

This cat is a female and has borne three litters with normal fathers. Fifty per cent., as the owners remembered, were abnormal in one litter. The sole survivor has twenty-four toes, six on each manus and pes, all practically equivalent. In another litter more than fifty per cent. were abnormal; the sole survivor, a male, has the digit formula of

$$\frac{7}{6} \bigg| \frac{6}{6}$$

with a total of twenty-five toes. In the third litter there are five kittens. Three are abnormal, with the following formulæ:

$$\frac{6}{5} \bigg| \frac{6}{5}, \quad \frac{6}{4} \bigg| \frac{6}{4}, \quad \frac{7}{5} \bigg| \frac{7}{5}.$$

The last formula represents the number of digits when the kitten was a few days old. The first (inside) digit on one pes has now totally disappeared, and the corresponding one on the other pes is fast shriveling away; so that the normal number on each pes is being secondarily established by a resorption of No. 1, the toe which is normally absent on the pes and reduced on the manus.

In each of the four instances in which seven toes appear on one foot they are arranged in two groups. Toes Nos. 7, 6, 5, 4 (7 being the outermost toe) resemble the main four toes of the normal manus (*i. e.*, 5, 4, 3, 2). Of the three constituting the second group No. 2 is larger than any of the other six toes. Nos. 1 and 3 are of about equal size and smaller than any of the other five. Nos. 1, 2 and 3, taken together, seem to form a second (supernumerary) foot. It is interesting that seven toes occur only on a manus, which had normally more toes than the pes. The fact that the fifth toe degenerated in one case on the inside of the pes indicates that the supernumerary toes are added on the inside of the foot. This probably does not hold when there are two supernumeraries on the manus (seven in all), where, as Poulton held, the innermost toe may represent the hallux, or the supernumeraries may be interpreted as Freeland Howe, Jr., has recently (*Am. Nat.*, July, 1902) interpreted them in six-toed feet. According to this interpretation the outermost three toes are comparable to digits 3, 4, 5, of the normal

pes. None of the other three individually represent Nos. 1 or 2, but collectively they replace No. 1 plus No. 2. This seems to me the more probable view in the present instance.

A review of the above facts shows the marked prepotency of the sport. The grandmother (generation I.) had

$$\frac{6}{5} \bigg| \frac{6}{5}$$

or 22 toes. In generation II., one litter contained but one abnormal kitten among five (twenty per cent.), with a total of 22 toes. The other litter contained several abnormal ones, the sole survivor possessing seven toes on one manus, though with a total of but 21. From this cat have arisen the three litters of generation III., in which one has 25 toes (one manus having 7), two have 24 (one of these having 7 on each manus), and all three litters possessed not less than fifty per cent. of abnormal individuals, the last having sixty per cent. It is clear that the total number as well as the number on each manus and pes is increasing from generation to generation.

There seems to be a no less remarkable prepotency of sex. The male cat with 25 toes, when crossed with normal females, seems to have had no influence on the number of toes in the offspring, so far as information could be obtained. This result is not in harmony with Poulton's observations, however, and may not be borne out by further information.

I have obtained several of these cats for breeding and future study.

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MAGNETIC WORK OF THE UNITED STATES COAST AND
GEODETIC SURVEY PLANNED FOR JULY 1,
1902, TO JUNE 30, 1903.

(a) *Land Magnetic Survey Work.*—The determination of the three magnetic elements at four hundred to five hundred stations distributed principally in Virginia, New Jersey, Pennsylvania, Ohio, Michigan, Kansas, Nebraska, Texas, Arkansas and Florida.

(b) *Magnetic Observatory Work.*—The continuous operation of the four magnetic observ-

atories situated at Cheltenham (Maryland), Baldwin (Kansas), Sitka (Alaska) and near Honolulu (Hawaiian Islands). Also the selection of sites and preparations of plans for an observatory in Porto Rico or vicinity and another in the extreme western part of the United States.

(c) *Ocean Magnetic Survey Work*.—The inauguration of magnetic work on board ship in connection with regular trips of vessels engaged in coast survey work.

(d) *Special Investigations* conducted at the observatories and at educational institutions by persons available as 'associate magnetic observers.'

(e) *At the Office at Washington* a special effort will be made to bring all computations of field work performed and investigations conducted since July 1, 1899, up to date and to prepare results for publication. [The results for magnetic declination referred to January 1, 1902, embracing all observations up to June 30, 1902, are contained in the 'United States Magnetic Declination Tables for 1902,' now passing through the press. The results for magnetic dip and intensity up to June 30, 1902, are being prepared for publication and will appear in Report of the Superintendent of the Coast and Geodetic Survey for 1902.]

L. A. BAUER.

THE HUGH MILLER CENTENARY.

THE celebration of the centenary of Hugh Miller, the Scotch geologist and litterateur, took place in the picturesque little village of Cromarty, his native place, on August 22, and was the occasion of a large and enthusiastic gathering. Those present were very largely Scotsmen and the day was made one of special rejoicing in view of the extraordinary service rendered by Miller as a layman to the ecclesiastical disestablishment in Scotland, yet his services to geologic science and his unequalled achievement in clothing geologic facts in alluring literary garb were kept in the foreground. The ceremonies of the occasion began with an outdoor meeting at the foot of the fine shaft which bears at its summit a statue of Miller. This meeting was opened by the Provost of the town, Mr. Junor,

and was presided over by Mr. Bignold, M.P. Addresses were delivered by Sir Archibald Geikie, former director of the Geological Survey of the United Kingdom; Dr. Rainy, principal of the Free Church College, Edinburgh; and Dr. J. M. Clarke, of Albany, who with Dr. C. R. Eastman represented the Geological Society of America. A luncheon followed in the largest hall the village afforded, though this was altogether insufficient to accommodate those who desired to attend, and while 250 sat down at table, as many more were turned away. At this function Sir Thomas Hanbury presided and speeches were made by Dr. John Horne, chief of the Geological Survey of Scotland; Rev. Dr. Muir, of the Glasgow Cathedral; Dr. Carnegie; Professor Middleton, of Oxford; Sir James Grant, president of the Royal Society of Canada, and others. The occasion was closed by an elaborate and elegant address by Sir Archibald Geikie on Miller's work and influence as a geologist. The effort which has been made by the people of Cromarty to raise a memorial to Miller in the form of a library and museum has not thus far been as successful as was anticipated, though the contribution from America has been substantial. It is believed, however, that this celebration which called forth widespread interest, great enthusiasm and strong editorials from all parts of Great Britain, will help to further the project which appeals to all who honor the memory or have felt the influence of this great man.

THE BRITISH ASSOCIATION.

THE Belfast meeting of the British Association is said by the British journals to have been one of the most interesting in its history. The programs were full, and there were a number of addresses and papers of special importance. The attendance was about 1,600 which was about 300 less than that of the preceding meetings at Bradford and Glasgow, and the meeting at Belfast in 1874 presided over by Tyndall. The meeting at Bristol in 1898, had an attendance of 2,446 and that of Liverpool in 1896 of 3,181. The attendance at the meetings of the British Association is