

## Woodwork\*

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*He taketh a crooked piece of wood, and full of knots, and carveth it with the diligence of his idleness, and shapeth it by the skill of his indolence.*—Ecclesiastes.

We have seen that Kandyan architecture is one typically of wooden, not of stone construction. It should be remembered that the general use of wood for building domestic utensils is a survival from very early times, and that while on the Indian continent wood was very largely superseded by stone as a building material, in Ceylon the indigenous style remained to the last one of wooden architecture. It is therefore natural that much of the best Kandyan woodwork should be architectural, and that it should derive a special charm from its architectural adaptation. The timbered hall and roof at their best are such as any people might be proud of, comparable with the lesser sort of Gothic timbered hall and roof; the carved doors and windows are at once decorative and constructional; and every detail is of artistic and historic interest. The constant richness and variety of carving, and its close relation to the nature of the material are always pleasing; and we never find it so disposed as to interfere with the utility of beam or frame; it appears almost always as if it were an essential and necessary part of the constructional work.

The wooden pillar (*kapa*) is the constructional element most in evidence. In the simplest form the pillar is slightly chamfered, except at the two ends, which remain rectangular in section; it may taper slightly, or remain of one diameter throughout. In the majority of cases, however, the elementary form is more greatly modified, becoming an octagonal shaft with rectangular base and capital, the continuity of the octagonal part being broken by a brief return to the plain section, forming a central cube. The latter especially is carved with a great variety of design, lions, *gaja-simhayo*, *hamsayo*, dancers, etc.; the octagonal facets may be also carved, with *bo-leaf* forms or their derivatives; the capital with garlands of pearls (*mutu-dela*, pearl-net, A in Fig. 2); and the base with horizontal stepped incisions (*asana-kadaya*, D in Fig. 2) a most characteristic feature. The points of transition from rectangular or octagonal section are softened by knops in the form of a conventional cobra's hood (*naga bandha*, B in Fig. 2) or scroll of *liya pata* ornament (*geta-liya-pota*, C in Fig. 2).

A considerable variety of turned wood pillars is also met with, but less often than the thirmed; or very rarely a pillar is part turned, part square (Bell, *Kegalla Report*, p. 22, *Kumbukgama*). Wooden pillars often rest on a stone

base as a protection against white ants; where the whole building rests on low stone pillars, the wood pillars are morticed into huge beams forming the framework of the floor. A separate carved capital or bracket (*pe-kadaya*; not *gonas*, which is a carved rafter) almost invariably intervenes between the pillar and the beams (*dandu*) which it is to carry (Fig. 1). These may be comparatively plain but are more often carved in pendent lotus forms; occasionally this issues from the mouth of a *serapendiya*; sometimes the downward face of the flower is occupied by a dancer, a *hamsa-puttuva* or other design in place of petals, as in a small *ambalam* by a *bo*-tree at Vekoladeniya, Four Korales. The bracket is made in two pieces, fitting together, and when these are crossed together, the four-faced bracket is completed; the top of the pillar itself is morticed into the bracket through the centre of the parts crossed. The massive beams resting upon these brackets and the framing beams along the top of vihara walls are often chamfered but otherwise rarely carved. When the size of the building makes a joint (Fig. 3) necessary, it is placed by choice immediately over a pillar, but not always so. The characteristic type of scarf joint is shown in Fig. 3. The roof is spanned by the beams, forming the basis of a boarded ceiling, generally painted. Upon these horizontal beams stand other shorter uprights (Fig. 4), sometimes carved in the fashion of pillars, carrying the ridge-beam of the roof as in an ordinary 'king-post' roof; from the ridge-piece to the wall plate run the rafters of which the under side is often elaborately carved; over these are nailed 'reepers' (laths) which carry the tiles. The carved rafters project to form overhanging eaves. In the same

picture will be seen the curious wooden rod (*idda*) which passes through the rafters just beneath the eaves, connecting them together. In some cases this rod is elaborately carved and twisted, as at Ridi Vihara. Its accuracy and satisfactory construction are severe tests of good craftsmanship.

### Roof

There is usually a verandah to all important buildings, in which case a characteristic peculiarity of the roof appears, viz., the change of slope which gives a pagoda-like appearance to many Kandyan buildings. This results from the separate construction and different slope of the main roof and the verandah roof. In some cases the latter is a good deal lower than the main roof, so that the verandah is practically a lean-to against the wall of the main building giving the false appearance of a two-storied building; if a window is pierced, the effect of a clerestory is produced. The change of slope is sometimes emphasized by different tiling of the two parts of the roof.

In the case of open buildings having a double series of pillars, but no walls, the change of slope of the roof takes place naturally and constructionally over the inner series of pillars. In this case, then, the 'verandah' becomes part of the main building related to the central space as aisle to nave in a church. The Kandy 'Audience Hall' illustrates this type of building well. It is described by Mr. Lewis<sup>1</sup> as follows:

"The audience hall of the kings, which is now used as a court-house, consists of a high-pitched roof supported by four rows of wooden pillars arranged so as to form a nave with its aisles, supported on a stone platform and without walls, the building being open on all sides. The pillars...support

heavy beams and a king-post roof. The wall plates are elaborately carved and support carved terminals. The roof projects considerably over the pillars. The slope of the roof over the aisles is at a less acute angle than that of the roof over the main part of the building."

The change of slope is also frequently seen in walled buildings lacking a verandah, and is then the result of special construction of the main roof; into which the verandah roof is, as it were, absorbed. We seem to have the following pedigree; lean-to verandah of a cave-temple; lean-to verandah of constructional vihara; verandah raised to roof level retaining difference of slope; adoption of same form in main roof even when verandah is absent and to that an historically speaking secondary lean-to verandah may be added. The principles are easily applied in the further elaborated case of buildings of two or more stories, such as devales, and a few viharas (Dalada Maligava, etc.)

Roofed walls and gates must be referred to. Where a vihara or devale was of some importance, the garth about it was walled in with a mud and rubble wall, tiled as a protection against rain, or even covered with a timbered and tiled roof, as at the Saman Devale, Ratnapura. Even where the wall was not roofed, the entrances often were, as shown in Fig. 7, so that the whole effect was similar to that of the wall and lych gate of an English church and church-yard.

The projection of the roofs of Kandyan buildings to a considerable distance beyond the pillars or walls is a noticeable feature. This is an adaptive character. As Mr. Lewis remarks, the "overhanging eaves are specially suited to a rainy climate like that of most of the Kandyan country, and serve to protect

the walls from becoming sodden. They have, therefore, instinctively been adopted by the Kandyans, and in this the native builders show more sense than European architects in Kandy and Colombo, who are fond of erecting buildings with elaborate cement or plaster facades which speedily look weather-beaten and shabby, and the walls of which get soaked through annually and therefore soon deteriorate." The characteristic eaves tiles also serve as a 'weather-boarding' to protect the walls, and are thus constructional as well as decorative. It is needless to remark that Government, as in India, have consistently ignored the local building traditions, thus at the same time striking at the foundation of the arts and crafts of the country, and incurring needless trouble and expense through ignorance. Yet they have been told more than once of their errors. In 1868, Mr. Russell, Government Agent at Jaffna, wrote to Government regarding the preservation of ancient buildings, observing at the same time, "the study of such works might possibly produce a beneficial effect on the draughtsmen of the Public Works Department, who appear to me to have much to learn in respect of adapting a building to the use for which it is intended and to the conditions of climate under which it must be occupied."<sup>2</sup>

But the Government remains equally blind to the artistic and the practical value of the traditional crafts; and the Europeanised Sinhalese are, if possible, more ignorant and deluded. To take one instance only; at the Musaeus Buddhist School in Colombo, it was decided to build a little temple for the use of the girls. Here, if anywhere, one might have looked for some appreciation of tradition, some elementary con-

ception of fitness and the association of ideas; but no-the local paper informs us that the building "is a very pretty structure, a vaulted roof with a fine dome, Gothic windows, doors and a porch, with parapet battlements of classic design, being very effective."

As Mr. Lewis remarks, "It is lamentable to see everywhere this process taking place; old and artistic Kandyan work is being removed and replaced by nondescript and hideous modern work after the style of the petty masons and contractors of the low country. The new temples are adorned with plaster masonry, sometimes representing sham venetian blinds, bastard and attenuated Gothic pointed arches are introduced; the Kandyan wooden pillars give way to round ones of brick plastered over, of the stock quasi-classical pattern that was introduced into the bungalows of the early English occupation; the doorways have semicircular arches with poor mouldings; the door panels and mouldings are painted in ugly loud colours which with the panels and mouldings have a Dutch character, but lack the massiveness and picturesqueness of their Dutch originals; and the pretty quaint little windows are being replaced by rectangular openings filled in with ugly wooden bars<sup>3</sup>.

#### Doors

Doors were framed wooden structures, fitted and pegged together, and built into the substance of the wall; but some viharas had door-frames of stone. The doors were either one or two-leaved, having tenons above and below, turning in sockets in the frame; hinges are very rarely seen in old work. The parts of a complete door and frame included the two *uluvahu-kanu* or *kanda* (door posts), *padi-kanda* (threshold), *haras-kadaya* (lintel), *ba-pata* (horizontal

plank at lintel level, to carry upper tenon of leaf), *agul-kanuva* (bolt-post, upright carrying wood bolt), *agula* (bolt), and the door leaf itself (*dora hitina lella*). An additional horizontal, above the *haras-kadaya* and between an upward extension of the jambs, is called *uttara lella*, and is generally decorated.

Door jambs are almost always carved, sometimes very elaborately, as in the example from Dippitiya Vihara figured by Mr. Bell (Kegalla Report). The usual arrangement shows a *pala-peti* moulding at the inner angle, and *liya vela* ('branch') ornament on the front; at the base on either side, a carved representation of a guardian deity in low relief, or a figure of a dancer, or an elephant or other form, above which come the '*asana kadaya*' incisions so characteristic of Kandyan woodwork (e. g. Fig. 2, D), then a *geta liya pota* or *naga bandha*, from which the rest of the carved jamb begins and continues. The lintel may be straight or arched, and plain or carved. In some cases all the carving referred to is executed in ivory and thus applied in lieu of carving the jamb itself.

There are some good examples of Kandyan doors in the Colombo Museum. Mr. Bell describes the leaves and one jamb of a door from Devanagala in the following words: "The carving of the borders is exceedingly delicate. The framework of the panels is in high relief, the ten panels themselves being plain. The outer borders, upper and lower, are carved in the universal foliage scroll with inner bevelled edges of *pala peti*: the centre border (overlapping the right side plank so as to hide the line of junction when the door is closed) has a perpendicular band of tiny *nari-lata*. The door swung on tenons in

a socketed sill and lintel. The carving of the jamb is equally tasteful. Behind an outer beading and inner splayed edge of lotus petals runs a long narrow panel with gracefully intertwined double scroll of creeper-separating four figures, all different from each other. A space half moulded, half panelled, in flower design, intervenes between it and the base panel, in which is placed besides a tree an elephant with head and right forefoot raised, and curled trunk. The disappearance of the fellow jamb, lintel, and sill are much to be regretted."

Another fine door remains at Devanagala; and is thus described by Mr. Bell: "The present vihare is a modern tiled building of brick and clay, 35 ft. 5 in. by 16 ft. 4 in., unplastered and ugly. Into the outer wall have been fitted the wooden doorframes and double-winged doors taken from an older vihare. The door on the east side, which is much weatherworn, is panelled in six elongated compartments containing figures of dancers and animals, bevelled in lotus-petal pattern and framed by tiny pitting and wide border of lotuses." Another doorway, that of the Dippitiya Vihara, is figured in the Kegalla Report.

There is much good woodwork remaining at Vattarama, Pinnavala, Kadigomuva, Levke and other viharas in the Three or Four Korales. The work at Pinnavala and Kadigomuva, says Mr. Bell, is "a storehouse of information on Sinhalese sacred and secular zoology and conventional floral design". The Malvatte and Asgiriya Pannsalas in Kandy are full of good eighteenth century woodwork. In the Kandy Museum there are also remains of fine doors and door-frames and other architectural woodwork.

### Bolts

Bolts in the case of one-leaf doors were wooden pins working in an upright post (*agul kanuva*) set against the inside of the jamb. The free side of this post was often shaped on the model of ordinary wooden pillars, but otherwise very rarely carved; but the bolt itself afforded an opportunity, too good to miss, for elaborate decoration, but never such as to interfere with its use (Figs. 8 and 9);

Another type of wooden bolt (sometimes called *dandu-agula*) is used on two-leaved doors and window shutters; the nature of this form will be best understood from the illustration (Figs. 10, 11). These bolts can be opened from without by means of a long curved iron rod passed through a small hole in the door (cf. Bell, Kegalla Report, p. 21, Bamungama Devale).

### Windows

Windows were of two main types, the first identical with the ordinary Kandyan door on a small scale, the second fitted with lacquered wooden bars. These of the first type, as Mr. Lewis remarks, are constructed in every respect like doors, having a massive frame, and a single or double leaf fastened by a bolt. There are typical windows of this character at Kundasale and Degaldoruva Viharas; the latter with elegant iron bars. Mr. Lewis figures one,<sup>4</sup> no longer *in situ*, which is remarkable for its circular bolt and hinged leaf; it shows very well the typical arched lintel, equally characteristic of doors and windows. The arches are sometimes double. Such windows are sometimes provided with two lights, as in one case at Malvatte, also figured by Mr. Lewis<sup>5</sup>. When, as in this case, the window is also provided with wooden bars, we have an approach to the char-



acter of the second type of window. There is in the Kandy Museum a remarkable window<sup>6</sup> of two lights, which I rescued from the remains of a house at Nalanda. In this, as Mr. Lewis remarks, we have "the tracery of decorated or perpendicular Gothic, with a double ogee arch, independently developed."

Windows of the second type are long and low, consisting of a long rectangular frame fitted with turned and lacquered wooden bars, and without doors or shutters; show such a window, in the wall of the refectory at Malvatte Pansala. Mr. Lewis figures similar window from Lankatilaka. He also notes that in a *pansala* window at Kundasale Vihara, which has seven turned bars, the two outer bars are not in the same plane with the other five, but further recessed, apparently to give variety and greater play of light and shade.

#### Bridges

I am not acquainted with any remains of Kandyan wooden bridges of any importance. I quote, however, from the Mahavamsa (Ch. LXX.) an account of one built over the river Kalavapi by the General Deva-Senapati by command of King Parakrama Bahu I; it was "a bridge of timber, two hundred cubits in length and twenty cubits in breadth, fastened and made exceeding strong with plates of iron and pegs,—a bridge of exceeding great beauty, that could be passed by elephants and horses and chariots and footmen."

The simplest form of wooden bridge (*edanda*) now everywhere seen is a single tree-trunk passing from bank to bank of a small stream. If the stream is too wide to be spanned by a single trunk, piles are driven and two or more trunks laid across them.

The chief forms of architectural

woodwork have now been noted. The construction is very massive, and would endure indefinitely were it not for the activity of white ants, which is such that it may be doubted if any woodwork really ancient now survives, while such as remains is so generally neglected that it cannot last very much longer. Only last year the ancient Pohoya Maluva Vihara in Kandy had to be pulled down and rebuilt from this cause, as prophecied in "An Open Lettter to the Kandyan Chiefs," an appeal for the better preservation of ancient buildings in Ceylon, published in 1905; a little regular care would have prevented the necessity for this; needless to say no modern work can in any real sense replace the old (for the same reasons that modern Gothic restoration in England cannot replace Mediæval work); which if any one should doubt let him examine the modern 'Kandyan' ambalams built by District Engineers at Kegalla, Ruvanvella and Ratnapura.

The foregoing observations on architectural woodwork have a general application to all buildings, such as viharas, devales, palaces, and ambalams, in the construction of which craftsmen are concerned, but only in a much reduced form to ordinary dwelling houses, which each man made for himself. These were constructed of smaller timber tied with jungle ropes, and the walls of wattle and daub, the roof thatched.

The sumptuary laws forbade any elaborate domestic architecture. Major Forbes<sup>7</sup> states that "the king did not permit any person to have a house two storeys high, nor to build one with windows, nor even to roof with tiles nor whitewash mud walls, without obtaining the royal sanction." Davy<sup>8</sup> remarks that "The dwellings of the people in

general..... are invariably thatched; only those of the highest rank being permitted to have tiled roofs." Only the king's palace and religious buildings were allowed to have doors with ornamental tops, or finials to the roofs, or to be plastered with lime.

#### Domestic Woodwork-Beds

We pass now to the consideration of domestic and other woodwork not architectural. The plain four-legged bed (*enda*) is an ancient and wide-spread Indian form, consisting of a frame of netted rope or rattan, supported by four feet. In Ceylon it is essentially a wooden frame (*enda viyala*) of four parts, and with four legs (*kakul*); usually with a low head-rest in addition, morticed into the two upper legs, the tops of which project above the frame for this purpose. In the most characteristic types, the influence of architectural forms is evident, the legs being thirmed, and chamfered as are wooden pillars; turned and lacquered legs are also met with. The now commoner turned and carved four-post beds in general use owe their form to European influence, mainly Dutch; it is curious that there still exists a real style in furniture, based on eighteenth century European; a more dignified and massive architectural style is that really proper to the country, but so little furniture of any kind was formerly used, as to make it natural for the European forms to come in with the European habit; to say nothing of the prevalent mania for the imitation of all things European; though the semi-Dutch style of furniture was arrived at before that mania reached its present height. The mattress was formed of rope or rattan netting; over this were laid a few cloths and mats and a pillow, the sleeper covering himself from head to foot with cloth or cotton blanket. Plank beds are

rarely met with; the beautiful example of, is almost a solitary instance; the 'chip' carving is better shown in Fig. 12. The low head-rest or rather head-board is sometimes finely carved (Fig. 13).

#### Stools

Turning now to stools and chairs, we remark at once that the ancient hour-glass form of cane stool is still in general use; next often seen is the *kolombuva*, little more than a low, slightly shaped log; while a more pretentious stool in use is the three-legged *bankuva*, perhaps, as the name suggests, of Western origin, but at any rate long naturalized. These *banku* are sometimes beautifully made and carved; the flat legs are fitted into the thickness of the seat by a 'housed dovetail', very firm and solid.

None but the king was allowed to sit upon a chair with a back; as remarked by Sir George Birdwood, "although chairs are not ordinarily used by the natives of India, they have always been familiar with them as the thrones of kings." A beautiful chair dedicated by Kirti Sri Raja Simha is preserved in the Asgiriya *pohoya-ge*; it is painted and inlaid with ivory. In Fig. 14 are shown a number of types of stools and chairs, from paintings at Degaldoruva, sufficiently described in the legend attached.

A peculiar kind of chair is the priest's pulpit, a two-storied wood frame to be covered with white cloths while the priest sits within reading bana, his face concealed from the congregation; there are good examples at Dambulla; and ordinary specimens in every banamaduva.

#### Tables

Ordinary tables were not in general use, though mentioned by Knox amongst the King's private treasures,

most of which he had obtained from wrecks, or were gifts brought by ambassadors.

A three-legged table used as a book-rest appears in a wall painting at Degaldoruva; it is no more than a tall *bankuva* (Fig. 14). A piece of ecclesiastical furniture is the *dandasana*; as seen in the picture it resembles a camp-stool, lacking the seat; but some sort of top must have been attached to the four eyelets shown; it is stated to have been used as a book-rest by copyists, and is, at any rate, an exclusively ecclesiastical piece of furniture; but I have not seen a complete specimen, or one in actual use.

Temporary trays or tables of sticks and leaves used at devil ceremonies to hold the offerings of flowers are called *tatu*, or *mal tatu*.

Tables or altars for offerings of flowers before images, dagabas or botrees have been in use from the earliest times and are represented on the early Indian sculptures. These have generally the form of a bench, the legs sometimes carved or turned; and sometimes flattened with a double bend like those of the *bankuva*, or almost rectangular in section with the same double bend, now in the Kandy Art Museum; these legs are morticed into the very solid top, and supported by iron brackets; in an *olinda-kolombuva* (game-board), in my collection, of exactly the same form, the legs are fitted on with a mortice dovetail and wedge, but this would not have been strong enough for the big table in the Kandy Museum.

#### Boxes

Boxes are also mentioned by Knox in his list of the King's treasures; the reference is probably to large chests such as are used for storing cloths,

insignia or other ecclesiastical property (e.g., in Maha Devale, Kandy, and the *Pohoya-ge*, Malvatte), also in private houses for similar purposes. All the typical examples are of the kind known as Indo-Portuguese, large wooden chests with hinged lids and big locks, the handles, key plates, and hinges with evident Renaissance feeling, and based on Western models; we are thus led to ask whether these chests were used at all before Portuguese times. It is difficult to make an absolute statement on this point, as wooden boxes must have been in use at an earlier period; perhaps this was so, but they had the lid opening on tenons, like a door, of which I have seen one example. However that may be, the Indo-Portuguese chests are recognizable by the character of their metal fittings, and especially by the decorative metal bosses over rivets. They are more often and more typically found in the north of Ceylon, in Jaffna, where Western influence has been stronger and has acted longer; here we meet the 'almirah' (standing cupboard with shelves) in elaborate forms, the hinges, evidently European in form, and the woodwork thoroughly Renaissance in style. A type of box commonly met with in the low-country is the 'bible-box', an evident copy of a Dutch form, usually made in calamander or ebony, with scallopings and flutings.

Also partly Western in origin are the 'wprk-boxes', divided into compartments with trays and lids, inlaid with ivory, that were formerly made at Matara in the Southern Province; but these low-country forms really lie outside the scope of the present book, and are therefore not referred to in greater detail.<sup>9</sup>

Purely Kandyan, however, are large book-boxes or presses used in temples



or pansalas. A very beautiful and elaborately painted book-box is to be seen at the Ridi Vihara. Beside the painting, its lid is set with gems. I have myself had very successfully painted by three Kandyan painters, and fitted with handles, etc., by a founder, a similar book-box, on which three men worked at the painting for six weeks. The total cost of this box was over Rs. 200. Unfortunately, it is but rarely that work even as important as this is given to Kandyan craftsmen, who for the most part make brass trays for passengers:

It is noteworthy that rare woods, such as ebony and calamander, were most sparingly used by Kandyan carpenters. Ebony is sometimes used as inlay, often associated with ivory, as at Ridi Vihara, with a fine effect; for 'raylings', as we are told by Knox; but rare woods are not used for the construction of large objects, such as boxes and doors. It is really a misuse of material to attempt such work: the wood is rare (calamander now almost extinct as a result of the increased demand) and should be used as such, with restraint and dignity; it is difficult to get large pieces of it, and it readily cracks, as if intended only for inlay. There is a certain vulgarity associated with the use of rare materials in large quantities where not required.

#### **Jewel Boxes**

Turned circular wooden boxes, rarely more than a foot in diameter, are in general use, either for betel leaves and the accessories of chewing, or for jewellery or valuables; they were especially used in devales to hold valuable insignia, as the *halamba* of Pattini; and were thence called *abhaarana-petti* (regalia-boxes. Like much other turned work, these boxes are usually adorned with lac applied on the lathe.

Another type of box used for jewels is the *vel-pettiya*, or cane box, fitted with brass hinge and lock; a stronger round form, with shallow detachable lid, is used for storing grain, carrying food, or generally as a box of any kind; one form is divided internally to serve as a food-basket for rice and curries for a number of persons travelling.

#### **Kitchen Furniture**

We pass to the wooden articles used especially in the kitchen. The most noteworthy of these was the spoon rack (*hendi-ana*). This was suspended from a beam, and the long handles of the wooden spoons set in the holes. The spoons themselves were usually made of a piece of coconut shell (*pol-katuva*) with two holes into which the handle passes. Some are pierced for use as strainers. Another use of small pieces (ends) of coconut shell was in making sweetmeat moulds; two ends, of equal size, were carved inside and then pressed together with the sweet-meat between; the moulds were called *sini pittu katu*, the sweet-meat itself, *sini pittu*.

Nearly entire shells were used as the bowls of water dippers, the wooden handles, almost always beautifully carved, being passed through and pegged inside. The dippers, however, were not only used in the kitchen, but were a special piece of ecclesiastical furniture, used by priests for taking water from a bowl, or a well, to fill *kotalaya*, or to pour over the feet before entering the vihara; but the use is not in any sense 'sacrificial' as indicated in the official description of the beautiful ivory *kinissa* at South Kensington<sup>10</sup>.

The detached coconut shells elaborately carved, and sometimes silver mounted, and of which so much is often thought, are a modern and useless invention, suitable only for the imitation

European drawing-room. It is interesting that ivory carving is said to have been learnt by practice on coconut shells, a material exceedingly hard and intractable.

Other important pieces of kitchen furniture are the coconut scraper (*hiramanaya*), a shaped log (*kolombuva*) carrying a toothed disc for use as a rasp; and the vegetable slicer, a bill-hook set edge upwards in a wooden holder and called *vap-pihiya*. Both were arranged to sit upon conveniently while preparing the vegetables; the scraper is often of the book-rest form, called *yatura-hiramanaya*, the two linked parts of the folding seat being cut from a single piece of wood; and in many cases the scraper and knife were combined as illustrated in Fig. 16, from a painting at Degaldoruva.

Beside the sweetmeat-mould already referred to, there are flat cake-moulds (Pl. XIII., 4) and jaggery-moulds, the latter deeply carved with intaglio representations of elephants, lions, and sometimes of an *olinda poruva* or game board, after the manner of butter-moulds in England. Granary seals were also made of wood.

A curious implement is the 'string-rice' press (*idi appan vangediya*), a wooden cylinder with plug working in it, the end stopped with a perforated diaphragm, through which the cooked rice is squeezed, much as mashed potatoes sometimes are in England; a beautiful example now in the Kandy Museum, is shown in Pl. XI., I.

#### Agricultural Implements

Agricultural implements were largely of wooden construction; of these, the plough<sup>11</sup> (*nagula*) is the principal. Others of importance are the *poruva* or scraper, and the *laha* and *kuruniya*

measures. The wooden bells or clappers (*so-kada*) hung from the necks of buffaloes are also interesting. Into the details of all these forms, however, it is hardly necessary to enter. Many are characteristically ornamented.

#### Carvings

A few words must be said as to the carving. The designs are for the most part those common to the whole of Sinhalese decorative art, but treated in a manner suited to the material. The treatment is always extremely flat, no attempt at relief or undercutting being made. This admirable restraint is now a thing of the past, for the influence of Kandyan woodwork and carving is hardly perceptible in modern building and furnishing. Furniture is based almost entirely on Dutch models, with fluted and bowed legs and relief carving. The flattest treatment of carved wood is seen in the regular 'chip-carving' of the bed in Fig. 12, or the sweetmeat mould. Somewhat greater relief is characteristic of the *liya vela* ornament of door-jambs, and the carving of pillars, capitals and bolts. Even in these cases the treatment remains severe, the stems of the foliage flattened and not rounded or undercut. A characteristic feature is the emphasis of the outline of stems or interlaced work with an incised line next to the margin on each side. In this, and some other respects, such as the flat balusters of the Asgiriya chair we are reminded of old Scandinavian methods. Some kinds of work, as bed-heads (Fig. 13) were in many cases pierced as well as carved, giving an appearance of greater relief and light and shade. Even here the flat surface and incised outlines were retained. Wood-carving completely in the round is rarer; the string-rice mould and the handles of dippers afford examples.

Wood was also used for figure sculpture, but not generally; in such cases, as also in many cases of merely decorative carving, it was painted. *Makara torana* shrines for figures of Buddha were sometimes made of wood carved in high relief, as in the example from Danagirigala Vihara, figured by Mr. Bell (Kegalla Report, p. 43). There is also a small example in the Colombo Museum.

### Turning

A somewhat extensive use of *turned* wood is noteworthy. The feet and legs of benches, beds and seats were often turned, but it is perhaps in window bars, balcony railings, and vehicles that turning is most resorted to. It is less often used in the case of larger constructional pillars. Not uncommon is a mixed form in which a pillar or leg is half turned and half thirmed; the handles of tools, such as bill hooks, and of cressets, are often similarly treated. Turned railings are usually lacquered in rings of red and yellow and green or black. The form of the turned rails or pillars is usually very satisfactory, contrasting markedly with work now done. It appears to be a craft in which degeneration of form takes place with peculiar readiness.

The art of turning wood is indigenous. The ivory turner's lathe is certainly a traditional one; it consists of a large concentrically grooved spindle (*liyana kanda*), set in two posts sunk into the ground; the object to be turned is fastened to the projecting end; the spindle is turned by hand. A form of lathe similar to this is used by gem cutters, but is worked by a bow (like the drill of Fig. 21) to enable one man to turn and grind simultaneously. Carpenters now use the wheel-turned lathe exclusively, but I have seen a large grooved spindle

of the older type, and have no doubt it represents the original and indigenous form of lathe.

### Carpenter's Tool

It is to be noted that all the carving was done with a few chisels only, the immense variety of chisels and gouges found in the European carver's workshop being quite unknown.

The tools used by Sinhalese carpenters are numerous and varied, and in form and adaptation not very different from those used by European carpenters. The following is a rough list, based upon a set of sketches made for me by a Kandyan craftsman, one or two of whose drawings are reproduced: cubit-rule (*riyan-lella*), plumb-line (*lamba-ketaya*), line or tape (Fig. 20), timber saw (*haraskapana-kiyata*, Fig. 20), straight plane (*yatu-ketaya*), curved plane (*ravum-yatu-ketaya*), chisels (various sizes, *loku-niyana*, *niyan-katuva*, *kalambu-niyan-katuva*), stock drill (*gal-torapanaya*, Fig. 19), hand drill (*at-torapanaya*, Fig. 21), scoring tool (*irrigahana-katuva*), awl (*vidina-katuva*), gimlet (*gijulettu-katuva*, of European origin), rasps (*pullorama*, *peti*-, *vata*-, and *loku-pullorama*), file (*pira*). The foot-rule, which measures a 'carpenters' cubit' (*vadu-riyana*) in length, is divided into twenty-four *angal* or 'inches.'

The ornamentation of carpenters' tools, as indicated in Figs. 19 and 20, is a characteristic expression of the craftsman's pride and pleasure in his work, the ivory compasses and the damascened adze for example. In the Kandy Museum, also, there are adzes with fine lacquered handles, one of which is said to have been used by Devendra Mulacariya; and the iron cubit-rule referred to below as having belonged to him is ornamented with a

silver damascened lion.

### Carpenter's measure

Carpenters' measure was different from that in common use. The *vadu riyana*, or carpenter's cubit, was the ordinary cubit + a span + the four fingers' width. The carpenter's *angala* or 'inch',  $1/24$  of the *vadu riyana*, was the length of the third joint of the forefinger. The span (*viyata*) was the space between thumb and little finger at full stretch, reckoned, it is said, at 7 *angal*.

I have examined a *riyan-lella* ('cubit-rule'), now in the possession of Godapola Galadda, a descendant of the Devendra Mulacariya already mentioned, to whom it once belonged. It is an iron rod, rectangular in section and exactly 31 (English) inches long. One side is divided into 24 *angal* (each equal to  $1\frac{7}{24}$  English inches), the other into divisions measuring respectively  $3\frac{7}{8}$ ,  $2\frac{7}{12}$ ,  $1\frac{7}{24}$ ,  $31/48$ , and  $31/96$  inches respectively. These measurements are those in ordinary use amongst craftsmen<sup>12</sup>.

### Common measure

The ordinary 'short' cubit (*miti riyana*) was the distance from the elbow to the top of the second joint of the little finger, the first being closed. The ordinary span was, I think the distance between thumb and forefinger at full stretch, and two spans made one cubit. The ordinary *angala* or 'inch' was the length of the second joint of the forefinger, and of these 'inches' twelve formed the *adiya* or 'foot'. I have never seen a cubit rule of ordinary measure, so cannot give the exact value of the *miti riyana* in English units. From the above calculations it would seem to be about 17 inches. It should be remembered that Orientals are smaller and slighter boned than Englishmen.

It must not be supposed that the

measures employed were inexact by reason of their derivation from variable standards, any more than the English 'foot' or 'barleycorn'; the craftsmen made use of an iron or wooden 'cubit-rule' (*riyan lella*) as already mentioned. The extreme accuracy in the work of the old craftsmen, indeed, will be apparent to all who examine it. In architectural woodwork the great test was considered to be in the accurate fitting of the wooden rod which passed through each rafter, just within and under the eaves of a temple roof. It is said that when an important building was ordered by the king, it was usually given into the charge not of one, but of four *mulacari* (foremen), by each of whom, the fourth part of the timber was separately prepared; and when all was ready, the four parcels of timber were brought together.

### Notes

1. *The Book of Ceylon*, by H.W. Cave, 1908, 326. Mr. Lewis adds that the building was begun in 1784 by Rajadhi Raja Simha, but not completed until after British occupation. The pillars were still being carved about 1820. They are made of halmilla (*Berrya amonilla*), brought from Nalanda, thirty miles distant. Excellent illustrations (Nos. 444 and 445) accompany Mr. Lewis' description. The architect was Devendra Mulacariya.
2. *Manual of the North Central Province*, p. 215.
3. H.W. Cave, 'Book of Ceylon,' p. 342.
4. Cave, 'The Book of Ceylon,' Figs. 507, 509.
5. Loc. cit. Fig. 506.
6. Figured by Mr. Lewis, loc. cit. Fig. 505.
7. Vol. I, p. 78. See also Tennent, 4th ed., Vol. II., p. 195.
8. *Travels in Ceylon*, p. 256.
9. Bennett ('Ceylon and its Capabilities,' 1843, p. 761) says of low-country carpenters, "The master cabinet makers are generally Portuguese, but the workmen Singhalese;—these make very durable and beautiful cabinet furniture of every description complain greatly of English tools, as being very badly adapted to the hardness of ebony and satin-wood timber."
10. There is a fairly representative series of examples of Kandyan carved woodwork at South Kensington, which, with the exception of four fine pillars (probably not older than the eighteenth century) from some temple or pansala, of a domestic

character, including spoon racks, game boards,  
dippers and other articles

11. See description by Lewis, I.C.B.R.A.S., VIII.,p.  
325, 1884.

12. Some other details are given Modder,  
I.C.B.R.A.S., Vol. XII., No. 43, 1892, pp.181-18.

\* Medieval Sinhalese Art.