

THE WORLD'S NOBLEST

Interesting Data Concerning Volcanic Eruptions and the Birth of Mountains—The Alps Said To Be Situated Above a Huge Bulging Tuck, Where Danger Ever Lurks.

Pretenders to longevity usually turn out upon strict inquiry to be hoary impostors. They are not half so aged in reality as they make themselves out to be. There are small hillocks in the sands of Britain that were already great mountains while the Alps and Himalayas still lay slumbering sweetly half a mile of superincumbent ocean. Indeed, as a general rule, it may be said that the biggest mountains are very new, and that the oldest mountains are small. Unless it be a volcano or self-made mountain, the rocks and stones of which it is composed have been laid down some time or other on the bed of some forgotten and primeval ocean. During the whole vast primary period of geology (embracing in all probability four-fifths of the duration of life upon this planet) there is reason to believe that central Europe lay consistently and persistently beneath the depths of the sea. The German ocean was then really coterminous with the whole of Germany, and the sea of Rome embraced the greater part of Catholic Europe. It was only at the opening of the secondary period—the age of the great marine lizards—that the first faint embryo of the baby Alps began to be formed. Now, the origin of a mountain chain is not really due, as most people used to imagine, to a direct vertical up thrust from below; it is, in fact, a result of subsidence rather than of upheaval—a symptom rather than of general shrinkage of local eruption. For nothing can shrink without wrinkling and corrugating its surface; a result which one commonly sees alike in a withered apple, an old man's hand, and a dry pond cracked and fissured all over by the hot sun. The Alps are thus ultimately due to the shrinkage of the earth upon its own center; they are dislocations of the crust at a weak point, where it finally collapsed and threw in collapsing a huge heap of tangled and contorted rubbish. The beginning of the Alps, in fact, was due to the development in Permian times—everybody is, of course, quite familiarly acquainted with the Permian period—of a line of weakness in the earth's crust right along the very center of what is now Switzerland, but what was then probably nowhere in particular. The line of weakness thus produced showed itself overtly by the opening of a number of fissures in the solid crust, like cracks in a walling—not, indeed, visible to the naked eye of an inquiring saurian who may have chanced to investigate the phenomena in person, but manifesting their existence none the less by the outburst along their line of volcanic vents, hot springs, geysers and all other outer and visible signs of direct communication with the heated regions beneath the earth. From these fissures masses of lava, tuff, and other volcanic materials rapidly poured forth, some of which still form the core of the Alpine system, though most of them are buried at the present day under other layers of later deposition. The actual Alps, as we know them to-day, are of far later and more modern date. The very next thing the volcanoes did after bursting out frantically into action was to disappear bodily beneath the bed of the ocean. Year after year and age after age the buried core of the future Alps went on sinking further and yet further under the deepening waters of an ever profounder and profounder ocean. One kind of sediment after another was deposited on top of it, and these sediments, of very diverse hardness and thicknesses, form the mass of the rocks of which the existing Alps are now composed. The line of weakness occupied most probably the center of the great Mediterranean thus produced, for the sediments lie far thicker in the Alps themselves than around the shallow edges of the sea, in whose midst they were laid down. In fact, many of the strata which, away from the Alpine axis, measure only hundreds of feet thick, increase from along that central line till that thickness may rather be measured by thousands. With the setting in of the tertiary period—the age of the great extinct mammals—opens the third chapter in the history of the origin and rise of the Alps. The trough-like hollow, filled with thick layers of sediment, which then covered the line of weakness in the earth's surface, began to be pressed, and crushed, and pushed sideways by the lateral strain of the subsiding crust. Naturally, as the crust falls in by its own weight upon the cooling center it thrusts from either side against the weakest points, and in so doing it twists, contorts, and crumples the layers of rock about the lines of weakness in the most extraordinary and almost incredible fashion. To put it quite simply, if a solid shell big enough to cover a globe so many miles in diameter is compelled to fall in, so as to accommodate itself to the shrunken circumference of a globe so many miles less in diameter, it must necessarily form folds here and there, in which the various layers of which it is composed will be doubled over one another in picturesque confusion. Such a fold or doubling of the layers are the Alps and the Jura. Our world is growing old and growing cold; and as it wrinkles and shivers and quivers, so that its coat is perpetually getting a little too big for it, and has to be taken in at the seams from time to time. The taking in is done by the simple and primitive method of making a bulging tuck. The Alps are situated just above a seam, and are themselves one of the huge bulging tucks in question. According to Prof. Heim, the folding of the crust has been so enormous that points originally far apart have been brought seventy-four miles nearer one another than they were at the beginning of the movement of pressure. In fact, Switzerland must have been originally a large country, with some natural pretensions to be regarded in the light of a first rate European power, but its outside has been folded over and over so often that there is

now very little of it left upon the surface. What it once possessed in area it has nowadays to take out in elevation only. Prof. Judd has well shown how great is the amount of wear and tear to which mountains are thus subjected, and how enormous is the loss of material they undergo, in the case of the extinct volcano of Mull, which rose during the not very remote Miocene period to a height of some ten or twelve thousand feet above the sea level. It had a diameter of thirty miles at its base, and its great cone rose gigantic like that of Etna, or of Fuji on a Japanese fan, far into the sky, unseen by any eye, save that of the half human, apelike creatures whose rude, fire marked flint flakes the Abbe Bourgeois has disintegrated from contemporary strata in the north of France. Since the Miocene days rain and frost and wind and weather have wreaked their will unchecked upon the poor old broken down, ruined volcano, till now, in its feeble old age, it stands a mere worn stump, consisting of a few scattered hills, none of which exceeds three thousand feet in height above sea level. All the rest—cone and ashes, lava and debris—has been washed away by the pitiless rain, or split and destroyed by the powerful ice wedges, leaving only the central core of hard matter with a few outlying, weather beaten patches of solid basalt and volcanic conglomerate. Cornhill Magazine.

Somerville Journal Peelings.

It is a mean girl who will give her faithful lover the mitten in hot weather.

A man never appreciates how verbose he is in ordinary speech until he comes to write his first dispatch in a telegraph office.

Silk socks are cheaper than silk stockings. It seems hardly necessary to explain that they come lower because they do not come so high.

It is said that a bee can pull more in proportion to its size than a horse. The only thing that can be compared with it is a Kentucky man at a jug.

Of course a wedding is nine times out of ten a miss-take, but he is a very crusty old bachelor who is mean enough to call attention to the fact at the wedding breakfast.

A Lowell minister is preaching a series of sermons Sunday mornings on Elijah. He thinks that this is the season of the year when people can appreciate just how Elijah felt going up in the chariot of fire.

Nothing disgusts an old proof-reader on a daily paper more than to have the new exchange editor credit an item to the Bourbon (Ku.) News. "Just as though any fool wouldn't know what state Bourbon is in," he grumbles.

The plagiarism of the Texas judge who delivered Washington's farewell address as his own is only equalled by that of the minister who delivered the sermon on the mount to his congregation as an original production. Neither of them would have been found out if it hadn't been for a newspaper man.

The Yonkers Gazette illustrates one of the best uses of a local newspaper when it says: "If you should undertake to write a letter each week to an absent friend and tell half the news found in the Gazette you would give up in despair." No message is more welcome than a copy of the home paper filled with news about home matters.

George—"No, old chappie, I love Clara better than life, but I am quite convinced that my attentions to her are not congenial."

Harry—"How do you know? Has she told you so?"

George—"No."

Harry—"Has she said anything to you about it?"

George—"No."

Harry—"Well, how do you know, then?"

George—"Well, to tell the truth, I met the old man on the front steps the other night and he gave me the straight tip."—Somerville Journal.

He Was Model for Two Authors.

William P. Duval, who died at Washington while on a visit, in Gen. Jackson's last administration, was a genuine backwoodsman, who was the original of Washington Irving's "Ralph Ringwood" and James K. Paulding's "Nimrod Wildfire." When a boy he had gone from his native Virginia to Kentucky, where he became one of the hunters who ranged the forests and lived by their rilles. Studying law, he soon acquired a lucrative practice, and was sent to Congress in 1813. Gen. Jackson appointed him Governor of Florida, and while there he exercised a great influence over the Seminole chiefs, whose confidence he gained. From Florida he went to Texas, and it was on business connected with the lands in that state that he came to Washington in his 70th year. His genial humor, his fund of anecdote, and his spotless integrity made him a favorite among young men, who used to fill his room at night, listening to his spirited accounts of the time when he—to use his own words—"could whip his weight in wildcats."—Ben. Parley Poore.

The Oracle in the Art Gallery.

A local oracle was walking through a gallery with one of those large-eyed, artless, simple, modest girls the other day. He was enlarging on the different schools of painting. He appreciated everything; he knew everything. They came to a picture. He saw without looking a name in the corner. "Now, there," he said, "I can tell the Dutch school at a glance. That is by Edbocker. Edbocker is a favorite of mine. There is something so genuine in his painting, something so natural and strong in his handling of a subject. I think nothing is more marked or curious than the distinctions between painters in the way they treat the same theme. The strong Dutch individuality of Edbocker—" "I beg your pardon, but it appears to me this picture is painted by E. A. Baker."

"Baker! Ah, dear me, so it is. How very Dutch he is."—San Francisco Chronicle.

JENNIE JUNE IN EUROPE.

Aged and Wonderful Munich—Sculpture Taken From the Palace of Sardanapalus.

Paintings by Rembrandt, Raphael, Reni, Guido and Corregio—The Royal Palace and a Gold Bed that Cost 800,000 Florins—A Monarch Who Prefers Music to Men and Who Lives in the Country.

Special Correspondence.

MUNICH, BAVARIA, August 17.—"Do not go to Munich," said everybody. "Hot, dreadful place in summer, with nothing to eat or drink but bread and cheese and beer." Condemnation naturally makes a certain amount of impression upon ignorance—none of the party had ever been to Munich, and only one was anxious to see the mother of so much of our modern art. The general impression was that Munich was musty, and smoky, and old, and generally unattractive, and like the pictures of the "Impressionists" of the Munich school—which, however, are not old but usually very young. But we came to Munich all the same, and were surprised, as we have been everywhere, to find such bright and open spaces, such lovely squares, such handsome buildings, such youth, such enterprise, such new life in the midst of the old, and in the capital of a king who is not social, does not love cities; in short, separates himself from his people, though neglecting nothing that can conduce to their advantage. Munich is the Mecca of thousands of young art students and lovers of art, or who suppose themselves to be such, and imagine that the sight of what they have done will be enough to inspire them to do likewise. Especially in Munich is the peripatetic copyist to be found, carefully following the letter of the original work, and wondering perhaps why it is not informed by the spirit. At least that was the attitude of one would-be artist, with long hair, who was diligently copying a Rembrandt. It was nearly finished; the lines were all there. It ought to have been exactly like the original, but it was not, and with cap set to one side he stepped back from his easel and evidently tried to critically survey his work. What was the difference between his picture and Rembrandt's? Just the difference between Rembrandt and himself, neither more nor less. Was he able to see it?

The male copyist is generally young and has a pretty good time, even if his commons are short. He is not afraid of mounting stairs, nor of finding himself in a highly seasoned neighborhood; one attic is as good as another to him, and he has plenty of comradeship in his daily fare—which only cost him a few pence—(it takes five for a cent) of bread and cheese and beer, or for a treat, bread and sausage and the light wine common and cheap through out Germany. But with the women it is less easy. Some of them are old and worn looking, and it is pitiable to see them at a time when they should be enjoying well earned rest; struggling in new and difficult paths to obtain a livelihood. Others are young, and coquette with art, as they do with their ruffles, willing to believe that they are destined to become great, because they can daub a teacup or a wooden plaque, while here and there are many earnest workers striving in their own way to do good work and strengthen and improve their own powers. The work is one that the imitators who come to the homes of ancient art do not turn about and go back home again more quickly than they came. The best that can be done in this field seems to have been done, and the best that we have to-day is but a copy and iteration of the past. It is practical inventions and mechanics that to-day is king, but in imaginative conceptions and the working out of brilliant fancies in lovely and poetic poems we seem only to be able to copy that which filled the world with beauty centuries ago. The growth of Munich as an art center is not, however, in the line of its ancient achievements. These laid a foundation of strength in truthful drawing and graceful form. They gave to Munich its beautiful specimens of architecture, as fine as any in modern Europe, but the art of the draughtsman is little valued by the artist of the modern Munich school. His aim is color—a good thing in its right quantity and place.

Where to begin in Munich is the question. Shall it be with the Maximilian Gallery, a handsome structure with a fine facade, with royal palaces, the old and new Pinakothek, or the Bavarian National Museum? It is difficult to say Munich is a city of surprises. Here a Roman arch, there a Greek gateway, everywhere sculptured figures, which produce in the mind confused images of kings and poets, heroes and philosophers, warriors and artists, as you perhaps drive or walk past them with a guide, whose German English or German French reduces the confusion to absolute chaos. The



THE PROPYLEA GATEWAY

"Propylea" gateway will perhaps admit us as well as any other entrance. It is on the same square as the "Glyptothek," or Hall of Sculpture and it is an imitation of that in the Acropolis.

Its columns are Doric on one side and Ionic on the other, and it is adorned with bas-relief representing the Greek war of independence and the reign of King Otto. The "Glyptothek" is suggestive of Greek art also, although the interior might be Pompeian of old Roman. The Hall, of which there are thirteen, are devoted



THE GLYPTOTHEK

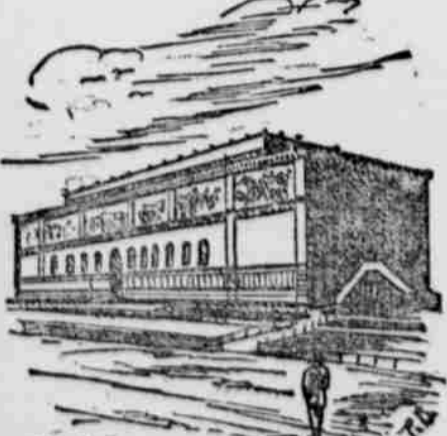
to ancient sculptures, are divided into Assyrian, Egyptian, Hall of Incunabula, Eginetan Hall, Hall of Apollo, Bacchus, Niobe, Hall of the Gods, of Heroes, Roman Hall, Trojan Hall, Hall of Colored Sculpture and Hall of Modern Works. The Halls of the Gods, of the Trojans and Heroes are ornamented with frescoes by Cornelius and with reliefs by Schwabthaler. Eginetan Hall contains fragments from a temple of Minerva found in the island of Egina, and which are considered of great importance. They consist of parts of two groups representing scenes in the Trojan war.

The faces of all antiques seem to be vacant—totally destitute of expression—the energy and intelligence are expended on the anatomy, which is splendid. The collections here must be invaluable as studies, and are so varied as to embrace the entire field of plastic art. Of the gods and heroes, poets and philosophers, most of them are familiar to us in plaster casts or copied busts in bronze or marble. The Hall of Colored Sculptures is interesting, and that of Modern Masters contains the "Adonis," by Thorwaldsen; "Paris," by Canova, and "A Disputed Raphael." The halls are lighted from a central court or quadrangle and the entrance to the Assyrian Hall is guarded by two colossal lions with human heads—casts from the originals in the Louvre—which were taken from the palace of Sardanapalus. A group designed by Wagner of Rome, and executed by Schwabthaler, represents Minerva as the patron and protectress of the "divine" art. Each hall is decorated in accordance with the objects and the period they represent, with which it is filled, and in the niches on either side of the entrance are marble statues of mythical or historical personages, and at the sides persons famous in the history of sculpture—Thorwaldsen, Canova, Ghiberti, Peter Vischer, Michael Angelo, Schwabthaler and others. The Maximilian



GALLERY OF MAXIMILIAN

Gallery occupies a commanding position above and beyond the Maximilian Bridge, which crosses the Isar, and at the end of Maximilian Strasse, a fine street which the river divides from the gallery and the park. The edifice was founded and built by Maximilian II. to give a post-graduate course to students who exhibited special aptitudes for various departments of civil service, and it was completed with funds which he left for the purpose. It is a grand monument to his memory and contains some fine historic pictures; among others the "Construction of the Pyramids," by Gustav Richter; Kaulbach's "Battle of Salamis," a "Crucifixion of Christ," by Hanschild; figures and costumes painted from those in the Oberammergau Passion Play, and a "Nativity," the last work of Johan Schrandolph, done when he was seventy-nine. Other great pictures are "Luther Before the Diet at Worms," by Schnorr, Piloty's "Godfrey de Bouillon," "Elizabeth of England," and "Maximilian," "Peter the Great (in a workman's dress)" Founding St. Petersburg," by Kotzebue, and others which I have not time or memory to enumerate. Piloty is the master of the Munich art of to-day and stands as the exponent and representative of the new school.



NEW PINAKOTHEK

Of course the Maximilian Gallery is only the soup before the dinner compared with the "Old Pinakothek," which is the glory of Munich, embracing the famous Dusseldorf Gallery and the cream of many collections. The name is from the Greek and signifies a repository of pictures. Like most other important buildings in Munich, it is modern, not having been finished till 1836 or '37, and is in the Renaissance style, with, as has been said, a suggestion of the Vatican about it.

It is adorned with upwards of twenty statues of celebrated painters from sketches by Schwabthaler. There are eleven large salons and twenty-four small rooms or "cabinets," all crowded with pictures arranged in proper chronological order; with the name of the painter attached to each picture, there are no less than three galleries, and they are open daily except Saturdays. Even the Bavarian Museum, one of the

finest and most perfect in the world in its collections of the art and industry of all ages, is open free on Sunday, though with the exception of Wednesday it charges a mark (twenty-five cents) on the other days for admission. It is a curious thing that a Government for the people and by the people does as little as possible for the people—probably on the principle that what is everybody's business is nobody's. While all over Europe, the collections, the galleries, the museums, the parks, the palaces—even those which nominally belong to the Crown—are only held to be taken care of for the people. Individual gifts and benefactions of this kind are subject here, as with us, to the will of the person who bestows them—to his opinions and prejudices. What a Government does it must do for the whole, and especially for those who cannot otherwise obtain what it has to give. Thus the poor who have their work every day in the week, have free churches, free galleries, free museums and music in the parks in the afternoon to brighten their work on Sunday, which is in truth a day of rest and enjoyment to them. The old kings and dukes and electors have left a legacy to the people far beyond any aggrandizement power or money could bestow in these accumulated treasures, which were obtained often at much individual cost and sacrifice, preserved against the will of the turbulent who could not understand their function or value, and left as the most valued of all legacies to the whole people. The wonder, too, is that the amazing amount of work should have been accomplished in so brief a time. Art in Germany—in the collective form—did not begin till the sixteenth century. Albert V. was the first royal collector, and his taste was more for what we should call bric-a-brac than paintings. In Germany, however, we realize, more than elsewhere, how truly universal art is, and in how many forms and ways it can find expression. The utensil is as truly a work of art as the picture; it embodies form, feeling and color, and though painting is best adapted for showing life without movement and stories without words—that is to say, is a more flexible and adaptable medium than stone, wood or metal—still it is all the more glory to those who succeed in extracting from these the vital principles they hold.

I stop at the threshold of the old Rina Rother—I cannot enter. It seemed sacrilege to enter in haste the presence of Rubens and Vandyck, of Murillo and Durer, of Holbein and Teniers, of Raphael and Rembrandt, of Guido, Reni and Corregio, of the great masters of every school, not only in full dress—that is, as seen in some one great painting or piece of sculpture, but in smaller works and sketches, en famille, as it were—so that with time and care one could study not only the historic friendship and intimacy with the illustrious dead. A short trip is well enough for a first bird's-eye view of Europe, but when one has found out what there is that one wants, it is best to devote one's time to this, and not waste it or diffuse one's self over unimportant (to us) objects.

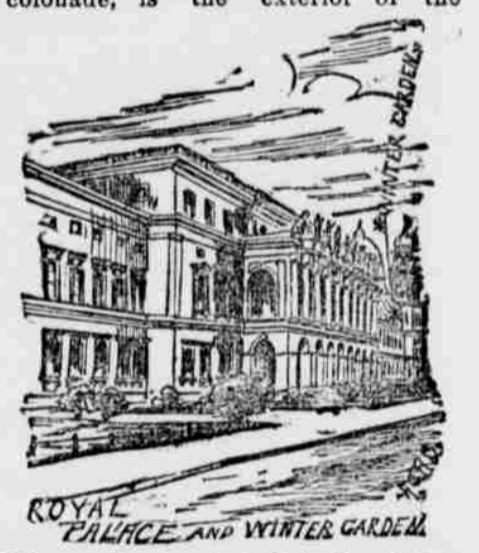
Among the most interesting are the Holgemut and Durer pictures. These are painted mostly upon wood. There are twelve Durers, including his portraits of his master, Volgemut, and himself. Rubens and Rembrandt are magnificently represented, the former by seventy-six pictures, including cabinet sketches. These comprise "The Last Judgment," "The Massacre of the Innocents," "The Battle of the Amazons," and the famous portraits of the artist himself with his first wife, Isabella Brant, and of his second, the Isabella, Helena Fourment. The Rembrandt series of Scenes from the Life of Christ are among the most remarkable works of that great artist—the "Entombment" being considered the finest. "New Pinakothek" contains only modern pictures, and less than half the number in the Old Pinakothek. It is, therefore less important, yet the writer would make a great mistake who should neglect to pay it a visit. The building is in the Byzantine style, with exterior frescoes after designs by Kaulbach. It was built out of the private purse of Ludwig I., and the collections were also paid for by him. In Founder's Hall on the ground floor is a fine portrait of the king painted by Kaulbach; also a model in plaster of the Quadriga, which ornaments



ARCH OF VICTORY

the "Arch of Victory," and which was designed by Wagner in Rome. The lions are of heroic size. There is a superb vase of malachite in this hall, presented by the Emperor Nicholas, and some very beautiful porphyry vases. Near the Quadriga are doors which admit the visitor to the Porcelain Rooms, where upon porcelain are exquisitely executed copies of the most famous pictures in the Old Pinakothek. These afford an admirable opportunity of studying them in detail. Von Kaulbach is the artist best represented in pictures, and particularly in sketches, in this gallery; but there are some very fine and striking pictures by Piloty and other artists of the Munich school—Thusaelda in the Triumphal Procession of Germanicus," by Piloty, "The Attack of the Red Tower" by Defregger, and "The Destruction of Jerusalem" by Kaulbach. "The Helms" was the last work (unfinished) of Karl Schora, and the "Lord's Supper" also unfinished, the last of Heinrich Von Hess. Some beautiful landscapes are by Schrandolph, and there are fine Scriptural scenes, with figures,

by Schrandolph, whose "Ascension" and "Christ Healing the Sick" are among them. Angelica Kauffman is represented by two works—"Christ and the Woman of Samaria" and a portrait of the hereditary Prince Louis, afterwards King of Bavaria, at nineteen. There are numerous royal portraits, a series of portraits of artists by Kaulbach, and many historic sketches in oil ornamental frescoes employed upon palaces and public buildings. Winterhalter, Brakelaer and De Keyser of Antwerp. Achenback of Hesse Cassel are names which look familiar as we take a hurried look through the rooms, coming back always to Kaulbach and Piloty, to Schrandolph and Heinrich Von Hess. The "Antiquarian" consists of five rooms, the most attractive feature of which is the well-preserved figure of a young girl not more than seventeen. In our visit to the old palace designed by Peter Candid, we saw not only the state apartments, usually shown, including the Nibelungen rooms, with the magnificent series of frescoes by Schorr; and the portraits of the thirty-six beauties, but the private apartments, which contain some treasures of extraordinary value. There is one room, a fancy of Queen Henrietta Maria, which is finished entirely in exquisite mosaic, and contains a portrait of Beatrice Cenci so finely executed in mosaic that it looks like the most delicate painting. The carved ivories, the porcelain, the rich embroideries, and the metal work in these beautiful rooms—dwarf even the "mirror" cabinet—a gilded bodied lined with mirrors, and the gold bed, which cost 800,000 florins. The king does not occupy these apartments, but lives in his "Winter Garden" when he is in Munich, which is supplied with a lake upon which he can row, a promenade upon which he can walk, and a band which plays for his especial benefit. An oval roofing of metals and glass on the top of the original building between the tower and the colonnade, is the exterior of the



ROYAL PALACE AND WINTER GARDEN

Winter Garden, but it is dwarfed in the picture and does not show its length or proportions. There is a beautiful and well-kept garden belonging to the palace which is free to the poor, and especially to women and children, all the time, and one cannot but feel some admiration and sympathy for a king who likes his life in the mountains better than the life of cities and prefers music to men.

The Bavarian National Museum of Munich has a world-wide reputation which cannot be helped by any words of mine. It is simply incalculable in objects of arts and industry collected from and representing every part of the world, from the time of the Romans till to-day, but making a special task of presenting the development of the life and industries of Bavaria from works the most minute to those of largest proportions. Going through this museum is the work of weeks! One feels that to merely enumerate the objects would be the work of a lifetime. We envy friends who are to remain and give time to the examination of these and other "Munich" treasures, who will hear the grand music at the Nibelungen festival and take the beautiful city in its galleries, its gardens, its collections, its indefinable charm, in a satisfactory manner.

Munich is said to be a very cheap city to live in, and one could well believe it after lunching at two or three of the town restaurants. Carriage hire, too, is very cheap, but nothing is cheap to the short trip tourist, who must live in a high-priced hotel, employ a guide and keep carriages waiting while the places he wishes to see are visited. Moreover here we found the first deliberate extortion and misrepresentation proceeed upon us at a hotel which stands first upon Baedeker's list, but did not scruple to make a considerable overcharge for a very inferior table d'hote dinner.

Jenny June

Copyrighted 1885.

A Butterfly as a Mimic.

By the margin of a small stream I caught "Leptociris virens," which derives protection from mimicking the habits and appearance of a dragonfly, in a crowd of which it is often to be found. In form it reminds me of the European genus nemoptera. It flits over the top of the water fluttering its tails, jerking up and down just as dragon-flies do when flicking the water with the tip of their abdomens. When it settles on the ground it is difficult to see, as it vibrates, in constant motion, its tail and wings, so that a mere haze, as it were, exists where it rests.—Naturalist's Wanderings.

The demonstrated fact that a huge fringed, costing millions of dollars, can be sunk by one blow from a properly placed torpedo, has caused all the leading nations to busy themselves with the double problem how to make their own torpedoes effective and how to parry the attack of an enemy's. The torpedo tested near Washington a few weeks ago penetrated a stiff of solid rock a distance of a foot. Such a torpedo would sink the greatest iron-clad in Europe in less than ten minutes. David, the small man, would knock Goliath, the giant, out in a single sudden charge.