takes place loculicidally, and the three dark-brown seeds, one in each cell, are exposed to view. It is at this stage that the phenomenon in question may be observed. The pressure exerted by the smooth sides of the somewhat obconical capsule against the equally polished surface of the calyx-tube occasions the rupture of the capsule from the base of the calyx, and its more or less rapid expulsion into the air with its three seeds. The latter, which are at this time free within the cells of the capsule, are carried to greater distances on account of the smaller amount of resistance they offer to the air by reason of their shape and weight; the action, in fact, being not altogether unlike that of the discharge of a cartridge and its contents from a rifle. The suddenness of the explosion depends very much on the state of the atmosphere at the time. On a hot day I have observed several instances of spontaneous discharges, whilst a slight touch only was necessary for the explosion of the remaining capsules whose dehiscence had already commenced. Many of the seeds were observed adhering to the upper leaves and calyx-segments, which are thickly covered with glandular hairs of a remarkably viscid nature. Contact with these moist bodies very soon induces the outgrowth of those curious and beautiful spiral hairs for which the seeds of this and a few other plants are remarkable, and thus they become doubly secured by adhesion. I have noticed in some cases when seeds adhere to the flat surface of a viscid leaf, that this outgrowth assumes a definite outline extending all round the seed in the form of a flat membranous expansion, and these, on removal, recall forcibly the appearance of ordinary winged seeds, like those of *Lepigonum marginatum*, for instance. Can this attachment be of any use to the seeds or to the plant itself by feeding on the nitrogenous products of their decomposition? Although I have observed a few of these attached seeds undergoing partial decay, yet, from the nature of their hard horny perisperm, it is not reasonable to suppose that it can take place to any great extent, unless the viscid secretion from the glands is able to render this substance sufficiently soluble for the purpose. If, however, a certain proportion do become sacrificed for the good of the plant, we can understand the object not only of the delicate spiral hairs for ensuring firm attachment, but also that of the explosive process, by means of which a certain number of seeds are conveyed beyond the reach of the viscid surfaces, and falling to the ground, are available for the reproduction of the plant. *Saxifraga tridactylites* might be mentioned as another instance of a viscid plant with the habit of retaining the seeds on its glandular parts; the much larger quantity, however, produced by this latter plant in proportion to what can be required for reproductive purposes would seem to do away with the necessity for any sudden mode of expulsion. Like most plants with sticky glandular hairs, the viscid parts of this Collomia may be seen covered with small insects in various stages of decomposition.

It might be asked, "What advantage can it be for an annual plant to feed on its own seeds, the production of which is the completion and, in a certain sense, the object of its existence?" I would suggest, though with diffidence, the possibility of certain annuals being raised by such means to a higher state of existence as biennials or perennials, in which condition they might or might not require the continued assistance of glandular hairs or other such contrivances. This might explain the occurrence of hairs on certain parts of plants either constantly present or at particular times of their life; such, for instance, as those on the first leaves of the turnip plant, and many other examples could be given, in the case of which we might suppose that the possession of such hairs, or whatever they may represent, have ceased to be required.

There does seem to be some sort of general relation as to the degree of hairiness between annuals, biennials, and perennials, and which often becomes apparent during the development of many plants which in their adult condition are destitute of hairs. On this hypothesis it seems to me conceivable that many of our large glabrous-leaved trees may have originated from hairy or glandular annuals, dependent, perhaps, more or less on aërial nitrogenous food. In any case it is interesting to investigate the true purpose—for such there must be—of the elaborate machinery of traps and spring-guns as displayed in the life of this Collomia.

J. F. DUTHIE

Royal Agricultural College, Cirencester

P.S. Since the above was written I have observed the effect of placing a few of the empty expanded capsules in water. In a short time (about half an hour) their valves became completely contiguous, and they presented the same appearance as they did shortly before dehiscence, with the exception of a transparency due to their containing water instead of seeds. This sensitiveness to the action of moisture is clearly a provision for preventing the filamentous outgrowth from the surface of the seeds whilst in the capsule

J. F. D.

Lunar Phenomena

I HAVE pleasure in forwarding a brief account of facts relating to two very remarkable protuberances which were observed on the moon's disc in the Gulf of Siam, by Mr. E. C. Davidson, Telegraphic Engineer, and myself.

H.S.M.'s guard-ship *Coronation* (Champon Bay), July 13 (civil time), in lat. 10° 27′ 40″ N. and long. 99° 15′ E., at midnight, the moon bore S.W. by W. magnetic, and its altitude was about 20°, when a prominent projection was seen with the naked eye on the moon's upper limb. The best glasses on board were soon brought to bear upon it, and the enclosed sketches * (with due regard to proportion) were carefully made on the spot.

The protuberance, in colour, was similar to that of the moon.

On July 14, at 8 P.M., the moon was observed perfectly clear, but without a vestige left of the protuberance of the previous night. At this hour, however, a small one was noticed in a different position of the limb.

This also had disappeared before the moon rose on the evening of the 15th inst., when it finally presented its usual unbroken appearance.

A. J. LOFTUS

Champon Bay, Gulf of Siam, July 16

The Strength of the Lion and the Tiger

IN NATURE, vol. xii., p. 474, in a review of Dr. Fayrer's book on the tiger, doubts are thrown by the reviewer on the statement that the tiger is stronger than the lion. Dr. Fayrer's statement cannot be contradicted by any person well acquainted with both animals. In my book on "Animal Mechanics," published in 1873, I have proved, p. 392, that the strength of the lion in the fore limbs is only 69·9 per cent. of that of the tiger, and that the strength of his hind limbs is only 65·9 per cent. of that of the tiger.

I may add that five men can easily hold down a lion, while it requires nine men to control a tiger. Martial also states that the tigers always killed the lions in the amphitheatre. The lion is, in truth, a pretentious humbug, and owes his reputation to his imposing mane, and he will run away like a whipped cur, under circumstances in which the tiger will boldly attack and kill.

At p. 482 you state that Dr. Bolau, of Hamburg, is about to publish an account of the anatomy of a gorilla which nearly reached Hamburg alive, and was preserved in spirits. Your readers will be glad to learn that he has been anticipated by Prof. Macalister, of Trinity College, Dublin, who has already published a full account of a similar animal, which nearly reached Liverpool alive some years ago, and was dissected by myself and Dr. Macalister. A comparison of his muscles with those of man, chimpanzee, and hamadryas, will be found in my "Animal Mechanics," p. 404 *et seq.*

SAMUEL HAUGHTON

Trinity College, Dublin, Oct. 1

A Snake in Ireland

THE enclosed letter to the editor of the Irish *Daily Express* may excite speculation as to how the snake got where it was found. The fact is worthy of record, at any rate, that a snake has been caught in Ireland. What would St. Patrick say?

"Sir,—My gardener this morning killed a large snake in the garden here, measuring five feet long by three inches in circumference. It has a black back, with light yellow belly; I do not know what species it belongs to, but have preserved it in spirits. Is it not very rare to find such in Ireland?—Your obedient servant, "FRANCIS WM. GREENE.

"Kilranalagh, Baltinglass, Co. Wicklow, Sept. 11."

I have not seen it, but my correspondent Lady M. has it in her possession, and remarks that its head is very small and its nose pointed; it is quite five feet long, black, and the colour of

* The sketches are not clear enough to be reproduced.