At times, apparently depending upon the meteorological conditions, my entire system seems to become thoroughly charged with this animal electricity, and most small objects crackle and snap as I handle them, leaving, as night draws near, an uncomfortable, aching sensation in my arm, and extending more or less down my side. During these same times, should my wife take any small object from my hand (as a draughting-pen, or the sponge-glass upon which such a pen is cleansed) an electrical report follows the contact, that can be distinctly heard throughout a large room. On the other hand, I had occasion to examine an injury of the back in a young mulatto girl of about fifteen years of age, a few days ago, when, with my right hand resting upon her shoulder, and my left making the required examination, there instantly followed for me a sense of the most profound relief, as if it were that all the electricity in my system had been completely withdrawn by the act. This girl, during a stay of nearly three years at Fort Wingate, has never been conscious of any electrical phenomena associated with herself, similar to those which I have experienced. Previous to coming here, I had resided about a year in Washington, where I had never observed such exhibitions, so far as my own person was concerned, and they only gradually developed at this place.

I write a great deal, sometimes six and eight hours consecutively, and I find the only kind of pen-holder that I can use with comfort is a rubber one, and even then the constant passage of the electricity is exceedingly exhausting during the most of the time. Late the other evening, having written about eight hours during the day, I threw myself upon a thick, woolen Navajo blanket which covered an iron-frame bed in my study. I was tired and nervous, and having lain there about half an hour I arose suddenly, and, being a little dazed and drowsy, I seized hold of the iron frame of the bed to steady myself: the act was followed by an electrical shock that nearly threw me to the floor, but it was not accompanied by any audible report.

R. W. Shufeldt.

Fort Wingate, New Mexico, Feb. 8.

Osteological notes.

In passing through the exhibition-rooms of the Museum of comparative zoölogy not long since, my attention was called to the fact that the skeleton of the Bison bonasus presented a rudimentary second metacarpal, while the Bison americanus at its side exhibited the customary fifth metacarpal; in other words, that the single splint-bone which was present on each skeleton occupied exactly opposite positions, that of the American bison being on the outer, while that of the auroch was on the inner side of the limb. This singular difference I at once attributed to carelessness in the mounting of the preparation, without giving the matter further thought. The subject, however, being again incidentally brought up, I thought it worthy of investigation.

Close examination of the parts in question showed satisfactorily that they occupied their normal position, that the diarthrodial facet for the articulation of the osseous stylet was behind and to the inside of the superior extremity of the principal metacarpal, and that there was no corresponding facet upon the outside of the same bone.

In the ruminating sections of the artiodactyla, as is well known, the second and fifth metacarpals are always reduced to mere representatives of their proximal extremities, and in some cases are entirely absent, as in the giraffe, prong-buck, and in some of the antelopes, as well as in the camels. In the Cervidae the three phalanges of the second and fifth digits are present, articulated to the distal ends of their respective metacarpals, which gradually taper to a point upwards. In some species, in addition, a small fraction of the proximal extremity of the fifth metacarpal is found. In the wapiti (Cervus canadensis) the styliform rudiments of the proximal extremities of both splint-bones are present. In the Bovinae, as a general rule, it is the rudimentary proximal end of the fifth metacarpal that is exhibited. In looking over the collection of skeletons of Bison americanus in the museum, I found no exception to this condition. In the skeletons of Bos taurus, however, although the rule held the same, there were exceptions. In one case the rudimentary proximal ends of both second and fifth metacarpals were equally developed. In several others the stylet of the second was present, but relatively very diminutive. In others, in place of a distinct rudimentary ossicle, there was an ossific deposit upon the canon-bone, simulating by its shape and position the undeveloped proximal end of the second metacarpal.

The only other skeleton of Bison bonasus in this country, to my knowledge, is in the possession of the Smithsonian institution. In answer to my inquiries, Mr. True, the curator, kindly wrote as follows: "I have examined the skeleton of Bison bonasus, and find that the metacarpals of the second and fifth digits are developed about equally at the proximal end. The largest rudiment is 55 mm. long: this is on the outside of the right leg. On the left leg, however, the larger rudiment is the inner one."

Upon the skeleton in the Cambridge museum the rudimentary metacarpals of the second digit are both equally developed, and measure 67 mm. in length, while there is not a trace of the fifth.

Owen, who is the only written authority upon the anatomy of the European bison, says in his 'Anatomy of vertebrates,' "In the bison the bones of the spurious hoofs consist, in each, of the middle and distal phalanges; and there is a styliform representative of the proximal end of their respective metacarpals articulated in the fore-foot, one to the connate trapezoid, the other to the unciform and cuneiform bones."

The modifications which prevail in the construction and number of the digits of the Ungulata are in many points of view extremely interesting. The above data are too fragmentary upon which to draw conclusions, but possibly they have their value.

D. D. Slade, M.D.

Cambridge, Mass., Feb. 7.

Respiration and pulse-rate of foreign residents.

I should be pleased to learn from your subscribers, born in England or upon the continent of Europe, whether they have observed any variation in the respiration and pulse-rate since becoming citizens of the United States. The reports, to be of any scientific value, should contain full statement of any change in occupation or manner of life, as well as difference of latitude and elevation above the sea, and the effect of such variation upon the general health.

Edward T. Nelson.

Delaware, O., Feb. 9.