action of an undying universal law which places before them two alternatives, — progress or death!

But to return to the practical question, whether the national museum is a fit place for the present deposit of unique collections of perishable objects, we may say, that, while the future of the museum seems to be assured, we have no sufficient historical ground for belief, that it will reach stability without serious lapses; and that until it supports a competent salaried chief of its entomological department, with at least one paid assistant, it stands in no position to invite the donation, or to warrant the purchase, of a single valuable collection of such perishable objects as insects. That the time will come when it is properly equipped, we cannot doubt; that it should reach it through the sacrifice of Mr. Riley's, or of any other choice collection, would be a burning shame: this is the immediate risk.

LETTERS TO THE EDITOR.

*** Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.*

The voice of serpents.

Prof. C. H. Hitchcock's note in No. 104 brings to mind a fact noted in my laboratory, which may be of interest to herpetologists. In the autumn of 1883 a friend brought to me two magnificent living specimens of the common prairie bull snake, Pituophis Sayi. I gave them the freedom of my lecture-room, and they soon made themselves perfectly at home.

One day, while working with a large induction-coil, I bethought me of my snakes, and caught the larger (his length was about five feet), and passed a powerful charge of electricity through his spinal column. As the circuit was broken and made, I was much surprised to hear a faint though perfectly distinct cry from his snakeship. My notes made at the time speak of this sound as similar to the voice of a young puppy.

During a period of a month or more, this experiment was repeated with one or the other of these serpents, and always with this cry of pain or anger.

H. H. Nicholson.

University of Nebraska, Feb. 18.

The collection of insects in the national museum.

In reference to my remarks on the above-named subject, your explanation, that you meant 'the perpetual care of valuable collections' (p. 25), meets my criticism; and there would be no need to recur to the subject, were it not for Professor Fernald's communication on the same page. He there says, "The national museum has appointed an honorary curator, but it might as well be without one as to have one whose entire time is occupied elsewhere." Professor Fernald speaks here without knowledge, and under misapprehension of the facts. The honorary curatorship of insects is not 'worse than useless,' and the curator's time is not wholly 'occupied elsewhere.'

The organic law (Revised statutes, § 5586; Statutes forty-fifth congress, third session, chap. 182, p. 394) authorizes the director of the national museum to claim any collections made by other departments of the government. The national museum has a substantial fire-proof building, and a stable administration. The department of agriculture has a tinder-box, and the administration shares the uncertain influence of politics. Yet connected with the practical entomological work of the department of agriculture, there is much museum work proper; and since 1881, with the approval of the commissioner of agriculture, I have, as U. S. entomologist, looked upon material accumulated for the latter institution as belonging to the former, and have freely given my own time, and that of my assistants when necessary, to the entomological work devolving on the curator of said national museum. The two positions are naturally linked.

I am familiar with most of the insect-collections of the country, and believe, that, during the past three years, more original material has been collected expressly for the national museum, and more has been mounted for it, than for any other institution, not excepting the Agassiz museum at Cambridge, with its excellent insect department under Dr. Hagen; while, including the collection of the department of agriculture, and my own (which is deposited in the museum, and will be donated whenever such donation is justified), there has been by far more biographic work done for it than for any other museum. Even in the Micro-lepidoptera, it is probably next in extent to that of Professor Fernald. The care of museum material is of a twofold nature. The preservation of valuable type-collections requires vigilance, but little labor. The less labor, in some instances, bestowed upon them, the better; at least, so I thought last summer in witnessing the overhauling and re-labelling of Grote's collection in the British museum. The preservation and classification of original material, on the contrary, requires brains, time, and means.

The future and perpetual care of an entomological museum cannot be absolutely guaranteed without endowment; but appropriation to a government institution, though depending on the annual action of congress, is probably the next best security. Hence I agree with all *Science* has said as to the need of proper and substantial provision for such future care of the insect department of the museum. Washington is fast becoming the chief natural-history centre of the country; and the national museum is making rapid strides toward justifying its name, and offers, on the whole, as secure a repository for collections as any other institution. I speak of the museum as it is to-day, and not as it has been. The misapprehension indicated, whether an outgrowth of the amount of natural-history material that has gone to rack and ruin here in the past in other departments as well as in entomology, or a result of present rivalry, is certainly not justified to-day.

Professor Fernald truly remarks that "many museum officials have very little appreciation of the vast amount of labor, care, skill, and knowledge required" to properly manage a large and varied insect-collection. Things are too often valued by their size, and the pygmy bugs have not outgrown popular

contempt. The tail of a whale is no wise more complicated structurally, nor a whit more interesting morphologically, than the sting of a bee; but it occupies an infinitely greater space, and is more obvious both to the gaze of the curious and the study of the competent, — a fact which the management of a popular museum cannot afford to ignore.

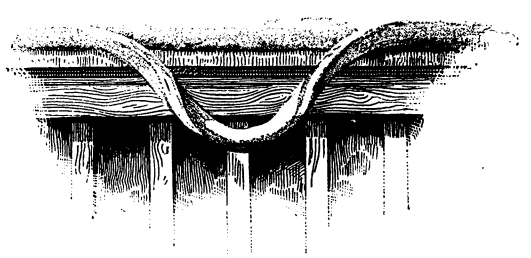
The national museum has very properly developed most in those departments, like ichthyology, geology, and ethnology, which receive, independently, government aid, and thus furnish both workers and material. If some of the other departments have so far been left without material support, those persons feel least like complaining who are familiar with the ultimate intentions of the director and his efficient assistant, and with the vast amount of work accomplished in organization and installation since the building was completed. C. V. RILEY,

Hon. curator of insects, U.S.N.M.

Washington, D.C., Feb. 12.

Plastic snow.

A phenomenon new to me was observed at the close of the north-east storm this noon, which showed the cohesive force in wet snow. The railing to my porch has a top sloping about ten degrees each way. My attention was directed to a festoon of snow sixteen inches and a half between ends, and seven inches deep, formed from a snow-ribbon. As it left the railing, it was gradually twisted, so that the bottom of the loop was in a position the exact reverse of what it had held when upon the rail. The twist-



ing-force had extended for a number of inches in each direction in the part that remained upon the rail. This loop hung free, and moved over an arc of five or six degrees when the wind struck it. It was of short duration, as the water from the rail melted the centre; and the ends, as they swung back, were broken off about four inches from the rail, and showed a spiral twist like that in a twist-drill. On the next panel was the end of a former loop; and this hung free, and measured nearly ten inches in length. EDWARD H. WILLIAMS, Jun.

Bethlehem, Penn., Feb. 16.

Hereditary malformation.

Mr. E. Brabrook writes to the society of anthropology in Paris an account of hereditary hypospadias, first reported to the *Lancet* by Dr. Lingard. The order of inheritance is as follows: first generation, one affected; second, one; third, one, whose widow afterwards married a man unaffected. This woman had seven sons — three by her first husband, and four by her second husband — all affected. I will divide these seven sons into the first and second set. Of the first three, one died childless: the other two had six sons, all affected. Of the second set were born eleven sons, — four affected, and seven unaffected. Three sons are reported of the first set in the next or sixth generation, two of whom are affected; while, of three sons belonging to the second set in the same generation, none are affected. Aside from the great value of such a compact series of well-authenticated facts, a very interesting question, often mooted among stock-breeders, of the permanence in the effects of first impregnations, receives here a partial answer. The running-out of this influence in a few generations should also be carefully studied. I do not speak of the transmission of hereditary traits of the male through the mother, because Dr. Lingard does not seem to have looked among the female descendants for co-ordinated malformations. OTIS T. MASON.

The Georgia wonder-girl and her lessons.

I read with no little interest the article with this title which appeared in this journal on Feb. 6.

I was privileged to make a private examination of Miss Lulu Hurst, the person referred to in the article, on several occasions, in the presence of her parents, and usually of her business-manager. On one occasion I was permitted to make a careful examination of the subject's physical development, and take notes upon her normal temperature, heart-beat, and respiration. I found her to be a healthy, intelligent country-girl, *plump* rather than muscular, presenting nothing very unusual in her constitution; and I certainly did not note the fact that I might be shaking hands with a 'giant.' The muscles of her arm and fore-arm were *not* unusually developed; nor did they stand out prominently, as they do in muscular subjects of either sex. She is above the average stature for women, but does not strike one as being either exceedingly active in movement or overpowerful in frame; as to the former, rather the reverse, I think.

Of the experiment with the staff, I shall simply state that in my case, on two occasions, the staff gyrated rapidly about its long axis, obliging me to quit my hold. This was observed by other persons present during the experiment. In the test with the hat, Miss Lulu stands before you with her hands extended horizontally, palms up, with the little fingers and sides touching each other. On the surface thus presented we place our hat, with the outer aspect of the crown resting on the two palms. The experimenter is then invited to lift the hat off. When I tried this experiment, the hat was only removed after considerable force was exerted, and then came away with a crackling noise, as if charged with electricity. That Professor Newcomb's explanation would not account for the result here, I would say that I knelt in such a position that my eyes were but a short distance away; and my line of vision was in the same plane with the opposed palmar surfaces and the crown of the hat. This latter was of very light Manila straw, with the outer periphery of the crown rounded. Now, as the form of this surface was a broad ellipse, with a major axis of perhaps seven inches, and a minor axis of six, quite smooth, it would be simply an impossible feat for Miss Lulu to seize it when the distance between the inner margins of the opposite thenar eminences in a right line is less than six inches.

Permit me now to present a test which Professor Newcomb did not witness. It consisted in standing upright, with one foot in advance of the other to act as a brace, and holding in the hands with a firm grasp an ordinary chair. This is to be done by seizing it at the rear uprights, about where the back joins the bottom; the former being towards you, and parallel with your anterior chest-wall, against which you