

Gray of Harvard university, now on exhibition at the Art museum in Boston. It is an excellent likeness of our distinguished botanist, and a fine specimen of the artist's peculiar work. It has the earnestness and geniality of expression which the passing years seem to impress more forcibly upon Dr. Gray's countenance; and the artist has so wrought the stubborn material as to impart grace and apparent flexibility to the flowing locks. This admirable work of art, representing, as it does in such a thoroughly artistic manner, one of the leading scientific men of America, will be worthily placed upon the walls of the college halls, with which his name and fame will be forever associated. It is a gift to the college from some of the friends and associates of the professor, who have adopted this method of expressing their regard and admiration for his character and scientific achievements.

THE HONG SAL MUN, OR THE RED
ARROW GATE.

ONE of the most striking characteristics of far eastern architecture is the singular respect paid to approaches. The means, it may be said, is itself the end. It is not so much what you are to reach, as how you are to reach it, that the Korean deems important. The practice is one branch of the all-pervading ceremonial. To his mind the dignity of an object is best preserved by rendering the access to it imposing. What we see in a nest of Chinese boxes, one within the other, is an illustration of exactly the same principle: the object always eventually found contained in the innermost is enhanced in value just in proportion to the difficulty of getting at it.

The approaches vary in kind according to the degree of intimacy they bear to the main building. First and outermost stands what is called in Korean the Hong Sal Mun, or 'red arrow gate.' This is a singularly odd and strikingly unique structure, and to the student it derives still further interest from being purely tartar. In origin it is religious, or, more exactly, superstitious: for it dates back to the earliest spirit-worship,—the old mythological days, when a hero was a demigod and a king by ancestry divine; and so, because of his genealogy, it was erected as an outer portal to his gates. For in the aboriginal faith, unchanged to this day, the king is the lineal descendant of the gods, and their representative and mediator to men. Nor did the custom stop there. His glory was reflected upon those who

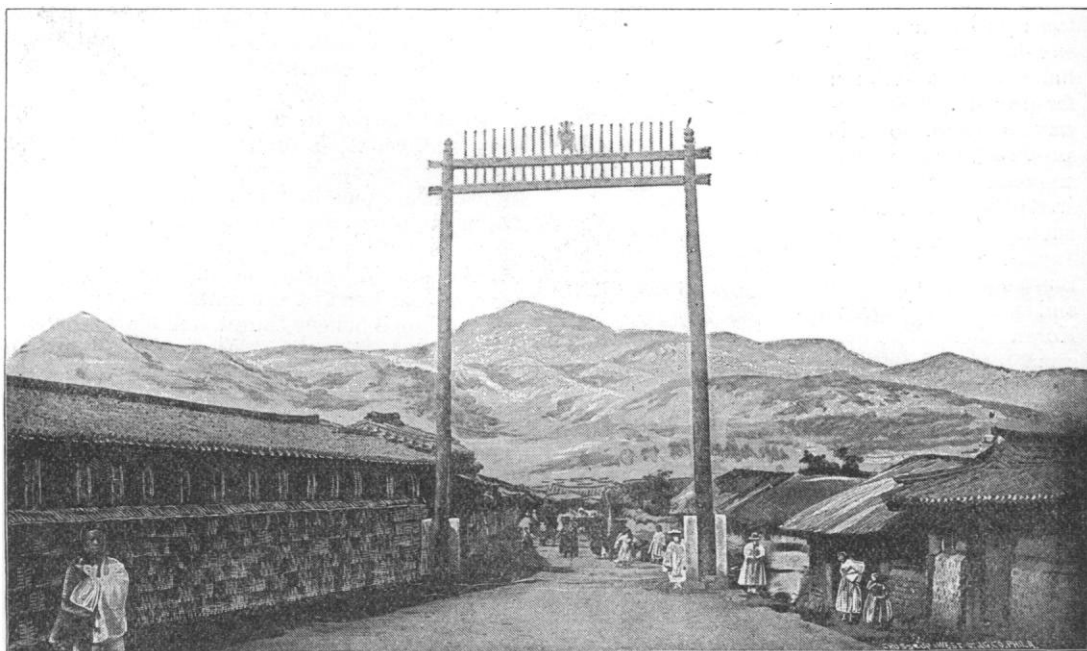
carried out his will,—the official class. From his mansion it was copied for theirs; so that now the distinctive mark of a magistracy is the red arrow gate. This is what it is in Korea. But it is all the more interesting that its acquaintance was not made there. In fact, till now, its presence there was not known. It was in Japan that this curious structure first came to the notice of the western world, and then in connection with temples. It is known there by the name of *torii*, commonly but questionably translated as 'bird's rest.' Originally the portal to Shintō shrines, it was borrowed by Buddhism, and now guards indifferently the approach to buildings of either religion. In this it differs entirely from the use to which it is put in Korea, for there it never does service to Buddhist temples. At first sight, the reason is perhaps not evident; yet its use in the one land explains collaterally its use in the other, and points to a primitive idea, of which both are natural though different applications. In Japan, the mikado is a son of heaven, and head of the Shintō faith, which is the aboriginal belief; church and state are one, Buddhism being but a later addition to the religious wealth of the country; and, by a mistaken analogy only, Buddhism came to make use of this gate, to which, in truth, it was perfectly alien. In Korea, on the other hand, the state is all in all. Instead of the state merging into the church, the church was swallowed up, at least in its outward expressions, by the state. Then, when Buddhism came to be ingrafted on the country, there was no excuse, such as existed in Japan, to give it what had then ceased to be looked upon as peculiarly religious: so it continued to be employed, as before, entirely as a sign of kingly authority, and was never converted into another symbol of Buddhistic show.

Its form differs slightly from that of its Japanese counterpart. It wants the graceful curves that make that so beautiful a structure by itself. It lacks also the other's diversity of material. It is built invariably of wood, and its claim to attention arises rather from a certain quaint grotesqueness than from any intrinsic beauty. Two tall posts, slightly inclined to one another, are crossed by a third, and bound together a short distance above the crossing by still a fourth. All four are perfectly straight. Starting from the lower, and projecting beyond the upper horizontal piece, is a row of vertical beams of wood, spear-shaped. These are the arrows of the name. In the centre is a design as singular to the eye as it is peculiar for its mystic meaning; two

spirals, coiled together, filling the area of a circle. They are emblematic of the positive and negative essences of Chinese philosophy. Above them is the representation of tongues of flame. All this typifies the power of the king, joined, since the nation espoused the morality of Confucius, with a reverence for the sage. As the name implies, the whole is painted a bright red, which, in Korea, is the kingly color. Its height is from thirty to forty feet.

Its situation is striking. It rises by itself in solitary grandeur. It is not connected with

least, passers-by do the king homage. But this is simply because the street is the natural approach. In the rural districts, where the street is wider, the portal's span of twenty feet can only occupy the centre, while the thoroughfare is as much around as under it. And yet so compelling is ceremonial that no one would think of entering save beneath its arch; and in Japan it is counted little short of sacrilege by properly superstitious persons, on their way to the temple or the shrine, to avoid it by going around.



THE RED ARROW GATE IN KOREA.

either walls or buildings. It stands alone and apart. Nor has it any particular position assigned it. It may stand near to, or far from, the shrine or the magistracy to which it leads. Placed only at a respectful distance, it fulfils but the one condition, — that it shall face what it foretells. It is there to direct the thought as much as to impress the mind. In Japan, where certain mountains are sacred, and worshipped as shrines, it is often met with tens of miles away from what it heralds; alone in the midst of nature, on the top of some high mountain pass, over which lies the road, and from whose summit the pilgrim catches the first view of the desired goal, framed in like a picture between its posts. In Korea it commonly spans the street; so that, in so far at

Its discovery in Korea is further interesting as supplying another presumption, amounting almost to proof, in favor of the opinion expressed by Mr. Chamberlain of Tokio, that the ordinarily received meaning of the Japanese name for it, *torii* (‘bird’s rest’), is erroneous. This is the meaning of the Chinese characters by which it is at present expressed. But though these are the only direct and positive evidence in the matter, they are nevertheless but *prima facie* proof. The Japanese language existed before ever the Chinese ideographs were adopted to write it, and therefore the ideographs with which any word is now written are only evidence of what was considered to be the meaning of that word at the time they were adopted. There is always be-

hind this the Japanese derivation of the word, which, though possible, of course, in the way the characters express it, may be possible also in another way, and that other may really be the true one. Following this course, Mr. Chamberlain suggests that *torii* is not derived from *tori* ('a bird') and *i* ('to be or rest'), but from *tōri* ('to pass through') and *i* ('to be'), which would make it 'a place of passing through.'

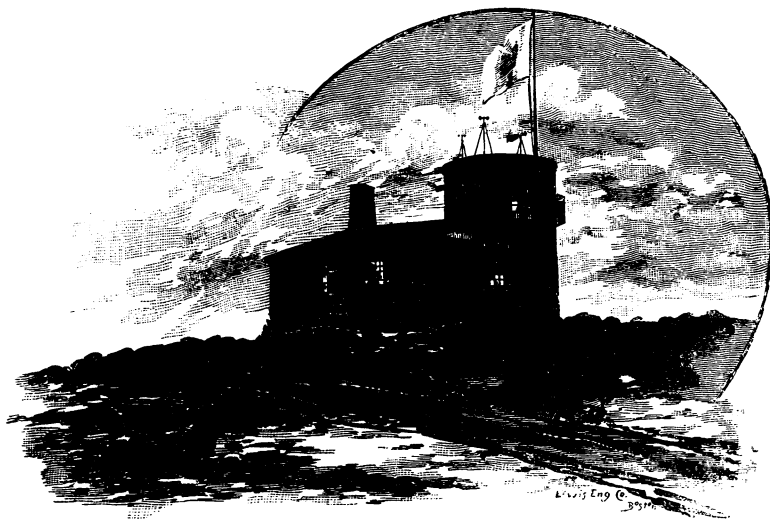
To account for such an improbable name as 'bird's rest,' it is customary to instance the well-known respect of the Buddhist religion for animals. The gateway is there, so it is said, to afford a roosting-place for the sacred pigeons which frequent many of the Japanese temples. But as we see, again and emphatically, from Korea, there is no original connection between Buddhism and the *torii*; for the red arrow gate has, in the peninsula, nothing whatever to do with Buddhist temples, and its name there is simply explanatory of its structure. This does not prevent birds roosting on it, as one happened to do at the moment the accompanying photograph was taken, for it must be for them an exceedingly convenient place to roost. But its popularity in Korea at least suggests, that, as regards the custom of the Japanese pigeons, the name probably followed the fact, rather than the fact a dedication.

PERCIVAL LOWELL.

THE METEOROLOGICAL OBSERVATORY ON BLUE HILL.

THE meteorological observatory lately constructed by Mr. A. Lawrence Rotch on the summit of Blue Hill, near Boston, at an elevation of six hundred and thirty-five feet, is now in working order; and two monthly bulletins have been issued from it, containing summaries of winds and weather for February and March of the current year. The only other observatories in this country, elevated distinctly above the surrounding region, are those maintained by the U. S. signal-service on Mount Washington and at Pike's Peak, both

of which are at elevations greatly above that of Blue Hill. At the level of Pike's Peak, the cyclonic rotation of the winds is hardly observable, the observatory there being above the strata of the atmosphere whose circulation is seriously disturbed by passing storms. On Mount Washington the winds whirl around almost in a circle about the progressing storm-



centre. At Blue Hill we may hope to discover the true circulation of the lower air, unaffected by the natural or artificial irregularities of surface that modify the records of so many of our signal-service stations. The value of observations taken at moderate elevations is attested by the increasing number of mountain observatories in Europe. Ben Nevis is the latest on the list, and its records have already afforded material for several articles in *Nature* and other foreign journals. Germany has a station on the Brocken; France, on the Puy de Dôme and the Pic du Midi; while Switzerland possesses several more. As Blue Hill has the first private observatory of the kind in this country, we shall look with especial interest for the results of studies based upon its records. The accompanying figure is from a photograph taken by the observer, Mr. W. P. Gerrish. The large 'cold-wave' flag, when displayed from the pole on the tower, according to the signal-service predictions, can be seen by a number of villages around the base of the hill. An account of the building was read at a recent meeting of the New-England meteorological society, and published in the December number of the *American meteorological journal*.

W. M. D.