is a tormenting thirst, which is due to the evaporation of the moisture of the body.

It is unwholesome to use snow to quench the thirst; it brings on inflammation of the throat, palate, and tongue. Besides, enough can never be taken to quench the thirst, as a temperature of 35½° to 58° below zero Fah. makes it taste like molten metal. Snow eaters in the North are considered as feeble and effeminate, in the same way as is an opium eater in the East.

The group of travelers who traversed the snow fields were surrounded by thick vapors formed by the emanations from their bodies, which became condensed, notwithstanding the furs in which the travelers were enveloped. These vapors fell to the ground, with a slight noise, frozen into the form of small crystals, and rendered the atmosphere thick, impenetrable, and dark.

Notwithstanding the humidity of the air, a disagreeable sensation of dryness was felt.

Every sound diffused itself to a very long distance, an ordinary conversation could be heard at a hundred paces off, while the report of guns from the tops of high mountains could scarcely be heard. M. Payer explains this phenomenon by the large quantity of moisture in the arctic atmosphere.

Meat could be chopped, and mercury used in the shape of balls.

Both smell and taste become greatly enfeebled in these latitudes; strength gives way under the paralyzing influence of the cold: the eyes involuntarily close and become frozen.

When locomotion stops, the sole of the foot becomes insensible.

It is somewhat curious that the beard does freeze; but this is explained from the air expired, falling, being immediately transformed into snow. The cold causes dark beards to become lighter; the secretion of the eyes and nose always increases, while the formation of the perspiration altogether ceases.

The only possible protection against the cold is to be very warmly clothed, and to endeavor as much as possible to prevent the condensation of the atmosphere, while the much vaunted plans of anointing and blackening the body are pronounced to have no real value.

Scientific American.

MUNN & CO., Editors and Proprietors.

PUBLISHED WEEKLY AT

NO. 37 PARK ROW, NEW YORK.

O. D. MUNN. A. E. BEACH.

TERMS.

One copy, one year, postage included.....$3 20
One copy, six months, postage included..... 1 60

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VOLUME XXXIII., No. 8. [NEW SERIES.] *Thirtieth Year.*

NEW YORK, SATURDAY, AUGUST 21, 1875.

Contents.

(Illustrated articles are marked with an asterisk.)

THE USES OF NATURE.

Nature has kindly filled the world with attractions which are rich enough to suit the tastes of the most fastidious, and varied enough to gratify the wishes and supply the wants of all. These were made for those who need them and would be benefited by them; and it is but justice to such to protest against the practices of those who monopolize the places of popular resort, and uses them only for the sake of personal gain.

At Niagara, for instance, not one of Nature's wonders, that is capable of being concealed can begin to attract attention, before man's cupidity closes it from view, or obstructs the way to it and says: "You can't see Nature's exhibition till you pay me for it." So at Natural Bridge, a grasping individual has built a high, close fence around all the places that command a good view of that grand structure, and he must be paid before the benevolence of the God of Nature can be enjoyed. At every eligible locality on the sea beach, at mineral springs, on mountain peaks, hotels are erected and the appearance of the place is modernized till men have destroyed, as far as in them lies, the primitive beauty and wild grandeur of Nature. But the places are made attractive and convenient for visitors, and should not be too severely criticised

All these instructive and ennobling works of Nature are so manifestly designed for the free benefit of all that no man can appropriate them to private use, to the exclusion of others, without doing a gross injustice to the rest of mankind. The spirit that leads men to such perversion of the gifts of Nature would prompt them to shut up, if they could, the sun which dispenses light, warmth, and vitality to rich and poor alike, the gorgeous beauty of the sunset, the flowers, and the fields, the grandeur of the ocean and its tributaries; and dole them out, by careful measure, only to those who would pay the price which selfishness and avarice had set upon them. We can look upon and enjoy a neighbor's finely proportioned horse, the skillful architecture of his house, the taste displayed in beautifying his grounds, his rich and waving fields of grain and grass, his trees laden with foliage and fruit, and he never thinks of charging us for the delicious pleasure we have received. He would consider it an insult if we should offer to pay him. But by his own skill and toil he has afforded us happiness, and therefore benefit, and would have the right, if the disposition prompted, to receive pay for the benefit given. But what right has any man to extort money from those who enjoy the free beauties of Nature, when he has expended nothing to make those beauties, and when the enjoyment which they give to others does not harm or discommode him? What is it but the very quintessence of smallness and meanness, an abomination in the sight of God and man?

In most pleasing contrast to the devices of those grasping moneymakers at Nature's expense, appear the parks, museums, horticultural and botanical gardens, where Nature, by the skillful and painstaking hand of benevolence, is displayed in all her beauty and instructiveness. And do not those who thus adorn and cultivate Nature to instruct and bless mankind, receive, after all, the richest reward—the most lucrative pay? Is not Shaw, of St. Louis, worthy of all honor for generously opening, free to one and all, and keeping in order at enormous private expense, his gardens, rich in the vegetation of all climes? Will not the great American Museum of Natural History, in the Central Park, when completed, be one of the grandest benevolent institutions ever established? It is doubtless true that the lamented Agassiz, by his enthusiasm in studying and teaching Nature, and by creating popular interest in her revelations, has added greatly to the pleasure and profit of those who spend their vacations at some of the attractive summer haunts. And if any one could justly demand pay for enhancing the delights which Nature affords, it would be he. But instead of that, he spent his fortune and his vigorous life in building up one of the grandest museums in the world, and has thrown open its doors free to every one, whether he wish to spend a pleasant hour or to study for years. And when, on one occasion, he was offered a rare opportunity to make a small fortune, he replied: "Gentlemen, I have no time to make money."

It is possible for an enterprise to pay a large dividend, and yet return but little money to its originator; and it would be well if the world could learn that money is not the only thing worth living and laboring for. It is too true that, by the great majority of mankind, the money maker, if he succeeds, is envied and respected more than he who gives his life to the study of Nature, and reveals her wealth of mystery and beauty to his fellow men. This is emphatically a utilitarian age. Its all-absorbing question is: "Does it pay?" And while this, in its broad sense, is one of the wisest queries a responsible being can make, in its restricted sense it is one of the most shortsighted. One collecting natural history specimens is always sure to attract, more or less, the attention of the curious; and their first questions will be: "Are you hunting for gold?" and: "Can you make much at that business?" And on being answered in the negative (which is correct only with *their* conceptions), there is always certain to follow an ominous silence, when the interrogator is absorbed in deep thought, and—probably for the first time in his life—is seriously moralizing; and the substance of his cogitations, when plainly interpreted, is just about this: "That man must be a fool to spend so much time, and work so hard, for nothing but pieces of broken rock, and insects, and shells, and flowers, just what we should expect a child to be pleased with." Just in point here is an amusing story told of Professor Agassiz. While driving along the road one day, he saw a choice natural history specimen; and calling a boy to hold his horse, he was off, over the fences, through the fields, and into the bushes to capture it. A man passing asked the youth whose horse he was holding. "I don't know," said the lad, "only he is a crazy Dutchman who has run off out of sight after a butterfly."

Most of the great scientific achievements of the world have been simply labors of love; and many a scientist has made an invention or a discovery that would bring him a fortune if he were to patent it; but he declines to use it for any other purpose than to advance the cause of Science. The world is made richer and happier, and his sufficient reward is the consciousness of the good done, and the credit of doing it.

THE UNITED STATES COMMISSION ON BOILER EXPLOSIONS.

The death of the late distinguished Professor Winlock has left vacant the chairmanship of the Commission on Steam Boiler Explosions. This vacancy will probably be filled by the appointment of President F. A. P. Barnard, LL.D., of Columbia College, New York city. The previous announcement of the appointment was premature, but it has now been made by the Secretary of the Treasury, and is expected to have been confirmed by the Secretary of the Navy, who, with the former, constitutes the appointing power. President Barnard has long been known as one of the ablest and most distinguished of those few scientific men who have always been interested in the practical applications of Science, and he will here have one of the noblest fields, in which to exercise his talents and make his scientific attainments practically useful, that could be offered.

The country is to be congratulated that the two cabinet officers making this appointment, Messrs. Bristow and Robeson, have made so excellent a choice. We know of no man in our own country or in Europe better fitted by scientific attainments, by an acknowledged position among the leading men of his class, by official position, age, and experience, for this position. Those of the readers of the SCIENTIFIC AMERICAN who desire to know something of the methods by which scientific knowledge can be made practically available may find pleasure and profit in the study of Dr. Barnard's report "On the Machinery and the Industrial Processes Illustrated at the Paris Exhibition of 1867."

The Commission now consists of President F. A. P. Barnard, Columbia College, Chairman; Professor R. H. Thuston, Stevens Institute of Technology; Messrs. C. W. Copeland (New York city), J. R. Robinson (Boston), and I. Holmes (Mount Vernon, Ohio).

The commissioners are at work, and we shall hope that much good may be done by them in the dissipation of some of the superstitions beclouding the subject in the minds of many, even among professional and practical engineers, in spreading abroad a knowledge of already ascertained facts, and in the acquirement of some additional knowledge. In the latter direction, they can be probably effectively aided by other men of Science, and by such experienced practical men as are numbered by hundreds among our readers.

QUEER CATTLE.

This is a prolific year for insect pests, and among those that have thriven remarkably well are the *aphides*, or plant lice. In some parts of New England, we have seen the foliage of fruit and other trees almost completely destroyed by them, to the great injury if not the total ruin of the fruit: and we have been told that in other localities the orchards have a sere and yellow look as though scorched by fire. Unroll a bunch of the curled-up leaves, and, if they are not wholly dead and dry, you will find the inner under sides of the leaves swarming with lice.

They are insignificant looking creatures, yet they are among the most interesting and most extraordinary of insects. The injuries caused by them are enormous, and their natural history is remarkable in the highest degree. Their generic name *aphis* describes their character; it is from a Greek word, signifying to exhaust. In their wingless state, their appearance is familiar to every one who has ever had anything to do with plants. Their bodies are short, oval, soft, and are furnished at the hinder end with two tubes for the passage of a sweet fluid secreted from the stomach. (It is this honey dew, as it is called, which causes certain ants to domesticate them, as we do cattle.) Their heads are small, and armed with a long, tubular, three-jointed beak, by means of which they attach themselves to succulent leaves and other parts of plants, and suck out their juices. Their eyes are globular; their antennæ long and tapering; their legs slender and long; their feet two-jointed. The males and females are winged, and also the last brood of asexual individuals: but the early summer brood are usually wingless.

The difference between the different broods is perhaps their most striking characteristic, illustrating as it does that anomalous system of generation, known as *parthenogenesis*, observed among a few species of insects and also in the jelly fish. By Steenstrup the phenomenon is called "alternation of generations." In ordinary generation the offspring resembles the parent: in this extraordinary mode there is a series or circle of individuals, with one or more unlike forms always coming between like forms. Among plant lice, the series begins in the fall by the paring of male and female individuals. The males die: the females also, after laying their eggs, which are hatched as soon as sap begins to flow in early spring. This brood is sexless and, in the great majority of cases, wingless. Though with undeveloped sexual organs, these individuals are capable of reproducing their kind by a sort of budding process. Contrary to the rule among insects, their second generation is viviparous: the young lice are brought forth alive, and may be either winged or wingless, or both. The third generation resembles the second, the fourth resembles the third, and so on, the number of successive broods of the sort having no certain limit, but depending, so far as known, entirely upon the temperature and the supply of food. According to Kyber, a colony of *aphis dianthi* continued to propagate for four years, in a warm room, without the intervention of males. On the setting in of cold weather, however, or in some cases on the failure of nourishment, the weather being still warm, true males and females are produced, the females always wingless, the males sometimes with, sometimes without, wings. It is by the paring of these perfectly sexed individuals that the series begins.

The advantage of this method of propagation is thought to be the facility which the summer broods afford for the rapid multiplication of individuals. It is certain that they

are enormously prolific. In five generations, according to the calculation of Réaumur, the progeny of one *aphis* will amount to six thousand millions; and Duval obtained eleven generations in seven months, when the approach of cold weather killed his specimens. Though individually weak, their capacity for rapid multiplication under favorable conditions makes them a formidable enemy to vegatation.

If it were not for certain other insects, which prey upon the plant lice and keep down their numbers, they would soon make agriculture impossible. Chief among the lice eaters to whom we are so much indebted are the larvæ of the little spotted lady bugs (*coccinella*); and all children should be taught to treat them gently, when they say the nursery rhyme; Lady bug! lady bug! fly away home.

In this connection we may observe that children also sometimes enter the list of lice enemies unwittingly, when they gather from young sumac bushes and other succulent plants the juicy swellings which they call "may apples." These hollow warts are produced by the strings of plant lice, and their interiors will usually be found full of a mealy substance thrown off by the lice, mixed with multitudes of the lice.

Reference has been made to the honey-like secretion of plant lice and the fondness of ants for it. One of the first indications of the colonizing of a plant by these parasites is the double column of ants that will be seen running up and down the stem: those ascending lank and eager, those descending full-bellied and lazy. The lice remain on excellent terms with the ants, and seem to enjoy the caresses by which the latter provoke the excretion of the coveted honey. In return, the ants busily drive away the insect enemies of the lice, clear away their cast-off skins, and sometimes build mud walls around, or earthen domes over, the lice, to monopolize or protect them. The ants have also been seen to colonize the lice on the roots of plants, carefully fetching the larvæ home and planting them in little herds, bestowing upon them the same care and attention that they show their own offspring, carrying them to places of safety when they are disturbed and when they migrate: treating them in short as we do our cattle, and reaping a similar reward, as the sweet fluid so abundantly supplied by the lice forms the chief nutriment of their keepers. No reports have been received of any society for the prevention of cruelty, etc., among the ants, probably because the formic cattle keepers treat their stock kindly without compulsion.

The injuries caused by plant lice are mainly such as naturally follow the withdrawal of sap from roots, stems, or leaves before it can contribute to the nourishment of the plant. If the root is first attacked, the whole plant puts on a sickly appearance, and soon dies from exhaustion. When the leaves are attacked, they curl up, cease to grow, and, if the lice are sufficiently numerous, perish and drop off prematurely. In other cases tumors are produced on the leaves or stems, similar to oak galls. There are about thirty species of *aphides* known in this country.

CONSTANCY OF THE OCEAN LEVEL.

The upheavals and depressions of the earth's crust were already recognized by the philosophers of antiquity. Aristotle found it necessary to correct some philosophers of his day, who imagined that the surface of the ocean was becoming lower by the gradual drying-up of the water. He says: "Only those of narrow views and small experience attribute local changes to an overthrowing of the whole globe. In support of their view, they bring forward the drying-up of seas and the existence of land where formerly it was not; and give authentic facts, from which, however, they deduce false conclusions. It is true that certain spots, heretofore covered with water, now form portions of the continent; but the contrary is also the case, and any one who studiously examines the facts will find that the sea has invaded and submerged several parts. Such is the explanation of Deucalion's flood, the ravages of which were more especially felt in Greece, and which, among other provinces, was most terribly felt in ancient Hellas, at that time inhabited by the Selles, and by the people named Greeks, but now called the Hellenes."

So far Aristotle. His theory evidently was that the amount of water in the ocean, and therefore the level of its surface, is constant, but that the land is ascending in one spot and descending in another. The latter is most forcibly illustrated by the historical accounts of the Straits of Gibraltar, which are evidently, as well as the British Channel, a conquest by the ocean over the gradually sinking land. Avienus quotes a measurement, on the authority of Dæmon of Amphipolis, which (reduced to our unit, the mile) makes the width of the Straits at the narrowest place not quite three miles. Then he quotes a subsequent measurement, made by Euctemon of Athens, who found it four miles. Next we find that Scymmes of Chiome measured it, in the year 143 before our era, and found it 13 miles at the Atlantic outlet, between Spartel and Trafalgar, which now is 26 miles in width. Turanius Gracilis, about 50 years before our era, gives the width of the narrowest place, from Mellaria in Spain to Cape Blanco in Africa, as 4½ miles. Strabo gives the greatest breadth as nearly 7 miles, while Pliny, who had been in Spain and had visited the Strait, gives it at 7½ miles for the narrowest part, and about 10 miles for the widest part. Bishop Victor measured the distance in the year of our era 500, and found it to be 12 miles; while the present Spanish measurement is 14 miles.

Besides the evidence of a gradual widening and probable sinking of the land of both shores, we find the positive evidence of the sinking in the account of Avienus, who speaks of the two wooded isles in mid-channel, on which were built a temple and altars in honor of Hercules. These were the celebrated Pillars of Hercules of the ancient authors. The Carthaginians "were obliged to build flat-bottomed vessels, so as to be able to sail over the shallow water of the Straits," according to Avienus, who also says that Hannibal had reported that there was "a bottomless and boundless sea farther to the west," which, as it corresponds to the Atlantic Ocean, puts the locality intended to be described beyond doubt.

Pliny visited the Straits, and speaks of a low lying island, covered with wild olives, and upon which were the remains of the Temple of Hercules. Pomponius Mela, a Spaniard, living several centuries later, and to whom these regions were very familiar, describes the Straits as a channel broken by a number of small islands. At present they have all disappeared, and the largest ships sail freely over every portion of these waters.

In 1728, there happened a very low tide, and on this occasion the remains of the famous Temple of Hercules were distinctly seen in the oceanic part of the Strait, and some souvenirs were even obtained for preservation.

Ignacio Lopez de Ayla mentions, in his "History of Gibraltar," that the sea covers the greater part of the land on which stood the ancient city of Mellaria. In the bay of Gibraltar, the sea has engulfed a part of Carteia and Algesiras. Nine miles west of Tarifa was the city of Belon, at the shore of the Strait; and this is now engulfed, while the traces of its existence are seen below the waves.

Lastly Colonel James, in his "History of the Straits of Hercules," mentions that during an earthquake, the site of Cales disappeared, together with the small islands opposite the city of Bactes, near Tarifa; and a rock named "La Perle," once an island, sank, and is now covered with more than 12 feet of water at low tide.

The gradual sinking in this neighborhood is balanced by upheavals in other regions: which are very marked, well established by observation, and carefully measured in the northern part of Sweden and Norway, where the sea, especially the northern part of the Baltic, appears to retire from year to year, and leaves villages, formerly situated at the shore, a few miles inland. The Azores are rising, so is the island of Santorin, and the island of Julia. The former sea port of Aigues Mortes is now nine miles from the shore; while the celebrated Temple of Serapis, at Puzzuoli, for many centuries engulfed, is now uncovered, and is visited by travelers and tourists.

EXPERIMENTAL STEAM BOILER EXPLOSIONS.

The work of the United States Commission on the causes of explosions of steam boilers, which was (as we have elsewhere explained) interrupted by the death of the late chairman, has been recently resumed.

The Commission have two stations, one at Pittsburgh and the other at Sandy Hook, at each of which are a considerable number of steam boilers which are to be devoted to the various purposes comprehended in the programme of investigation. Some experiments were recently made at Sandy Hook, and others are to be made later in the season at Pittsburgh. As the Commission have been informed by counsel that they may be held legally responsible for any injury which may happen to visitors during their their experiments, they permit no spectators to be present, and reporters are compelled to obtain their information as best they can. The members reserve the details of their experiments for their official report; but we are able to present to our readers some interesting particulars respecting the later work at Sandy Hook.

The work in hand was a series of experiments on the overheating of boilers, arising from low water The Committee on the Sandy Hook station have had preparations for the summer work going on for some weeks. On July 9 the committee, Mr. Copeland and Professor Thurston, commenced the work of comparison of instruments, and of preparation of details preliminary to this special investigation, and on Saturday, July 11, had completed their task. On the following Tuesday, July 13, the Commission met at Sandy Hook, and experiments were at once commenced, and occupied two days. The boiler experimented upon was a plain cylinder boiler, set in brickwork in the usual manner. In each experiment, the boiler was filled with water, a fire started, and, when the fire was in good order and the steam at the right point, all water was blown out; the boiler was allowed to become heated to the desired temperature, as indicated by a pyrometer inserted within it, and, at the proper moment, the feed water was introduced by a force pump. It was only on the second day that this severe usage produced the destruction of the boiler. At each occasion, on the introduction of the water, the steam pressure jumped up suddenly, the safety valve opened, and, the water still continuing to enter, the boiler pressure dropped almost as rapidly as it had risen, and the boiler cooled down on each occasion (except the last) without apparent injury, and without having even started a seam, although the metal had been red hot.

The last experiment resulted in the explosion of the boiler and the destruction of its setting, and interrupted the work. The succession of phenomena was precisely as already described; but the temperature of the boiler was higher, probably a bright red on the bottom, and the pressure of steam was about 60 lbs. when the explosion occurred. It had fallen somewhat from the maximum, attained the moment before.

These experiments illustrate the facts which we have often presented to the readers of the SCIENTIFIC AMERICAN, in our remarks upon the method by which low water in steam boilers becomes an element of danger. When the boiler is strong, of good tough iron, and not too seriously overheated, it may not be exploded on the introduction of water. But there is invariably a development of steam immediately upon the entrance of the feed water, producing a rise of pressure which will be directly in proportion to the weight of iron overheated, and the excess of temperature attained; and the suddenness of this rise will be proportional to the promptitude with which the boiler iron discharges its heat into the water first entering. This rise may be so sudden and so great that the safety valve cannot relieve the pressure promptly, in which case the boiler, if not very strong, may be exploded. Again, the plates, if heated to a red heat, lose a large proportion of their strength; and the boiler, thus weakened, may explode at the ordinary or a lower pressure. Still another conspiring cause of injury may be the sudden and irregular contraction, causing strains which assist even a low pressure to produce explosion.

The *débris* on the Sandy Hook Station is now cleared away, and, before our remarks meet the eyes of our readers, we presume that the Commission will have completed this interesting series of experiments. Engineers have long been desirous of knowing where the limit between imminent danger and comparative safety is to be found in cases of low water, and we hope that these experiments, which are on a large scale, and are more nearly illustrative of the conditions of ordinary practice than those made, forty years ago, by the Committee of the Franklin Institute, may go far toward determining that limit. Still, that point becoming known, we shall not advise those of our readers who handle steam boilers to carry their water low in the conviction that they can keep within the dead line.

SCIENTIFIC AND PRACTICAL INFORMATION.

OXYGEN AN ANTIDOTE FOR PHOSPHORUS POISONING.

MM. Threinesse and Casse have found that injections of oxygen into the veins neutralize the toxic effect of phosphorus. The gas must be pure, and free from all admixture with air, and must be introduced very slowly. The precise apparatus used is not described; and it appears that the quantity of gas required is very large, several cubic feet being administered to an animal weighing twenty pounds. The results, however, were in every way successful.

THE NITRIFICATION OF ARABLE EARTH.

Recent experiments of MM. Boussingault and Schloesing are of considerable importance with reference to the theories of fertilization of soils and the utilization of manures, since they bring to light a number of interesting facts, which are summarized in the following conclusions: 1. Arable earth does not become nitrified at the expense of the nitrogen gas in the atmosphere. Agriculture has nothing to expect, from that source, which will tend to the profit of the crops. 2. The theory of a nitrification resulting from the combination of nitrogen gas and oxygen, in the presence of matters rich in hydrogen and carbon, according to the experiments above noted, is no longer sustainable. 3. The source of nitrogen of nitrates formed in the soil should be considered, in the absence of positive proof to the contrary, as reposing only in the nitrified organic matters combined with the mineral elements of the soil. 4. Nitrates in decomposing in the soil, under the influence of a reducing atmosphere, yield but a small fraction of their nitrogen, under the form of ammonia retained by the earth by virtue of its absorbing power. The balance of the nitrogen of the nitric acid returns to a gaseous state, and thus becomes lost to the crops.

THE DISCOVERY OF PROTOSULPHIDE OF CARBON.

It is generally well known that, chemically, oxygen and sulphur greatly resemble each other. The sulphide of carbon, however, analogous in properties and composition to carbonic acid, has hitherto been considered the sole sulphuretted compound of carbon, there being nothing recognized corresponding to carbonic oxide to the sulphur series. M. Sidot has recently made the important discovery of protosulphide of carbon, which compound he obtains by subjecting bisulphide of carbon to sunlight, when the liquid undergoes a profound decomposition. Half of the sulphur separates to be again dissolved in the bisulphide not yet altered, and at the same time a black powder is precipitated, which is the protosulphide sought for. This, washed and purified, is destitute of taste or odor, and is absolutely insoluble in neutral solvents. Acids act upon it, giving rise to more or less complex products. The author proposes to undertake a series of extended investigations into the properties of the new body.

TEMPERED BORACIC ACID.

Tempered glass submitted to the polariscope exhibits centers, having a kind of activity under the light, but which disappear when the glass is annealed. According to M. de Luynes, boracic acid, cast and submitted to hardening, acts like glass, with the difference, however, that the peculiar property above noted is not dispelled on annealing. When submitted to moist air, a small lens of the acid undergoes curious internal modifications, resulting in two cones, disposed apex to apex, being formed within, which offer the most varying accidents of shape. M. de Luynes suggests that an analagous swelling may take place in other vitreous substances, and points out that certain geological phenomena may be traced to such cause.

EXPECTED RESIGNATION OF THE COMMISSIONER OF PATENTS.

The New York *Tribune* states that Commissioner Thacher is about to resign the office, and is to be succeeded by R. Holland Duell, Esq., of Courtlandt county, N. Y., formerly a Member of Congress. Mr. Duell is a gentleman of ability and varied attainments, possessing rare capabilities for the administration of Patent Office affairs. He ought to make a good Commissioner, and we think he will.