ONE of the great difficulties experienced in any description of Chinese architecture is the absence of plans of either temples, palaces, monasteries or dwellings. Within the last few years the photographic camera has lent its aid in the illustration of the great palaces at Pekin within the walls of the Forbidden City, and of the Imperial Temples north of the city, and an elaborate work has been published with over one hundred photographs taken after the siege,\(^1\) accompanied by a short description, giving only the names of the buildings, and without a single plan or diagram to show their juxtaposition. In some cases views of the interior only are given.

\(^1\) K. Ogawa. 'Photographs of the palace buildings in Pekin.'
which might have been of service if we were dealing with buildings erected by any of the European races, but in China where the constructional arrangements are often of a very complicated nature which do not seem to have been regulated by natural laws, to evolve a plan from them is an almost impossible task. This is especially the case in the two most important circular buildings, viz.: the Temple of Heaven (the Chi’-nien-tien Hall Heaven palace) and the Temple of the Year Star (Huang-Chiang-yen), in both of which the attempt to construct a circular domed building with materials which lend themselves only to rectangular structures has resulted in makeshifts of a very peculiar nature.

The earliest authority on the subject of Chinese architecture was Sir W. Chambers, but the illustrations in his book, 1 probably executed by an artist who had never been in China, fail to convey a true conception of the buildings now better known from photographs such as those published by M. Ogawa. Further information is given in M. E. Fossasagre’s work on the Ts’ing tombs in Si-ling, 2 in single chapters devoted to the subject by Sir R. K. Douglas, 3 M. Paleologue 4 and Dr. S. J. Bushell, 5 in an essay on Chinese architecture by Mr. E. Ashworth, 6 and from papers communicated to learned societies such as those of J. Lamprey, 7 W. Simpson, 8 and F. M. Grattan. 9 The general conclusion, however, come to after consulting the above works and those by other writers on the subject is that the buildings are not such as we might expect to find among a people whose history and whose civilisation seems so exact a counterpart of that of Egypt. In both countries we have the same long succession of dynasties with dates, extending through 3000 or 4000 years, interrupted only by shepherd invasions which in both countries lasted about five centuries, when the words of Manetho are as literally applicable to the Taeping rebellion as they are to the overthrow of the Hyksos by the uprising of the native Egyptian races. During all this long period the same patriarchal form of government prevailed in both countries—the king being not only the head of the secular government, but the chief priest of the people. Both people

1 ‘Designs of Chinese Buildings,’ etc. 1757.
3 ‘Society in China,’ 1894.
4 ‘L’art Chinois.’ 1887.
5 ‘Chinese Art.’ 1904.
early attained a certain stage of civilisation, and maintained it without change or progress during the whole period of their existence. The syllabic symbols of the Chinese are the exact counterpart of the hieroglyphic writing of the Egyptians, as clumsy and as unlike that of any other contemporary nation, and as symbolic of their exclusive segregation from the rest of mankind. In both countries there was always the same calm contemplation of death, the same desire for an honourable funeral and a splendid tomb, and the same reverence for the dead. In these and fifty other particulars, the manners and customs of the two peoples seem identical, and the perfect parallelism only breaks down when we come to speak of their buildings. There are no tombs in China to be compared with the Pyramids, and no temples that approach those of Thebes in dimensions or in splendour.

If the Chinese were as closely allied to the Tartar or Mongolian tribes on their north-eastern frontier as is generally supposed, this difference could hardly have existed. When the inner country has been more carefully examined, it is probable that we may see cause to modify our opinion as to the architectural character of the Chinese people.

This will be especially the case if, as is highly probable, the so-called Indo-Chinese inhabitants of Cambodia are very much more closely allied in blood to the Chinese than they are to any of the races inhabiting India; since by the erection of the buildings described in a previous division of this work, the Cambodians have nobly vindicated their title to be considered as one of the great building races of the world. Considering the short time of their existence, and the limited area they occupied, they may in fact lay claim to having surpassed even the Egyptians in this respect.

It will be strange if in Ho-nan and Kwang-si we do not eventually find the links which will confirm the connection of the two races of Cambodia and China, and explain what at present can only be regarded as one of the unsolved problems of architectural history.

A little well-directed industry on the spot would very soon clear all this doubt away. Meanwhile there are other minor causes which may have contributed to the absence of monumental buildings in China, and which it may be as well to allude to before proceeding further. In the first place, the Chinese never had either a dominant priesthood or a hereditary nobility. The absence of the former class is a very important consideration, because in all countries where architecture has been carried to anything like perfection, it is to sacred art that it has owed its highest inspiration, and sacred art is never
so strongly developed as under the influence of a powerful and splendid hierarchy. Again, religious and sectarian zeal is often a strong stimulus to sacred architecture, and this is entirely wanting in this remarkable people. Though the Chinese are bigoted to a greater extent than we can well conceive in all political matters, they are more tolerant than any other nation we know of in all that concerns religion. At the present moment three great religious sects divide the empire nearly equally between them. For though Buddhism is the nominal religion of the reigning family, and perhaps numbers more followers than either of the other two, still the followers of the doctrines of Confucius—the contemporary and rival of Śākya-Sinha—are a more purely Chinese sect than the other, and hold an equal place in public estimation; while, at the present time, the sect of Lao-tse, or the Doctors of Reason, is more fashionable, and certainly more progressive, than the others. Christianity too, might at one time have encroached largely on either of these, and become a very prevalent religion in this tolerant empire, had the Jesuits and Dominicans understood that the condition of religious tolerance here is a total abstinence from interference in political matters. This, however, the Roman Catholic priesthood never could be brought to understand; hence their expulsion from the realm, and the former proscription of their faith which otherwise would not only have been tolerated like all others, but bid fair to find more extensive favour than any. Such toleration is highly laudable in one point of view; but the want of fervour and energy from which it arises is fatal to any great exertions for the honour of religion.

In the same manner the want of an hereditary nobility, and indeed of any strong family pride, is equally unfavourable to domestic architecture of a durable description. At a man's death his property is generally divided equally among his children. Consequently the wealthiest men do not build residences calculated to last longer than their own lives. The royal palaces are merely somewhat larger and more splendid than those of the mandarins, but the same in character, and erected with the same ends.

There is no country where property has hitherto been considered so secure as China. Private feuds and private wars were

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1 The population of the Chinese empire is estimated at 400 millions of souls. If we estimate the Buddhists in China at 150 millions of souls and put down 50 millions for the Buddhist population of Tibet, Manchuria, Burma, Siam, Cambodia, and Ceylon, we shall probably not err greatly on the side of under-estimating them, making 200 millions the total number of followers of this religion in the whole world, or about one-eighth of the human race—not the exaggerated numbers at which they are usually estimated.
till lately unknown; foreign invasion was practically impossible, and little dreaded. Hence they have none of those fortalices, or fortified mansions, which by their mass and solidity give such a marked character to a certain class of domestic edifices in the western world. Equality, peace, and toleration, are blessings whose value it would be difficult to over-estimate; but on the dead though pleasing level where they exist, it is in vain to look for the rugged sublimity of the mountain, or the terrific grandeur of the storm. The Chinese have chosen the humbler path of life, and with singular success. There is not perhaps a more industrious or, till the late wars, happier people on the face of the globe; but they are at the same time singularly deficient in every element of greatness, either political or artistic.

Notwithstanding all this, it certainly is curious to find the oldest civilised people now existing on the face of the globe almost wholly without monuments to record the past, or any desire to convey to posterity a worthy idea of their present greatness. It is no less remarkable to find the most populous of nations, a nation in which millions are always seeking employment, never thinking of any of those higher modes of expression which would serve as a means of multiplying occupation, and which elevate while feeding the masses; and still more startling to find wealth, such as the Chinese possess, never invested in self-glorification, by individuals erecting for themselves monuments which shall astonish their contemporaries, and hand down their names to posterity.

From these causes it may be that Chinese architecture has not attracted much attention. In one respect, however, it is instructive, since the Chinese are the only people who now employ polychromy as an essential part of their architecture: indeed, with them, colour is far more essential than form; and certainly the result is so far pleasing and satisfactory, that for the lower grades of art it is hardly doubtful that it should always be so. For the higher grades, however, it is hardly less certain that colour, though most valuable as an accessory, is incapable of that lofty power of expression which form conveys to the human mind.
CHAPTER II.

CONTENTS.

The origin and development of the Chinese temple and other structures—
The materials employed in their buildings.

At one time it was thought that it might be possible with
further information on the subject to describe the buildings
appertaining to each of the religions, Confucian, Taoist, and
Buddhist, to which they belonged, but externally the temples
are nearly all of the same type, and it is only from their
interior decoration and by the statues placed in them that any
distinction can be made. The Muhammadan mosques, which
in other countries have always developed a type of their own,
are in China—all in general form—identical with the Buddhist
and other temples, and can only be distinguished by their
external decoration with texts from the Qurân, and are not
evén to be recognised by the minaret which in other countries
has been their chief characteristic feature.

The same similarity in design and style of all the religious
buildings obtains equally in their civil structures, there being
no essential distinction between sacred and secular work, and
the further we go back the closer the affinity they have to one
another—the temple, the tomb and the dwelling being sym-
bolically repetitions of each other. The general effect, in fact,
of a Chinese city, as seen in a bird’s-eye view is one of extreme
monotony in which every building seems to be covered with
the same kind of roof, differing only in dimensions, and in some
cases with a more elaborate decoration—and this applies not
only to the Forbidden City in Pekin, where the buildings are
mainly palaces or public monuments, but to any other city of
importance: this arises from the circumstance that the pre-
vailing ordinary type of Chinese architecture is that known as
the T’ing, which consists of a roof of concave section carried on
short columns. If the roof is of great dimensions and elabor-
ately decorated, it covers either a temple, an Imperial hall of
audience, or the official residence of a mandarin, if of small size
and light construction, it is that of a house; this almost universal
concave form of roof, as generally referred to by writers on the subject as a reminiscence of the tent of the Tartars, who are supposed to have introduced it. The authors of this theory, however, forgot that the Chinese have been longer out of tents, and know less of them, than any other people now on the face of the globe. The Tartar conquest, like our Norman one, has long been a fusion rather than a subjection, and does not seem to have produced any visible effect on the manners or customs of the original inhabitants of China. It may also be observed that the typical form of the roof of a Tartar tent was and is domical, like those represented in the Assyrian sculptures, and seldom, if ever, constructed with a hollow curve; so that the argument tells the other way. Be this as it may, the form of roof in question arose from a constructive exigence, which others would do well to imitate. In a country like China, where very heavy rains fall at one season of the year, tiled roofs, such as they almost universally use, require a high pitch to carry off the water; but the glaring sunshine of another season renders shade to walls and windows absolutely necessary. If (as on the left of the diagram No. 489) the slope of the roof is continued so far out as to be effective for the last purpose, the upper windows are too much darkened, and it is impossible to see out of them. To remedy this defect, the Chinese carry out their eaves almost horizontally from the face of the walls, where a leak becomes of slight importance; and then, to break the awkward angle caused by the meeting of these two slopes, they ease it off with a hollow curve which answers most effectually the double purpose of the roof. These projecting eaves have the further advantage of protecting the walls which—constructed in timber only—would decay rapidly if frequently deluged with rain. The protection given to the front and back walls of the house was equally required for the sides, so that the projecting eaves are carried round these; this, however, still left exposed the gable ends, in order to protect which a small pent roof of slight projection was built in under the gable. The only part of such a roof that admitted of decorat-
tion was the central ridge, the hipped ridge created by the intersection of the main roof, and the projecting eaves at the sides, under these were added further developments in their origin of a constructional nature, but which, in course of time, became more or less purely decorative forms. The illustration, Woodcut No. 490, which is based upon a drawing by a native artist, will explain the typical form of roof just described. In order to accentuate and give more importance to the roof, the ridge was raised much higher, and in some cases surmounted by vertical pierced terra-cotta slabs, which formed a lofty cresting, and the ends of the ridge were decorated with heads of dragons or fish. On each side of the main roof, but set back about a foot from the verge, a heavy rib of tiles was carried down the roof to about two or three feet below the hip, probably to weight the roof; out of this rib the hip ridge grew, being turned up at the extreme angle. The tiles employed to cover the roof were of two kinds: flat tiles with each side turned up, and covering tiles, the lower end of both being stopped with some decorative device, constituting in the latter a kind of antefixa.

The great projection of the eaves required, however, some added support; with a light roof this could be obtained by a corbel bracket, such as is shown in Woodcut No. 489, carrying the plate on which the rafters rested. In roofs of greater size an assemblage was required, consisting of two to five brackets,
one under the other; these brackets could only be attached properly to the columns carrying the roof (generally 6 ft. apart, and sometimes more), so that additional brackets were required on each side to give further support to the horizontal beam or plates carrying the rafters. This led to a construction of which Woodcut No. 491 will give some better conception; this illustration is from the Temple at Nikkō in Japan, but as there is scarcely any pattern in the latter country which has not been borrowed from China it is equally representative of either. Another peculiarity which also gives a local character to all this architecture is the method of framing a roof so unlike that of other people. In early times, and in their domestic work down to the present day, the timber most available for this purpose was either the bambu or a small pine, which, like most endogens, is soft and spongy in the inside, while the outer rings of wood are close-grained, hard, and strong; it is thus practically a hollow wooden cylinder, which, if squared to form a framing as we do, would fall to pieces; but merely cleaned and used whole, it is a very strong and durable building material, though one which requires all a Chinaman's ingenuity and neatness to frame together with sufficient rigidity for the purposes of a roof.

The roof is usually constructed (as shown in Woodcut No. 489) by using three or four transverse pieces or tie-beams, one over the other, the ends of each beam being supported on that below it by means of a framed piece of a different class of wood. By this method, though to us it may look unscientific, they make up a framing that resists the strongest winds uninjured.

Of course the theory here put forward refers more particularly to houses in which the employment of bambu and the small pine still obtains, but drawings in the National Library in Paris show that in the 5th and 4th century B.C., their temples and
walls were constructed in the same way as at the present day, and that more than twenty centuries have passed without any material change in general design beyond that of the increased size given to their structures and to the elaboration of the tiled roof with its ridges and hips. The consequent result was the demand for beams and columns of far greater dimensions and strength; so that at a very early period cedar-wood was imported from the southern provinces; the framing of the roof still remained, however, of a most elementary character, in which there was no attempt at trussing, and balks of timber of immense scantling were piled one on the other to an extent unknown in any other country; this necessitated—first, their support by columns of great size, those in the Palace of Heaven being 4 ft. in diameter, and from 60 to 70 ft. high, secondly, the employment of brackets to lessen the bearing of the great beams, and thirdly—in order to carry the widely projecting eaves—the assemblage of a series of bracket corbels, to which attention has been already drawn. In their treatment of columns and beams the Chinese method is different from that of any other style; there are no capitals to the columns, and the beams they carry at various heights are tenoned into the column, which is always carried up to the roof plate, and constitutes externally a visible part of the wall rising above the verandah roof. This singular arrangement arises from their system of building; the main roof is always designed and framed first, and is then hoisted on to the columns, the position of which and of their stone foundations can only be determined after the framing of the roof is completed; subsequently the verandah roof is framed and then raised on the smaller columns which constitute its enclosure. In order to light the interior of the temple or hall, the intervals between the columns rising above the verandah roof might have been filled with pierced screen work constituting a clerestory, but this is not in accordance with Chinese custom; for although such screens would have received ample protection from the sun by the widely projecting eaves carried on brackets, this interval is always filled in with beams also tenoned into the columns, and generally brought out so as to be flush with the column face. A description has already been given of the roof in which the upper part of the gallery at each end rises above the lower part of the roof of less pitch, and which is known to the Chinese as Primoya. This, however, is not universal, sometimes the roof is hipped in the usual way at each end, the section through the front and side being the same. The roof of the superstructure shown in Woodcut No. 501 is thus hipped, whilst on the other hand that of the Buddha hall in the Summer Palace, near Pekin (Woodcut
No. 494) is of the I’rimoya type, similar to that shown in Woodcut No. 490.

Timber and brick are the chief materials employed in nearly all Chinese buildings, stone being employed only for the foundation piers on which the columns rest. Brick walls are built in between the wooden columns—being carried up only to the first beams; in other words they are employed only as a filling-in, and not as a support for the roof. Chinese pagodas, on the other hand, are built entirely in brick with occasionally, as in the porcelain pagoda at Nanking (now destroyed), a covering of porcelain tiles; there are also two halls of Buddha, lofty two-storey buildings, which are built in brick with terra-cotta glazed plaques outside. The p’ailus, p’ai-fang, or memorial gateways—the analogues of the Indian Toranas—when built in stone are sometimes copies of wooden structures the beams of which are tenoned into the columns or piers; in those of a more monumental character which form the chief entrance gateways to some of their temples—as in that erected to Confucius in Pekin (Woodcut No. 502), they are sometimes in marble with arched openings, showing that the Chinese were well acquainted with the principles of the arch and the vault. There are also some examples known as beamless temples attributed to the 11th century,¹ which were roofed with barrel vaults, and probably served to store archives and relics on account of their incombustible nature.

The walls which enclose their cities are built in brick, and their bridges in stone with marble casing and balustrades. The raised platforms for altars, some of their temples, and generally the Imperial Halls, are all built in marble; otherwise all Chinese constructions are in timber, the roofs being covered with glazed tiles, yellow, if Imperial structures, and green, blue or purple for others; the ridge and hip rolls with the dragons and fishes which surmount their roofs are all in glazed terracotta. Great importance is attached to the orientation of temples, which as a rule face the south. This, however, is determined by geomancers who have to take into account the configuration of the ground, magnetic currents, the proximity of springs, and rising vapours in their vicinity: to these influences is given the title of Fong-shuie—meaning literally “wind and water”—and no structure of any kind, whether temple, palace, or house, is ever built unless in accordance with fong-shuie. In order to give more importance to the imperial structures, whether temples or reception halls, they are raised on platforms with triple terraces and balustrades round, and three flights of

steps on the south front; the flight in the middle is subdivided into three, the central portion forming an inclined slope which is covered with dragons and clouds in relief; in some cases the treads of the steps on each side are also carved with dragons in relief; the terraces, balustrades and steps being all in white marble. The same description applies to the north and south altars of the Temple of Heaven, and to those of the Temple of Agriculture.
CHAPTER III.

CONTENTS.

Temple of the Great Dragon—Buddhist Temples—Tombs—Pagodas—
P’ai-lus—Domestic Architecture.

TEMPLE OF THE GREAT DRAGON, PEKIN.

The most magnificent temple in the capital, so far as we know
in the empire, is that known as the Temple of Heaven, or
the Great Dragon. It is situated close to the southern wall
of the city in a square enclosure measuring about a mile each
way. From the outer gate a raised causeway leads to the
temple, on either side of which, for the accommodation of
the priests, are numerous buildings approached by frequent
flights of steps leading down to a park beautifully planted.
In the central part of the enclosure are two altars, distin-
guished as the North and South. The South altar consists
of a circular platform of three concentric terraces, the upper
one 90 ft. in diameter, the middle terrace 150 ft., and the
lower one 210 ft., all enclosed with balustrades and raised
about 6 ft. one above the other; these terraces are ascended
by four flights of steps on the north, east, south and west
sides respectively. In the centre of the platform are the five
sacred vessels found in all Buddhist temples, over which a
canopy is erected on the occasion of a celebration. The North
altar is situated about 1500 ft. north of the South altar, differ-
ing from the latter only in the number of flights of steps,
there being eight flights, three of which are placed side by
side on the north end, the central portion of the middle flight
forming a gradual slope and covered with dragons and clouds
in relief. In the centre of the upper terrace is the circular
structure known as the Ch’i-nien T’ien (Heaven’s Palace) shown
in the woodcut No. 492, which has the appearance of a three-
storeyed structure, but in reality consists of a central hall
90 ft. in height with double aisles round, the roofs over which
are shown in the woodcut. The roof with its widely projecting
eaves and the drum below are carried by four immense columns,
4 ft. in diameter, the second roof and drum are carried by twelve
columns, as also the lower storey. The construction inside is of a very extraordinary kind; at the level of the upper part of the second roof carved beams are tenoned into the four columns, over which, between each are provided two other columns, forming a sort of attic storey, to support the roof and the internal dome. Though not indicated in the woodcut, the four great columns, which rise to the roof, are visible outside, between them and at the back of the attic columns the outer case of the drum is constructed with curved timbers, and there are no windows as shown. As the horizontal beams, or plates, are only tenoned into the columns, and the weight they have to carry is greater than such beams could carry, it has been found necessary to provide other beams underneath, on which they rest, and these beams are sunk into others crossing from the four great columns to four of those of the aisle or clerestory—an arrangement of a most complicated character. The interior of the dome is horizontally subdivided into three parts, the lower decorated with an assemblage of brackets forming a frieze, the middle part panelled and the centre sunk with a deep coffer; all the woodwork is gilded, the upper part of the columns with patterns in imitation of damask work. The Temple of Heaven is said to have been erected about the year 1420 A.D., and originally the roof of the upper storey was covered with blue tiles, that of the middle one with yellow tiles, and of the lower one green, but the Emperor Kien-lung (1736-1796) changed them all to one colour of a deep ultramarine blue. As this temple is said to have been burnt down in 1860, it is probable that the existing building is only a copy. A second circular temple in the enclosure of the Temple of Heaven, the Huang-Chiang-yen, has one roof only, and the dome inside carried on eight columns is similarly decorated with two beaded friezes, and panelled above with a circular plaque in the centre. There is a third example of a circular dome in the Chung-ho-t’ien, the Hall of Central Peace, in which the dome is decorated in the same way, but is much finer in design and decoration than the other two, and a fourth in the Temple of Agriculture of which an excellent lithograph is published in vol. xvii. of the 'R.I.B.A. Transactions, 1866-67.' The bracket frieze found in these circular temples exists also in the rectangular ones; in both cases their origin can be traced to the constructive forms evolved in the support of the widely projecting eaves, they are employed also in the deeply coffered ceilings of some of the halls of the Imperial Palace, such as those of the Chio-tai Chung-ching, and other halls of reception and audience.
With the exception of the examples just described, and a few others, all the temples in China, whether Confucian, Taoist or Buddhist, are based on the T'ing type, differing only in their dimensions. Generally speaking, the temple of a Buddhist monastery is enclosed by a wall, with a monumental gateway or P'ai-lu at the entrance and a series of three detached buildings beyond, placed one behind the other, on a central axis, with courts between, and communicating one with the other by means of covered corridors. The first building is the ex-voto hall with statues; the second is the principal temple, in which are the three images of the Buddhist triad, and the altar with the sacred vessels in front; the building in the rear contains sometimes a miniature dagaba in marble, in which are enclosed supposed relics of Buddha. To the right and left of the enclosure, and placed symmetrically, are other isolated structures, such as the bell-tower, the library, the pagoda, and the monks' dwellings.

Buddhist Temples.

The only Buddhist temple in China of which any plans have been made, or which I have myself had an opportunity of inspecting, is that of Ho-nan, opposite Canton. Unfortunately it is comparatively modern, and by no means monumental. It is a parallelogram enclosed by a high wall, measuring 306 ft. by 174 ft. In the shorter front facing the river is a gateway of some pretension. This leads to a series of halls opening into each other, and occupying the whole of the longer axis of the internal court. The first and second of these are porches or ante-chapels. The central one is the largest, and practically the choir of the building. It contains the altar, adorned by gilt images of the three precious Buddhas, with stalls for the monks and all arrangements necessary for the daily service. Behind this, in the next compartment, is a dagaba, and in its rear another apartment devoted to the goddess Kuan-yin, principally worshipped by women—in fact, the Lady Chapel of the church. Around the court are arranged the cells of the monks, their kitchen, refectory, and all the necessary offices of the monastery. These are generally placed against the outer wall, and open into the court.

At Pekin there are several lamasaries or Buddhist monasteries, of a much more monumental character than that of Ho-nan, but it is very difficult indeed to guess at their arrangement from mere verbal descriptions without dimensions. The gateway of one, represented in Woodcut No. 493, gives a fair idea of the usual mode of constructing gateways in China.
It has three openings of pleasing proportions, and is as well designed as any to be found in China. Behind it is to be seen the dāgaba, to which it leads: a tall form, with a reverse slope, and an exaggerated Htf, so altered from those we are accustomed to in the earlier days of Indian architecture,

that it requires some familiarity with the intermediate forms in Nepāl and Burma to feel sure that it is the direct lineal descendant of the topes at Sānchi or Mānīkyālá. The dāgaba is square on plan, with an octagonal minaret at each angle,
the central portion shown in the woodcut rests on a series of narrow steps, and an octagonal base with richly carved cornice and plinth, and the representation of the birth of the Bodhisattva on the die. This dâgaba, all in white marble, was erected in 1780 to the memory of the Teshu Lama Erdeni, who died in Pekin.\(^1\) It is more or less a copy of a Thibetan Chorten, and was probably designed by an architect from that province.

494. Buddhist temple in the Summer Palace near Pekin. (From a Photograph by Beato.)

The usual form of temple as seen in the towns and villages

\(^1\) Ante, vol. i. p. 294.
is very simple, rectangular on plan, with five bays in the front, which always faces the south; and three at the side; with a verandah and flight of steps in the centre of the south front leading to the central doorway. Exceptions to the ordinary type are found in two temples, one of which, T'siang Cha, the Buddhist temple of the sleeping Buddha in the Summer Palace near Pekin (Woodcut No. 494 and Plate LVIII.) is perhaps the finest architectural achievement in China. The building consists of two lofty storeys, built in brick and faced with glazed terra-cotta in bright colours, imitating the timber framed construction of the usual T'ing Temple. The spaces between the terra-cotta columns are decorated with an immense series of miniature niches, one above the other, and side by side, each occupied by a cross-legged figure of Buddha. This temple is erected on an eminence, forming a conspicuous feature in the landscape, and has perhaps the richest ridge cresting to be found in China; there are three finials in the centre, dragons at each end and others between; the roof belongs to the I'rimoya type, and has heavy hip rolls terminating in dragons. What is most unusual in this temple is the range of circular-headed windows to each floor (Woodcut No. 494); in the ordinary temple there are no clerestory windows, all the light to the interior is supplied through the doorway and the windows at the back of the verandah. This temple and a small bronze pagoda near it were the only buildings preserved in the Summer Palace on its destruction in 1860, the former on account of its beauty, and the latter its indestructibility. There is a second Buddha's hall near Pekin of the same type of design, with a double eaves-course and balcony, which has destroyed its simplicity. In this latter, built in the Shao-hu-t'ien grounds, the circular columns and squared beams of its timber prototype have been reproduced in glazed terra-cotta, these features being purely decorative as they are carried on the brick wall below.

Another type of temple, dating from the 15th century, and known as the Wut'a-Ssû near Pekin, consists of a lofty square pedestal, which recalls the lower portion of the celebrated temple at Bodh-Gayâ (Woodcut No. 19). The pedestal is subdivided into five storeys by string-courses, each storey enriched with arcaded niches containing statues of Buddha, the whole crowned with five square dâgabas, the centre one with thirteen projecting eaves, and the angle towers with eleven projecting eaves like the Pa-li Chwang Pagoda (Plate LIX.), 15 miles east of Pekin.
Like all people of Turanian origin, one of the most remarkable characteristics of the Chinese is their reverence for the dead, or, as it is usually called, their ancestral worship. In consequence of this, their tombs are not only objects of care, but have frequently more ornament bestowed upon them than graces the dwellings of the living.

Their tombs are of different kinds; often merely conical mounds of earth, with a circle of stones round their base, like those of the Etruscans or ancient Greeks, as may be seen in Woodcut No 495, which would serve equally well for a restoration of those of Tarquinia or Vulci.

A very common arrangement is that of a horseshoe-shaped platform, cut out of the side of a hill. It consequently has a high back, in which is the entrance to the tomb, and slopes off to nothing at the entrance to the horseshoe, where the wall generally terminates with two lions or dragons, or some fantastic ornament common to Chinese architecture.
When the tomb is situated, as is generally the case, on a hillside, this arrangement is not only appropriate, but elegant (Woodcut No. 496). When the same thing is imitated on a plain, it is singularly misplaced and unintelligible. Many of the tombs are built of granite, finely polished, and carved with a profusion of labour that makes us regret that the people who can employ the most durable materials with such facility should have so great a predilection for ephemeral wooden structures.

When the rock is suitable for the purpose, which, however, seems to be rarely the case in China, their tombs are cut in the rock, as in Etruria and elsewhere; and tombs of the class just described seem to be a device for converting an ordinary hillside into a substitute for the more appropriate situation.

One of the finest examples of the tumulus type is the tomb of Yung-lo of the Ming dynasty near Pekin 1425 (A.D.) (Woodcut No. 497); this consists of an earth mound about 650 ft. in diameter, with a retaining wall crenellated and about 20 ft. high round it. This is preceded by a square tower (E) in three storeys, each set slightly behind the one beneath it; in front of this is an enclosure 500 ft. wide and 1150 ft. long, with an entrance gateway (A) in front and subdivided by cross walls into two courts with a second gateway (C) between them. In the further court is the altar (D), and in the first or principal court the great Ancestral Hall (B), which is one of the finest examples of Chinese
architecture. It belongs to the T’ing type already described, but is perhaps the largest example in China, being 220 ft. in length and 92 ft. deep. There are nine bays in front and five on the sides—the entrance is in the centre of the long front which faces the south, and there is no verandah. The hall in which the ancestral tablet of Yung-lo is placed, consists of nave and aisles of the same height and outer aisles all round roofed over at a lower level corresponding with that which in the temples forms a verandah, similar to that shown on plan in Woodcut No. 504 where, however, there are seventeen bays. The main roof is supported by thirty-two columns, 37 in. in diameter and 36 ft. high, the panelled ceiling of both nave and aisles being at the same level. The twenty-eight columns carrying the verandah and chambers at the back are 21 ft. high.

498. Group of Tombs near Pekin. (From a Photograph by Beato.)

Like the Temple of Heaven it is raised on a platform, rectangular in this case, with a triple terrace surmounted by marble balustrades and three flights of steps in front, the central flight
subdivided into three, of which the middle part has a gradual slope carved with dragons and clouds in relief. In the further corner is the great altar with the five sacred vessels.

Occasionally, however, the Chinese do erect tombs, which, though ornamental, are far from being in such good taste as the two forms just quoted. A tumulus is considered appropriate for this purpose all the world over, and so is the horseshoe form under the circumstances in which the Chinese employ it; but what can be said in favour of such an array of objects as those shown in the preceding Woodcut No. 498? Judged by the standard of taste which prevails in China at the present day, they may be considered by the natives as both elegant and ornamental, but it would be difficult to conceive anything which spoke less of the sepulchre, even from a Chinaman’s point of view; while, on the other hand, their dimensions are such as to deprive them of all dignity as architectural objects.

T’aiis or Pagodas.

The objects of Chinese architecture with which the European eye is most familiar are the t’aiis or pagodas. In the south they generally have nine storeys, but not always, and in the north they range from three to thirteen. It has usually been assumed that they owe their origin to the religion of Fo or Buddha, being nothing more than exaggerated dâgabas, but there are two ancient Chinese drawings in the National Library, Paris, reproduced in Paleologue¹ which represent the taas or t’aiis of the Imperial Palace at Pekin, one of them shows a square tower in three storeys, each receding behind the other, so as to leave a terrace round and a pavilion, or shrine, at the top; the other has a circular tower in five storeys, diminishing in diameter as it rises with a spiral pathway round, which recalls that of the ziggurat at Khorsâbâd. According to Terrien de Lacouperie,² in his work on the western origin of early Chinese civilisation, the relations of Chaldea and China date back to the 23rd century B.C., when the Bak tribes migrated east from Elam and Babylonia into China, bringing with them the custom of building in brick, the erection of lofty towers for astronomical purposes, the cutting of canals, embanking of rivers, and other elements of their western civilisation. Of later date, but showing how the traditional form of these towers was handed down in the East, at Samara on the Tigris, 60 miles north of Bâghdâd and

¹ L’Art Chinois,’ pp. 101 and 103.
attached to the mosque founded there in the 9th century of our era, by the grandson of Hārūn al Rashīd, there still exists a minaret in brick, about 160 ft. in height, with spiral passage winding round, almost identical with that represented in one of these Chinese drawings, being crowned with a circular turret instead of the pavilion shown in the Chinese drawing. There are no examples in China with external winding paths or flights of steps, these latter are usually enclosed within the brick walls, which are sometimes of great thickness, those in the Pa-li Chwang Pagoda, near Pekin, measuring 18 ft. In the T'ien-pong-tah, the hexagonal seven-storeyed pagoda at Ningpo, which is 160 ft. high, there is a flight of narrow steps ascending spirally within the walls. Again, according to Dr. Bushell,¹ in his work on Chinese Art, the first large buildings described in the oldest canonical books are the lofty square towers in stone called *t'ai*, of which there are three kinds, viz.: for astronomical purposes, for watch towers and for treasuries or storerooms. The traditional representations of these are those found in the observatory of Pekin, a square tower on the city wall, the towers of the great wall, which are built in stone with arched heads to both doors and windows, showing that, as might have been expected from their early contact with Chaldea, the Chinese were well acquainted with both arch and vault, and the square towers occasionally on the entrance gateways to the towns and elsewhere on the city walls which are now utilised as military storerooms; to these might be added the *t'ai* or pagodas, which though octagonal instead of square on plan, now sometimes serve as repositories for numerous statues of Buddha. Whatever their origin may have been, the *t'ai* are now identified more with geomancy than with the Buddhist religion, and although some of them contain idols, and in the north have frequently a statue of Buddha on the lower storey, above they consist of solid walls with external balconies used as belvederes or watch towers. The number of these pagodas throughout the county is very great, and no town is said to be complete without one or more.

Of those which existed in China in our own time the best known is the celebrated porcelain tower at Nankin² (Woodcut No. 499). Commenced in the year 1412, and finished in 1431, it was erected as a monument of gratitude to an empress of the Ming family, and was, in consequence, generally called the Temple of Gratitude. It was octagonal in form, 236 ft. in height, of which, however, about 30 ft. must

¹ 'Chinese Art,' p. 52.
² The tower was destroyed in 1854 during the Taeping rebellion.
be deducted for the iron spire that surmounted it, leaving little more than 200 ft. for the elevation of the building, or about the height of the Monument of London. From the summit of the spire eight chains were suspended, to each of which were attached nine bells, and a bell was also attached to each angle of the lower roofs, making 144 bells in all, which, when tinkling in harmony to the evening breeze, must have produced an effect as singular as pleasing. It was not, however, either to its dimensions or its bells that the tower owed its celebrity, but to the coating of porcelain which clothed its brick walls, as well as the upper and under sides of the projecting roofs, which mark the division of each storey. The porcelain produced a brilliancy of effect which is totally lost in all the representations of it yet published, but which was, in fact, that on which the architect almost wholly relied for producing the effect he desired, and without which his design is a mere skeleton.

Another celebrated pagoda is that known as “Second Bar Pagoda,” on the Canton River. It is a pillar of victory, erected to commemorate a naval battle which the Chinese claim to have gained near the spot. It is, in design, nearly identical with that of Nankin, but of smaller dimensions, and is now fast falling to ruin.

These two are of the usual and most typical form, and so like hundreds of others, that it is impossible to deduce any sequence from them with such representations as we now possess. Though pleasing and purpose-like, as well as original, they are somewhat monotonous in design. A tower divided into nine equal and similar storeys is a very inferior design
to that of the minârs of the Muhammadans, or the ordinary spires of Christian churches; and, if all were like these, we should be forced to deny the Chinese the faculty of invention in architecture. In the north, however, the forms seem much more various. One in the Summer Palace (Woodcut No. 500) is divided into three storeys, with additional projecting eaves under the balconies. Four of the sides of the octagon are longer than the other four, and altogether there is a play of light and shade, and a variety about the ornaments in this tower, which is extremely pleasing. It is much more like an Indian design than any other known in China, and with the
circle of pillars round its base, and the lât or Stambha, which usually accompany these objects further west, it recalled the original forms as completely as any other object in this country.

In direct contrast to this is the Pa-li-Chwang Pagoda (Plate LIX.), about 15 miles east of Pekin. Its thirteen storeys are almost more monotonous than those of the Nankin tower, but they are merely projecting eaves, which take the place of string-courses. Although of slight projection, the eaves are supported by groups of brackets which take the place of a frieze. The ground storey is of greater importance than usual, it is pierced with arched doorways and windows on alternate faces, and is raised on a lofty pedestal enriched with mouldings and carvings, altogether constituting an imposing architectural structure like the Orissan temples, to which it bears some resemblance. The interior is lighted by small openings between the bracket clusters. In contrast with this is the Su-chaw pagoda, with nine storeys, of great height but devoid of any architectural design, the upturned corners of the eaves being extremely ugly.

It is extremely difficult to form a correct estimate of the artistic merits of these towers. Edifices so original and so national must be interesting from that circumstance alone, and it seems almost impossible to build anything in a tower-like form of great height, whether as a steeple, a minâr, or a pagoda, which shall not form a pleasing object from its salience and aspiring character alone, even without any real artistic merit in itself. Besides these qualifications, I cannot but think that the tapering octagonal form, the boldly marked divisions, the domical roof, and general consistence in design and ornament of these towers, entitle them to rank tolerably high among the tower-like buildings of the world.

P'ai-lus.

The P'ai-lus or P'ai-fangs, sometimes utilised as entrance gateways to temples and tombs, are another class of monument almost as frequently met with in Chinese scenery as the nine-storeyed pagodas, and consequently nearly as familiar to the European eye. Their origin is as distinctly Indian as the other, though, from their nature, being easily overthrown, but few examples can be found in a country that has so long ceased to be Buddhist. Fortunately, however, we still possess in the gateway of Sânchî (Woodcut No. 12) the typical example of the whole class; and we find them afterwards represented in bas-reliefs and in frescoes in a manner to leave no doubt of the frequency of their application,
In China they seem almost universally to be employed as honorific monuments of deceased persons—either men of distinction, or widows who have not married again, or virgins who have died unmarried. Frequently they are still constructed in wood, and when stone is used they retain to this hour the forms and details of wooden construction. Whatever the material, they consist of either two, four, or six posts, set either on the ground, so as to allow a passage through, or on a platform, as in Woodcut No. 501, though this is quite an exceptional form, their more usual position being in front of some temple or tomb, as in Woodcut No. 493, or of an avenue leading to a tomb, as in the case of that leading to the Ming tombs in which there are five openings. Occasionally they span a street, as in that shown in Woodcut No. 503 at Amoy.

The posts or piers always carry a rail or frieze bearing an inscription, which is in fact the object for which the monument was erected. The most singular features about them are the tile roofs at various levels, with which they are surmounted, probably for protection, but which, forming heavy masses widely projecting on each side, are exposed to serious injury from tempests. In Woodcut No. 502, representing a gateway at Pekin, it will be noticed that these roofs are carried by a series of superposed brackets in groups copied from those which support the eaves-roofs of the temples. Between the bracket groups which apparently rest only on the top of the walls, there are openings which give to the latter the appearance of being later additions. The P'ai-lu serving as the portal of the cenotaph in white marble (Woodcut No. 493), though built in stone, is a direct copy of timber construction, the cross-beams being tenoned into the piers and having brackets under them to lessen the bearing, here the bracket groups are all in stone, but not pierced between. In the P'ai-lus erected in front of the Hall of Buddha in the Summer Palace (Plate LVIII.), and
of the Temple of Confucius in Pekin (Woodcut No. 502),
although the upper portions are copied from wooden constructions, the entrance doorways have semi-circular arches and belong therefore to arced and not trabeated construction.

Probably the Chinese would have spent more pains on their tombs had they not hit on the happy device of separating the monument from the sepulchre. We do so in exceptional cases, when we erect statues and pillars or other monuments to our great men on hill-tops or in market-places; but as a rule, a

man's monument is placed where his body is laid, though it would probably be difficult to assign a good logical reason for the practice. The great peculiarity of China is that in nine cases out of ten they effect these objects by processes which are exactly the reverse of those of Europe, and in most cases it is not easy to decide which is best. In erecting the P'ai-lu, or monument, in a conspicuous place apart from the sepulchre, they seem to have shown their usual common sense, though an architect must regret that the designs of their tombs suffered in consequence, and have none of that magnificence which we should expect among a people at all times so addicted to ancestral worship as the Chinese.

In an historical point of view, the most curious thing connected with these P'ai-lus seems to be, that at Sânchi, before
the Christian Era, we find them used as gateways to a simulated tomb. In India both the tumulus and the Pai-lu had at that time passed away from their original sepulchral meaning; the one had become a relic-shrine, the other an iconostasis. Two thousand years afterwards in China we find them both still used for the purposes for which they were originally designed.

PALACES AND DOMESTIC ARCHITECTURE.

From what has been already said, it will be understood that there is virtually no difference in the architectural design of the temples and palaces; in both cases the halls and palaces consist of a number of pavilions rather than of numerous suites of apartments and halls, as is usually the case in Europe, and consequently they never attain the magnitude essential to architectural dignity. The resemblance of temple and palace is further accentuated by the fact that in front of the great hall of the palace in the Forbidden City are similar platforms with the triple terrace, balustrade, and flights of steps, which have been described in the Temple of Heaven and the tomb of Yung-lo. Unfortunately, the absence of plans makes it impossible to connect the various buildings one with the other. From a bird's-eye view of the Forbidden City (Tzu-chin-ch'eng) it would seem that the buildings therein contained are all of one storey, and surmounted with the same type of roof as that employed in the temples; and as the main fronts of the building all face south, there is a general monotony of appearance, varied only by the height of the several structures, according to their importance. The three principal halls are the Tai-ho-t'ien, or Hall of Highest Peace (built 1602-1722), where levies are held on special occasions, the Chung-ho-t'ien, or Hall of Central Peace, and the Pao-ho-t'ien, or Hall of Secure Peace. The first named is the most important, and it is preceded by what is called a gateway, which externally is similar to the Tai-ho-t'ien in design, but has nine bays instead of eleven on the main front; it is also raised on a platform with a triple terrace, balustrade, and flights of steps.

The plan of the Tai-ho-t'ien will be best understood by reference to Woodcut No. 504, which is the type of all the larger temples and halls. The principal front faces the south, and the hall is raised on a lofty platform with three terraces (A, A, A), rising one above the other and enclosed by balustrades: three flights of steps (B, B, B), give access to the upper terrace, a portion of the central flight, having in the middle, instead of steps, an inclined slope (C) with dragons and clouds carved thereon in bas-relief; the treads of the steps are also carved,
but in lower relief. In front of the hall, which consists of eleven bays, is the open verandah (D, D), and the hall beyond is divided longitudinally into central and side aisles, the former being of the same width as the central bay of the main front. Virtually, therefore, the plan is similar to that of a European church, with nave and aisles running east and west, and a central transept with the principal entrance (E) at its south end, and the Imperial dais (F) in the north transept. The only light admitted is that which enters through the entrance door, the glazed screens in the rear of the verandah, and three others on the north side. All the side bays and the remaining eight on the north side are filled in with walls in brick, which are plastered over on the inside and outside, and rise to the soffit of the lowest transverse beam. Externally these walls have a very ugly effect, especially as the beams and groups of brackets above are all richly painted in various colours and in part gilded. The roof of the hall is carried on forty columns about 30 ft. high, and of which the diameter is 3 ft. 5 in.; the coffered ceiling is carried on great beams at two different levels with bracketing between them and round the hall. The four central columns are gilded with tapestry or damask designs in relief, the others are painted red, and the beams and ceiling gilded and painted in bright colours. The columns of the verandah, the east and west narrow bays and the store-room and central recess in the rear are 20 ft. high, and carry a lower roof with bracketed eaves, and this with the eaves of the principal roof over the hall gives the appearance
to which reference has been made of a double-eaved roof. The
north bay of the hall is roofed at the same level as the verandah,
and in the section (Woodcut No. 505) it will be seen that the
filling-in of the main walls of the whole hall, and against which
the verandah roof rests, consists of a series of beams one above
the other, tenoned into the great columns, the spaces between
them being treated as friezes and decorated with various designs.

With the exception of the ancestral temple of Yung-lo, the
Tai-ho Hall is perhaps the largest in China, but in its design

![The Tai-ho Hall, Pekin.](image)

it contains the elementary construction of all the temples
and halls; sometimes the verandah is carried along the east
and west ends, but on the north side it is included in the hall,
being covered over with a roof at a lower level. The east
and west bays are used for various purposes connected with
the structure, whether temple, hall, or palace, and in the
latter sometimes utilised as bedrooms or boudoirs. As a rule
the halls are ceiled above the tie-beam; the ceiling being
divided into coffers; more importance is given to the central
bay, which is sunk into deep coffers with bracket friezes
round them. Some of the halls are covered with an open
timber roof, in which the unwrought rafters covering the roof
contrast with the elaborate painting and gilding of the columns
and the heavy superposed beams of the roof. There does not
seem to be any rule regulating the east and west ends of the
main roof; sometimes these are hipped, as in the Tai-ho Hall
and the Hall of the Classics, sometimes the I'rimoya prevails,
but in both cases the hips have heavy rolls covering them, crowned with a series of miniature griffons. The greater number of the buildings in the Forbidden City have one storey only; to these there are some exceptions, where an upper floor, of the same height as the verandah storey, is carried on the level of the upper portion of the roof of same, and has a projecting balcony round the outside. In these cases there are windows to light the storey. In the Wan-fo pavilion there are three storeys all with verandahs.

DOMESTIC ARCHITECTURE.

It is in their domestic architecture, if in any, that the Chinese excel; there we do not look either for monumental grandeur or for durability, and it is almost impossible to resist being captivated by the gaiety and brilliancy of a Chinese dwelling of the first class, and the exuberant richness and beauty of the carvings and ornaments that are heaped on every part of it.

The principal difference between the palaces and the Chinese dwellings of the better class lies in a much lighter system of construction, there is the same general disposition of the plan, viz., a series of detached blocks, separated by open courts or gardens and placed in communication with one another by covered corridors. All Chinese habitations, however, are subjected to official rules, which prescribe the dimensions in width and height, and the number of columns which may be used. The principal hall, for instance, is not allowed to be wider than three bays, if for a man of letters only; five, if for a mandarin, seven for a prince, and only the palace of the emperor may have nine or more bays. These rules, which have from time immemorial been strictly enforced, have curtailed the development of style, so that the architect has only been able to exercise his originality in details of a decorative kind, and this probably accounts for the overloading of the structure with useless ornament, or in the accentuation of the curves given to the ridge cresting, and the raising of the ends of the eaves at the angles to such an extent as sometimes to carry the water falling on them back into the roof. In the arrangement of their houses there is, however, no longer the rigid symmetry which governs their temples or palaces. When on level ground they are surrounded by picturesque gardens with small lakes, on the borders of which the principal reception rooms are built, with terraces and marble balustrades; and, if in a hilly country, every advantage is taken to place their pavilions on prominent sites, so as to command the best
views and add to the beauty of the landscape. The same remark applies equally to portions of the Summer Palace; those parts of the palace which faced the lake were symmetrically arranged round an immense court, but on each side the pavilions and terraces were planned to obtain picturesque effects either overlooking the lake, or when in the rear where the ground rises rapidly, to emphasise the various eminences. Woodcut No. 506 is a good example of one of these pavilions in the Summer Palace, which, when interspersed with trees and water and rocky scenery, aid in making up a very fairy-like landscape,
but can scarcely be considered as an object of dignified architecture.

It is not so much on its forms that Chinese architecture depends as on its colours, and those in the roofs of the palaces in Pekin covered with yellow glazed tiles—a colour restricted to royal structures—have an exceptional magnificence, as also the ultramarine blue tiles of the Temple of Heaven. There is also a great variety of colour in the crested ridges and the terminations of the covering tiles, which goes far to redeem the exaggeration of their curved eaves—the columns are usually painted red, the friezes and openwork green. Blue marks the floors and stronger lines, and gilding is used profusely everywhere. Whether this would improve a finer or more solid style of art may admit of doubt; but it is certainly remarkably pleasing in China, and singularly appropriate to the architecture we have been describing; and grouped as these buildings usually are around garden courts, filled with the gayest flowers, and adorned with rock-work and fountains more fantastic than the buildings themselves, the fancy may easily be charmed with the result, though taste forbids us to approve of the details.

Occasionally, however, the Chinese attempted something more monumental, but without much success. Where glass is not available of sufficient size and in sufficient quantities to glaze the windows, there is a difficulty in so arranging them that the room shall not be utterly dark when the shutters are closed, and that the rain shall not penetrate when they are open. In wooden construction these difficulties are much more easily avoided; deep projecting eaves, and light screens, open at the top, obviate most of them: at least, so the Chinese always thought, and they, consequently, have had very little practice in the construction of solid architecture. It is singular therefore that in the Buddhist temple in the Summer Palace near Pekin (Woodcut No. 494 and Plate LVIII.) they should have been able to produce a structure which is remarkable for its elegance and good design.

Their most successful efforts in this direction, however, were when they combined a solid basement of masonry with a light superstructure of wood, as in the Winter Palace at Pekin (Woodcut No. 506). In this instance the height and solidity of the basement give sufficient dignity to the mass, and the light superstructure is an appropriate termination upwards.

This last illustration is interesting, because it enables us to realise to a certain extent what may have been the general effect of the palaces of Nineveh and Khorsâbâd in the days of their splendour. Like this palace, they were raised on a solid basement crowned with battlements, the superstructure, however,
externally at all events, being of a more solid nature, with flat terraced roofs instead of those covered with tiles as in Pekin.

The resemblance, however, is curious, and as there are numerous examples throughout the empire in which, instead of the plain beams as shown in Woodcut No. 505, are circular and pointed arched openings, they may be taken as some evidence of the origin of Chinese architecture already mentioned (p. 466), showing that in these great arched gateways they were continuing the tradition of the earlier examples in the Great Wall of China, which bear the closest resemblance, both in design and construction, to the entrance gateways of the Assyrian palaces.

The engineering works of the Chinese have been much extolled by some writers, but have less claim to praise as works of science than their buildings have as works of art. Their canals, it is true, are extensive; but with 300,000,000 of inhabitants this is small praise, and their construction is most unscientific. Their bridges, too, are sometimes of great length, but generally made up of a series of small arches constructed on the horizontal-bracket principle, as nine-tenths of the bridges in China are, and consequently narrow and unstable.

To these, however, there are many notable exceptions, in which the principle of arched and vaulted constructions, as in the marble bridge with seventeen arches in the Summer Palace near Pekin, with sumptuous balustrades, all in white marble, a
second example, also in white marble, with nine arches, in Pekin, and a third at Pusilanghi across the Hun-ho river, of immense length, having a balustrade of vertical slabs between posts or piers, with lions carved on each, the whole structure being in white marble.

Their most remarkable engineering work is certainly the Great Wall, which defends the whole northern frontier of the country, extending over hill and dale for more than 1200 miles as the crow flies. It is, however, of very varying strength in different places, and seems to be strongest and highest in the neighbourhood of Pekin, where it has generally been seen by Europeans. There it is 20 ft. in height, and its average thickness is 25 ft. at the base, tapering to 15 ft. at the summit. There are also towers at short distances whose dimensions are generally about double those just quoted for the wall.1

However absurd such a wall may be as a defensive expedient, it proves that at least in 200 B.C. the Chinese were capable of conceiving and executing works on as great a scale as any ever undertaken in Egypt. The wonder is, that a people who 2000 years ago were competent to such undertakings should have attempted nothing on the same scale since that time. With their increasing population and accumulating wealth we might have expected their subsequent works to have far surpassed those of the Egyptians. It, however, remains a problem to be solved, why nothing on so grand a scale was ever afterwards attempted.

In the rear of the Great Wall, in the Nan-kau Pass, there is an archway of some architectural pretension, and which is interesting as having a well-ascertained date, A.D. 1345.2 Its dimensions are considerable, and it is erected in a bold style of masonry (Woodcut No. 508). The upper part is a true arch, though it was thought necessary to disguise this by converting its form into that of a semi-octagon, or three-sided arch. On the keystone is a figure of Garuda, and on either side of him a Nāga figure, with a seven-headed snake hood, and beyond that a class of flowing tracery we are very familiar with in India about the period of its erection. Its similarity to the Nepalese gateway at Bhatgāon (Woodcut No. 160) has already been remarked upon, and altogether it is interesting, as exemplifying a class of Indian ornamentation that came into China from the north. If we had a few specimens of art penetrating from the south, we might find out the secret of the history of Buddhist art in China.

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1 An interesting series of photographs of the Great Wall have been reproduced in Dr. Wm. Edgar Geil’s work, ‘The Great Wall of China,’ 1909.

However admirable and ingenious the modern Chinese may be, it is in the minor arts—such as carving in wood and ivory, the manufacture of vessels of porcelain and bronze, and all that relates to silk and cotton manufactures. In these they certainly excel, and reached a high degree of perfection while Europe was still barbarous, but in all the higher branches of art they take a very low position, and seem utterly unprogressive.

Their sculpture is more carving than anything we know by the higher name, and although in their painting they would seem, at one time, to have been far in advance of that found in Europe, both in the complete maturity of the art and in the mastery of the brush, within the last 300 years there has been a serious decline, so that it now scarcely rises above the level of decoration. Their architecture also stands on the same
low level as their other arts, it is rich, ornamental, and appropriate for domestic purposes, but ephemeral and totally wanting in dignity and grandeur of conception. Still it is pleasing, because truthful; but after all, its great merit in the eyes of the student of architecture will probably turn out to rest on the light it throws on the earlier styles, and on the ethnographic relations of China to the surrounding nations of Eastern Asia.
CHAPTER IV.

JAPAN.

INTRODUCTORY.

CHRONOLOGY—ORIGINAL SOURCES, ETC.

Accession of the first Mikado B.C. 660

Quest of Korea by the
Empress Jin-go . . . A.D. 201

Buddhism introduced from
Korea . . . . A.D. 552

Kiō-to made the capital . A.D. 794

The Shogunate established
at Kama-kura by Yori-tomo A.D. 1192

Ashi-kaga dynasty of Shōguns 1338-1573

Yedo (now Tōkio) founded by Ieyasu . . . . 1590

Hide-yoshi invades Korea A.D. 1592-1598

Toku-gawa dynasty of Shōguns . . . . A.D. 1603-1868

Japan closed to all foreigners by Iemitsu A.D. 1640

First treaties with European powers . A.D. 1857-1859

The Shogunate abolished and the Mikado restored A.D. 1868

THE architecture of Japan owes its origin to Chinese sources, the earliest examples remaining being those which were built by carpenters sent over from Korea. The Japanese temples, whether Buddhist or Shintō, are all of the Chinese T’ing type, and the roofs covering them of Irimoya design, as shown in Woodcut No. 489. In Japan as in China the later developments have as a rule resulted only in further enrichments, the elaborate carving in the Japanese Buddhist temples being carried to excess. In the Shintō temple, on the other hand, the greatest simplicity prevails, more importance being attached to the quality of the wood employed, and to its structural execution, than to any display of diagram work or carving. The pagoda in Japan still retains the ancient design and timber construction of the earliest example remaining, at Hōriji (Hōriuzi), which was built by Korean carpenters in A.D. 607, and may be looked
upon as the original type of, at all events, the Korean pagoda. The scarcity of wood in China would be sufficient to account for the employment of either brick or stone for the construction of their pagodas, and this is borne out by the two Chinese drawings in the National Library of Paris referred to on page 467, where the lower storeys are shown to be of solid construction in either brick or stone. The Japanese pagodas, on the other hand, even down to the present day, are all built in timber as being better able to resist the shock of earthquakes, and may be looked upon, therefore, as the survivals of those which formerly existed in Korea, in which country they are now however in stone or brick.

The principal source of information on Japanese architecture is that which is derived from photographs, but much is to be learnt from the *meischos* or guidebooks to the various provinces, which in Japan are largely illustrated, and from the prints by Hiro-shige, Yei-sen, and Toyo-kuni. The most valuable works on the subject are those by Herr F. von Baltzer,¹ in which plans, section and elevations are given of temples, pagodas, and other structures. The papers contributed by Prof. Josiah Conder² to the transactions and journal of the Institute of British Architects contain the most complete account of some of the temples and palaces, and are well illustrated. Of other works consult the those by Prof. B. H. Chamberlain, and Mr. W. B. Mason,³ Mr. E. S. Morse,⁴ M. Titisingh,⁵ Mr. Ralph A. Cram,⁶ and Dr. Dresser.⁷

It was not till the second half of the 6th century that Japan emerged from a state of barbarism, and its earliest architectural structures date from the commencement of the 7th century, when the introduction of Buddhism from China through Korea and its revelations stirred the Japanese people to a loftier conception than those which the older Shintō religion had inspired.

The temple and pagoda at Hōrinji near Nara (A.D. 607), the earliest buildings existing, are said to have been erected by carpenters from Korea, and in their design and execution present a completeness of style which must have taken several

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¹ 'Das Japanische Haus eine Bau-technische Studie' (1903). 'Die Architektur des Kultbauten Japans' (1907).
³ Murray's Handbook to Japan, 8th edition, 1907.
⁴ 'Japanese Homes and their Surroundings,' 1895.
⁵ 'Illustrations of Japan; Memoirs of the Djogouns,' 1822.
⁶ 'Impressions of Japanese Architecture and the Allied Arts,' 1905.
⁷ 'Japan, its Architecture, Art, and Art Manufactures,' 1882.
centuries to develop, but of which the sources are gone in consequence of the annihilation of all the early architecture of China. The earliest remains in the latter country are those of the t'ai or pagoda, which are almost universally octagonal on plan, and are built in stone or brick, whereas the example at Hôriujî is square on plan, and constructed entirely in timber. This would lead us at once to doubt the origin so far as China is concerned, especially as in the early records of the Chinese Empire the t'ais are described as being usually square, sometimes of great height and always built in stone to serve as watch towers, treasuries, or store-rooms.

If, on account of their differences in plan and the material of their construction, there is any doubt as to the origin of the Japanese pagoda, there can be none as regards that of the temple at Hôriujî, which represents the simpler type of the T'ing design with Primoya side gables identical with those of the temples, palaces, and great halls already described in China. It is, however, not only in the main design but in their constructive and decorative details that the general resemblance is shown; the groups of brackets which support the eaves of the Hôriujî temple and pagoda are found in all the Chinese temples and halls, and in the later examples the employment of the bracket-groups as the decoration in their friezes is found both in Japan and China, so that it would be impossible, except for other reasons, to distinguish between those of the temple at Nikkô and the temples and halls in the Forbidden City of Pekin.

In Japan, as in China, where the stereotyped form of roof and its supports seems to have been fixed for all time, the only variety the architect would seem to have been allowed to introduce into his design was its over-elaboration with painting and carving, and this during the last two centuries has in a measure destroyed the simplicity of their earlier work. The framing of the Japanese roofs, however, is, as a rule, superior to that of the Chinese, and in the designs for those of the smaller structures, such as the Shôrô or belfry and the Korô or drum tower in their temple enclosures, and the entrance doorways, fences, and screens of their domestic architecture, they display a fertility of invention and a remarkable execution in the framing which places them in the first rank as carpenters; like the Chinese, however, they have never understood how to truss their timbers, so that in their roofs there is the same ponderous construction with immense beams one above the other similar to those found in China.

As already stated, the Chinese temples and halls have no clerestory windows, the light being admitted only through the
doorways and the windows in the rear of the verandah, but in the more ancient temples at Hōriji and Nara in Japan, the designs of which were introduced from China through Korea, there are large openings above the verandah roof and between the columns and beams which carry the main roof; these openings were probably closed with paper or some other transparent material, and to give facilities to keep this in proper repair, narrow balconies are carried round as shown in Plate LX. Already also at a very early period the column verandah was dispensed with in the majority of the temples, its place being taken by a balcony carried on corbels or brackets tenoned into the columns of the main hall, this balcony being always carried round on three sides and sometimes in the rear.

Sufficient protection from the weather was given to this balcony by the wide projection of the eaves of the main roof, and consequently the double eaves of the Chinese temple were not required.

Next to the main temple the most important structure is the entrance gateway; in China the chief entrance was through a p'ai-lu, which was sometimes isolated and at a long distance from the temple. In Japan it forms the entrance to each enclosure, and is generally in two storeys; one of the earliest examples is that shown in Plate LX. between the temple and the pagoda at Hōriji: if this is compared with the Yō-mei-mon Gate at Nikkō built under the Toku-gawa Shōguns, Plate LXI., great decadence which has taken place in the style will be easily recognised in the over-elaboration of the more modern structure, where dragons and unicorns are carved in every possible position, and in which the simple curves of the Irimoya roof have been changed for those of a more complex nature.
509. Bird's-eye View of the Buddhist Temple of

1. Entrance gateway (Yô-meimon).
2. Ex-voto Hall (Ema-dô).
3. Belfry (Shôrō).
4. Main temple (Hondo).
5. Founder's Hall (Soshi-dô).
6. Reliquary (Tahô-tô).
7. Library (Rinzô).
8. Priest's rooms (Hôjô).
Buddhist Temple of Ikegami

Ike-gami, near Yedo. (From a Japanese Print.)

9. Reception rooms (Kyaku-den).
10. Treasure house (Hōzō).
13. Drum Tower (Korō).
14. Pagoda (Go-ji-no-tō).
15. Stone lanterns presented as offerings (Ishi-dōrō).

These names are taken from Murray's 'Handbook to Japan,' p. 41. Eighth edition.
CHAPTER V.


The Japanese temples, like those in China, consist of a number of isolated structures situated generally within three enclosures, the number of these structures and their dimensions varying according to the importance of the temple and its requirements, some of them not being found in those temples built for the Shintō religion; the architecture of the latter is also much simpler, and plain white Keyaki wood posts are employed to carry the roofs which, in the earlier examples and still in temples of small importance, are covered with thatch only; the Buddhist temples, on the other hand, are not only richly painted, lacquered and gilded, but are enriched with carving of the most elaborate description.

In the selection of the sites for their temples, ascending ground, often the side of a hill, would seem to be preferred, not only to obtain a greater eminence for the main shrine Hondo (Hondo if Buddhist, Honden if in a Shintō temple), but to give more dignity to the approach up wide flights of steps, between avenues of trees alternating with stone or bronze memorial lanterns. Generally speaking, the outer enclosure consists only of a low wall with wood fence; the second was of more importance, the enclosure sometimes taking the form of a covered promenade for the priests, and it was entered through a magnificent gateway (Yō-mei-mon) in two storeys, the upper one used as a muniment room. The third enclosure in which the temple was placed consisted of a lofty screen wall panelled and enriched with pierced screens elaborately carved and covered with a tile roof with projecting eaves on both sides; in this case the entrance gateway might consist of a porch only (Kara-mon) with extremely rich decorations. In all cases the gateways are preceded by flights of steps varying in number according to the slope of the site. This was the usual arrangement in the plans of both Shintō and Buddhist temples, but it was sometimes departed from in cases where the irregularity of the site called for a more picturesque grouping of the several structures of which the Japanese artist never failed to avail himself. This grouping is shown in the woodcut No. 509, a reproduction of one of the
illustrations in a Japanese *meischo* or guidebook which represented the Buddhist temple of Ikegami near Tōkio. The *Soshi-dō* or founder's hall (Fig. 5) is celebrated as the spot where the Buddhist saint Nichiren died in 1282 A.D. It will be noted here that the roofs of all the structures are of the *Irimoya* type, as shown in Woodcut No. 490. Another remarkable example is the temple at Miyajima or Itsuku-shima which was built on an island, and here the Tori-i, which precedes all the Shintō temples, and sometimes the Buddhist, stands right out in the sea, the temple being built on piles as the various other structures, all of which are connected by open galleries, the whole temple being surrounded by water at high tide.

The general design of the Japanese temples and mausolea (for in many cases the more important buildings within the enclosure are the burial-places of the Daimyōs or Princes), corresponds closely with those in China, where the roof is always the ruling feature, and dictates the number and position of the columns provided to carry it. There would seem to be some definite standard probably regulated by the *Ken* or mat with which the floors are covered, and this prescribes the intercolumniation of the columns and supports. Sometimes the temple block is divided into three halls, the oratory (*Haiden*) one intervening hall and the sanctuary (*Hondo*) with the reliquary shrine, and these all come under one roof, an arrangement not found in China.

The main level of the floor of the temple is always raised from 4 to 6 ft. above the ground, so that a flight of steps is required in front leading to the entrance doors of the oratory, and to a verandah carried round the whole structure, over which the widely projecting eaves of the roof projects. This verandah is generally carried on projecting brackets attached to the main columns of the temple which are supported on isolated stone piers and bases, and not on a continuous wall such as exists in all European foundation walls. Sometimes in addition to this verandah or gallery there is a colonnaded loggia along the front of the building extending down the sides, the roof of this loggia sloping like that of the main roof. The ancient temple of Hōriji (Plate L.X.) is thus planned, and the inner row of columns being much loftier than those in the front, give the appearance of an upper storey. The same arrangement is found occasionally in later examples as in the Nishi Hongwanji temples at Nagoya and Kiō-to, thus retaining the traditional features of the Chinese temples with their double eaves.

In front of the temple and over the flight of steps leading thereto is a portico carried by columns over which a portion of the main roof is prolonged, and this during the Toku-gawa
period was further accentuated by the raising of the roof in the centre; sometimes, however, the portico is covered by a gable roof cutting into the main roof, this gable having a double curve—being convex at the top and concave near the eaves. The introduction of this intersecting gable would seem to date from the 17th century, and probably owes its origin to European sources. The raising of the roof eaves in the centre of the main front is often found in cases where there is no porch, probably in order to give more importance to the entrance door underneath, consequently it is almost invariably found in the entrance gateways, and is the principal, if not almost the only, development introduced in later times.

The design of the Japanese roof is so nearly identical with that in China that no further description is necessary, except that in the place of the bright yellow, blue and green glazed tiles found in China, those in Japan of the present day are either black or smoke-burnt, even in some of the more important temples the tile work has been replaced by wooden tiles and terminals covered separately with thick copper plates. This, however, has not the fine decorative effect of the glazed tiles, but the weight over the roof must in consequence be considerably diminished.

As in China, the ridge at its termination and the heavy rolls descending at each end are all more or less accentuated by their dimensions, and by grotesque representations of dragons; the elaboration of the brackets under the eaves is carried still further by carving the more projecting portions in the shape of dragons, and this fabulous animal is virtually allowed to run wild on the porches of both entrance gateways and temples, so that in the more modern examples, where the wall surfaces and columns are also either carved or painted, there is absolutely no repose.

Passing to the internal design of the temples; in the earlier examples the roof would seem to be of that description which is known to us as an open timber roof, showing the rafters which carry the tiles. The entire absence of trussing has already been referred to in speaking of Chinese roofs, and the example of Sangatsu-do at Todaiji Nara (Woodcut No. 510) dating from the 8th century, is interesting as it shows that at this early date roof timbers of considerable size were employed, and that the beams were cambered or curved upwards in the centre to provide against sagging. It is, however, strange that the Japanese carpenters whose work as regards execution and finish is of the highest order, should have remained ignorant of the value of the trussing of timber, and of the employment of diagonal bracing: to the absence of this knowledge, and in some measure to the weakness of the foundations consisting only of
square piers of stone sunk in the earth on which the columns rest, must be ascribed the complete wrecking which at times their temples and houses have undergone through earthquakes.

It would be difficult, in fact, to conceive a worse system of support than that found in the Japanese temples, instead of having continuous walls below the ground, such as exist in all European structures, into which the piers carrying the columns should be built and, sinking the bases of the columns into these piers, they rest on the top only, the result being that with any oscillation of the ground through earthquakes, the columns are shaken off, and in consequence of the immense weight of the roof complete ruin takes place. The preservation of the pagoda at Hōruiji is probably due to the fact that it was erected on a concrete foundation, and in more recent times the brick and stone walls erected in the European manner have stood whilst the timber structures have succumbed. The ceilings of the Japanese temples are comparatively low; they are as a rule horizontal, being divided by ribs single or coupled into square panels; a fluted cove is carried round the hall, and below it is the bracketed frieze, which constitutes so important a decorative feature in Chinese architecture; the space between the brackets is in Japan filled with rich carvings of birds and
animals real and fabulous, and flowers of which the chrysanthemum and the peony are the favourites. The columns supporting the ceiling and roof are either circular or square with the edges rounded off as in China, and in both cases the horizontal beams resting on brackets are tenoned into the column—there being no capital of any description; the walls in the rear of the hall are panelled and, on the outside towards the loggia or gallery, one is left open between the columns for the admission of light which is, however, subdued by blinds in rich casing. The brick walls which in China are built in between the wood columns are not found in Japan, probably on account of the danger in case of earthquakes; their place as a rule is taken by timber paneling which is protected by projecting eaves. Sometimes under the bracket frieze is a second deep band which is carved in panels of the same type as that referred to between the brackets and, if opening into the loggia or under the eaves, is pierced. The columns of the interior are generally lacquered, the upper portions being painted with patterns in diaper reproduced from embroideries or carpets, and similar to that which is found in the Chinese temples. In the sanctuary beyond the main hall these patterns are all diapered in gold as also the main portion of the beams and ceiling above, and the great altarpieces and shrines of the Shōguns are all gilded. The most important display of these carved panels is that which is found in the immediate enclosure of the temple where the upper range will be carved with birds and flowers, the middle range with clouds and flying storks, and the lower range with geometrical devices.

An example of this type of decoration is shown in Plate LXIII, representing the great entrance gateway of the temple at Nikkō, the work of the Toku-gawa dynasty. Here also will be noticed the overloading of the structure with enriched ornament, where the ends of the brackets are carved with dragon heads, unicorns being employed to emphasise what in the earlier temples was only a constructive detail, viz., the projecting tenons of the horizontal beams which were thus secured to the columns. The curved gables in the centre of the principal and side façades with their heavy ridge crestings have quite destroyed the simpler design as shown in the Temple at Hōriuji. As a contrast to the gorgeous ostentation of the Buddhist temples and mausolea, and more especially those built during the Toku-gawa dynasty, the Shintō temples are sometimes of the greatest simplicity, and the wood employed a kind of native elm called Keyaki, is left plain, trusting to the grain for its effect, the only decorative work being the brass mounts of various kinds, including those enclosing the base of the columns employed to preserve the work when
exposed to damp. The roofs of the Shinto temples are often thatched only, and are therefore comparatively much lighter than the Buddhist tiled roofs. The entrance grounds of a Shinto temple are usually preceded by one or more tori-i, a structure which consists of two circular posts carrying an upper and lower cross beam—the upper of double thickness and rising slightly at each end. The origin of these is doubtless the Indian Torana, though they are usually regarded now as rests for the birds, which frequent these temples; like the pagodas, however, they were probably introduced from China, and constitute a simple version of the gateways of the stupas and temples in India as shown in Woodcut No. 38.

In Japan, as in China, there appears to be no distinction between the temples and mortuary chapels, and the mausoleum of Ieyasu at Nikko built on rising ground has the triple enclosure with three entrance gateways, and besides the main temple or mortuary chapel, has all the independent accessories such as the tori-i, pagoda, sacred stable, store-houses, library, drum-tower, belfry, priests' residence, etc., which forms the complement of an important Buddhist temple, and in addition a winding pathway up numerous flights of steps leading to the upper mortuary chapel and monumental tomb.

In addition to the buildings already described, the enclosures of the Buddhist and Shinto temples contain a number of isolated structures, of which in the Buddhist enclosures the most important are those of the pagodas (Go-jū-no-tō), which are found all over the country. In contradistinction to the Chinese pagodas, which are invariably octagon on plan, those in Japan, with one exception at Bessho, are always square. The most ancient example is the pagoda at Hōruiji, said to have been built by carpenters from Korea in the then Chinese style, if so, it represents a type which has entirely disappeared in China; there is one example with square plan at Korea, but this, following the Chinese custom, is built in brick. Great forests are said to have always existed in Korea, so that in the first centuries of our era there may have been an abundance of timber resulting in wood construction, the perfected type of which we see in the pagoda at Hōruiji (Plate LXII.) where, as in the adjoining temple, will
be found all the features of the Japanese style such as still form the leading characteristics of the later temples and other structures.

The pagoda at Hōriyūji has five storeys, each one set back slightly below the one below. All have widely projecting eaves, carried on brackets and an external gallery. It is raised on a stone base 4 to 5 ft. high, with terrace and verandah round. The crowning feature is a lofty finial with metal rings round, on which bells are hung, and through this finial and from its summit is suspended an immense beam. In the older examples the foot of this beam rests on the stone floor of the pagoda, as it does at Hōriyūji, but in more modern examples there is a space left in order to allow of the shrinkage of the timbers of the several storeys, the object of this beam being to tie together the framing of these storeys. These beams are kept in position by framework round them at intervals, but are attached only to the finials. The central beam at Hōriyūji is 100 ft. long, 3 ft. square at the bottom and 9 in. at the top. In order to support the timber plates carrying the widely projecting eaves, and more especially at the angles, flying timbers similar to the framing inside are carried down, and the ends of these are left as decorative features on which bells are suspended.
Of about the same date a second pagoda exists at Hokujo near Nara with three storeys. At Yakushiji was erected in 680 A.D. a third example with three storeys, and projecting balconies with eaves covering the two upper storeys, which destroys the rhythm of the earlier examples, and was fortunately not repeated in later structures. In the exceptional octagonal pagoda at Beasho, there are four storeys, the only example existing. The date of the famous Tenno-ji five-storied pagoda at Osaka is not known, but the elaborate carving of the brackets and other constructional features with dragons and unicorns suggests a complete restoration, if not the actual rebuilding, of the same.

The other temple structures in the temple grounds consist of the belfry (Shōrō), the drum tower (Kców), various secondary shrines, a dancing stage (Kagura-den), the revolving library (Rinsd) often constructed in the shape of a pagoda of two storeys. Priests' rooms and monastic dwellings, the latter of simple construction not differing from domestic work. The belfry is covered with the usual type of roof with Irimoya gables and widely projecting eaves; it is carried by four columns raised on a platform about 10 ft. high. It is probable that on account of the great weight of the bell, the platform was built in stone originally, which would account for the peculiar concave batter of the walls, provided to withstand the earthquakes, such as in the example at Kawa-saki (Plate LXIII.) near Tókio. Now these platforms outside the wooden cage carrying the structure have an external casing of timber, which follows the batter of the traditional stone pedestal. This shown on Plate LXIV. in the Ieyasu temple at Nikkó and also in the temple enclosure at Ike-gami (Fig. 5, Woodcut No. 509). All the older structures in their design and construction are repetitions of temple buildings to a smaller scale with the same tendency in later examples to over-elaboration of ornament and carving.

Palaces.

The palaces of Japan which originally were simple, unostentatious buildings without defences have, since the military domination of the 16th century, been built within fortified enclosures surrounded by moats. The walls from 20 to 25 ft. high are built with a concave batter, the masonry of the quoins dipping down in order apparently to run less risk of being overthrown by earthquakes, as in the event of an upheaval the stones would fall back by their own weight into their original position (Plate LXV.), representing the walls of the inner castle at Yedo (Tókio), gives some idea of their construction; the masonry of the main wall is either built in horizontal courses, as here shown,
or with that generally known as polygonal masonry, in which blocks of irregular shape are closely fitted to one another. Towers built at the angles are used for military stores, and ancient prints show that originally stout timber palisades (Fr. *haurds*) surmounted the wall between the towers, behind which were frequently the soldiers' barracks as at Nagoya. The palaces, like the temples, are all of one storey only, the floor being raised from 4 to 8 ft. above the ground, and externally, in their design, belong to the *T'ing* type with *primey* gables like those in the temples. In plan they consist of a number of blocks put in communication one with the other by covered corridors, not arranged symmetrically like those in the Forbidden City of Pekin, but disposed so as to overlook gardens and small lakes. The principal difference externally, when compared with the temples, lies in the less height and much flatter pitch given to the roof, so much so that they are not concave in section, the roofs having generally one uniform slope. Although externally the blocks have the appearance of constituting a single hall, they are usually subdivided by sliding screens into several rooms; thus the residential block of the Imperial Palace at Kio-to, measuring about 100 ft. by 60 ft., is divided by partitions into fourteen rooms, the centre one of which lighted only through the outer rooms, constituted the Mikado's sleeping apartment. The three rooms on one side of this block form a suite in which the floors are raised slightly one above the other, the further and highest room furnished with a raised dais indicating the position of the Imperial Throne. Access to all the rooms in a subdivided block is obtained by the external verandah which constitutes the principal feature in all Japanese houses. Although in the great reception rooms the floors consist of polished boards, in the residential portions they are covered with mats (*Ken*) about 3 in. thick, 6 ft. by 3 ft. in ordinary houses, and 7 ft. by 3 ft. 6 in. in the Imperial Palace, and the dimensions of each room is noted by the number of mats covering it. In one of the blocks of the palace used for enjoying the cool breezes after the summer rain, the largest of the four rooms into which it is subdivided has only four mats, and is about 14 ft. by 11 ft.—a small room for a palace. Whilst the sliding screens which divide the rooms are about 7 ft. high, the rooms are about twice that height, covered with coffered ceilings and coves round. The decorations in the Mikado's palace contrast strongly with those in the temples, which are always richly lacquered, painted, and gilded, whereas in the palace plain white wood with gilt bronze mounts is employed, the walls being painted with flowers and other decorations by the great artists of Japan. The palaces of the Shôguns or military
Regents follow much on the same lines as those of the Mikado, but their construction is much more solid, and their decoration much bolder in character. The fortified enclosures round them are increased in number, those of the castle at Kunamoto now destroyed, which was built by Kato Kyōmasa towards the end of the 16th century, resembling somewhat the castles of the Middle Ages with two or three outer courts and a keep within the inner enclosure.

DOMESTIC ARCHITECTURE.

If in the palaces of the Mikado and the Daimyos architecture is reduced to its simplest expression, in the Japanese houses it is non-existent, so that the aspect of the streets in the great cities presents a dull and monotonous appearance. The entrance doorway is the only external feature in which there is some variety, but even in the most important houses it is only a simplified version of those found in the more ordinary temples, there being similar street regulations against display as in China. The houses have rarely an upper storey, and the design consists of a square or rectangular block covered with a tiled roof, the interior being subdivided into rooms by sliding screens (fusuma) about 6 ft. high. In the better houses there may sometimes be internal courts with buildings on all sides or all round. The chief feature of the Japanese house is the verandah which faces the gardens, and serves as a passage to all the rooms. The floor of the house is raised about 10 in. above the ground, there being no basement of any kind, and the importance of the room depends on the number of mats which cover the floor; those mats measure 6 ft. by 3 ft. each. In a middle-class dwelling the chief reception room may have fifteen or sixteen mats, the smaller rooms four to eight or ten; by pushing aside the screens the whole house can be thrown into one room, and, as a rule, the side facing the south is thrown open during the day to ventilate the house. The design of the verandahs is of the greatest simplicity, with none of the elaboration found in China, and the decoration of the interior is confined to the upper part of the walls above the screens. In the chief reception room is always a recess or alcove in which hanging pictures known as hakemonos are suspended, but never more than three in number, and a vase of flowers. The treasures of the house are always stored away in a fireproof storehouse made with walls of mud or clay, and known as a godown.

It is not yet possible to foresee what the throwing open of Japan is likely to evolve in the development of their civil and
domestic architecture. Their temples, whether Buddhist or Shintō, with the numerous other structures in the sacred enclosures, will probably still be built in the old timber style as being most in conformity with their customs and religious rites, but already within the last thirty years a large number of buildings, such as palaces, colleges, hospitals, banks, and other commercial structures, as also a few private houses, have been erected in brick or stone which are more or less copies of similar work in Europe and the United States. In their mansions and private houses the Japanese dress, still worn throughout the country, requires that the living rooms should be in accordance with native customs, and this has led to a compromise, whereby in the larger mansions a wing has been added in which the reception rooms are all built in what is known as the "Western style." Hitherto in their domestic buildings extreme simplicity and an avoidance of ostentation has always been the rule, extending even to the royal palaces, so that no evolutions of architectural style may be expected in that direction. In their civil work this rule has not been observed, if we may judge by the few representations which have been published. If, however, the new steel skeleton structures which, starting in the United States, have now been generally adopted in European towns, are found to be capable of resisting the shocks of earthquakes, their employment in Japan might lead to a new development of architectural style, seeing that, in another branch of construction, that of carpentry, the workers occupy a very high position.