

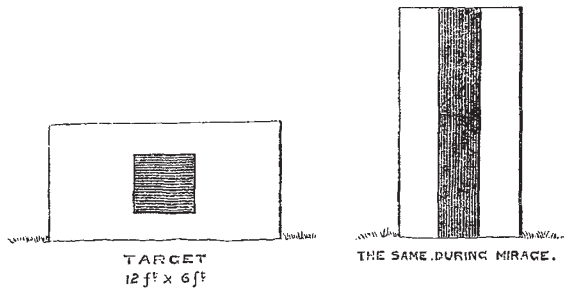
scarlet berry could be seen on the adjoining trees of the common kind. A friend informs me that a mountain ash (*Pyrus aucuparia*) growing in his garden bears berries which, though not differently coloured, are always devoured by birds before those on the other trees. This variety of the mountain-ash would thus be more freely disseminated, and the yellow-berried variety of the holly less freely, than the common varieties of these two trees." It appears to me that a hollyberry falling by its own weight from the bush would be borne vertically downwards; and though nourished by a soil impregnated with the decayed leaves of the parent tree, the young plant would be almost entirely deprived of light, and would soon succumb to its more vigorous rivals in "the struggle for existence." Perhaps in a country where but little land is left uncultivated, "the great majority" of seeds transported by birds "would be deposited on arable or pasture land," and thus succeed no better than the others; but so far as my limited experience extends, the most usual positions in which seedlings of the holly naturally spring up, seem to be at the bases of steep rocks or of trees whose branches are not sufficiently low and spreading to exert an unfavourable influence. If Mr. Reeks's speculations be correct, they appear to me to point to the ultimate extinction of the species in a state of nature rather than to its gradual modification.

W. E. HART

Mirages

THE reading of the two letters of your correspondents in the last number of NATURE has called to my mind the fact, which may not be generally known to your readers, that mirages are of frequent occurrence (and I need not add annoyance) to riflemen, especially "small-bore shots."

The most remarkable case of which I have heard was seen at Wimbledon, during the meeting of the National Rifle Association, in July last. The target at the 1,000 yards range is of an oblong form, 12 ft. wide by 6 ft. high, and with a bull's-eye three feet square. On lying down to shoot on the level ground, the target appeared in a reverse position, with the bull's-eye running through the entire height, from top to bottom, thus—



the quasi-phantom target continually moving from right to left, backwards and forwards. But this was only visible when lying on the level ground; for in shooting from a mound about four feet high the target appeared quite natural; and what seems stranger still, the lateral motion did not follow the direction of the wind; for it sometimes moved with the wind and sometimes against it. Friends of mine have seen exactly the same phenomenon both at York and at Altcar.

I have several times, on the range here, seen the bull's eye appear to slide up to the top of the target, or down into the ground; and this latter seems the most common and universal form of mirage.

I need not add, that in all these cases the sun-light was intense.

W. PERCY SLADEN

Halifax, Aug. 29

Kant's Transcendental Distinction

HAD I cherished the wish to involve Mr. Mahaffy in a war of words (*λογοθηρία*), so often degenerating into a war about words (*λογομαχία*), his straightforward and sensible letter, *wreathed* with courtesy and generosity, would have extinguished it. But, with some desire to justify my own censure, I had no such wish; and now that I know exactly what he had in mind, in the examination question, as in the note on page 57 of his work, I will say my say as briefly as possible on his view of Kant's "distinctions."

I thought, and still think (and here the learned translator of Fischer, has misapprehended me), that Kant intended to contrast *general Sense* (not particular sense, as colours, odours, &c.) with Understanding. Otherwise, the repeated reference to "Herr von Leibnitz" would be unintelligible. (See Hartenstein's Ed. of the K. r. V., p. 241 *et seq.*) To suppose, as Mr. Mahaffy suggests, that something more recondite, something quite radical was meant by Kant, seems to me a gratuitous refinement; for *a priori* elements of sense, as those of understanding, are *transcendental*; and the distinction would have only a *logical* difference; or, in Kant's language, it would be a distinction of logical, not of transcendental, reflection. No one, I am sure, knows better than Mr. Mahaffy, that all transcendental *distinction* is the result of transcendental *reflection*; and to this the doctrine of Time and Space is a necessary preliminary; that doctrine, therefore, is not based on the transcendental distinction. I cannot doubt that Kant called the generic distinction between the two faculties (Affection and Function) *transcendental*, not because he was contrasting transcendental elements, but because the distinction was drawn by *transcendental reflection*; *i.e.* reflection which, by the vantage of a transcendental *πῶς ὄν*, refers a conception to this or that faculty.

Accordingly, we are not called upon to give a more recondite meaning to the distinction in question in order to explain the use of *transcendental* as applied to it. Rather let us bear in mind what Dr. J. H. Stirling pointed out to me some months ago, that Kant somewhat loosely applies that adjective to other matters besides the *a priori* elements of experience. In fact, he applies it to the said *distinction* and *reflection*, and also to the thing in itself, an object exercising an unknown function, feigned to account for a known state. The unknown function indeed might be called transcendental, but the object is in itself a mere nullity. If Sensation be referred to the *kick* (as Dr. Stirling calls it) received by us from the feigned object, that *kick* is transcendental; but "das Object bleibt uns unbekannt und *transcendental*." We say, then, that the two forms of sense and the four forms of thought (in apperception) are *transcendental and constitutive of experience*; but the object in itself is *transcendent and regulative of thought*. If Kant departs from his own nomenclature in the case of the noumenon, we need not be surprised if he does so in the case of the distinction between sense and understanding.

The bearing of this question on "Kant's View of Space" (which was the topic of controversy between Mr. G. H. Lewes and Dr. J. J. Sylvester in the columns of NATURE) is noteworthy here. The sensibility, according to Kant, is not spontaneous or active, like the understanding. The forms, then (*i.e.* the institutions of Time and Space), are not, cannot be, products of the *activity* of any faculty, and therefore time and space cannot be forms of *Thought* in any legitimate sense of the word. Let it be used in the widest sense possible; let it stand for the *active faculty of mind in general*; and then it can be proved that Kant would have refused to refer to it the forms of general Sense, because he denied to general Sense any activity whatever.

C. M. INGLEBY

Valentines, Ilford, E., Sept. 6

Volcanic Agency v. Denudation

MR. DAVID FORBES holds that, in instituting "a comparison between the relative magnitude of the operations of internal and external forces in determining the main external features of our globe, we must grant the first rank to the internal, volcanic, or cataclysmic agencies, since, had it not been for their operations, our globe would have remained without any visible land for the rivers to traverse, or the rain and ice to disintegrate and wear away."

The latter part of the statement cannot, of course, be called in question. But does the conclusion necessarily follow? Suppose I say that a father who died before his son was born, ought, as far as that son's education was concerned, to rank before the schoolmaster who taught him, because but for the father there would have been no boy to teach; or that the quarryman who extracted a block of marble from the quarry ought to rank before the sculptor who shaped it into a statue, because but for the quarryman the sculptor would have had nothing to work upon. In truth, in a case like this, it is hard to attach any definite meaning to the idea of rank. If Mr. Forbes had said that in the task of bringing the earth's surface into its present shape, internal forces have done more work than external