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# ORIGIN OF SPECIES.

Caerleon, North Wales, June 19, 1869.
I am much obliged to your Correspondent of
June 5 for having pointed out a great error in my
'Origin of Species,' on the possible rate of increase
of the elephant. I inquired from the late Dr. Falconer with respect to the age of breeding, &c., and understated the data obtained from him, with the intention, vain as it has proved, of not exaggerating the result. Finding that the calculation was difficult, I applied to a good arithmetician; but he did not know any formula by which a result could easily be obtained; and he now informs me that I then applied to some Cambridge mathematician. Who this was I cannot remember, and therefore cannot find out how the error arose. From the many familiar instances of rapid geometrical increase, I confess that, if the answer had been thirty or sixty million elephants, I should not have felt much surprise; but I ought not to have relied so implicitly on my mathematical friend. I have misled your Correspondent by using language which implies that the elephant produces a pair of young at each birth; but the calculation by this assumption is rendered easier and the result but little different. A friend has extended your Correspondent's calculation to a further period of years. Commencing with a pair of elephants, at the age of thirty, and assuming that they would in each generation survive ten years after the last period of breeding—namely, when ninety years old—there would be, after a period of 750 to 760 years (instead of after 500 years, as I stated in 'The Origin of Species'), considerably more than fifteen million elephants alive, namely, 18,803,080.

At the next succeeding period of 780 to 790 years there would be alive no less than 34,584,256 CHARLES DARWIN. elephants.

### CORRECTIONS IN CHAUCER.

June 19, 1869. 1. "Come, kiss me" for compane, in 'The Milleres Tale, '1. 3709, does not suit the context. Absolon, finding his application refused, resorts to kissing as an alternative. In l. 3716 he says, "than kisse me." Clearly Chaucer would not put this request in Absolon's mouth, if Alison had just said, in plain words, "it wol not be, come, kiss me." The sense of the passage is fully met by compain = gossip, a form of the French compère; but it does not rhyme with "blame." Rhyme and reason may, however, both be preserved by inserting a y. Thus, "come, pay me!" The word pay is frequently used by Chaucer in the sense of pleasing.

2. The word squaimous, in the same tale (l. 3337) has often been queried. It is the Latin word squameus. In cant phrase, Absolon was decidedly scaly

on that point.
3. "Palmyra" for Belmarie, 1. 57, is not clear. Froissart, according to Tyrwhitt, mentions a Bellemarine in Africa. Did the Crusaders ever penetrate A. HALL.

### THE ROYAL SOCIETY ELECTION.

June 22, 1869. "F.R.S." in last week's Athenaum has raised an important question, - one that should be of paramount interest to all who write the honourable initials after their name. But has he saddled the right horse ? In examining whether he has or not, a view of the question is opened which as it appears to me, and to those who think with me. deserves serious consideration.

It is easy to assert that the Council of the Society fail in their duty; but do we—we whose names are signalized by "F.R.S." wherever science shows her face—do we, I ask, do our duty? Is it not notorious that we shirk our share of responsibility? that having elected a Council to work for us in November, we take no further trouble until November comes again, and in the interval we throw upon them the responsibility for everything that takes place within the Society? Why complain that the Council select unworthy candidates for election, when we ourselves take no pains to keep unworthy candidates from coming before them? How many or how few-are there among us who have the courage to refuse to sign a certificate? "I want to get Littlewit into the Society," says some unfortunate member of our fraternity, "will you sign his certificate!" We would rather not sign. We know that Littlewit is not worthy to enter our ancient corporation, but we don't like to say no; and so we sign, and then endeavour to stifle self-reproach by "trusting that the Council will keep him out." But the Council is composed of twentyone individuals, and among them Littlewit may have a friend or two, who can, perhaps, persuade one or two more, and so turn the scale in his favour at the ballot. A case in point occurred in the last "selection" and "election," and I can easily imagine that the majority of the Council felt as much surprise at that result as we did who are outsiders.

Now, is it not clear that this could not happen if we, the Fellows of the Society, were as jealous as we ought to be of the Society's reputation? Is it honourable to us individually or collectively that a list containing from forty-five to sixty names of men ambitious of the "F.R.S." should be circulated among us year after year, when we know that perhaps half of those names ought never to have appeared, and would not have appeared had we done our duty? How much trouble would be saved to all concerned if that hopeless half of the names could only be got rid of!

Having thus endeavoured to show how the mischief may be avoided, I should like to say a few words on the means of mitigating or obviating it when imminent. "What can the Fellows do?" asks "F.R.S." and immediately he replies that we can, do nothing, because to do the right thing would "seem invidious." If it is better that the reputation of the world-renowned Society should suffer

invidious," then there is an end of the argument; but my answer to What can the Fellows do? is, they can do everything. We are a democracy, with power, every St. Andrew's day, to overturn our government, and elect whomsoever we please. And at the meeting for election of Fellows in June it would be easy for us to rectify any mistake in the Council's selection, by striking out Littlewit and putting in the name of a better man. Whether invidious or not, is beside the question; for in sodoing we are but exercising an unquestionable right. We, the Fellows, have the right and the power to elect twenty, thirty, or the whole list of candidates. should our occasions or our pleasure lead us so to do. But the limitation of the number annually chosen to fifteen has worked so well for the Society, that. we shall hardly be persuaded to abandon so valuable a safeguard. Whether it shall continue to be a safeguard, in the most literal sense of the term, depends on ourselves.

## THE SHEPHERD-KINGS.

Bekesbourne, June 19, 1869. THE distinction between the Mitzraim of sacred history and the Egypt of profane history for which I contend, and which the discoveries of Mariette Bey, now brought to public notice by Prof. Owen, go so far to prove, is not made by me to depend on the mere use or disuse of the horse or dromedary ("camel") in the one country or the other at any particular period, as I understand my friend, Mr. Hyde Clarke, to imply, but is a fact established, as far as it can be established on negative evidence, by the entire absence of all signs of the existence of those animals in the latter country till a comparatively late period, whereas they are proved by the early history of the Israelites to have been well known in Mitzraim, which country I identify with that of the Hyksos or Shepherd-Kings of Manetho.

To this identification, the objection has, however, been raised that in Genesis xlvi. 34, it is said, "Every shepherd is an abomination unto the Mitzrites," which objection would be conclusive, were it not that the word "abomination," used in this and other passages in the Pentateuch, is a mistranslation of the Hebrew word הועבה (to'ebah), as may be thus satisfactorily shown.

The word in question is derived from the root תעב (ta'ab), of which Gesenius says in his Lexicon (edit. Robinson, 1855), "the primary idea seems to be to thrust forth or away, to drive away, and hence to reject, to abhor, to abominate"; comparing it, however, with and (taab), to which he gives the double meaning of "to desire, to long after," and "to abominate, to abhor."

Now, I conceive that the two roots are, in fact, identical, -the guttural y in the one being softened into x in the other,—and that their primary meaning is not to thrust forth or away in a bad sense alone, but indefinitely, to put away or aside, to set apart, to separate, either in a good or in a bad sense, and hence to dedicate or consecrate, -and this, too, either for a good or for a bad purpose, as is so remarkably the case with the root upp.

The Greek αναθεμα, the Latin sacer, the French sacré, and even the English sacred and devoted, have all this double meaning and application. These last two words are thus used together in a bad sense by Milton:-

But to destruction sacred and devote.

Paradise Lost, iii. 208.

Consequently, the primary meaning of the Hebrew noun-substantive to'ebah is "a person or thing set apart"; belonging to a distinct class, and thus appropriated or dedicated to some special purpose, religious or otherwise, either in a good or in a bad sense. The taboo of the South Sea islanders offers an exact parallel. It is taboo for the two sexes to eat together, just as it was to'ebah for the Mitzrites to eat with strangers (Genesis xliii. 32); and in like manner many persons, animals and things are taboo, as shepherds and goatherds and their flocks were to'ebah.

When, therefore, Joseph told his brethren to say to Pharaoh, "Thy servants' trade hath been about cattle," he did so, not because every shepherd was "an abomination" unto the Mitzrites, which would than that something should be done which "seems have been an absurdity, but because shepherds