V. Banban.

Varying with the locality and richness of the soil, it grows to be from four to five meters high.

The plant generally has a solitary stem which about 2 meters from the ground divides into three or more branches, each of which divides and subdivides like the main stem. The splints are prepared soon after the plant is cut in the same way as those from palm petioles. Green and brown tones which are very important in basketry are obtained from banban.

RATTANS.

There are probably a great number of species of these palms

basket materials may be mentioned saguise⁶ and fishtail palms.⁷ The former resembles tipon-tipon but the petiole is deeply grooved. It yields a material, white in color, good for weavers but not for spokes. The fishtail palms are so called on account of their leaflets, which are shaped somewhat like a fish's tail. The petioles yield splints similar to those of tipon-tipon.

BANBAN.

Banban⁸ is very common and is widely distributed in the Philippines. It is generally found growing along the sides of streams or in moist dense forests.



Plate VI. Air roots in the forest.

⁶ *Heterospatha elata*, sagise or saguisi (Bohol), taguisi (Albay).

⁷ *Caryota* spp., taguipan (Tagalog), hagol (Sorsogon, Albay), pugahan (Sorsogon).

⁸ *Donax cannaeformis*, banban (Filipino), darumaka (Zambales, Ilocano in N. Vizcaya), banay (Ibanag), bamban (Sorsogon, Am. Camarines, Cebu), daromaka (Ilocano in Tarlac), langkuas (Ilocano), barasbarasan (Tagalog), aratan (Gaddan in N. Vizcaya), mattapal (Isinay), mamban (Leyte).

in the Philippines, but many have not as yet been determined, as their twining, climbing, spiny habits make collection of fruit extremely difficult. If the prepared material is to be used for rims it is only necessary to divide it into halves. If it is to be utilized for spokes the whole stem is divided into parts and the core is removed. If the material is to be used for weavers these strips are pulled through a "batacan," which is a piece of tin plate or zinc in which holes have been punched. The material will be fine or coarse, depending upon the size of the openings.

AIR ROOTS.

What the Filipinos call "lukmoy" or "tibatib" in Tagalog and "amlong" or "bakog" in Bicol is a general name applied to most climbing plants of the family *Araceae*. These terms are also sometimes used to designate particular species. The plants find their natural habitat in damp forests where the full light of the sun never strikes the ground and where the trees are so close together that the moisture in the air is sufficient to develop air roots. Bakog grows on trees, sending out small roots which hold it fast to the trunk. At times it may be found clinging to cliffs which are exposed to humid conditions. However, it is in no sense a parasite, as it does not obtain any nourishment from the host upon which it lives. It usually starts its growth from the ground, developing its own root system and finding its own nourishment. Later, when these roots are not sufficient to nourish the plant, it begins to send out air roots, which furnish additional food by taking in water that drops from the branches and trunks above them. They in no way anchor or hold up the plant from which they grow. In the forest these roots are from 50 to 100 feet long. In collecting this material, the gatherer will be able to obtain pieces of roots ranging in length from a few feet to 50 feet or more, depending upon his luck and the strength of his pull.

Naturally, the middle-aged roots produce the best material. In the very young, the inner part or central cylinder is too soft to permit of its use as an industrial material. Old roots may be utilized although they are not so pliable as middle-aged ones. The collector may remove this central cylinder, which is the useful portion, by taking hold of it firmly and pulling down so that it breaks through the surrounding tissue. This requires experience. A quicker method is to make a circular incision around the cortex or twist the latter about 2 cm. from the end of the root. The cylinder can then be pulled down so that it

emerges from one side only, thus breaking the cortex about 1 dm. in length. Then, with the root held firmly against the stem of a small tree trunk, the thumb of the left hand is interposed from above between the cylinder and the cortex, the fingers grasping the trunk of the tree. With the right hand the cylinder is pulled toward the body; the cortex falls to the ground. As soon as a piece of cylinder of sufficient length has been pulled out, it may be wound around the hand to allow a firmer grip in pulling. The process is best performed in the field immediately

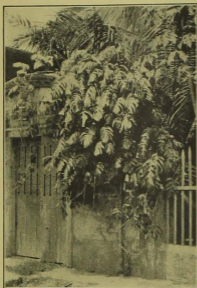


Plate VII. A black among.

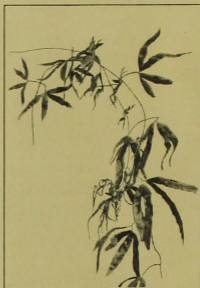


Plate VIII. *Lygodium circinnatum*,
the most common nito.

after collecting, as the cylinder then pulls out easily from the cortex.

It can not be said that bakog is found in unlimited quantity. By careful use, the supply will probably last a number of years. In general the people of the Philippines will have to look to the wild tribes to collect and bring in this material just as they now gather and trade rattan.

There are many genera and species of these plants and the color and texture of the material yielded by their air roots differ. From the color of the materials they yield, they may be divided roughly into white, brown and black air roots. The white seems to be the least abundant, the brown and black being found in largest quantities. Colored material may be whitened by putting it in a solution of sodium peroxide made in the proportion of

two spoonfuls of peroxide to about 15 liters of water. It must be kept in a glass vessel. The bakog should be allowed to remain in the solution for twenty-four hours, then washed in clear fresh water and hung out to dry in the sun for a day. This procedure should be repeated three or four times, using each time a fresh solution of the peroxide. A stronger mixture is quicker but not so satisfactory.

Pomago.—This vine,³ can be used for most of the purposes for which air roots are employed. It has several advantages over the latter. In regions where it occurs, it is often found in abundance near the towns in thickets or along the banks of streams and irrigation ditches. There is no reason why it should not be cultivated. The leaves are smooth and velvety to the touch, in shape like a conventional heart, dark green in color on the upper surface and grayish green on the lower.

The material is prepared by boiling the stem in water for about two hours, the best being obtained from that portion of the stem below the first branch. The outside layer and its adhering tissue is then easily separated from the inner part. The prepared material is yellowish white in color and from 2.5 to 3.5 mm. in diameter. It is smoothed by the use of sandpaper.

BAMBOOS.

There are in the Philippines several genera and many species of the grasses known as bamboo. Of these the most important and the most generally distributed is the *Bambusa blumeana* or spiny bamboo. The distinctive feature of this bamboo is its spines, which are not found on any other. Certain *Schizotachyum* spp. also yield excellent basket materials, but they are not so widely distributed. These species are noticeable on account of their long, straight internodes. They often have thin walls.

NITO.

The term "nito" is applied to all "climbing" ferns (*Lygodium* spp.) in the Philippines. As they get older, they lose many of their leaves and the stems become discolored, the change being from green to light-brown, brown, dark-brown, black. The material is easily prepared by dividing the stem into halves and quarters and cleaning away the inside part. It needs no further manipulation. The tensile strength of nito is not great;

³ *Pericampylus incanus*, pomago (Sorsogon, Camarines, Albay), silong pugo (Batangas), tugui-tugui (Mindoro).

as a decorative material it finds its proper use. Its color may be greenish white, brown or black. The lighter stems can be given an even black color by burying them in mud for three to six days. Mature stems must be used.

AN ORCHID.

Irao is an orchid¹⁰ that furnishes a very bright yellow decorative basket material. It may be briefly described as an orchid well distributed and well known throughout the Philippines, with leaf stalks about 60 cm. long, sometimes longer, bulbous at the base for a distance of about 20 cm. The joints of the leaf-stalk are about 1.5 cm. apart. Only the slender, partially



Plate IXa. Preparing lupis—the first step.

yellow stalks are employed and these may be made an even, bright yellow color by putting them for a short time in boiling water or in cold water to which a little vinegar has been added. Exposing the stalks to the sun will produce the same

results. The yellow stalks found on living plants are dead and should not be used, as they disintegrate.

ABACÁ.

The stripping of abacá fiber and the uses of the fiber are too well understood in the Philippines to be discussed here. The fiber is obtained from the outside skin of the petiole. Abacá lupis is essentially the unstripped outer skin of the petiole. Briefly, the process of preparing the material consists of "breaking" the fresh petiole to reduce its stiffness, of removing the outer skin and of reducing this to strips as shown in Plate IX. By quickly drying these in the sun a white lupis is made. Brown

¹⁰ *Dendrobium* spp., irao (Sorsogon, Camarines, Albay), Karulay (Isabela), sangumay (Laguna), karamosi (Ilocos Sur), erao (Camarines), karonsi (Ilocos Norte), karousi (Cagayan), magimpao (Bohol), magimpal (Bohol).

and black lupis are obtained from the dried petioles which have previously been soaked in water.

PANDANS.

Karagumoy (*Pandanus simplex*), and *P. utilissimus* are so far the only pandans extensively used for baskets. It is very probable, however, that other pandans with thick leaves will be found just as serviceable. Karagumoy is limited in distribution to the Bicol provinces and *P. utilissimus* to the highlands of southwestern Luzon.

In preparing the material, the spines and midribs are removed and the leaves divided into strips of the desired width. They

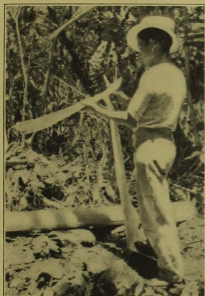


Plate IXb.



Plate IXc.

Further steps in the preparation of lupis.

are then dried in the sun for a few hours and drawn over a piece of bamboo to make them more supple and smooth.

SEDGES AND RUSHES.

At present, the plants known as tikug¹¹ and balangot¹² are used in the Philippines as foundations for coiled baskets. The former is practically confined to the Visayas. The latter is found all over the Islands. The rush *Juncus effusus* of the Mountain Province is also suitable for this purpose.

¹¹ *Fimbristylis utilis*, sudsud, anihawan (Mindanao), muto (Pampango).

¹² *Cyperus malaccensis*.

POLANGUI BASKETS.

Polangui baskets are those ribbed baskets the sides and bottoms of which are made from the hard outer part of palm stems and banban, the cores of air roots and certain vines, and nito. The rims and handles are almost invariably of rattan wound with air roots, split rattan, or vines, and decorated with interwoven nito or irao, or both.

The manner in which these materials came to be used is interesting. The children in the public schools of Polangui, Albay, had been making bamboo baskets, as that was supposed to be the cheapest material and the one easiest of access. But as the ribs always broke at any point where they were sharply bent, teachers and pupils were urged to find some cheap material that would not have this fault. They began looking about them and asked the older people about the matter. As a result certain air roots which had previously been employed as a tying material were found satisfactory for basket making. Banban was also brought into school use. When banban became scarce, it was found that palm petioles could be substituted for it. Polangui baskets have therefore derived their name from this town. Baskets of this type were gotten out in 1910 by a Filipino teacher, Pedro Espinas.

The designs of Polangui baskets result from the use of natural colored materials. From the hard outer part of banban and palm stems, a variety of pale greens, grays and browns is obtained. If not scraped the materials gradually assume a pale green or gray upon becoming dry. Scraped banban usually produces a lighter brown than the palm splints. Tipon-tipon will give a greater variety of browns than any other palm known. The scraped sugar palm splints are sometimes almost black. Coconut petioles produce light brown shades. The fish-tail palm also produces brown, and taguisi gives white splints. There is little difference in the shades of green found in the dried splints. Nito is employed rather sparingly on the sides of baskets.

In most Polangui baskets the weave commonly known as pairing is employed, though they may start with a single weave. Triple and quadruple weaves are used at the top and bottom of the sides, and on the covers. The triple weave is usually in spiral, or spiral and reverse effect, making a succession of arrows at the top and bottom of the side of the work basket. The idea of using the triple weave on the sides at the top and bottom was obtained from a Japanese waste basket. That part of the

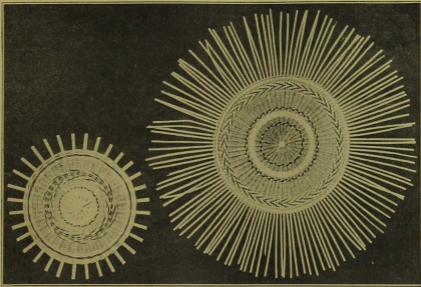


Plate X. Bottoms of Polangui baskets.

sides between the rows of triple weave may be divided into light and dark bands or into light and dark vertical stripes as may be desired. One or more dark weavers may often be used to good advantage in setting off adjoining bands of colors or weavers. Sometimes a spiral in coarser material and in single or pairing weavers looks well at about the middle of a basket. Pairing may be used to produce a checkerboard as well as a striped effect. Nito is used rather sparingly on the sides.

Rim and handle decoration is a striking feature in the Polangui baskets and is usually in black and white, though sometimes in brown and yellow. Air roots, split rattan or vines give the white, nitos produce the black and browns, and irao is used for the yellow. Judging from the facility with which a child of ten or twelve years accomplishes the task, the planning and laying out of the designs seem to be easy matters; but the trick of making the designs match exactly is difficult because they are in units. Care must be taken to so lay out the design that the units are of uniform size and the spaces between them equal. For example, if the design is a series of diamonds, the last unit must be a complete diamond of the regular size, and the uniform spacing must be maintained.

There are several general shapes of these baskets, such as the work basket shape, the waste basket shape and the market basket shape. But each may be varied considerably in the

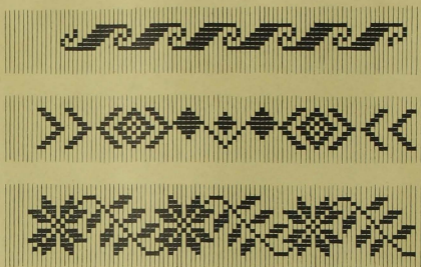


Plate XI. Rim and handle designs showing method of laying out.

details of form and decoration. The sides may be straight, concave or convex, vertical or flaring. They may be either single or double. When double they may be plain or fluted, somewhat resembling the rough fluting of the shells of sea mollusks. The bottom may be round, elliptical or angular, with or without standard. The standard may consist of merely a triple weave of air roots, as is true in most cases, or of a rim of rattan that is bound and decorated with nito and air roots. Or the basket may be still more pretentious and have a standard which raises it up.

The basket may be with or without cover; the cover may be flat or convex, projecting over or beyond the edge of the basket, extending just to the edge of the rim, or sitting inside.

If the rim of the basket is of the same size as the rim of the cover, a thin strip of bamboo 2 or 3 mm. thick and 2.5 cm. to 3 cm. wide may be fastened as a flange to the inside of the rim of the cover to keep it from slipping off.

The basket may be of any size desired, but the standard proportions should be adhered to.

STANDARD WORK BASKET.

Dimensions of basket and materials.—The bottom is 17 cm. in diameter. The top is 23 cm. in diameter measuring from the middle of the rim. Measured perpendicularly, the basket is 8 cm. high. The material for spokes consists of 16 splints

each 36 cm. long, 6 mm. wide, and 1 mm. thick. For the rim, whole rattan 86 cm. long and 12 mm. in diameter is used. The nito weaver for beginning this basket is 1 mm. wide and approximately half as thick, but for working in the design on the rims

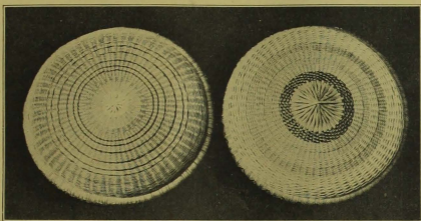


Plate XIIa. Decorated covers.

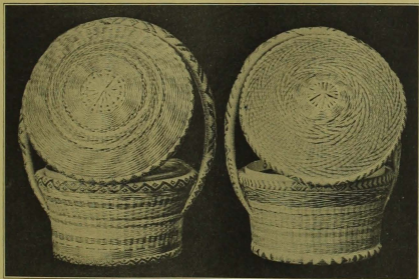


Plate XIIb. Lunch baskets with decorated covers.

it is made a trifle thinner. The strips of air roots or similar material used for the weavers of the bottom of the basket may be either round or half round, but in any case they should be 1 mm. thick. The weaver for the side is usually 1 mm. wide and 0.5 mm. thick.

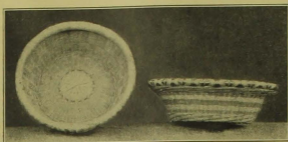


Plate XIII. Bottom and side of standard work basket.

Arrangement of splints for spokes.—The 16 splints are arranged in two sets of 8 each as shown in Plate XIV, fig. 1. The middle of each is marked with a dot and these dots should coincide.

As soon as a set is completed it is held together by a temporary weaver of fiber. Set No. 2 is so placed upon set No. 1 (smoothed side down in all cases) that the spokes (splints) of No. 2 divide into two equal parts the angles formed by the spokes of set No. 1.

Weaving.—With the fingers of the right hand the weaver is grasped about two decimeters from one end. With the black side up, it is placed under spoke *a* (see fig. 2), being drawn as close to the center as possible without disarranging the spokes, and in such a manner that most of the two decimeters will be to the left of the spoke. With the fingers of the left hand resting upon the end of the weaver to the left of the spoke, the weaver is pulled with the right hand until only 5 cm. of the nito remains to the left, held under the fingers of the left hand. The work should always be held firmly with the left hand.

Now the over and under weaving is started. Every time the weaver passes under a spoke, the fingers of the left hand should push the weaver tightly into place. Until the first round is nearly completed, the end of the weaver at which weaving was begun is held in place by the thumb of the left hand. When the first round has been completed, both ends of the weaver are pulled tight. The second time round is faster. The weaver is continually crowded in toward the center. When the weaving of the second round has proceeded a short distance, the work is held at arm's length to determine whether the weave has formed a perfect circle. If not, this is the time to correct it.

After two rounds of the first weaver have been woven in, the long end is pulled toward the center to such a point that two perfect rings, not coils, are formed. (See fig. 2.) The weaver overlaps here, but in no other place. The long end of the weaver is now held temporarily by pushing it down as far as it will go between the spokes within the circle formed by the two rounds of weaving. A second nito weaver is now started, this time

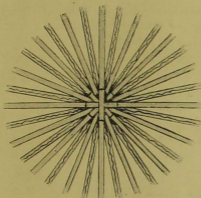


Fig. 1.

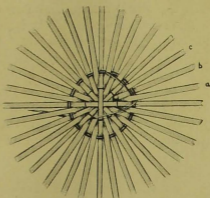


Fig. 2.

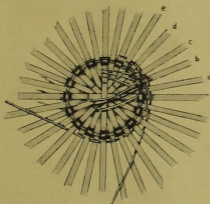


Fig. 3.

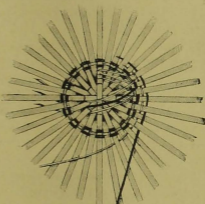


Fig. 4.

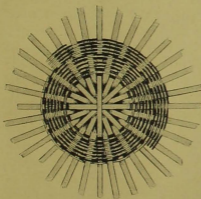


Fig. 5.

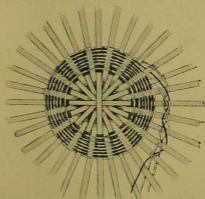


Fig. 6.

Plate XIV. Figures for weaving the bottom of a work basket.

with the white side up, and is woven twice around. It starts from under spoke *b* and is begun, woven and fastened in the same way as the first weaver. (See fig. 2.)

More care is required in weaving the third round. One has to pull harder, frequently causing the weaver to break. It is necessary to press down continually in weaving this round in order to keep the spokes all on the same plane. The work will otherwise be loose and uneven. It is well to have the work near the corner of the table, or on a box or a big book, so that one may reach under the work without raising it, thus preventing the weaver from slipping.

The third nito weaver is started, black side up, from under spoke *c*. The weaving is now fast and easy. After the third weaver has gone twice around, the temporary fastening of string or fiber of the original sets of spokes may be cut and removed. (See fig. 6.) Care should be taken not to let the knife injure the spokes. It is best to cut this fastening on both sides so that in pulling the pieces out, the structure will not possibly be wrenched out of shape.

The single weave is now finished. Here the work progresses for a time with two weavers in the weave known as pairing. The pairing weave is started in the same way, whether one black weaver and one white weaver are used as in fig. 3, or whether they are both of the same color as in fig. 4. If a plain weave is desired, both weavers should be of the same color. In the past the Polangui baskets have generally been made with plain bottoms. Unless they are very fresh, the weavers for the bottom as well as for other parts of the basket should be slightly dampened before using.

Pairing is started as follows: Two weavers are sharpened so that the ends taper off for a distance of 5 mm. With the tapered part resting on spoke *e* (fig. 3) and held by the middle finger of the left hand, weaving is begun with one weaver over one and under one until one round has been almost completed. The second weaver is begun at spoke *f* and woven once around. These two weavers are then woven alternately.

A black and white radiating effect, starting on one set of spokes and then changing to another is obtained by joining a black weaver to a white one and vice versa. (See fig. 5.) The plain radiating effect is obtained by using two weavers of different shades.

A pairing weaver may be joined as follows: The ends of the old and new weavers are thinned down. The old weaver is

allowed to rest upon the top of the spoke, but not beyond. The tapered end of the new weaver is laid under the preceding spoke and next to it. The end of the new weaver is now held in place between the old weaver and the spoke. The end of the old weaver is likewise held in place between the new weaver and the following spoke.

The pairing weave is continued up to a point 8 cm. from the center of the basket. Now all protruding ends are trimmed off and hidden behind spokes or between weavers.

The triple weave of bacog for the standard on which the basket rests is made from three round strips, $2\frac{1}{2}$ or 3 mm. in diameter, and 64 cm. long. In fig. 6 the triple weave is shown from the point marked X. This weave should be kept closely pressed up against the pairing. If weavers are properly spliced it is difficult to discover the ends.

In turning up the spokes for the side, the basket is held up in front of the worker, the outside of the bottom toward him, the hands grasping the upper margin of the woven part. With the first finger of the right hand the spokes are bent up, one at a time, leaving them so that they make about the angle wanted, being careful that the bend is made as close to the rim of triple weave as possible. Each spoke should be marked where the bottom of the rattan rim is to come or the rim is likely to be askew.

Now the weaving of the side is begun. If a spiral effect is desired the triple weave should be employed, and in beginning, the middle weaver should be of an odd color. By reversing the triple weave, the arrow effect may then be obtained.

Most of the fine points of weaving a basket will be discovered only through practice. The general directions on the weaving of the bottom pertain also to the sides.

The flare of the basket results from the difference between the diameters of the rim and bottom. In order to get this just right, many devices may be used; but the experienced basket maker needs no guide other than his eye. For the beginner a form made of pasteboard is very helpful. The outline of the model may be drawn full size if the pasteboard is large enough. If the back of a ruled pad is used, one half of the model is sufficient. By fitting the model frequently to the basket as the side is woven, it is quite easy to get the desired flare. But in addition to the pattern, the ruler should be constantly used. The diameter at the points at which the spokes were marked should be measured frequently.

When the weave of the side is finished correctly and the diameter is exact, the rim is fastened in place with a temporary binder.

Rim.—The rim is made of two rings of half round rattan, and when wound with the binder measures approximately 12 mm. in diameter. One ring fits around the outside of the spokes, while the other lies just opposite it on the inside. The ends of the material for each ring should be so nicely tapered and fitted that there will be no noticeable irregularity in the size of the rim at the joints. The joints should be on opposite sides of the basket. The binding is begun just to the right of a joint with a half round strip from 1 to 2 mm. wide, and is started in such a way that the end is held fast between the under edges of the two rings. The winding is done toward the worker.

When the binder has been twice around, the nito or irao is interwoven. These are laid on the outside of the rim next to the rattan in such a manner that the next round of the binder will hold them. Care should be taken to place the strips neither too high nor too low on the rim. An odd number of weavers is used. The nito should be thinner for this purpose than for weavers.

The binder as well as the nito should be of uniform size and shade throughout and should be wound at right angles to the rim. The winding should be very closely done.

When the binding reaches the point at which the spoke disappears between the two rings of the rim, it is punctured with an awl and the binder passed through. The holes produced by the passing through of the awl should be so fine that the binder will be as close together on the lower side of the rim as on the upper side. Care should be taken to splice the binder on the under side.

STANDARD WASTE BASKET.

Dimensions.

	<i>Centimeters.</i>
Diameter of bottom	19
Diameter of top	29
Height	33
Diameter of rim	2

The material, the arrangement of spokes and the weave are the same as for the work basket. There are 19 spokes 88 cm. long. They should be 6 mm. wide and 1 mm. thick. When the bottom is woven 7 cm. from the center 32 spokes are added. They are 55 cm. long. The ends are sharpened and inserted under the weaving. When the bottom is 19 cm. in diameter, a rim of round

air roots is woven once around, using triple weave. The only difficult thing about the weaving of this basket is getting the sides into the shape desired. A form will help. This form may consist of rings of bamboo of proper size tied temporarily to the spokes till the desired shape is obtained.

STANDARD MARKET BASKET.

Dimensions of basket and materials.—The ellipse of the bottom is 30 cm. by 22 cm. That of the top is 42 cm. by 35 cm. These measurements are from the middle of the rim on opposite sides.



Plate XV. Three shapes of waste baskets.



Plate XVI. Views of the market basket.

The main part of the basket is 10 cm. high, measured perpendicularly. The ridge of the bottom is 15 cm. long. The height of the handle above the ridge is 26 cm. The main or thick part of the handle is 30 cm. long and 1 dm. in circumference when finished.

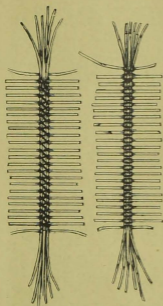
The materials for the spokes consist of 9 strips, 60 cm. long and 1 mm. thick, and 19 strips 54 cm. by 1 mm. These strips are 4 mm. in width at the center. The longer ones taper to 6 mm. at a distance of 15 cm. from the center, and the shorter ones attain the same width at a distance of 11 cm. from the center. The material for the handle is cut 121 cm. long, of

half round rattan, 4 cm. wide. For the rim, round rattan 140 cm. long and 15 mm. in diameter is used. The weaver is of the same size and material as that for the work basket. Before arranging the strips for spokes, a dot is placed at the middle of each 60 cm. strip, and 2 more dots on each side, at distances of 7.5 cm. and 15 cm., respectively.

Arrangement of strips.—Three of the 60 cm. strips are laid side by side to form the first layer of the ridge of the bottom. A fourth strip is laid on the middle one of the first three. A fifth lies on one side and slightly over the fourth strip. A sixth strip is placed in the same relative position on the other side of the fourth strip. The fifth and sixth strips will touch each other. Three more splints are now laid on these six in such a manner that the bunch appears rounded.

In binding the second set or shorter strips to the longer, start the nito weaver 7.5 cm. from the middle of the first set of strips. It should pass between the first four and the last five strips, white side up, in such a manner that an end about 4 cm. long protrudes to the left.

A 54 cm. strip is placed in such a manner that it crosses the nito binder between the first four and last five longitudinal strips at a slight angle to the nito but at right angles to the bunch so that the nito weaver or binder makes a cross on the smoothed side and two parallel rounds on the outside. The remaining 18 splints are



Upper side

Fig. 1.

Under side.

Fig. 2.

Plate XVII. Figures showing the upper and under sides of the market basket spokes.

inserted in the same manner as shown by figs. 1 and 2 of Plate XVII. The crossing point of the first of the 19 strips should be just 15 cm. from that of the last. This is not easily brought about unless the strips have been very carefully trimmed to uniform dimensions.

Weaving.—Six rounds of single weave are now begun and continued in about the same manner as in the work basket. If the side on which the weaving is being done is held flat with the fingers of the left hand and the weavers are drawn fairly tight, the proper arch will result. Care should be taken not to

make the arch too high; the bottom of the ridge should be raised about 2 cm. above the plane of the standard.

It is sometimes difficult to make all points of the standard touch the same plane so that the basket will sit firmly. To overcome this, an extra row of pairing with short weavers is put in at about 5 cm., from each side of the ridge across the lateral spokes only.

The proper flare of the sides may be easily secured by means of a pasteboard form as described under work baskets.



Plate XVIII. Side, end, and cover of lunch basket.

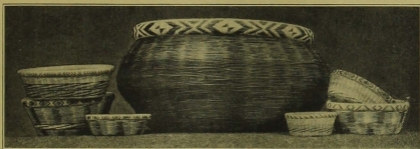


Plate XIX. Group of small Samar baskets around a basket of usual size made of dyed bamboo.

Handle and rim.—The two ends of the handle are inserted just before putting on the rim. They are forced down between the weavers at each end of the basket and between the weavers of the bottom so that each will lie between the lateral group and the longitudinal group of the spokes. First the inside of the rim is put into position and then the outside. Many people prefer the handle attached to the sides of the basket in the manner of the American market basket.

STANDARD LUNCH BASKET.

Dimensions.

	Centimeters.
Diameter of rim forming standard of base.....	21
Diameter of rim forming top of basket proper.....	26
Diameter of cover rim.....	26
Diameter of woven bottom.....	21
Height from bottom of standard to top of rim on basket proper	14
From the under side of handle to center of bottom.....	32
The height of cover is.....	6

Materials.—Sixteen strips, 49 cm. by 5 mm. by 1 mm.; 32 strips (for extra spokes) 14 cm. by 5 mm. by 1 mm.; 48 strips (for spokes of cover) 34 cm. by 5 mm. by 1 mm. The strips are arranged the same as for a work basket. For rims:

Standard: Whole rattan, 77 cm. by 15 mm.

Top of basket: whole rattan, 92 cm. by 15 mm.

Handle of basket: whole rattan 119 cm. by 17 mm.

Weavers: Same size and kind as for work basket.

Weaving.—The weaving of the bottom is the same as for the work basket. The side is begun in triple weave. As it progresses, the extra spokes are laid in between the original ones in such a manner that two of the triple weavers are always on the outside of the extra spoke.

In weaving over the extra spokes, it is not necessary that the weavers cross at the points at which they eventually lie, as these spokes may be easily slipped to their correct position after the weaving has progressed. When the extra spokes are in position, they will project 15 mm. below the bottom and in line with the side. The sides may be in a variety of weaves, as shown in the illustrations. A triple weave of air roots is placed around the middle for the purpose of holding the handle in position.

Handle, rim, and cover.—The handle is inserted just above this triple weave. The lower rim is put in place and temporarily fastened before the handle is inserted. Then the upper rim is placed in position. The cover may be woven with fewer spokes than indicated, but with the larger number of spokes the basket is much stronger.

The weave of the cover is started with single weaver, and is changed to pairing, triple or quadruple, as desired, with varying effects. Air roots are sometimes used to advantage on the cover, but they are rather too expensive a material.

The cover is held on by means of a bamboo flange about 2.5 mm. thick and about 3 cm. wide. The flange is fastened on the

inside of the rim of the cover, often by brass tacks; but it is more in harmony with the rest of the basket if a woven fastening is used.

VARIETIES OF THE FOUR STANDARD SHAPES OF POLANGUI BASKETS.

Varieties of the above four standard shapes of baskets result from differences in structure, form, decoration and materials. Differences in structure develop from the beginnings and weaves. There is no limit to varieties in form. Decorations depend upon combinations of colors and weaves. Materials determine varieties to only a small extent.

The Samar varieties differ principally in the size of the basket, in the materials, and in the structure. They are particularly noticeable on account of their very small size. Their chief beauty lies in the fineness of the materials which compose them, the neatness of their weaving and their unusual decorations. (See Plate XX.)

The Laoag baskets show considerable variation in structure and size. (See Plate XX.) All begin with four strips of rattan crossing each other at equal angles. These strips are approximately 5 mm. by 1

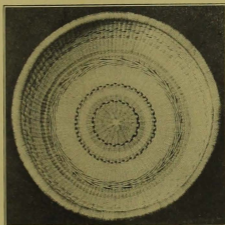


Plate XX. Laoag basket.

mm. The weaver for most of the bottom is a round air root about 1 mm. in diameter, and the standard is a triple or quadruple weave of air roots about 2 mm. in diameter. The air root weavers for the sides are slightly coarser, approximately 1.5 mm. Strips of nito about 2 mm. wide form bands of black in single, pairing and triple weave on the inside of the bottom and sides. The sides are more or less bowl-shaped and the basket does not rest entirely upon the rim. Three or four groups of extra spokes may be added, the first containing 8 strips, the second 16, the third 32, the fourth 64, at distances of about 12, 24, 50, and 90 mm., respectively, from the center. The rim is made and decorated in much the same manner as the other Polangui baskets. The weave for most of the bottom is pairing, and for the sides it is twined. The average

size is 28 cm. top diameter, 20.5 cm. bottom diameter, 6.5 cm. height. The basket is peculiar on account of the color decoration of the inside bottom, resulting from the use of bleached and unbleached air roots, as well as its bowl form and its structure.

The Dingras variety is typically Ilocano on account of having superimposed spokes.

In the Philippine Normal School a variety of these baskets has been evolved in which dyed bamboo is used for the sides. Some of these are very beautiful but great care must be exercised in dyeing the bamboo a pleasing tone and in combining the colors correctly.

The spiny bamboo is generally used; however, any variety that is straight and tough will serve the same purpose. The bamboo should be at least three years old and cut during November or December when the sap is down. It is split into small weavers and dyed within a day if the weather is dry. Dry bamboo is ready to dye as soon as split. Brown and olive-green "Easy Dyes," or Chinese aniline dyes are used; in the latter case use dark green and coffee colors. For black, use logwood and blue-stone, taking one-third as much of the latter as of the former. One pint of vinegar is added to each gallon of liquid dye. The bamboo splints are coiled and allowed to remain in the hot dye for at least half an hour. If the dye is weak they may be allowed to remain longer. The dyed materials are dried in the shade and then coated with floor wax or coconut oil. After they become dry they are polished by being pulled through a rag held in the hand.

THE ZAMBALES BASKET.

The distinguishing feature of the Zambales bamboo basket is a set of superimposed spokes or outer ribs blackened by fire. It originated in Zambales province under the direction of Mr. Juan A. Santos, a teacher in the barrio of Amungan, town of Iba, during the school year 1911. This teacher, in providing waste baskets for school use, conceived the idea of inserting the black spokes after the fashion of the Ilocano fishermen of that barrio, who thus construct their fish baskets. The spokes are inserted for strength and durability, and are blackened for beauty.

The Zambales barrel-shaped waste basket is made almost entirely of the spiny bamboo.

The standard measurements are as follows:

	Centimeters.
Height (including the standard, which is 5 cm. tall)....	40
Diameter at top	24
Greatest diameter of body	30
Diameter at bottom	20
Diameter at top of standard	20
Diameter at bottom of standard	24

Selection of material.—For the inner spokes and weavers, bamboo from twelve to fifteen months of age is selected; if younger than this, it is too soft, while the older bamboo is too brittle. For the black outer spokes, bamboo from six to eight

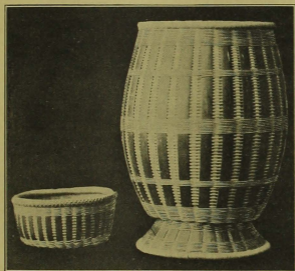


Plate XXI. Zambales work and waste baskets.

months old is used; not only is it more pliable at this age, but it also takes color more readily in the process of blackening.

The inner spokes consist of 12 strips 95 cm. long. The thin green bark is scraped from the outside of a section of bamboo. This is then split into strips 8 mm. wide and 1 mm. thick. From points 5 mm. on each side of the center, the strip is gradually narrowed to a width of 2 mm. at the center. Care should be taken to make the strips smooth. The weaver may be prepared by first slightly cleaning it and then drawing it through a hole in a piece of tin or zinc.

In preparing the 24 outer spokes, a cylindrical section of bamboo is scraped clean of the outer green covering and held

in, not over, the lower part of a flame. At frequent intervals the material is wiped with a wet cloth to remove the smoke and soot and to prevent burning. The steaming thus caused allows the absorption of carbon from the smoke. Thus any degree of blackness may be secured. The cylinder is then split into strips 39 cm. long, 2 cm. wide and 1 mm. thick. One end of each black spoke must be nicely rounded to a blunt point and pared to a thin edge for making the turn at the bottom. Care should be exercised in selecting the material for these spokes. No joints should appear to detract from their beauty, and there should be uniformity in dimensions and coloring. Strips even slightly marred should not be used.

The original strips are arranged and the weaving is begun in the same manner as in the Polangui work basket. Often the weavers used are of bamboo only. After eighteen rounds of this have been woven, the turn is made for the sides and the spokes are secured in place; work is then begun on the standard.

The inner spokes of the standard are composed of 24 strips 12 cm. in length (though it is better to prepare them a little longer than this for the sake of convenience in handling), 8 mm. wide and 1 mm. thick. One end of each spoke is tapered for 5 cm. and trimmed very thin. This tapered end is inserted into the bottom of the basket through the triple weave and pushed in as far as possible. The spokes are then turned down and weaving is done with a combination of triple and pairing weaves. The superfluous ends are then cut off and after the black spokes have been inserted the rim is attached. The black superimposed spokes for the standard are 24 in number, 7 cm. in length.

To complete the body of the basket, continue weaving with bamboo weaver in triple and pairing weaves. The tapered ends of the black spokes are inserted through the triple weave and over the pairing weave from top to bottom. Care should be taken to see that the thin ends are made to turn down and enter the triple weave at the bottom of the basket and are not left exposed. The black spokes of the standard are adjusted in the same manner.

The rims are made in the same way as those of the Polangui baskets. The rattan for the outer ring should be 87 cm. long, and for the inner, 86 cm. long.

The work basket is made in the same way as the waste basket but should have a round triple weave of air roots for a standard.

COILED BASKETS.

ABACÁ AND BURI RAFFIA.

Philippine coiled baskets are made on a single or multiple foundation. The process in both cases is practically the same. When a single foundation is used the knots or stitches may be made a little farther apart.

To make a basket with a multiple foundation, an even number of strips of sedge is selected. Six strips make a foundation of satisfactory size. These strips are so arranged that the larger ends of three strips will lie beside the smaller ends of the other three strips. Thus, when they are bound together the coil will be of approximately uniform size throughout.

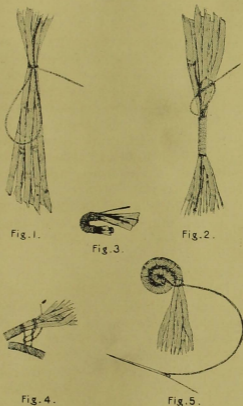


Plate XXII. Figures for weaving abacá or raffia coiled baskets.

To start the basket, the six strips arranged as described above are placed side by side and wound loosely with a fiber just strong enough to hold them together while making the basket. Work is begun as in fig. 1 Plate XXII. A large-eyed needle is threaded with 1.5 m. of abacá or buri raffia cord. Lay about 4 dm. of the cord on the foundation in the manner shown in fig. 1. The cord should be wound on the foundation as shown in fig. 2, for about 1.5 cm.

The short rough ends of the sedges are cut off with a sharp knife about 1 cm. from the part wound. This is then bent as shown in fig. 3. The short part of the foundation is now next to the worker, held in place with the thumb of the left hand. The long end lies to the left. The cord is wound toward the worker for one round, binding the two parts that have been bent together,

and the knot is tied as shown by fig. 4. When winding has continued for about 1 cm. the short rough ends of protruding strips of sedge are cut off close to the cord. The winding and binding is now continued as shown in fig. 5. The stitches or knots may be at intervals of 8 mm. or less, but always at uniform distances. The closer together they are the stronger the basket will be. The ends of new cords are hidden and fastened under the binder.

The design or colored work is started and finished in the same way. Any cord not in use is carried along until needed by laying it on the foundation and covering it by the binder.

The strips of which the multiple coil is composed should end at different points, so that new ones may be added one at a time. If they were all spliced at the same point, the joint would show and the coil would be weak at that point.

As yet there have been developed no distinctive Philippine designs, though attempt is being made to create them in various localities. Some of the results so far attained are given in the illustrations.

Most of the conventional designs are easily made and consist of stars, spirals, wheels with spokes of uniform or of varying length, combinations of diamonds and triangles, and the like. These may be either solid or in outline, of uniform or varying sizes, but always symmetrically arranged and for most designs in multiples of 2, 3, 4, 5, or 6. The design for the bottom should be drawn carefully on cardboard or heavy paper, using concentric circles to represent the coils. The figure may be cut out and used to determine just where the design is to go on each coil of the basket. The design for the side of the basket may be a continuation of that for the bottom or may be different, but in any case the number of parts for side and bottom should have a common divisor and the arrangement should conform to that on the bottom. All corresponding points of the design should be made at uniform distances apart. Care should be taken not to make the design too heavy, and to have it properly placed. Many a good basket has been rendered of little value because the design which had the right idea back of it was too heavy or was slightly askew.

As it is difficult to calculate the exact length of foundation to be covered with colored cord when starting a design, one must not be disappointed if it does not come out exactly upon completion of the first round so that it is necessary to do that coil again. A mistake in measurement is often made on the



Plate XXIIIa. Coiled abacá and raffia baskets.



Plate XXIIIb. Coiled abacá and raffia baskets.

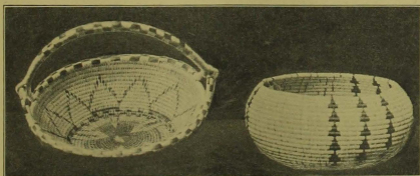


Plate XXIIIc. Coiled abacá baskets.

second coil of a design. In placing a design it is well to remember that the outside perimeter and the inside perimeter of a coil differ perceptibly.

The basket should be so finished that the end of the coil will be as little noticeable as possible.

A coil basket of this type should not exceed a decimeter in diameter and the sides should be made in proportion.

Air roots or rattan can be used for single foundations, but baskets are not so easily begun on them on account of the breaking of the material.

COILED NITO BASKETS.

The coiled nito basket is made by winding thin, narrow strips of nito about small, cylindrical-shaped rods. This basketry seems



Plate XXIV. Coiled nito baskets.

to be of Malay origin, the art having been practiced chiefly by the mountain people throughout the Philippine archipelago. The remains of a few of these baskets, woven from black nito and probably made many decades ago and handed down from generation to generation, have been found in the mountains of Samar. In Cagayan and the Mountain Province coiled baskets of this type are made of rattan in a coarser and rougher weave. Those from the island of Itbayat, Batanes Islands, have a peculiar yellow and brown diamond design, in triplicate, around the center.

The foundation of the coil may be made of rattan or of air

roots; rattan is considered the better. For a very fine basket, it should be shaved down to 1.5 mm. in diameter and then sand-papered well. For larger and coarser baskets, the diameter may be increased. The fineness of the basket will depend entirely upon the size of the rod and the nito binder. With finer material, the basket will be more artistic and neater.

The binders are made of nito splints from which the colored layers have been scraped, and are of a light color. For very fine baskets they should be shaved down to 0.2 mm. in thickness and 1 mm. in width. For large coarse baskets the size of these splints should be increased.

Circular button boxes, collar and tie cases, and various other articles of basketry are made by using this style of weave. If properly woven, they are strong, serviceable and durable.

To begin an oblong nito basket the rod should be held in the left hand and a notch cut in it as shown by step 1, Plate XXV; it should then be bent at the notch as shown by step 2, and another notch cut at point A; while the piece of bent rattan is held firmly between the thumb and forefinger, with a thin, short awl a small hole should be punched at *b*, as indicated in step 3, and a piece of prepared nito inserted. The nito should be wound around the bent piece of rattan. Now the rod *c* is bent as shown in step 4 and the nito is wound around the curved end. Step 5 shows the continuation of the winding process. The sewing is now continued until the bottom is completed as in step 6. It is always necessary to prepare with the awl an opening in the finished portion through which the next stitch is to pass. The stitches should be drawn tightly and laid evenly so as to entirely cover the rattan rods. Step 7 shows how one rod is laid upon another at the edge of the bottom so as to form the side of the basket. It also shows how the rods are arranged to form the flange at the top for the lid. Step 8 shows two methods of splicing the rattan rods.

Circular baskets may be begun in the same way as oblong ones except that the part *y* of step 1 must not be more than 2 cm. in length. They may also be begun as shown in steps 9, 10, 11 and 12.

After the baskets are completed, designs may be embroidered with thin, black nito splints. The designs are first drawn on the basket with pencil, after which they are sewed in with the aid of an awl. Step 13 shows a design as it appears on the basket.

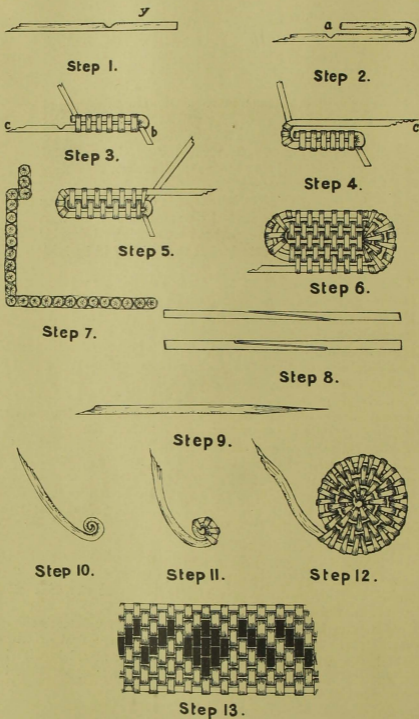


Plate XXV. Steps in the weaving of coiled nito baskets.

LUPIS COILED BASKETS.

Lupis trays are made on a flat foundation of rattan and begun much the same as any other coiled basket. A strip of lupis from 1 to 5 mm. wide is used for the binder. This material appears

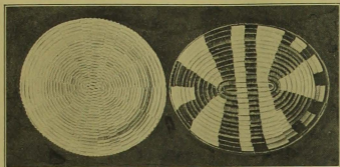


Plate XXVI. Lupis trays.

to be a trifle too thick and fibrous for ordinary raffia weave. The weaver is used flat with the satin-like side out. Lupis does not take color readily. The best effect is obtained with an elliptical bottom in tray-like baskets.

The basket depends largely upon its peculiar weave for its beauty, though the natural black which is obtained from the dried petioles makes a good decorating material. Plate XXVII shows how these baskets are begun and woven.



Fig. 1.



Fig. 2.

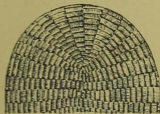


Fig. 3.

BASKETS OF PALM MIDRIBS.

These baskets are made in the whirl weave and can be shaped into round or oval trays, sewing, market or lunch baskets. Unlike other basket materials these midribs can only be used while fresh, being then pliable and soft. When once hardened and allowed to dry they are useless. Therefore the gathering, selection and preparation of materials and the completion of the basket should

Plate XXVII. Figures for lupis trays.

be one continuous process. The palm leaves should be gathered early in the morning, and the midribs separated at once from the leaflets.

With a knife the skin from the midribs is scraped off to whiten

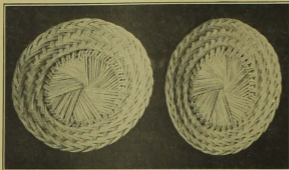


Plate XXVIII. Palm midrib baskets.

them. Ribs of equal lengths, of perhaps 60 cm. or more, should be selected. With the butt ends placed together, the whirl is formed in groups of six, eight, ten, twelve or more pairs. Usually seven such groups are used as

shown in Plate XXIX, which has ten pairs in each group. Some baskets can be formed with five or nine groups, the number of groups and the number of pairs in each group partly deter-

mining the size of the basket. Groups of six or eight should

never be used, as the bends will make too much of a curve.

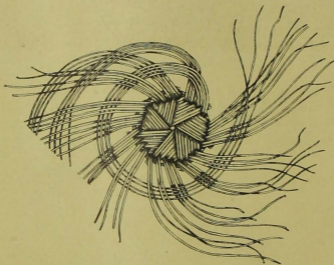


Plate XXIX. Figure showing weaving of midrib baskets.

The details of the weaving are shown in Plate XXIX. A strong string is tied all around the bottom, between the ends and the strands, to hold the work securely. The weaving is

mining the size of the basket. Groups of six or eight should never be used, as the bends will make too much of a curve.

continued until there is only enough of the strands left to finish the bottom.

To make an oval tray, the bottom group is drawn into an oval shape before weaving. To make a bowl-shaped basket, a strong thread is passed through the top group of strands and the strands are drawn together tightly with this until the desired shape and size of the basket are secured. Then the string is withdrawn and the edge is smoothed at the top. A cover to fit over the top can be made in a manner similar to the beginning of the bottom. The cover may be attached to the basket with ornamental looped hinges of rattan.

RECTANGULAR BASKETS.

A large variety of rectangular baskets can be made from the cores of rattan and certain vines, split rattan, and air roots. Among these are square lunch baskets, book satchels, square



Plate XXX. Rectangular baskets.

bottomed waste baskets, desk baskets, market baskets, and hampers with covers. Designs for some of these baskets are shown in Plate XXX.

HEXAGONAL BASKETS.

In the Philippines several shapes of baskets are made in the hexagonal weave; two of these are here described. The hexagonal weave which is the basis of both is woven as follows (see Plate XXXI *a* and *b*):

Step 1.—Straws 1 and 2 are placed parallel; then 3 is put under 2 and over 1; 4 is placed under 1 and over 2.

Step 2.—5 is placed over 1 and 4 and under 2 and 3, and 6 passes under 1 and 4 and over 2 and 3.

Step 3.—*a* is placed over 5 and 6 and under 1 and 2, and *b* is put over 1, 2 and *a*, and under 6 and 5.

Step 4.—*d* is placed under *b*, over 6, 5 and *c*, and under 2, 1 and *e*. Then *e* passes under *c*, over 2, 1 and *d*, under 3 and 4, and over *a*. *f* passes under *d*, over 3, 4 and *e*, under 5, 6 and *a*, and over *b*.

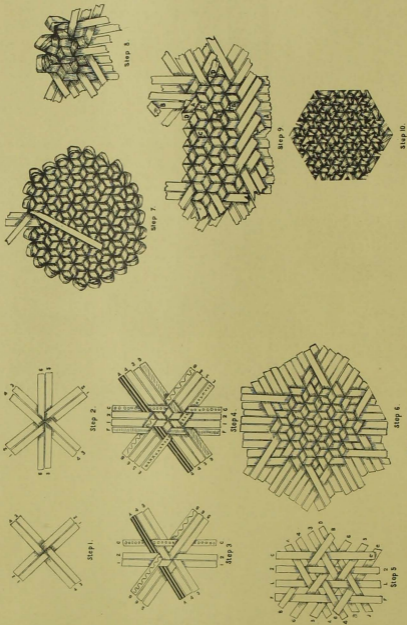


Plate XXXI. Steps for making hexagonal baskets in the mad weave.

Step 5 is made open so as to show the triple over and under weave. Further weaving is merely a repetition of this process as shown in steps 6 and 7.

The manner of forming the corners, and the five-pointed star, which occurs at each corner, is seen in step 8.

The karagumoy baskets of the Bicolos have been developed in the schools. Strips of uniform width are required, 8 mm. being a good size. The rim may be reënforced by two rings of rattan but it is more often made simply by bringing the strips over and interweaving them on the outside into the original weave as in step 9, leaving a serrated edge. The decoration is in the form of six-pointed stars, hexagons, diamonds, triangles, rhombs, cubes, and bands of combinations of these figures. These may be made with the weaver that is left after finishing the rim,

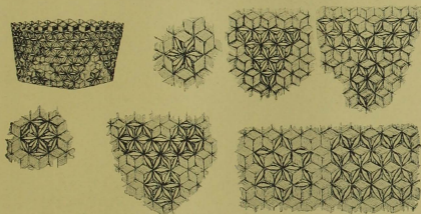


Plate XXXII. Decorations for the karagumoy basket.

as it is interwoven downward making the sides double. It is an over one and under three weave. The weaver is given a complete twist as it passes over one. A combination of these twists in the right places forms the design. Up to a few years ago most of the hexagonal or "mad" weave baskets of this material were decorated with the twist, but with little or no attempt at anything more than solid work and bands. Now another common way of varying the decoration is by strips of nito or irao, which are laid over the original weavers in such places that the black shows in the form of stars and other figures.

The typical Romblon buri basket in the mad weave is made with a cover just enough larger so that it fits down over the basket proper, nearly concealing it when in place. The original weavers are 6 mm. in width. The bottom of the basket and



Plate XXXIIIa. Rombion buri baskets.

the top of the cover are reënforced on the inside by means of pairs of bamboo splints interwoven with the buri and extending from each corner. The cover and the basket proper that is not hidden by the cover are elaborately decorated. Narrow strips the same color as the body of the basket are woven in, and around these are twisted other narrow straws, usually of two different colors. The method is illustrated by step 10. Plate XXXI.

MARKETS.

The local demand for the Philippine baskets has so far been great enough to take up nearly all those made in the schools. Indeed most of those baskets sent yearly to the Carnivals and Exposition at Manila could have been disposed of in the localities in which they were woven. However, in a few provinces, such

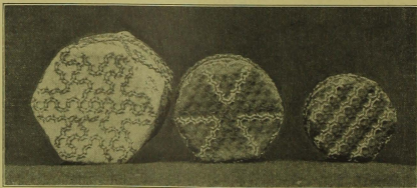


Plate XXXIIIb. Rombion buri baskets.

as Sorsogon and Albay, the limit of the local market has been reached.

It is the concensus of opinion that most of the types and shapes of baskets described in the preceding pages would sell

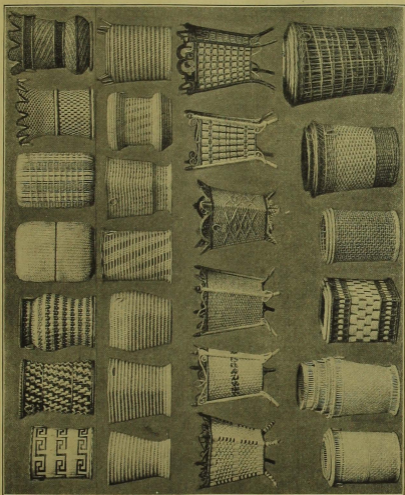


Plate XXXIV. European types of waste baskets.

This plate, as well as the three which follow, has been taken from the catalogue of the Aktien-Gesellschaft für Korbwaren- & Kinderwagen-Industrie, Lichtenfels, Bavaria, Germany.

readily in the United States and other foreign countries. In consideration of the surplus products of the schools, and of the larger output of baskets which it is hoped will some day result from the introduction of the art into Philippine homes, the

Bureau of Education is making certain investigations with respect to markets for Philippine baskets. Samples sent in exhibits to the United States have received very favorable comment; at the present time further sample lines are being submitted to several commercial firms with the object of determining types

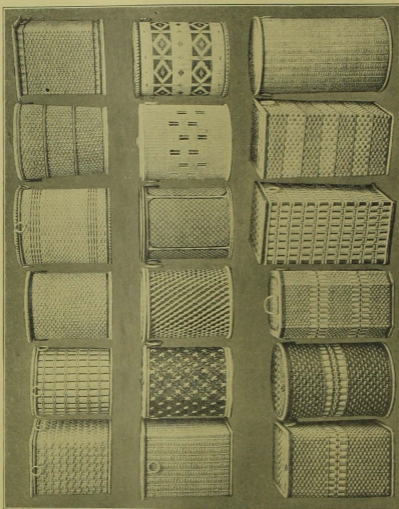


Plate XXXV. Types of clothes baskets of German manufacture.

and shapes which are most desirable and the prices which Philippine baskets can bring in the open market.

Commercially, baskets are best made so that they will "nest;" that is, so that they will pack one within the other. This arrangement is desirable for two reasons: first, because it occupies

the least possible space; and secondly, because when packed in this manner the baskets are not liable to damage in shipping. Contrary to the general opinion, freight rates on baskets are

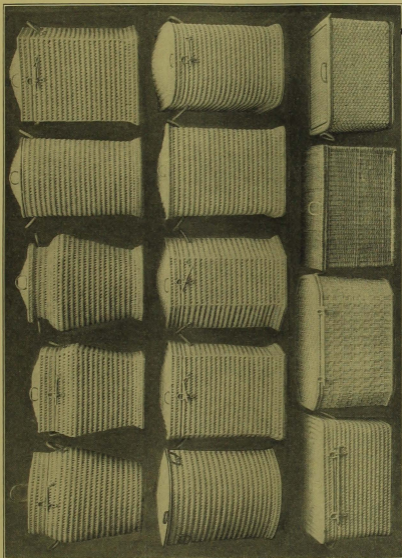


Plate XXXVI. Clothes baskets and hampers of European type.

quoted by weight and not by bulk; special prices are made in this case. From one steamship company whose steamers call at Manila, a price of ₱1.50 per 100 pounds to San Francisco has been quoted. The same company charges ₱4.50 for 100 pounds

from Manila to inland points in the United States, such as Chicago, St. Louis, New York, and Boston. These quotations are for baskets in boxes or in bales.

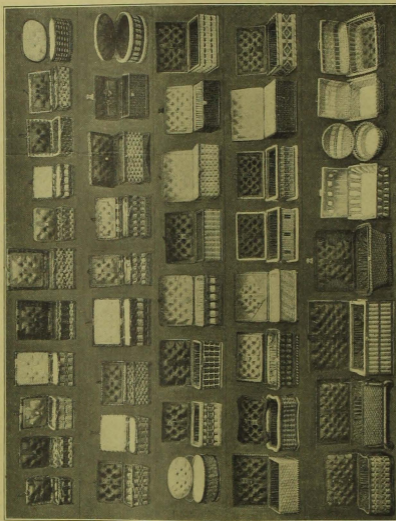


Plate XXXVII. Various types of smaller fancy baskets manufactured in Europe.

It will be noted that the baskets presented in this plate are lined. It is believed that the lining of baskets and their further equipment as fancy articles can be more economically and satisfactorily done in factories, and that no attempt should be made to prepare baskets in this manner in the Philippine public schools.

FOREIGN MODELS.

In the plates which follow there are presented many types of baskets which are manufactured by commercial concerns in the

United States and Europe, and which find a ready market in all parts of the world. A comparison of these standard foreign

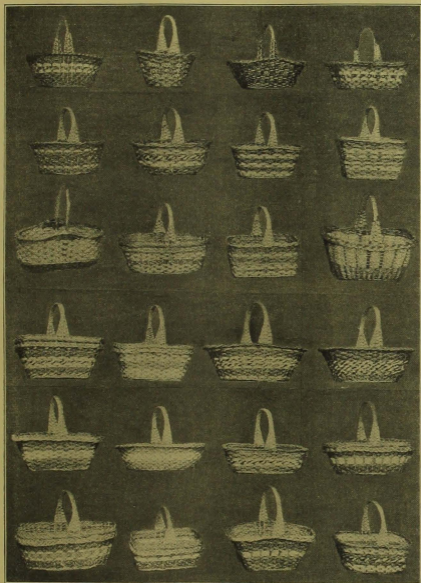


Plate XXXVIII. Types of American market or shopping baskets made of willows, reeds, and straw braids. These materials are frequently dyed in brilliant colors.

This plate and the plate which follows have been taken from the catalogue of the Burlington Willow Ware Shops, Inc., of Burlington, Iowa.

types with the baskets which have been developed and which are actually being produced in some quantities in the public

schools, and whose production will be extended as rapidly as conditions may warrant among the people outside of the schools,

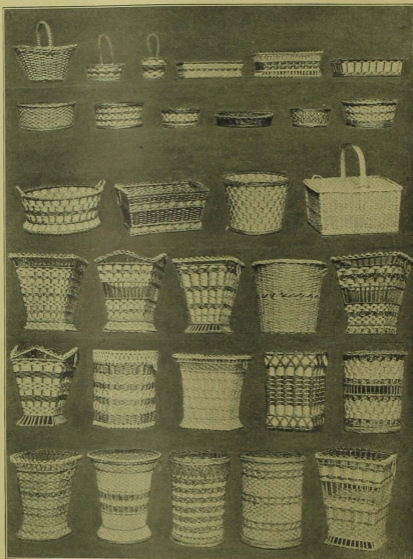


Plate XXXIX. Waste baskets and baskets of various types made of willows, reeds, and straw braids, frequently of materials dyed in brilliant colors.

From the prices quoted in the catalogue from which Plates XXXVIII and XXXIX have been taken, it is learned that such baskets sell at wholesale in the United States at prices ranging from P0.40 to P6; the average waste basket and market or shopping basket bring about P2. To better understand the significance of these prices in comparing foreign baskets with Philippine models, the quality of the material and the probable durability of the basket must be taken into consideration.

shows many points in favor of the Philippine article. In construction, finish, style and adornment, features many of which are made possible by the superior raw materials which the Filipino has in such abundance on every hand, it may be asserted that the Philippine basket surpasses articles which have been developed elsewhere.

One very decided advantage is the fact that Philippine baskets are made almost always in natural colors; this fact has been emphasized in the preceding pages. The many varieties of basket materials which are obtained from trees and palms, herbs, sedges and grasses lend themselves admirably to the manufacture of an infinite number of models, and the plan of adornment with natural colors only, in conventionalized Philippine designs, offers possibilities for this branch of industry which are unsurpassed.

A review of the prices which are obtained for baskets in the United States and Europe would indicate that the product of the Philippines can compete to advantage with the product of any other country. A great problem of the future is to bring the Philippine basket to the attention of merchants who will appreciate its merits, and to establish in this way an exchange which will be beneficial to the producer in the Philippines and to the purchaser in Europe or America.

The models which have been discussed in the preceding pages are recognized standard forms of Philippine baskets. From these standard types it is very probable that in every school division variations will be worked out, each of which will have its own particular merit or will be adapted to some special purpose. The foreign types which appear in these plates are offered as suggestions in models, weaves, and designs.

In many cities in Germany the expense of equipping a trade school is obviated by the introduction of "continuation schools." In these schools the academic and theoretic part of the course, with a certain amount of incidental practice work, is taught in the classroom, while the practice of actual work is obtained in the factories of the city under the direction of the classroom teacher, who takes up the problems that are met in the performance of work under commercial conditions. Students spend a portion of their time in the classroom and the balance in work in the factories. The continuation school has been adopted into the systems of a few of the larger cities of the United States.