When the young leaf first makes its appearance, it is spatulate in form, with a simple notch on one side near the end, ranging upward at an angle of about 45 degrees. As the plant grows, the sides separate, forming a tube, while the notch increases in size and rotates in direction, until it becomes an ample opening ranging downward at an angle of about 45 degrees. At the same time the end of the spatula enlarges into a dome-shaped hood, the upper lip at the opening projecting well forward and downward over the lower. The tube is largest at the top, narrowing gradually to a point a short distance above the ground. The front or open side of the tube has a narrow rib, the rest of the circumference being round and smooth.

Being unable to find in botanical literature any adequate account of the manner in which this plant performs its remarkable functions of catching and devouring insects, I was led to make the study myself. Placing several of the plants in flower-pots for continuous observation, dissecting numbers of others in the woods almost daily, and continuing these observations during several different seasons, the little pitcher has come to seem like a familiar friend, and has yielded me an amount of pleasure and satisfaction that would seem incredible to any but a lover of nature.

If one were to say that he had seen a tree which could catch and eat squirrels, rabbits, field-mice, etc., he would be set down as a bungling imitator of the celebrated Baron; but here is a frail plant which we tread upon unnoticed, that actually captures, devours, and digests number of animals endowed with much greater activity, and doubtless with higher powers of perception, than any mammals.

If the plant has any odor attractive to insects it is not perceptible to human olfactories. But when near the opening they seem possessed with a desire to enter, and the way is open and easy. At the edge of the opening they are seen to sip a secretion of the plant, and immediately hasten on to the interior. Here some of them will continue to eat ravenously until they are seized with a sort of palsy, causing them to tremble violently, release their hold, and fall into the liquid at the bottom of the tube. Others, after entering the dome, become frightened and endeavor to escape. And here is discovered one of the remarkable features of the plant — an arrangement clearly intended to deceive the unlucky prisoner. The hood projecting over the opening forms a dark background, while the opposite side of the dome is brilliantly lighted by means of more than a hundred transparent spots or windows. Just as a bird which has entered a room by a dark passage, beats against the window-pane, so the poor insect exhausts his strength at the windows of his prison, and finally falls exhausted — literally "in the soup."

The bath seems to cure their palsy, for they invariably struggle vigorously to escape by climbing up the side of the tube. But the effort is vain. It seems remarkable that insects which walk upon glass and other smooth surfaces at will can make no progress here. The inner surface of the tube has a wonderfully smooth feel, and under the microscope is seen to be covered with very fine hairs forming a nap in the downward direction. About half-way up the tube there is a change in the appearance. It looks as if the lower part were wet and the upper dry, but the microscope shows that the appearance is caused by a different arrangement of the hairs on the surface. On the upper half, they appear like bundles of grain with the ends well spread. The purpose of this arrangement is not apparent; but having on one occasion found a larva at the half-way point, it occurred to me that possibly certain species had feet able to traverse the lower half, and such would be stopped by the different arrangement above. However this may be, the insect which once enters this doubly and trebly guarded prison "leaves hope behind." Even when rescued, he seems unable to resist the temptation to taste again the insidious nectar which leads him to his doom. Cut away the hood, and let a blade of grass down into the tube. A half-dead fly climbs eagerly out. Too weak to fly, he can be handled at will. Place him on the outside of the tube, an inch or more from the opening, with head turned away from danger. He staggers forward a few steps, stops and considers, then like the confirmed toper in front of a saloon, turns around and goes back for one more drink. At the first taste, he becomes crazed, sips ravenously till the tremens comes on, and drops him down to certain death.

The number and variety of insects disposed of by a single plant is astonishing. Every order is represented. One would think that a grasshopper, large enough to reach across the tube and almost close it up with his body and long legs, would have small excuse for being in such a place. But there he is slowly dissolving. Beetles, moths, larvæ of numerous kinds, including large woolly caterpillers, all go the same way. The hymenoptera are represented by ants, but I have never found any species of bee, though I have searched diligently for that special purpose.

The statements of certain botanists that the pitchers are "half filled with water containing drowned insects," and that "it is difficult to believe that they have any connection with the economy of the plant," need revising. A chemical analysis of the fluid is wanting, but it is a secretion of the plant and not rain-water. The construction of the plant makes it impossible for rain to enter. Furthermore, I have seen a plant which had been cut off at the root send up a new leaf, mature its pitcher, secrete its fluid, and begin business, during a period in which no rain had fallen.

In every healthy pitcher may be found insects still alive and struggling; others dead; others farther down in the mass, coarsely broken up; and at the bottom only a pulp. The fact that the elytra, mandibles, and other hard parts of beetles, are dissolved with the rest, shows that the plant has remarkable digestive powers. Unlike animals, it has no means of rejecting unsuitable portions of food. Everything goes. The front door is always open, there is no back door, all sorts of visitors enter, none escape, every shred disappears.

CURRENT NOTES ON ANTHROPOLOGY.—XV.

[Edited by D. G. Brinton, M.D., LL.D.]

The Antiquities of Catamarca.

AMONG the mysterious civilizations of the New World which were extinguished before the arrival of the Europeans, that of the Province of Catamarca, in north-western Buenos Ayres, is not the least difficult of solution. In this region, over an area about four hundred miles square, the vestiges of a dense population are numerous, and there are abundant proofs that there prevailed a stage of culture definitely above that of the Pueblo dwellers of New Mexico. The ruins of stone-built structures are abundant, and are the only instances of such that we find east of the Andes in the whole of South America. They begin at a height of twelve to fifteen thousand feet, and continue down to the mesas and plains of the lowlands. From their positions and plans most of them were evidently defensive works, occupying points of vantage, and with walls three to five feet in thickness. The entrances are concealed or sometimes none exist, ladders having evidently been used by the inhabitants. They were acquainted with the use of copper, gold, and silver, made excellent pottery, wove fabrics with skill, cultivated maize extensively, and buried in mounds.

An interesting but brief notice of these remains is published by Francisco P. Moreno in the "Revista del Museo de La Plata," 1891. He considers the remains are anterior to the conquest of the country by the Incas about 1450. This is probable, but it would not militate against the evidence I have brought forward in my "Studies of South American Languages," p. 54, that the natives of Catamarca were themselves of the same blood and language as the Incas.

Central-American Languages.

The Empress Catherine II. of Russia at one time planned publishing specimens of every language on the face of the globe, but lost interest in her scheme, and dropped it before completion. When at St. Petersburg a year ago, I inquired about the material collected by her orders, but left unpublished. The Librarian of the Imperial Library could give me no information about it.

Now, part of it arrives in a publication from Costa Rica entitled "Lenguas Indigenas de Centro-America en el Siglo XVIII. MS. del Archivo de Sevilla. Publicada por R. F. Guardia y Juan Fernandez Ferraz. 1892." The editors do not state, and do not

seem to be aware, why these twenty-one vocabularies were collected by a priest in 1788; but I have no hesitation in attributing them to the desire to comply with the wishes of the empress of the Russias, and am sure it could be readily shown.

Their publication is praiseworthy, and carefully made; but it does not offer any new material on Central-American dialects in the sense of new stocks. Two of the Maya dialects, the so-called Pupuluca and Subinha, are slightly different from those already known; and the language termed "Lean y Mulia" is the same as what we know from other sources under the more appropriate name Xicaque. The vocabularies include the Chapanec of Chiapas and several Costa Rican dialects, though the majority are branches of the Maya family.

An Anatomical Criterion to Distinguish Male from Female Skulls.

It has long been most earnestly desired to discover some anatomical feature which would enable us to distinguish the skulls of the sexes. Two years ago Virchow declared that all alleged modes of differentiation so far discovered were worthless. Very lately Dr. Thiem-Cottbus, in the "Archiv für Klinische Chirurgie," Band 37, describes what seems a satisfactory craniological criterion of sex.

The os tympanicum forms part of the posterior wall of the glenoid cavity of the inferior maxillary, and also closes in front and below the bony meatus of the ear. It arises perpendicularly from the petrous portion of the temporal bone posteriorily, and turns backward, in the woman at about half the height of the mastoid process, but in man at a less height. In the male, the bone developes a sharp edge, which divides to form the sheath of the styloid process; but in woman this sharpened edge does not exist, the bone is rounded into a tubercular form, and the fossa is shallower and flatter.

Thus, in the male this fossa-tympanico-stylo-mastoidea is small, and the posterior wall of the glenoid cavity extends so deep that it is not possible for the condyloid process to slip over it. In the female, it is so much more spacious that this feature alone will serve to distinguish the crania of one sex from the other; and it also explains the surgical fact that luxation backward of the inferior maxillary is observed only in women.

An Etruscan Ritual Book.

Before Rome was founded, the powerful federation of the Etruscans had spread an advanced civilization over central Italy, capping her hill-tops with fortifications, whose impregnable walls still bid defiance to time. But by the beginning of our era, the Etruscan people, and language and religion, had disappeared, leaving no testimony but their tombs. From these some five thousand inscriptions have been copied, but they tell us little. Not a single word of the language has been identified beyond peradventure.

The Etruscan religion profoundly modified that of Rome. They were a literary people, and in very early times wrote numerous religious books. These are referred to by Livy as works of divination, *fatales libri*, and by Cicero as books of ritual, *Etruscorum rituales libri*, or as Etruscan documents, *chartæ Etruscæ;* and even in the latter's day, they were in use by the Roman priesthood.

It seems an incredible piece of good fortune that one such Etruscan Ritual Book should turn up in fair preservation in the year 1891; but such seems to be the case. Two or three centuries, B.C., a mummifier of Alexandria bought a lot of waste paper and old rags for use in his business, and employed some of it in wrapping the corpse of a young lady. About 1849 her mummy was brought to Austria, and last year in her wrappings this Etruscan book was identified by Professor Krall. The Vienna Academy of Sciences has undertaken its publication, and on its appearance I shall return again to its curious history and character.

Ethnography of the Finns.

One of the most interesting questions in the ethnic history of the north of Europe is that concerned with the origin and migration of the Finns. They are ancient settlers, as they were known to the Romans of the time of Tacitus as dwellers on the Baltic Sea. In language they are first cousins of the Magyars of Hungary and also of the Samoyeds of Siberia. Indeed, some maintain that their name "Suomi" is from the same radical as "Samoyed."

Those resident in Finland proper rarely show any marked Mongolian appearance, as I can say from personal observation; but their strain is deeply Aryanized. A much less familiar branch of them are the Sirieni or Syränen, who dwell in north-eastern Russia, on both slopes of the Ural Mountains, extending east to the valley of the river Ob, on which the town of Muji is one of their principal resorts, in latitude 65° north.

This group has been carefully studied by M. Stephen Sommier, whose volume, "Sirieni, Ostiacchi e Samoiedi dell'Ob," appeared a few years ago in Florence. From numerous anthropometrical measurements he carried out, he satisfactorily showed that the Sirieni are Germanized Finns, quite like their relatives on the Baltic, and differing widely from the Ostiaks and Voguls to the east. It is probable, indeed, that the Sirieni, who are much given to trading and wandering, are an offshoot of the western branch of the stock, rather than the eastern.

NOTES AND NEWS.

THE sixth annual convention of the Association of American Agricultural Colleges and Experiment Stations will meet in New Orleans, La., on Nov. 15, as announced by the chairman of the executive committee. Titles of papers should be sent to C. F. Atkinson, Auburn, Ala., before Oct. 1. It is proposed to discuss the different subjects assigned to station workers for the Columbian exhibition.

— A timely book is "The Career of Columbus," by Charles Elton, M.P., announced by the Cassell Publishing Company.

— Professor D. S. Margoliouth of Oxford has undertaken to translate the great Arabic geographical dictionary.

— G. P. Putnam's Sons are about to publish a new edition of Professor F. W. Taussig's "Tariff History," enlarged by about 100 pages of new matter, including a discussion of the McKinley Bill.

— Francis P. Harper will publish shortly a new and important edition of Lewis and Clarke's "Expedition over the Rocky Mountains," on which Dr. Elliott Coues has been engaged for some time. He is specially fitted for the task, and the index to this faithful reprint of the Philadelphia edition of 1814 will be of great scientific value.

— Harper & Brothers will soon publish an interesting work by Walter Besant, entitled "London," which will not be a history of the city as a body politic, but the story of the life of the people at different periods from the earliest historical records to the times of the Georges, and will be fully illustrated.

— Edward Stern & Co., Philadelphia, will publish at once "In Arctic Seas," by Dr. R. N. Keely, in which the author, who accompanied in the capacity of surgeon the West Greenland Expedition last summer, gives an account of the incidents of the voyage of the "Kite," conveying Lieutenant Peary's party to McCormick's Bay.

— On Sept. 1, *The Open Court* (Chicago, Ill.) began the publication of a series of articles by Mr. Charles S. Peirce, to be entitled "The Critic of Arguments." (The word *critic* here means an art, like *logic*.) This series will be devoted to a critical and historical discussion of the methods of reasoning. Mr. Charles S. Peirce is one of the most distinguished scholars and mathematicians of which America boasts. But especially in the department of modern logic has his work contributed, perhaps more than that of any other living investigator, to the permanent advancement of science. The results of his thought are, however, for the most part locked up in the proceedings and reports of learned societies, and now for the first time, in *The Open Court*, are they to be presented in a less rigid and technical form, and made accessible to all who place a value on right thinking.