

The Feather Evil.

All moralists have assured us that "when lovely woman stoops to folly," she stoops very low indeed. And so when women attempt to emulate the glories of a Choctaw chief or a South Sea islander, it is not considerations of art or humanity or self-respect that will stop them, says Natural Science. Consequently, it is not likely that the insensate votaries of fashion, who disfigure their heads with baskets of artificial flowers (irrespective of the season), virulently dyed scraps of ribbon, twists of steel, and unnaturally clipped or colored bird feathers, will pay any attention to a paragraph in a scientific journal. But we are willing to leave the irresponsible half of creation all their chiffons, their coal tar dyes and their scrap iron, if only they will leave us our birds. The rate at which some of the rarest and most beautiful birds on our planet are being destroyed to gratify this extraordinary taste can hardly be realized. On the 13th of April last nearly half a million birds were sold at an auction in London, and the details of the consignment were thus given by Mrs. Edward Phillips at the annual meeting of the Selborne Society:

Osprey plumes.....	11,352	ounces.
Vulture plumes	186	3/4 pounds.
Peacock feathers.....	215 051	bundles.
Birds of paradise.....	2,362	
Indian parrots	228,289	
Bronze pigeons, including the goura	1,677	
Tanagers and sundry birds	38,198	
Humming birds.....	116,490	
Jays and kingfishers	48,759	
Impeyan and other pheasant and jungle fowl	4,952	
Owls and hawks.....	7,163	

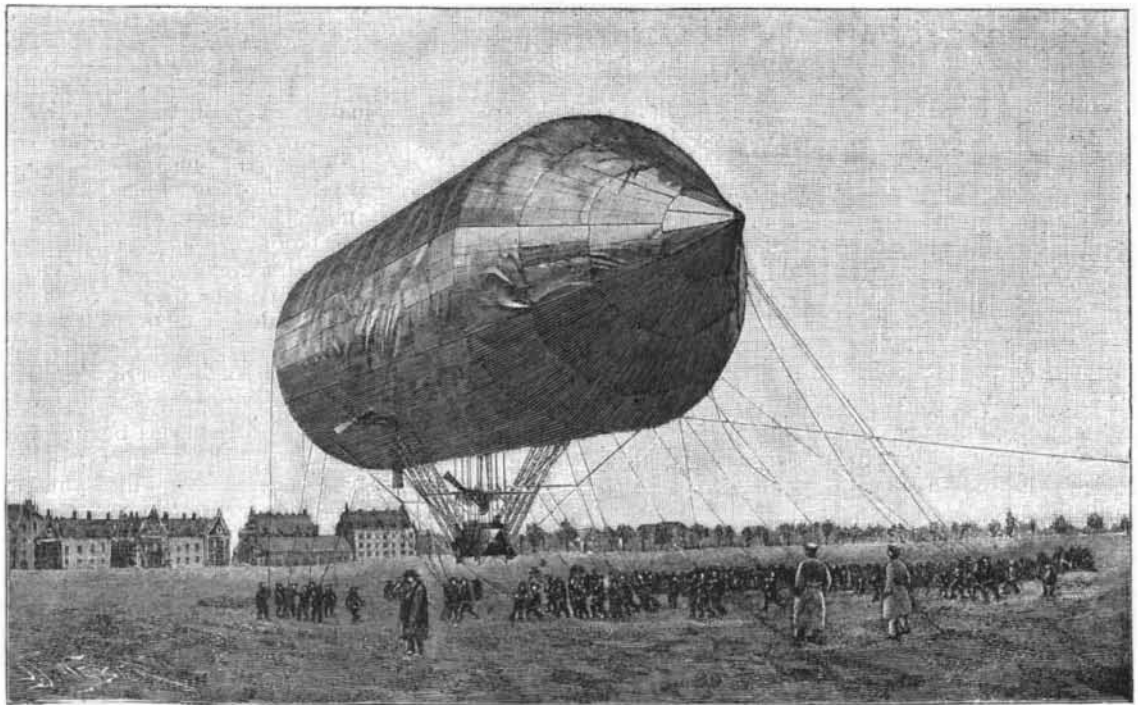
A similar sale took place in February, and others were to follow in July and October.

It is small consolation to us to think that in a few years the price of these luxuries will be prohibitive, or that, unless fashion changes in the direction of seaweeds or turnip tops, there will soon be no more birds to destroy. Nor can we overlook the terrible suffering involved by this enormous slaughter: the young

THE BERLIN ALUMINUM BALLOON.

The idea of constructing a metallic balloon is not by any means new, the first of this type having been constructed by M. Mares-Monges in 1842. It consisted

leather, and the bearings, which weighed only a few pounds and were of brass, the whole of the immense structure was built of aluminum. An idea of the true meaning of this can be gained from the following

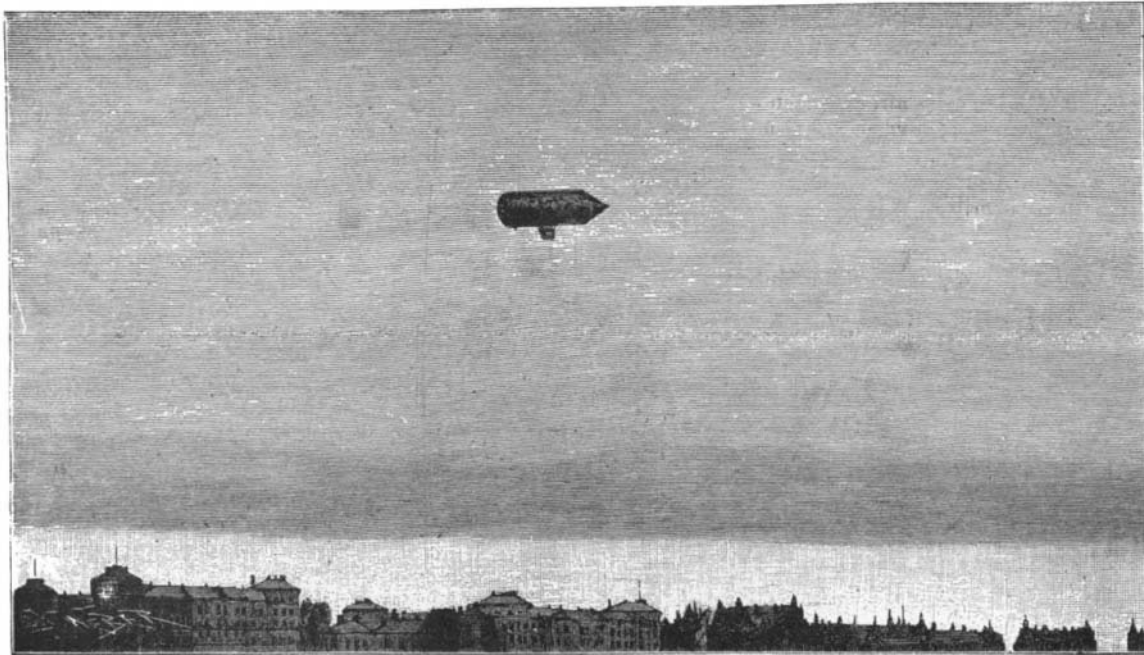
**START OF THE ALUMINUM BALLOON.**

of a large hollow ball, 33 feet in diameter, built of thin sheets of copper, and filled with hydrogen gas.

The progress in the manufacture of aluminum and its ever decreasing cost have led experimenters in aeronautics to regard it as a suitable material for bal-

figures: The body of the ship was 134 feet long, 46 feet high, 42 feet 7 inches wide, and the whole ship with the car weighs 5,720 pounds.

The history of the trial trip, made on November 3, under the direction of the officers of the Royal Prussian Aerial Navigation Department, would probably have been quite different if the inventor and constructor of the balloon had been in the car; but, unfortunately, Herr Schwarz, of Agram, died before the test had been made. The press has made altogether too much of the unfortunate but entirely unnecessary wrecking of the ship, without setting forth the causes thereof; although the ascension, in spite of the unlooked-for ending, demonstrated all that the inventor had claimed. This is the professional opinion, which could be obtained only after some delay. Schwarz had never been able to persuade the officers of the Aerial Navigation Department that his ship had sufficient lifting power to rise from the ground with its motor and passengers; and they maintained that, even if the exceedingly delicate operation of filling the balloon with pure hydrogen by Herr Schwarz's method could be successfully performed, it would be found that the ship was so constructed as to be too heavy to rise. Upon the sudden death of Herr Schwarz, it seemed that his work had been in vain, but his wife, inspired by an unswerving faith in her husband's theories, undertook to complete what he had begun. She obtained permission from the minister of war to have an ascension of the apparatus from the Luftschifferpark under military protection, and the officers of the department afforded her most efficient aid; but she could not overcome their doubt of the lifting power of the ship, and, therefore, in constructing the apparatus, they did away with everything that seemed to them to be at all superfluous. Unfortunately, in this category were included the arrangement employed by Herr Schwarz for securing the driving belt for the wind propellers, the device for regulating the descent and the device for lengthen-

**BALLOON AT ELEVATION OF 800 FEET.**

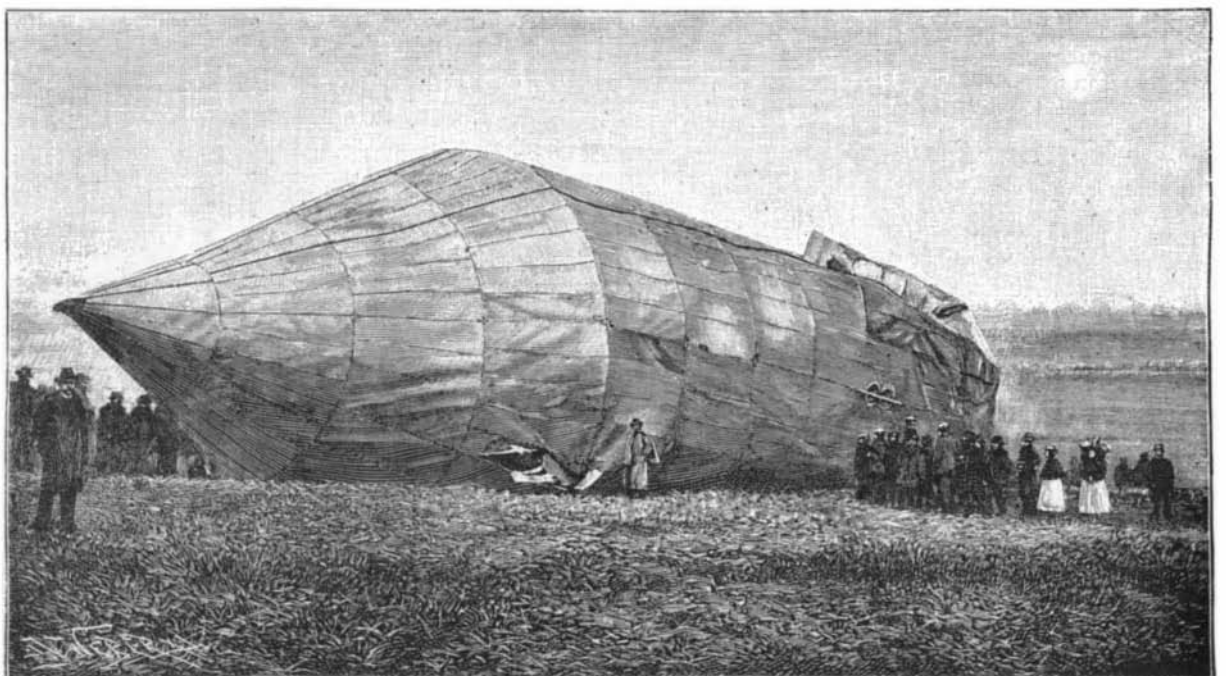
osprey bereft of their parents left to die in hundreds, the heron with the plumes torn from its back, writhing into death.

A New Method of Inducing Sleep.

In the Journal of the American Medical Association of September 25, 1897, Dr. J. B. Learned describes the following method, which he used in his own case. For some years he suffered from insomnia following a fall from his car. He tried many methods of treatment in vain—drugs, hot water and cold water internally and externally, friction, over-feeding and under-feeding, exercise, gymnastics, deep inspirations and numberless mental occupations. At last the following method proved a success. The principle is to induce muscular fatigue by exercises carried out in bed. Lying on his back, the patient first reaches for the foot and head board at the same time. He then raises his head half an inch; at the same time he breathes slowly and deeply about eight inspirations to the minute, which are counted. After about twenty inspirations, the head, which begins to feel heavy, is dropped. The right foot is then raised (the reaching for the boards and counting being continued) and similarly dropped when fatigued. The left foot goes through the same process. The muscles which are used in reaching for the head and foot boards are then relieved, and the body is elevated so that it rests on the head and heels. He then turns on the right side and reaches for the head and foot boards again, and raises first the head and then the foot as before. The same process is gone through on the other side. Thus eight positions have been assumed and a large number of muscles used. If sleep has not been induced, the same cycle is gone over again.

loon construction, and Herr Schwarz, of Agram, designed and built a cylindrical airship of colossal dimensions which recently made a trial trip that ended in disaster.

With the exception of the driving belt, which was of

**AFTER THE WRECK.**

ing the four feet of the car to lessen the shock in landing. It is a fact that the ship became unmanageable on account of the slipping of the driving belt, and then the courageous but inexperienced young man who had been chosen because no better captain could then be found, lost his head, and instead of operating the rear screw alone and trusting himself to the wind, as one would do with a free balloon, he opened the valve wide, thus causing the sudden descent. The absence of the device for regulating the descent and the device for throwing out the feet caused a great shock when the airship struck the ground, so that it was completely wrecked.

As far as the lifting power was concerned, it was demonstrated that the apparatus had too great an ascending power for its light load. It could have carried not only the parts which were left off with such disastrous results, but three or four passengers instead of one, besides much more ballast than was put upon it. The calculations of the inventor have proved to be perfectly correct; and furthermore, it was demonstrated that the ship could be filled by the Schwarz method, which many had declared to be impossible; and finally it was proved that the apparatus could be controlled. In spite of the immense surface that it presented to the wind, it attained a high speed while the motor was working at only half power. Moreover, it rose to a height of 820 feet against a strong wind, and started forward, but this movement was interrupted by the slipping of the belt, and the ship was brought to its untimely end by its operator in the manner already described. The fact that the officers of the Aerial Navigation Department, Frau Schwarz and her friends have courage to immediately begin the construction of a new ship, for which military protection has already been secured, shows that the principle on which the construction of the apparatus is based is considered correct and practical.

For our illustrations and particulars we are indebted to *Le Monde Illustré* and *Ueber Land und Meer*.

Elevators Abroad.

It is a curious fact that we do not hear of more serious elevator accidents in Europe. Of course, the larger hotels and stores have elevators which are in the hands of competent people who operate them; but in many small hotels and private houses and shops the "lifts" are operated entirely from the ground floor. When a person wishes to go up in the elevator he tells the attendant the number of the floor he wishes to stop at. An index is moved to that number and the car is started up. When the car reaches the proper floor, the elevator stops and the door is unbolted by the car itself. These "lifts" afford many chances for accidents; thus as the car passes each floor the door into the elevator shaft is unbolted automatically for an instant until the car begins to rise past the floor. It is possible for a person to open the door at this time and fall into the elevator shaft. Probably the most curious elevator in Europe is the one in the Uffizi Palace, at Florence, which takes up passengers to the picture galleries. One franc is charged for the use of this elevator, and visitors are frequently asked to get into the elevator when it is making the downward trip to give it sufficient weight to reach the ground floor.

New York Rapid Transit.

By a decision, December 17, of the Appellate Division of the Supreme Court, it would seem that the greater part of the opposition to the building of the underground rapid transit lines so much needed in New York City has been met and overcome. The plans of the Rapid Transit Commission, so laboriously and carefully perfected, and so long opposed in the courts, have been passed upon and confirmed by the court, but a clause of the decision stipulates that the commissioners must exact a bond of \$15,000,000 from the contractors who are to construct the road, and another clause disclaims any consideration of the question as to whether or not such construction will involve the city in debt beyond the constitutional limitations imposed.

Recent Archæological News.

"La Scala," the famous opera house of Milan, is in danger of being pulled down. It is a serious drain on the box holders. The theater is too large and inconvenient for modern tastes.

After many efforts, the thickly inhabited quarter of Athens known as Anaphiotika, lying immediately under the Acropolis, has been condemned by the government and turned over to the Greek Archæological Society for the purpose of excavation. The inhabitants will receive compensation and will be settled in the suburbs.

Another important archæological discovery has been made in Russia, at Maikop, in the northern Caucasus, where, in a burial mound, a great quantity of gold and silver ornaments has been found, probably belonging to some Scythian king, and dating centuries before Christ. There are gold rings, ornaments, jewelry, silver tankards, bronze axes and other interesting objects.

The Egyptian Exploration Fund has begun the preparation of the first annual volume, which will consist of three hundred pages, quarto, and will be illustrated by plates. The new "Sayings of Christ" have already been published, and the selection from the unexampled discovery of thousands of papyri found last spring promises to be most interesting. Every subscriber of \$5 or more will receive the volume, together with inter-

Science Notes.

Dr. A. Grigorjew believes that the exciting cause of hydrophobia is not a bacterium, but a body belonging to the Protozoa. He has isolated from animals suffering from rabies a body with slow amœboid movements and exhibiting extension of pseudopodes. Its action may even be modified by the presence of bacteria.—*Centralbl. f. Bakteriologie u. Parasitenkunde, Abtheil.*, xxii, 1897, p. 397.

Herr Goldstein has reported to the Berlin Observatory (Germany) that he is able by the means of cathode rays to imitate experimentally various phenomena observed in connection with the study of comets, such as the luminous radiation of the nucleus and the formation of the tail. He has also been successful in his attempts at reproducing some of the more recently observed effects.—*Revue Scientifique*.

Another Danish expedition to the Pamir regions will be fitted out next year. Its object will be to make geographical and ethnographical explorations in the northern part of the Wakhan Valley. The expedition will be under the leadership of Lieut. Olfusen, and will include two scientific experts. Its cost will be partly borne by the Danish government out of the Carlsberg Fund, and the explorers expect to be absent for two years.

The issue of a special stamp in England, sold in aid of the Prince of Wales Hospital Fund, was so successful that it is decided to do it annually. It is not likely that philatelists all over the world will care to tax themselves for the benefit of a London charity; so they will probably put them on the "Index Expurgatorius" of stamp collectors, as is done with some speculative issues of South American and other countries. Such stamps are not viewed as stamps by collectors.

The American Society of Naturalists and the societies affiliated with it will meet on December 28, 29 and 30 at Ithaca, N. Y. The societies which meet with the American Society of Naturalists are: The Association of American Anatomists, the Association for Botanical Morphology and Physiology, the American Morphological Society, the American Physiological Society, the American Psychological Association, Section H (anthropology) of the American Association for the Advancement of Science.

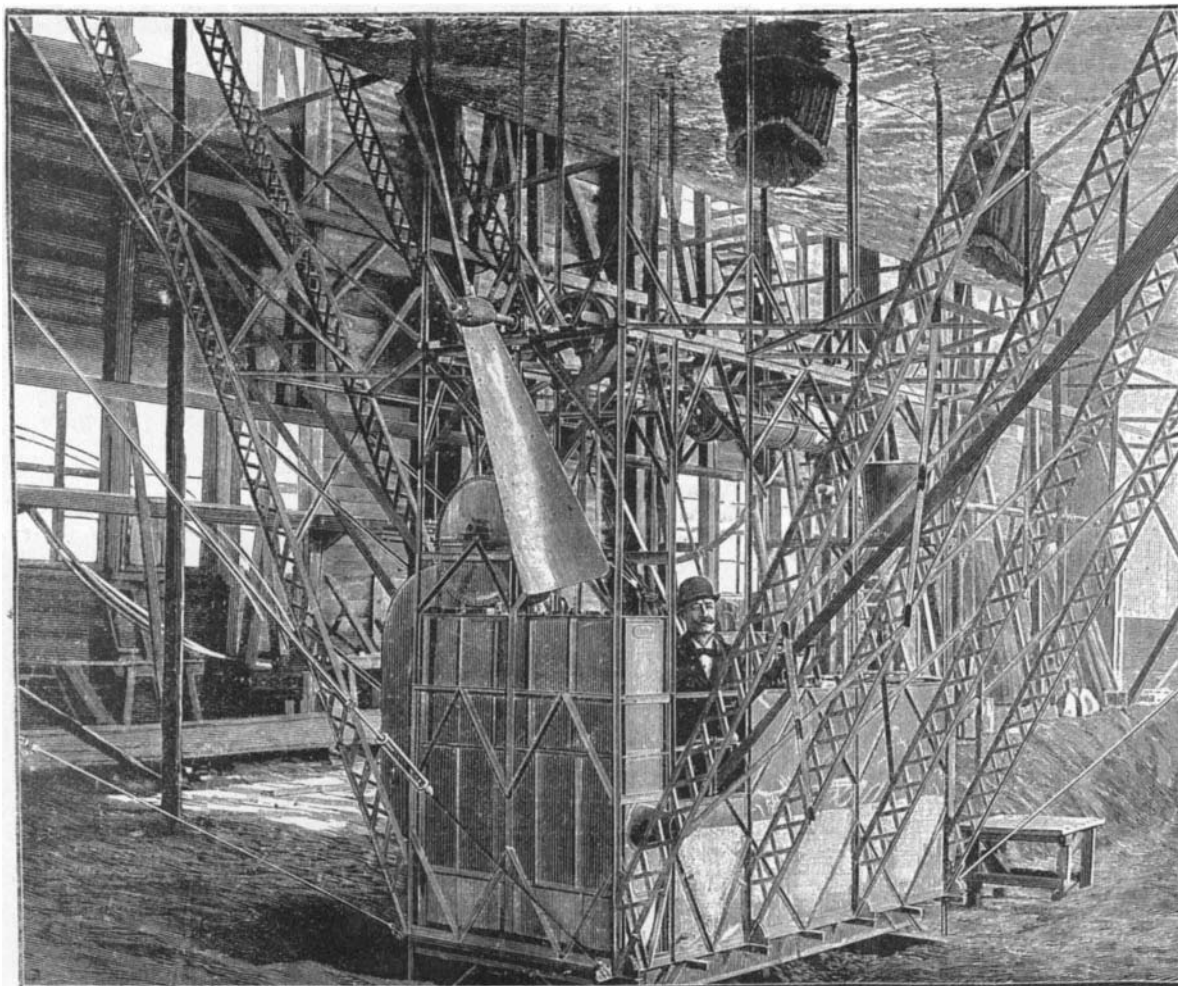
We find, says Health, from a newspaper directory recently issued, that the medical profession of the United States supports, directly or indirectly, 275 periodicals, of which 10 are issued weekly, 11 fortnightly, 225 monthly, 6 bimonthly and 23 quarterly, with a combined yearly circulation of 16,017,200 copies. Estimating that there are in round numbers 120,000 medical men of all schools north of the Gulf of Mexico, of whom probably not over 80,000 subscribe to a medical journal of any kind, this vast amount of literature seems an enormous burden to carry.

The congress of German naturalists and physicists at Brunswick unanimously passed a resolution, introduced by Profs. Virchow and Waldeyer, to be forwarded to the Kaiser, begging him to consent to the equipment of a German South Sea scientific expedition to be supported by imperial funds. It is estimated to cost 300,000 marks. German scientific men are anxious that their country should take part in an expedition to the South Sea, where so much still remains to be done. It is known that the Kaiser is favorable to the idea, but it is doubted whether the Reichstag will grant the money.

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CAR AND DRIVING MECHANISM OF SCHWARZ ALUMINUM BALLOON.

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