

ROARING ALLIGATORS IN THE ZOOLOGICAL GARDENS AT HAMBURG.

It is a dull, lazy company that one finds in that part of the reptile gallery devoted to crocodiles in the Hamburg Zoological Gardens. A lady once told the writer of these lines that he might as well have wooden models of crocodiles in the water, and they would answer the same purpose as the living animals; and in fact, a wooden block cannot lie more quietly than a crocodile, which will not move from one spot for hours, often for a whole day. When we watch these creatures, it is easy to understand the stories told by travelers about the crocodiles and alligators lying on the sand-banks of the rivers in the tropics, as still as trunks of trees. The lazy creatures move about only on rare occasions; when there is food, when they are disturbed by the cleaning of their cage, and—when they roar.

But let us first learn what conditions are necessary to make captivity endurable to an alligator. For his welfare, he needs, first of all, water; and if the temperature of his bath is from 68° to 75° F., he certainly will not leave it unless obliged to do so; he will lie there for a long time with only the top of his head above water, so that his nostrils are free for breathing purposes; he can see all about him, and the slit-like ears (which can be closed to exclude the water) are also above the water. They can be studied best when

from his hand; but the uncouth fellows are not very careful, and if the keeper were not on the watch, his hand might be taken with the food. They are fed only twice a week, and their slow digestion corresponds with the lazy nature of these reptiles. Nevertheless, and perhaps for this reason, it is perfect. On the whole, they are well fed, and the quiet life of captivity suits them admirably. The oldest of these creatures, an alligator from the Mississippi River, has already been in the Hamburg Gardens, fourteen and a half years. When he was brought he was only 2 feet long; now he measures 8 feet 6 inches, being one of the largest of the company.

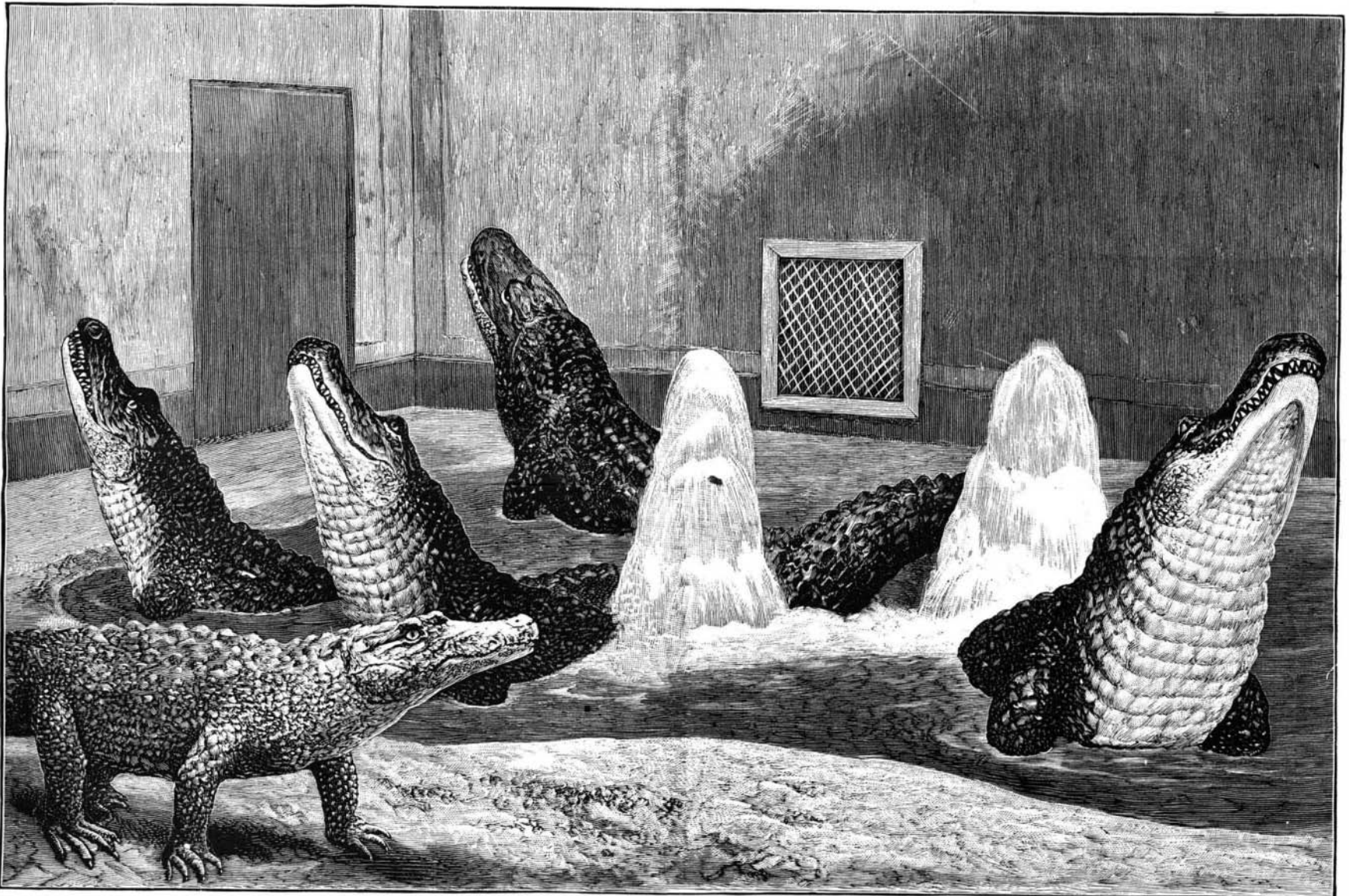
Large crocodiles look so malicious, and are so dangerous when free, that the keeper does not handle our reptiles even when cleaning the cage and tank; the crocodiles are very peaceful among themselves, and only once in a while is there a bloody fight; wounds received at such times heal quickly and easily.

The artist has represented a very peculiar and unusual occurrence in the life of our captives. These creatures, which are usually so phlegmatic, are evidently greatly excited—they are roaring. And the cause? In cleaning the neighboring cages the keeper has closed the windows suddenly, and it seems that the alligators are nervous; the unusual slamming noise disturbed them; they became attentive, then one after

moves all matters deleterious to lithography. They are then dried and subjected to the sandblast process to produce a grained surface. When this has been done they are placed in a bath composed of 4 parts of nitric acid, 1 part of phosphoric acid, and 500 parts of water, after which they are washed with water. A second and sometimes third treatment with this solution and washing with water is resorted to. In some cases, when fine-grained plates are required, a bath containing 1 part of sulphuric acid in 100 parts of water is used instead of the mixture of nitric acid, phosphoric acid, and water, as the former in no way interferes with the grain. Finally, the plates are washed with a weak solution of alum (1 part of alum to 50 parts of water), after which they are dried and are then ready for use. The plates produced by this process are absorptive and sensitive to grease, and of a similar nature to lithographic stones. Moreover, they retain their light color after being submitted to the aforesaid baths.—*E. Forrest, New Southgate, and F. L. H. Bucholz, London.*

The Blanco Encalada.

The Chilean government may be congratulated on their new cruiser, the Blanco Encalada, built by Messrs Armstrong, Mitchell & Co., at Elswick, and engineered by Messrs. Humphrys & Tennant, which has



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in this position. The large alligators and Nile crocodiles that share their captivity with them are very similar; a learned zoologist tells us that the chief difference between the alligator of the New World, or the cayman, and the crocodile of the Old World lies in the formation of the mouth.

The canine tooth in the lower jaw of a true crocodile passes into a notch or furrow in the upper jaw, while that of the alligator passes into a cavity or pit in the upper jaw. We have also noticed that the snout of the Nile crocodile diminishes toward the front, while that of the Mississippi alligator, or cayman, broadens and is rounded, not unlike the snout of the pike when looked at from above; and for this reason it has been called the pike crocodile. All crocodiles, without exception, are provided with the well-known armor, and the scales on the tail stand upright like a comb. The tail is flattened at the sides and answers for a rudder.

While we are diligently studying the exterior of our reptiles, the lazy company suddenly begins to show signs of life. The keeper is approaching with the food basket; all eyes are turned toward the door of the cage, every movement of the attendant is closely watched, and the fish, dead rats, ducks and young rabbits which he throws to the alligators and crocodiles are skillfully caught. The boldest of these come close to the keeper, who remains outside of the door, and take the food

the other raised itself, and then there was a roar. In doing this the animals drew a deep breath and sent forth a powerful bellow, their flanks moving in and out so rapidly that the water on both sides of them was forced up in jets. This moment was seized by the artist.

The alligators are making all the noise during this unusual excitement, the Nile crocodiles being quiet, simply because they are kept out of the water by their larger and consequently stronger relatives, of whom they are afraid. The Nile crocodile is the only one that has been heard to roar when free, and neither crocodiles nor alligators have ever before been known to roar in captivity.—*Dr. Heinrich Bolau, in Illustrirte Zeitung.*

Zinc Plates as Substitutes for Lithographic Stones.

The zinc plates, as pure as can be obtained commercially, are passed through highly polished cold rollers to remove any surface marks. They are then placed in dilute nitric acid (1 part acid to 100 parts water). This brings to the surface of the zinc a blackish mass containing impurities, which is removed by washing with water and scouring with pumice powder. This is repeated until the nitric acid and water no longer produces any appreciable amount of the blackish mass. Such treatment renders the plates absorptive and re-

just completed her official trials off the Tyne with the most successful results. The new vessel, which has a displacement of 4,500 tons, is built of steel and is sheathed with wood and coppered, so as to enable her to keep the sea for some time without the necessity of being docked. At her speed trials she averaged 21.75 knots with natural draught and 22.78 with forced draught, which results were considered most satisfactory; she was also found to be exceedingly handy under way. Her armament consists of two 8 inch breech-loading guns, mounted as bow and stern chasers, ten 6 inch quick-firing guns, of which four are carried in sponsons, and can fire two ahead and two astern, the remainder being carried on the broadside; she also carries a very powerful armament of smaller quick-firing guns, and is fitted with five tubes for discharging torpedoes. She has bunker accommodation for 900 tons of coal, which we may assume will enable her to steam over 8,000 knots at 10 knot speed. Her vital parts are protected by a steel turtle back running the whole length of the ship. She is fitted with two masts with military tops, has a high freeboard throughout, and altogether gives one the impression of being a handy and weatherly ship.

THE Rio Grande for more than 200 miles above El Paso, Tex., is probably the crookedest and most winding stream on the continent.

New Mode of Sinking Foundations in Waterways.

The lighthouse board has, on its own account, been trying to ascertain the character of soil under the Diamond Shoals, which run from Cape Hatteras, N. C., ten miles out into the ocean, and upon which many vessels have been wrecked, as there is an appropriation of \$500,000 available for a lighthouse.

Under the direction of the board, Julius E. Rettig, superintendent of construction, some time ago began the construction of a simple but ingenious apparatus which is described in the *Baltimore American*. It had the form of a skeleton prism, 20 feet square and 32 feet high, built up of hollow wrought iron columns, hollow wrought iron struts and tie rods, and cast iron sockets at the corners, carrying on the upper end a platform. The structure weighed about thirty-two tons, and was floated by two pontoons, each 24 by 9 by 6 feet, which were clamped to the structure so that they could be liberated as soon as the skeleton was sunk upon the shoal. Through each of the four hollow vertical columns of the structure passed a solid wrought iron pile, 6 inches in diameter and 50 feet in length, having on its lower end a cast iron disk 3 feet in diameter and on its upper end a screw thread and a cast iron flange nut. The pile was held up by a clamp neatly fitted into a recess, which was fifteen feet from the upper end. The disk at the lower end was cored in such a manner that a water current could pass through it and that the water could escape through two 1½ inch openings through the face of the lower disk. A number of wrought iron water pipes and lines of rubber hose were also put on this structure, in order to conduct water under pressure from the tug-boat, which was in attendance, to the four disks.

The apparatus was erected first upon a barge and then lifted off by the large shears at Newport News and transferred to the water. When properly rigged for transportation to the site, it drew 21 feet. In this condition the apparatus was towed out to the shoal, and after waiting a day or two for favorable weather the structure was successfully sunk at a point previously marked by the United States Coast and Geodetic Survey. Within fifteen minutes afterward the pontoons were disconnected and drifted off, and when the vessel had been securely moored alongside structure, it required but three-quarters of an hour to sink the iron disks of the piles 13 feet below the bottom of the ocean. By bolting the flange nuts of the piles to the upper sockets of the structure, the apparatus was completely secured to the bottom. In order to determine the character of the soil, a pipe of two inches in diameter was sunk from the platform of the framework into the bottom of the ocean to a depth of 105 feet.

This is the first time that borings have been made by such an apparatus in such manner, and the whole work, as designated, proved a complete success in its application. The planting of the framework at the site and making the borings occupied in all only nine and one-half hours. The material brought up from the depth of 105 feet consisted of fine black alluvial sand mixed with small shells and mud—a material most unfavorable for carrying heavy loads, and easily scoured by the strong current existing on the shoals. The results thus far obtained seemed to indicate that perhaps a skeleton structure, with its lighter weight and small wind and wave resistance, will be more suitable to the conditions than a solid building, especially when it is considered that the appropriation made by Congress is far too small for the latter, even if such were feasible, but ample for a skeleton one. The cost of making this examination of the soil was but \$6,000.

Another Expedition to the North Pole.

A paper was recently read before the Geographical Society, London, by Mr. F. G. Jackson on "The Jackson-Harmsworth Polar Expedition." Mr. Jackson said that he was on the eve of leading a fully-equipped expedition to the north. He had selected Franz Josef Land as the first objective of his expedition. The day of large expeditions was gone. Nansen sailed into the ice with thirteen men, and he proposed to disembark on Franz Josef with no more than eight or nine. One of the great features of their plan and the advantage of their chosen route was the almost elaborate series of depots which it was their present intention to erect. Their supplies would be moved up from the base to the first depot, and then from depot to depot until they had behind them a long array of well-stocked larders; and at the last would require only to carry with them food for a few weeks.

Mr. Alfred C. Harmsworth, a fellow of the society, was bearing the whole of the large cost of this expedition and sparing no pains to make the expedition successful. The ship in which they were to sail from the Thames in July was the *Windward*, the well known Peterhead whaler, built with special reference to ice navigation, and consequently of enormous strength. Of boats they had several types, foremost, of course, being the familiar whaling boat; next came a copper boat, with deep collapsible canvas gunwales, invented by the Rev. E. L. Berthon. Then there was an aluminum boat, built on the lines of the copper boat, but

of course very much lighter. There were also boats of light pinewood, bolted and pinned with oak, and a birch-bark canoe. Of sledges they had seventeen, made of ash, with side rails in most cases of bamboo. The furs were, perhaps, one of the most interesting parts of the equipment. The first garb was the reindeer skin militza, a tunic made of brown reindeer hide with the fur inside, and slipped over the head. The mitts were attached to the sleeve, but there was a small slit above the wrist for thrusting the hand through when necessary. The next garment was the siluk, made on the same pattern as the militza, but of the white reindeer skin, and with the hair outside. The pimmies or long boots of the Samoyads would form their usual footwear. The traveling tents were two in number, and only about thirty pounds in weight, in spite of their double walls and ribs. They shut up much like a Chinese lantern, being crescent shaped when closed and domed when opened.

His companions would be Mr. A. Armitage, second officer in the P. and O. service and a lieutenant in the R. N. R., a skilled nautical astronomer; Mr. H. Fisher, the botanical curator to the museum, University College, Nottingham, an ardent collector of wide experience; Mr. Childs, a clever chemist and a highly skilled carpenter, engineer, and photographer; a good geologist; and a surgeon.

Queer Things in Animal Life.

The greyhound runs by sight only. This is a fact. The carrier pigeon flies his hundreds of miles homeward by eyesight, noting from point to point objects that he has marked. This is only conjecture. The dragon fly, with 12,000 lenses in his eye, darts from angle to angle with the rapidity of a flashing sword, and as rapidly darts back, not turning in the air, but with a dash reversing the action of his four wings and instantaneously calculating the distance of the objects, or he would dash himself to pieces. But in what conformation of the eye does this power consist? No one can answer.

Ten thousand mosquitoes dance up and down in the sun, with the minutest interval between them, yet no one knocks another headlong on the grass or breaks a leg or a wing, long and delicate as they are. Suddenly a peculiar, high-shouldered, vicious creature, with long and pendent nose, darts out of the rising and falling cloud, and settling on your cheek, inserts a poisonous sting. What possessed the little wretch to do this? Did he smell your blood while he was dancing? No one knows.

A carriage comes suddenly upon some geese in a narrow road and drives straight through the flock. A goose was never yet fairly run over, nor a duck. They are under the very wheels and hoofs, and yet they contrive to flap and waddle safely off. Habitually stupid, heavy, and indolent, they are, nevertheless, equal to any emergency.

Why does the lonely woodpecker, when he descends from his tree and goes to drink, stop several times on his way and listen and look around before he takes his draught? No one knows. How is it that the species of an ant which is taken in battle by other ants to be made slaves should be the black or negro ant? No one knows.

The power of judging of actual danger and the free and easy boldness that results from it are by no means uncommon. Many birds seem to have a correct notion of a gun's range, and are scrupulously careful to keep beyond it. The most obvious resource would be to fly right away out of sight and hearing, but this they do not choose to do.

A naturalist of Brazil gives an account of an expedition that he made to one of the islands of the Amazon to shoot spoonbills, ibises, and other magnificent birds which are abundant there. His design was completely baffled, however, by a wretched little sandpiper, which preceded him, continually uttering his tell-tale cry, which at once aroused all the birds within hearing. Throughout the day did this individual bird continue its self-imposed duty of sentinel to others, effectually preventing the approach of the hunter to the game and yet managing to keep out of the range of his gun.—*Philadelphia Times*.

The Black Death in China.

The symptoms of the disease as it appears there are fever, headache, glandular swellings in the neck, armpits, and groins, nosebleed, and hemorrhagic spots upon the skin. Death takes place in 80 to 90 per cent of the cases, and usually within forty-eight hours. This is the classical description, in fact, of the plague, or, as it is variously known, the black death, the great death, the Bubo plague. We commented upon its appearance in the autumn of 1892 in Turkestan, where 1,300 people died of the disease in a small town in six days. It is the most frightful of all contagious diseases, yet one with which our modern civilization is totally unfamiliar. The pathologists and bacteriologists have not studied it, because it has been apparently extinct. At least it has not made its appearance in any region where a scientific student has been enabled to study it. Consequently we know almost nothing of its cause or

manner of propagation. We do know that it has paid awful visits to European countries at intervals during two thousand years. It was the plague of the time of Trajan. In the fourteenth century it ravaged the whole of Europe and Asia, so that 25,000,000 people perished on the former and 36,000,000 on the latter continent. During five months of its visitation in Naples, in 1656, 300,000 people succumbed to the malady. Those who have read "A Journal of the Plague Year," by Daniel Defoe, will remember the horrors of that London visitation in 1665 as depicted by his inimitable pen; for however much we may doubt the author's actual presence in London at the time, his striking descriptions are based on facts. Sixty-nine thousand persons were carried off by the scourge in that city within a few months. Defoe speaks thus of the symptoms of the plague:

"Some were immediately overwhelmed with it, and it came to Violent Fevers, Vomiting, unsufferable Head-achs, Pains in the Back, and so up to Ravings and Ragings with those Pains: Others with Swellings and Tumours in the Neck or Groyn, or Armpits, which, till they could be broke, put them into unsufferable Agonies and Torment."

The black death visited Toulon in 1721, destroying one-third of the population. Its last appearance in Europe was in 1840-41, in Turkey and Dalmatia. European physicians of some skill were enabled to study it in Egypt in 1833-1845, but that was before the science of bacteriology was dreamed of. Since then it has occasionally broken out in western Asia, on the Euphrates in 1867-1873, in Bagdad in 1876, on the Tigris in 1877, and in some parts of Mesopotamia in 1884. There was a mild visitation on the banks of the Volga in 1878, and several European governments sent medical commissions there to investigate it, but it had disappeared before they arrived. We have already referred to its prevalence in one or two villages in Turkestan in 1892.

Not only is the plague the most fatal of all epidemic diseases among human beings, but domestic and wild animals perish, likewise, from its attacks.

We might possibly remain tranquil during its prevalence in its favorite haunts in western Asia, which are not closely united with us by the bonds of commerce and travel, but we believe there is occasion for serious consideration of the scourge now that it has begun to ravage Asiatic ports with which we have frequent communication. A disease so awful in its character and manifestation, so terrible in its progress, and one for which we are so utterly unprepared, knowing as we do nothing of its causes or manner of infection or of the means for intercepting it, certainly merits serious consideration from our government and from our health officers, especially those stationed at ports of entry for vessels from Asiatic ports.—*N. Y. Sun*.

Piperazine as a Uric-acid Solvent.

Dr. John Gordon, physician of the Aberdeen General Dispensary, has carried out a series of experiments on the comparative solvent action of piperazine (the base itself), borax, lithium citrate, sodium carbonate, and potassium citrate on uric acid in the form of (1) calculi, (2) deposits, and (3) the artificially prepared substance. His investigations differed from those which have been previously carried out—pre-eminently by Continental physiologists—in that this indicated the solvent action of piperazine in the presence of urine instead of water. The *modus procedendi* consisted in digesting the calculi, placed in ordinary test tubes containing 10 c.c. of normal urine, and maintained by a water bath at 39° C., with 1, 2, 5, and 7.5 per cent of the solvents. Charts are given which exhibit graphically the results obtained. In the trials with a 7.5 per cent solvent it is seen that sodium carbonate had practically no effect, potassium citrate (recommended as *the remedy par excellence* by some authorities in the uric-acid diathesis) was a very little better, dissolving only 4 per cent of the calculus in thirty-two hours. Borax and lithium citrate were close together with 9 and 10 per cent dissolved, while piperazine is a long way ahead, the total loss of the calculus in the same time (thirty-two hours) amounting to 22 per cent. Where a powdered calculus of known composition was employed a 1 per cent solvent of piperazine dissolved 96 per cent in twenty-four hours. In the earliest stages of the experiment borax was equally effective, but its action ceased after eighteen hours.

The summarized results of the work—which was carried out in the pharmacological laboratory of Professor Cash, under a grant from the Scientific Grants Committee of the British Medical Association—show that the solvent action of piperazine upon uric acid under similar circumstances was greater than that of the other substances employed, while it further had the peculiar property of rendering any undissolved residue in the case of calculi soft and pulpy. The effect was more rapid and marked as stronger solutions were used (up to 7.5 per cent), though not in direct proportion to the increase of strength. This latter fact was held to indicate that piperazine is not entirely oxidized in the body, a considerable amount being excreted unchanged—as was proved by the application of chemical tests.

Quicksilver Mining in Tuscany.

The quicksilver mines of the district of Monte Amiata rank among the most valuable and important mineral resources of Tuscany. Monte Amiata, the Mons ad Meata of the ancients, is situated in the province of Grosseto, 36 miles from Siena.

The mines are found to the southeast of the village. It has been clearly proved that cinnibar (the ore of quicksilver) was known to the ancient Etruscans, red mercurial pigments having been used by them in decorating their vases and in such paintings as the frescoes in the rock tombs of the cities of Saturnia and Sorana. Moreover, in the mine of the Siele, stone implements have been found which are held to afford proof that the cinnibar ore there was worked in the flint age. In 1878, when a French company were carrying on prospecting operations in the vicinity of Castell' Azzara, some human skeletons were found in the course of driving an adit, and close by them a gold coin bearing the inscription of Philip of Macedon. These facts would point to the conclusion that the cinnibar deposits of the Monte Amiata were known and to some extent worked at a period of extreme antiquity.

The revival of mining operations in this district dates from the year 1846, when the accidental discovery of some pieces of rich cinnibar in the bed of a torrent induced a speculator to acquire the mining rights over the surrounding lands, and subsequently to form a small company for the purpose of searching for quicksilver. No satisfactory results were obtained, and with the exhaustion of the small capital of about 1,200*l.*, operations ceased. After various vicissitudes the property was bought at auction, in the year 1865, by a Jewish merchant of Leghorn, Signor Rosselli (whose family hold it to the present day), for about 3,000*l.*; but no one then could have foreseen the brilliant future in store for the mine.

In fact, in the year 1866 it produced only 58 hundredweight of quicksilver, of the value of about 600*l.* But gradually the yield increased until, in 1876, the production reached 1,908 hundredweight, while in 1890 the Monte Amiata district produced 8,837 hundredweight, of which quantity about 85 per cent came from the Siele mine, the balance being the production of some mines of secondary importance in the same district which were discovered more recently. The total production of the quicksilver of Monte Amiata during the years 1866-93 is put at 86,507 hundredweight, of the approximate value of 800,000*l.*, the great bulk of which has come from the Siele mine, which remains to the present day as productive as ever.

The splendid success of this mine, while it stimulated research for the same mineral in the surrounding territory, which in some cases has met with favorable results, was also the cause of a plentiful crop of lawsuits before the Italian courts, involving disputes as to the rights of property in the mine; but prolonged litigation proved that the title of its present proprietors could not be successfully called in question.

In connection with quicksilver mining it may be mentioned that some fifty years ago quicksilver was discovered at a place called Capita, about twelve miles from the town of Orbetello, on the southwestern boundary of the province of Grosseto. A mine was opened up under the management of a Cornish mining "captain" named Davy, and for account of an Englishman. Some quicksilver was produced, but for some reason or other the work was abandoned in 1867, and continued so until 1893, when the mining rights were acquired by Messrs. Rae Brothers, of Leghorn, and operations of a prospecting character were commenced. The geological formation is the same as that of the mines of Monte Amiata, and the abundant indications of cinnibar met with so far encourage the expectation that the mineral in paying quantity will be found as the workings advance.

Brick Pavements.

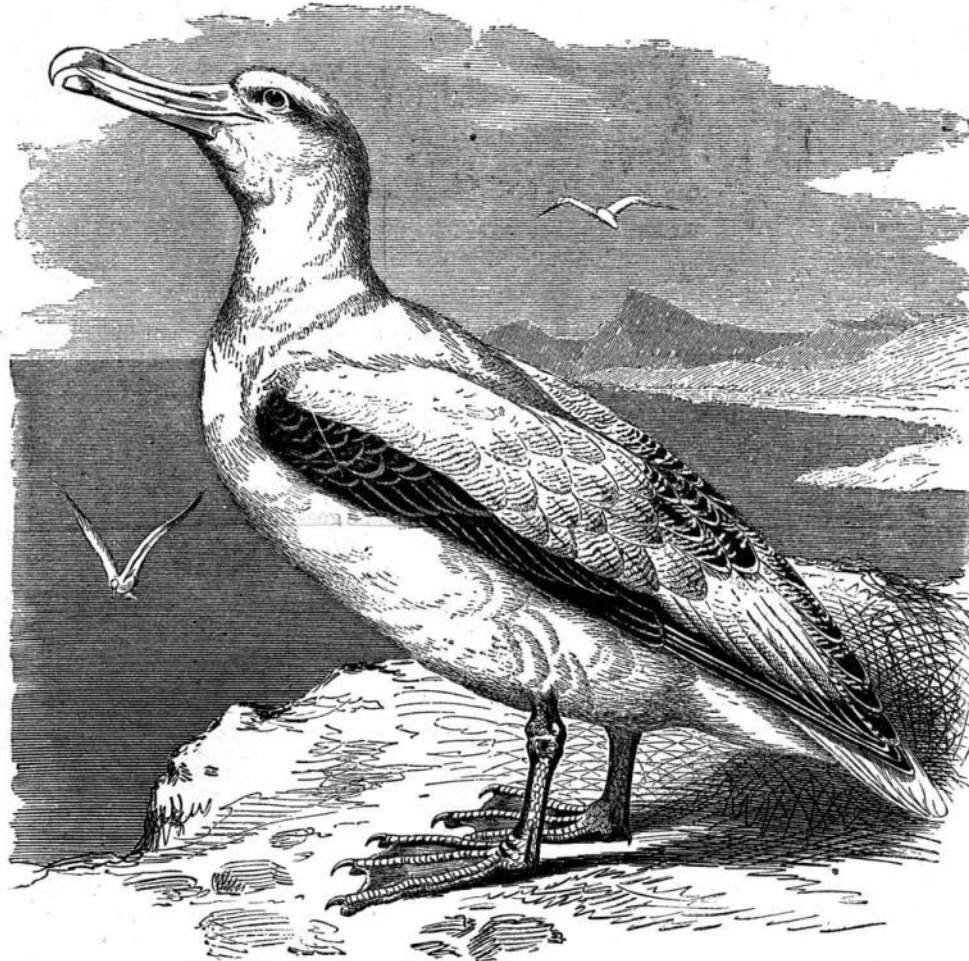
The Director of Public Works of Philadelphia, Mr. James H. Windrim, states in his annual report for 1893: "The streets repaved with vitrified bricks, which have been subjected to the wear of ordinary business travel, have not lasted five years; there are bricks in these streets disintegrated and gone, while others are in a fair condition to withstand longer wear. If all had shown the same endurance, bricks as a material for street paving would be in greater favor. The maker knows the quality of his bricks. Those from the por-

tion, of the kiln that are 'firsts' should be sold as such, after selection by the maker. The buyer or inspector cannot always know the grade of bricks by their looks, and as long as bricks are put on the market without selection to guarantee uniformity in their quality there will be distrust and their general use for street paving will be delayed."

THE ALBATROSS.

The albatross, a bird of the genus *Diomedina*, and of which there are several known species, is characterized by its great size, its powerfully built body, short, thick neck, and long and powerful beak, which is compressed at the sides and curves suddenly downward with a sharp hook at the point. The feet are short, the three toes long and completely webbed; the wings are long and narrow. The abundant plumage is of a grave color, which varies somewhat, according to sex and age, and also, perhaps, according to the season of the year.

The common albatross (*Diomedea exulans*), of which we publish an engraving—for which we are indebted to Brehm's "Thierleben"—is pure white, except for the black of the wings and a sprinkling of more or less brown over the white ground when it reaches a certain age. The eye is dark brown, the bare eyelid pale green, the beak pinkish white, shading to yellow toward the point; the feet are tinged with red. The common albatross is the largest sea bird known, weighing from 12 to 28 lb. The usual extent of its



THE ALBATROSS.

wings is about 11 ft., but one was shot off the Cape of Good Hope that measured 17½ ft. Its powers of flight are extraordinary, as might be presupposed from the extreme lightness of its hollow wing bones, which are said to be as long as the whole body. Sailors have many strange notions about it, one of which is that it sleeps on the wing.

Damages for Electrical Shock.

In March last, while two men were taking a constitutional in Innsbruck, they discovered a telephone wire hanging down to the ground, when one of them picked it up and promptly yelled for assistance. His friend came to the rescue, knocked the wire out of his hand with a stick, and received a shock which rendered him unconscious. On recovering, he found that the picker up of unconsidered trifles was dead. A court of inquiry has now been held, at which three of the officials of the local electric lighting company were charged with culpable negligence. It appears that they had been warned several times that telephone wires above their conductors were broken, but no attention had been paid to the matter. The telephone wire in question had fallen across the conductor, resulting in the accident. One of the officials has been sentenced to one month's imprisonment, the second to four months' imprisonment, and the third has been discharged. In addition, an indemnity of 100 florins has to be paid to the injured man. Nothing has been awarded to the relatives of the dead man. It therefore appears that in Innsbruck it is less expensive to kill a man than simply to knock him down.

The English Language in the United States.

There has been, from time to time, serious talk in England of the reform of English orthography. The word is a misnomer in relation to the English language, for there is nothing orthographic in it. No language, except perhaps the Etruscan, was ever reduced to such phonetic decay. The simplest and most easily acquired, as a spoken language, of all European tongues, its spelling brings the foreigner to despair. It is impossible for any man who has learned the sounds given to the letters, and acquired them in the highest possible exactness as elements, to go on from that and learn to talk the language so as to be generally understood. This is a disgraceful fact, explain it how we may. To say that our language is the simplest of the European tongues in its grammar, in its construction of phrases, and especially in its inflections, is to claim what no one contests; and that it is the easiest to learn is a common remark by those who have studied it; but coupled always with the qualifying criticism that the written word gives but a poor indication of the pronunciation. Make it phonetically correct, and it becomes the easiest language to acquire in the world. This is for the foreigner. For ourselves, however, there is a kindlier service in the elementary education of our children. As this is now carried on, it requires in many cases two or three years for a child to learn to read, and, in not a few, many years to master the spelling of the language. By a phonetic system this time is reduced, for any language, to six weeks on an average. The suggestion of the Americanization of the English language carries with it, as the logical consequence, a radical reform, which the insular mind is too conservative to accept, but which will, when accepted by the expanding branch of the race, so facilitate the acquisition of the language that no excuse will remain for the construction of a new universal speech; and it will at once establish the position of our tongue as not only the simplest in construction and the widest in extent, and, therefore, the most useful, but as the most easily acquired of all human languages. To this end, however, the reform must be radical. It is trifling with the subject to throw out a useless *gh* here and a superfluous *m* or *l* there; not only must the useless be eliminated, but the incorrect and inexact must be made correct and exact; there must be no two characters for the same sound, or two sounds for the same character. The change must, therefore, be radical in character, but conservative in form. The means of combining these conditions is furnished by the Merington alphabet. For the silent letters it employs italics; for the sounded vowels, accents; and for sounded consonants, modifications of the form so slight as not to offend the accustomed sense, while they convey to the beginner all that is requisite in the indication of modification of sound. The printed page, therefore, corresponds so nearly to

the present form that the eye is not offended, the history of the language is kept intact, and the books already printed will have only a slightly archaic character to those who follow us, while the words once learned in the new character will be perfectly well known in the old. That afterward the progressive reform shall proceed little by little to throw out the useless letters, and insist more forcibly on the differentiation of the modified, we cannot foresee or provide for or against. What is certain is that a reform will come when the desire for it has reached the requisite strength; and the longer that reform is delayed the more reckless of conservative conditions it will be, and the more our immediate successors will have lost. And, after all, the changes will be only the putting of what we now get in our dictionaries into our text books. With this change, however, an intelligent foreigner can learn English in six months, not only, as now, to read it, but to be able to speak it intelligently and correctly—an accomplishment which is usually the result of years of study.—*Century.*

Wonderful Speed of Atlantic Liners.

The highest recorded speed on the Atlantic as an average for the whole passage is 21.9 knots per hour, performed by the Cunard line steamer *Lucania*. This has now been nearly equaled by her sister ship, the *Campania*, which has just made the passage from New York to Queenstown in 5 days, 13 hours, 8 minutes over a total distance of 2,905 knots, her average speed having been 21.82 knots per hour.