near Fort Wingate, N. Mex. He is about thirty-five years of age, and comes from a Mormon family, and is polydactylous upon both hands. His father's hands were normal; but his father's twin-brother had bud-like, nailless, supernumerary little fingers, without any bones in them. There are fourteen children in his father's family, seven of whom have normal hands, while the remaining seven have either a surplus number of fingers or toes. A sister older than himself had both extra little fingers and toes, but they had no bones in them: indeed, he is the only one of the children that possessed them in that degree of perfection. Two sisters younger than himself had supernumerary little fingers and toes, and two of his younger brothers had simply the boneless little fingers, while their feet were normal. There is no history of polydactylism on his mother's side, and he has no recollection of the condition prior to his father's twin-brother.

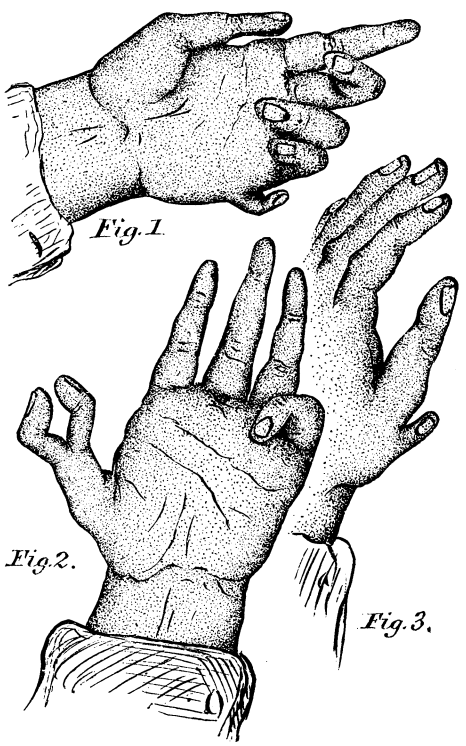

Fig. 1.

Fig. 2.

Fig. 3.

I carefully examined these additional little fingers in the man in question, and present with this letter, in fig. 1, the palmar aspect of his left hand, the member upon which it was best developed. It has two joints, the distal one being somewhat flexed upon the proximal one when the hand is at rest; but, as the finger is supplied by both a good flexor and extensor tendon, it can be readily moved independent of the normal digits. These tendons, as well as I could ascertain, were branch offshoots of the tendons of the flexor sublimis digitorum and the extensor minimi digiti respectively.

The proximal head of the first phalanx articulates with an extra metacarpal head, which branches from the metacarpal bone of the little finger proper, to the outer side of its own distal head, and rather on the external aspect of the side of the shaft. No doubt the arterial supply of this extra little finger corresponds to the similar branches of the deep and superficial palmar arches, and an offshoot from the little-finger branch of the posterior carpal at the back of the hand, which go to the little finger proper.

A perfectly formed nail is found upon both of these supernumerary digits; though in some particulars the extra digit of the right hand is not as near like a normal finger as the one I have figured on the left, more especially in points of mobility and size.

Several years ago I saw a very remarkable case of polydactylism in a man of about forty-five years of age, an ignorant Irish farm-hand; and I could get nothing of the history of the inheritance of it from him. This man (P. M.) had, articulating with the distal head of the proximal phalanx of pollex, two small and supernumerary thumbs, which faced each other, as I have drawn them in fig. 2. Each of these had two joints and perfect nails, and was evidently supplied with special branch slips of tendons; as I have frequently seen the man use them as a kind of pair of forceps, and pick up, if he chose, his pipe with them. If I recollect rightly, both hands were similarly deformed. The only other record I have ever made of this case was in 1872, when I drew a rough sketch of it for Prof. Burt G. Wilder at Ithaca, who was at that time interested in such matters, and making a special collection of such data, and deformities of these members.

Supernumerary thumbs occur elsewhere on the hand, as in the case I have drawn in fig. 3. This was a boy schoolmate of mine (J. O. D.), now a prominent artist in New York, and it was early removed during childhood by amputation. If I remember correctly, his father's and mother's hands were perfect, and the deformity only occurred upon one of his own hands.

Among the vertebrates below man, we occasionally meet with cases of polydactylism, and in all vertebrates, as we know, numbers of cases where we find duplicature of entire limbs. R. W. SHUFELDT.

Fort Wingate, N. Mex., Oct. 7.

Psychology of the bear.

In *Science* for Aug. 27 is an interesting letter from James P. Marsh upon the psychology of the polar bear. The following item, bearing upon the same subject, is going the rounds of the press, and may be of interest to those familiar with the ways of animals in general, and bears in particular: A bear had been having a merry time among the sheep of the farmers of Clarendon, New Brunswick, during the summer. All attempts to catch the beast failed. Last week a trap was set, and a fence erected so that he would have to step into the trap in order to get at the bait. Bruin surveyed the situation, and concluded, after some study, that he could get over better. He went to the rear of the enclosure, dug a deep hole under the trap, and then overturned it, thus securing the bait without any injury to himself. Not to be outwitted by a bear, the farmers tried again. The old trap was left where it was, and another placed where the bear got through before. The ruse worked like a charm. Bruin came along, snuffed at the bait, and, recollecting his previous success, determined to try the back entrance. He did not see the second trap,

and coolly put his foot into it. He was there next day, full of wrath, and a bullet put an end to his existence. H. J. T.

Millerite.

I wish to place on record the occurrence of the mineral millerite in the Keokuk beds of the subcarboniferous rock of Iowa. I have just received a few specimens of rock blasted out when the government was deepening the channel at the 'rapids' in the Mississippi, above Keokuk, some years ago. The specimens show cavities in the limestone, partially filled with calcite crystals, mostly of the scalenohedral form. In some instances these crystals carry very beautiful thread-like crystals of millerite. They are usually aggregated in the form of cones, the apices of which are almost solid on account of the threads being so close together, while at the bases of the cones they are much farther apart.

The occurrence seems to be in every way similar to the occurrence of the same mineral at St. Louis, Mo. A few small crystals of tetrahedral chalcopyrite are also present. ERASMUS HAWORTH.

Penn college, Oskaloosa, Jo., Oct. 9.

Alligators in the Bahamas.

Catesby, in his 'Natural history of Carolina, Florida, and the Bahama Islands,' published about a century ago, speaks of having seen alligators on the Island of Andros in this group. At present there are none, and, with the object of finding out if there was any tradition current bearing upon the subject, I made inquiries through the medium of the *Nassau guardian*. In answer to my questions, I lately received from the rector of Inagua, at the extreme south-east of the group, a letter, in which he mentions that stories of alligators having been drifted on logs of mahogany, and thrown up on the shores of the island, are common, but that he had not been able to verify any of them. However, a few days previous to the date of the letter, while on a visit to one of the settlements, Mr. de Glauville (the rector) was shown the skin of an alligator eight feet long from tip to tip, which had been shot on shore a day or two before by a man whose name is given. Many logs of mahogany had been cast up on the shores of Inagua about that time; but the alligator had not been observed to land, and had been seen on shore several times before it was shot.

There seems, however, to be no reasonable doubt that the alligator was drifted by the current from the south-east to Inagua, on a log of mahogany, from San Domingo, the nearest place in which alligators are found. This means that it travelled a distance of from one hundred to one hundred and fifty miles. With regard to the occurrence of alligators on Andros, Catesby was a very accurate observer, and there seems to be no reason for doubting his statement. These alligators would appear to have been carried on drift-wood from the north-west coast of Cuba, a distance of three hundred miles, by the Gulf Stream, and cast on the edge of the Great Bahama Bank, whence local currents, aided by the wind, might have carried them to the west coast of Andros. The absence of traditions on the subject may be owing to the fact that the present inhabitants of Andros are principally descendants of persons who settled there at a period subsequent to Catesby's visit.

These instances of the dispersion of large animals by means of oceanic currents may be of interest to those of your readers who study the question of the geographical distribution of animals.

While on the subject of Andros, may I be allowed to mention two rather curious superstitions current among the inhabitants of that interesting island? The interior of the northern part of the island consists of swamps and lakes, interspersed with patches of rocky ground on which the Bahama pine (P. bahamensis) grows thickly. The negroes have a great dislike to entering these pine-woods alone, or even in small companies; for they say that a peculiar race of malevolent beings, called 'little people,' inhabit the trees. These creatures are said to be like tiny men covered with hair. They sit on the pine-boughs, and if a man notices them, and points them out to his companions, the whole party is rendered immovable for a day and a night; but, if fire is thrown at the 'little people,' they disappear without doing any harm.

The other superstition also relates to the pine-woods. Creatures like enormous hairy men, called by the negroes 'Yayhoos,' are said to march about the woods in 'schools,' the largest coming first; and 'when dey cotch you, dey tear you.' These beings are naturally much more dreaded than the 'little people.' It looks as if their name had been given by some traveller familiar with 'Gulliver's travels,' and struck with the resemblance between them and the terrible creatures of Swift's imagination.

Both of these superstitions would appear to be traditions of the land from which the negroes originally came. The 'little people' are probably a recollection of the small, arboreal monkeys, while the 'Yayhoos' represent the gorillas, of West Africa.

JOHN GARDINER.

Nassau, Bahamas, Sept. 17.

Earthquake sounds.

In answer to your correspondent who asks, in the last number of *Science*, for some explanation of the sounds which often precede and accompany an earthquake shock, I would offer the following brief statement, condensed from Mallet's discussion of accompanying tremors and sounds (Report on Neapolitan earthquake of 1857, vol. ii.): Considering a rent or fissure to form in rock and rapidly enlarge, its formation is commenced and ended by tremors of very small amplitude, while the waves of amplitude great enough to produce the ordinary effects of an earthquake shock cannot be generated till after the focal cavity is enlarged to a certain amount. Waves of sound probably accompany the rending of the entire fissure: if the velocity of inceptive rending be sufficient, the sound waves set out the earliest of all, and, travelling through solid rock with a far greater velocity than in air, often reach the ear before the tremors of the earthquake-wave itself are noticed. Thus an observer often first hears a low and distant rumbling, then feels the tremors before the shock, then the great *shove* of the shock itself, and, lastly, the tremors with which it departs along with the sound. The order of the phenomena must also depend largely upon the distance and form of the focal cavity; the inclination of its plane towards or away from the observer; and many other circumstances, such as the physical, geological, and topographical character of the intervening country.

It is extremely desirable that your correspondent,