

THE WALHALLA OF RATISBON.

The ancient city of Ratisbon, the old capital of the Upper Palatinate, is situated on the Danube, in the heart of Bavaria. It is a pleasant old town and in many ways it is as interesting as the better known Nuremberg. Ratisbon belongs to an earlier period than Nuremberg. Most of the streets are narrow and many of the older houses have strong towers provided with loopholes which bring back to mind the days when civic broils were of frequent occurrence. The interesting "Street of the Ambassadors" contains the former residences of the ambassadors to the Diet. Ratisbon possesses a small but pure Gothic cathedral. The Rathhaus is a gloomy building; here the visitor is conducted to the subterranean chambers and dungeons, and here is the rack in situ. The instruments of torture are vastly more horrible when seen in these terrible prisons than when seen behind the plate glass of museum cases. Crossing the old stone bridge of the twelfth century, the small town or suburb of Stadt-am-Hof (which is really a suburb of Ratisbon) is reached. Here the train is taken for Donaustauf, where the famous Walhalla is located. The little narrow gage train runs for six miles through a beautiful country.

The Walhalla derives its name from the "Hall of the Chosen," the paradise of the ancient Germanic tribes. It is a costly reproduction of the Parthenon at Athens. It is built on a densely wooded hill 323 feet in height. From the village of Donaustauf the ascent is made by a carriage road or a foot path which ascends to the grand flight of 250 steps, by which the edifice is approached. This "German Temple of Fame" is an architectural folly begun by King Lewis, of Bavaria, in 1830, after designs furnished by the architect Kleuze. It was finished in 1842, at a cost of about \$6,000,000. This temple is devoted entirely to the display of the busts of distinguished Germans and has no utilitarian

value, and is a crowning example of how money can be misspent. The building proper is a pure Doric temple, 246 feet long, 115 feet wide and 69 feet high. The building rises from massive substructions which somewhat dwarf the building itself. It is built of unpolished gray marble and is surrounded by fifty-two fluted columns. The pediments, both in front and in the rear,

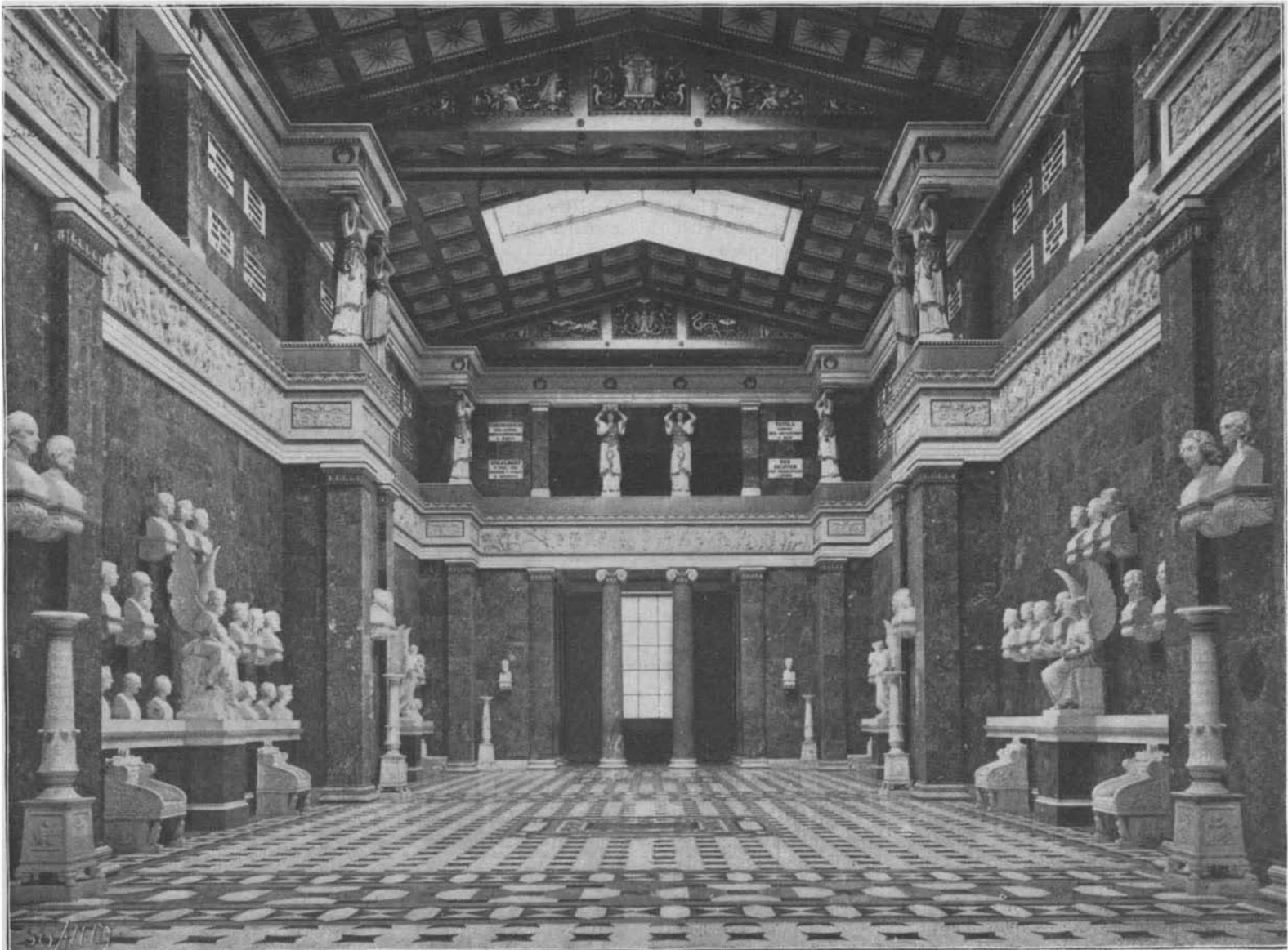
is supported by fourteen caryatides, which in this case are Walkyries (Walktren) or warrior maidens. The decoration of the walls consists of busts which number over one hundred; they are of different sizes and of different artistic merit; they are arranged in formal rows and the result is rather lugubrious. The lowest ones are supported by pedestals, the upper ones by consoles. The busts include those of Goethe, Schiller, Dürer, Luther, Lessing, Mozart, Kant, Blücher, Frederick Barbarossa, etc. The busts are arranged chronologically and are separated by six admirable Victories by Rauch. Above the upper moulding are laurel wreaths in bronze, and let into the wall are sixty-four marble slabs containing the names of the celebrities who are admitted to a position on the walls of the Temple of Fame. At the farther end is the "opisthodomos," separated from the principal hall by two Ionic columns. The general effect of the interior is grand and impressive, although it must be admitted that it partakes of the funereal. The association of classical architecture, barbarian paradise and modern German celebrities is incongruous. The floor is so fine that no visitor is admitted until he dons



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contain groups in marble by Schwanthaler; the one toward the south represents "Germania regaining her liberty after the battle of Leipsic;" north, the "Hermannschlacht," or battle of Arminius. The roof is constructed of iron and is covered with copper. The interior is of the Ionic order, and consists of a superb hall 180 feet long, 50 feet broad and 56 feet high. The ceiling is richly gilded; it is deeply coffered and the rosettes are particularly rich. The lateral walls are divided into six sections by four projecting buttresses flanked by pilasters. As will be seen by the engraving, the walls are divided into two parts by a rich frieze by Wagner, representing, in eight sections, the history and life of the German people down to the time of the introduction of Christianity. The ceiling

immense felt slippers. The views of the dark slopes of the Bavarian forest and the Danube are very fine. At Kelheim, 18 miles from Ratisbon, is another building erected by King Lewis, the so-called "Befreiungshalle," or Hall of Liberation. It is a classical edifice built by Gärtner and Kleuze. A rotunda, 191 feet in height, is borne by a substruction 23 feet high, reached by a flight of 84 steps. It abounds with fine sculpture and detail. The sanity of building constructions of this kind miles from anywhere may be questioned, and, though the building mania did not die out in Lewis' family with his death, it is satisfactory to note that, while money has been squandered as freely, its expenditure has at least resulted in the erection of habitable palaces and hunting lodges.



THE INTERIOR OF THE WALHALLA.

Recent Archæological News.

Chæroneia's famous lion is to be restored and set up on the battle field by the Archæological Society of Greece.

The monument to Donatello, the great Florentine sculptor, was recently unveiled in the Church of San Lorenzo in the presence of the royal family.

Mr. Flinders Petrie has been appointed executor in chief of the Egypt Exploration Fund, and the work will doubtless be prosecuted with vigor under his administration.

In St. Sepulcher's Church, in London, there was recently found in an old chest the bell which, in Stuart times, used to be rung by the crier outside the cell of a condemned criminal on the night before his execution. The bell will be hung up in a conspicuous place in the church.

The French School of Athens has made a complete archæological survey of the ancient Byzantine city of Mistra, on the slopes of Mount Taygetus, and has discovered many inscriptions and architectural remains, which will be exhibited at Sparta. The Greek department of public instruction has now ordered the restoration of some of the most important monuments of the place.

On St. Kilda's Island, which lies in the Atlantic, 82 miles west of the main island of the Hebrides, a house belonging to the stone age has been discovered, with a number of stone weapons, hammers and axes. There are only 71 inhabitants on the island, which is 4,000 acres in extent. The minister is at the same time the doctor and the school teacher. He sails to the mainland once a year to shop for the whole island.

Ulysses' isle of Cyclops, lying close to the Sicilian coast, near Acicassello, has been presented to the University of Catania by the Marchese Gravina, its owner. It is a basalt rock which rises 300 feet above the sea. It will now be used as a biological station, and the University of Catania will establish extensive laboratories on it.

Important restorations have been going on for more than a year at the Louvre, Paris. Alterations have been made in the old Salle des Etats, the object being to form a large gallery in which the numerous canvases of Rubens can be exhibited, and a series of fourteen small rooms in which can be placed many of the cabinet pictures which are now entirely lost with the larger works. The cost will amount to some 450,000 francs.

Dr. Orsi has recently been carrying out some excavations at Camarina and Noto Vecchio, the ancient Netum, in eastern Sicily. They have resulted in the discovery of many necropolises, both Greek and Siculan, but for the most part plundered in ancient times. Fine and intact tombs of the third and second centuries B. C. have, however, come to light at Camarina, while at Netum, besides three prehistoric burial places, Dr. Orsi has found one Jewish and several small Christian catacombs.

A number of drawings by the old masters belonging to the late Earl of Warwick were sold for \$4,300 in London recently. A "Descent from the Cross," by Michael Angelo, in black chalk, brought \$7,000; a head by Leonardo da Vinci, in black and white chalk, \$2,400; a sheet of studies in sepia by Raphael, \$1,775; two portraits by Albrecht Dürer, \$2,100 each; a "Presentation of the Virgin," in red chalk, by Giovanni Bellini, \$1,375; a pen and ink sketch washed with bistre, by Andrea Mantegna, \$825; and a pen and ink portrait of a man by Rembrandt, \$750.

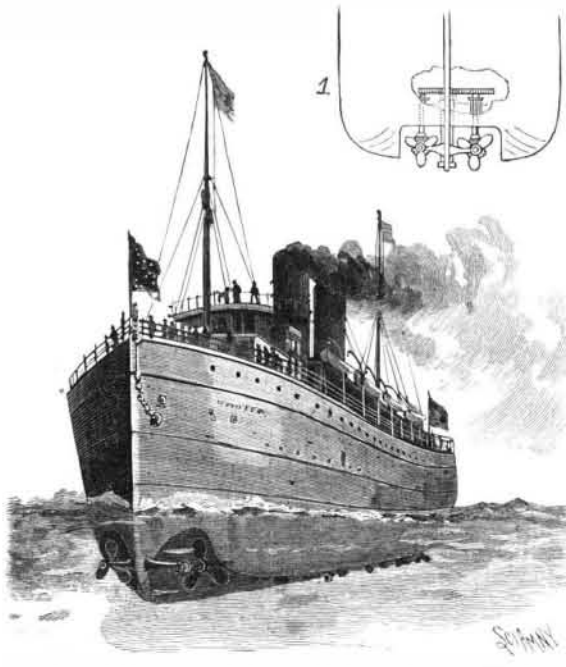
Evidence of the existence of a shorthand system among the Romans is to be found in the writings of classical authors. It was taught in the schools, and the Emperor Titus himself is said to have been an expert in its use. Suetonius ascribes the first introduction of shorthand signs, or notæ, to Ennius, who, he says, invented as many as eleven hundred; but more generally the credit of the invention has been given to Cicero's freedman, M. Tullius Tiro, whose name is commonly attached to them: Notæ Tironianæ. Seneca, B. C. 61-A. D. 32, is said to have collected the various signs or notæ known at his time to the number of five thousand. The Tironian notes were not, however, a stenographic system in the modern sense. They were symbols of words formed on certain methods, and largely at first by manipulating the initial letter. They were used for the construction of a syllabic system about the seventh century. There appears to have been some connection between Greek and Latin shorthand, certain signs being the same in both systems. It is interesting to find that the use of the Tironian notes lasted into the middle ages. Under the Frankish empire they were employed in signatures or subscriptions of charters; and they were also used by the revisers and annotators of the texts of manuscripts in the ninth and tenth centuries. Of this period also have survived volumes containing collections of the notes, indicating an impulse given to their employment; and there also exist copies of the Psalter written in these characters, as if for practice. However, they had practically gone out of use by the beginning of the eleventh century, although a few of them still survived some centuries later as symbols for certain common words.—Public Opinion.

The Final Entombment of Pasteur.

The remains of Pasteur, which for fifteen months have been lying in the cathedral in Notre Dame at Paris, were on Saturday, December 26, borne in solemn procession to their last resting place at the Pasteur Institute, where a magnificently decorated crypt had been prepared to receive them. There was a service in Notre Dame attended by the family, the staff of the Pasteur Institute and the deputations of foreign scientific men who came to Paris for the occasion. The casket was transported to the institute in a hearse and was then carried up the steps, through the grand vestibule and down to the crypt, which was decorated with wreaths sent by English, Russian and French societies. Speeches were made by M. J. B. Pasteur, M. Bertrand, President of the Council, M. Rambaud, Minister of Education, M. Cornu, M. Bergeron, M. Perrot, M. Passy, M. Tissier, and M. Duclaux. The English speakers were Sir Joseph Lister, Sir Dyce Duckworth, and Sir W. Priestley. A feeling of restrained emotion prevailed during the ceremonies, at the conclusion of which the spectators passed respectfully before the tomb and greeted the widow and family of the illustrious investigator. The crypt is a magnificent affair, somewhat suggestive of the crypt which contains the remains of Napoleon.

A NOVEL METHOD OF PROPELLING VESSELS.

According to the improvement represented in the accompanying illustration, lengthwise channels are formed, by means of housings, at each side of the keel of a vessel, and in each of these channels is located a shaft carrying a number of screws, the shafts being geared with vertical shafts operated by one or more motors of any preferred description within the vessel. The improvement has been patented in the United



ODINET'S PLAN FOR PROPELLING VESSELS.

States and several foreign countries by Conrad Odinet, of No. 257 West 116th Street, New York City. It is designed that, with this construction, a material increase of speed may be obtained without employing much more power than at present, and that the vessel will be able to turn as upon a pivot, the propellers acting substantially as a rudder. The propellers, placed so low down, will be constantly in the water, and never liable to "race," while they will also thoroughly ballast the vessel and add stability to the hull, being themselves protected from shot or shell in case of hostile attack. Hinged to fold close to the keel, at the forward ends of the channels, are gates by which the channels may be closed, to check or stop the forward movement of the vessel, the gates being moved by conveniently arranged levers within the vessel. In addition to the bottom propellers the ordinary stern propeller may be employed if desired. This improvement is designed for use with but slight changes in the present method of hull construction, as may be necessary in providing for the longitudinal housing on the bottom of the hull.

A UNIQUE cemetery is that in which Mr. Benjamin F. Poole, of Rockland, Mass., buries his horses and marks their graves with suitable monuments. The designs for these monuments Mr. Poole procured by submitting the matter to competition through a newspaper advertisement. One design represents a horse in an attitude of slumber in his stall, carefully blanketed, while along one side of the blanket in letters of marble are the words "Requiescat in pace." One clever artist has placed a giant horseshoe on a pedestal. Upon the pedestal's side he has drawn the cap of a jockey encircled by the variety of whip that all horsemen know so well. Another idea is an ordinary slab of marble on which is cut a horse collar, broken, with the name and age of the horse underneath.

Science Notes.

Globus states that the waters of Lake Titicaca continue to subside with great rapidity. A large area of land has been exposed on the northern shore.

The report that Nobel, the inventor of dynamite, bequeathed his enormous property for educational uses is contradicted by Nature, though, unfortunately, the authority is not given.

A herbarium of the Russian empire is to be published by the St. Petersburg Natural History Society. The flora of European Russia will appear first, then that of Asiatic Russia, and finally that of the Caucasus.

According to the Botanical Gazette, a notable cactus garden has been established at the University of Arizona. It is the intention to bring together eventually all the Cactaceæ which are indigenous to the United States, and already more than one hundred species are represented.

A remarkable landslide occurred a short time ago about twenty miles to the east of Killarney. As a result of the almost incessant rains of the last few weeks, a large portion of bog land slipped from its position, and, taking a southerly direction, swept away everything in its course for a mile or two.

Dr. Andrée now proposes to repeat his attempt of last year to reach the pole by balloon. In place of Dr. Ekholm, Dr. Frankel will accompany him as meteorologist. It is said that two French aeronauts propose making a similar attempt in 1898, according to Science. Their names are Godard and Surcouf.

While investigating the properties of ozone, M. Otto was led to the conclusion that the luminosity produced when ozone and water are in contact is due to the presence in the water of organic matters of animal or vegetable origin. He is also of the opinion that most organic matters are capable of giving rise to the phenomena of phosphorescence, in the presence of ozone.—Comp. Rend.

Swallow wort, or the greater celandine (*Chelidonium majus*), which Dr. Denisenko asserts is a cure for cancer, has long been used by country people to remove warts. The doctor uses the juice of the plant diluted, both externally and internally, in external cases injecting the fluid hypodermically around the cancerous growth. According to the *Lancet*, however, experiments with his specific by other observers have not confirmed his results.

The College of Civil Engineering of Cornell University shows how thoroughly alive it is by the announcement of a new hydraulic laboratory of immense size, having a rock-cut canal 500 feet long, 20 feet wide, and 10 feet deep, and a steel standpipe—in which the force exerted by great masses of water is to be studied—which is 6 feet in diameter and 70 feet high. No other hydraulic laboratory of half the magnitude of this one has ever been constructed.

A noteworthy event in the annals of technical education in the United States will be the forthcoming celebration of the twenty-fifth anniversary of the Stevens Institute of Technology, on February 18 and 19. The festivities will consist of a banquet at the Hotel Waldorf, to which representative engineers and technical educators will be invited. On the following day the institute will be thrown open for inspection, and a collection will be shown which illustrates the work of the alumni for the twenty-five years. There will also be a reception tendered to the faculty, graduates and undergraduates, by Mrs. E. A. Stevens, widow of the founder of the institute, at Castle Point, Hoboken. A promenade concert and dance in the evening will conclude the celebration. The institute was founded by the late Edward A. Stevens, of Hoboken, and in 1870 the erection of the building was begun by the trustees. Stevens Institute has always taken a high rank among the institutions for technical education in the United States, and its twenty-five years of successful effort is amply exemplified in the work accomplished by its graduates in all departments of mechanical engineering.

The word anthropo-geography has been coined, says Science, to meet the need of a designation for that branch of geography which treats of the earth in its relation to man. The present rapid advance of climatology has in the same way rendered necessary the coining of a similar word which can be used to designate that aspect of this study which deals with the relations of climate and man. It is natural that the word anthropo-climatology should be chosen for this subdivision of our subject. The length of the term makes it rather clumsy, yet its advantages more than outweigh its disadvantages, and it is to be hoped that it may come into general use. Under anthropo-climatology we should include all the various relations that exist between climate taken in its broadest sense and man. The climatic control of habitability, of occupation, of colonization; the influence of climate in stimulating or controlling migrations, invasions and the like; the immediate and permanent physiological effects of different degrees of temperature, humidity and pressure, etc.; the relation of climates to the distribution and prevalence of diseases; acclimatization, and other related matters may all find shelter in this subject of anthropo-climatology.