

to reach a certain point, and each of the party in turn (including an Esquimaux) took the lead, but all failed to keep the correct course beyond a minute or two, so that the constant stoppages necessary to consult the compass were trying to the hands; in fact one of the native dogs, protected by a thick fur, fairly succumbed to the cold, and the poor thing had to be abandoned to its fate.

We at last thought of placing an Esquimaux boy of about fourteen as leader, and he managed to keep a straight course with wonderful accuracy, although he walked crab-fashion, sideways, so as to protect his face from the bitter blast.

Is Mr. Larden's theory correct, namely, "that those in whom the left leg is strongest would circle to the right?" I think not, because according to my idea it is the leg from which one steps, and not the leg that takes the step or that is placed in advance that imparts the impetus; so that a strong left leg would cause the step with the right foot to be longest, and the person would circle to the left.

JOHN RAE

4, Addison Gardens, January 26

WITH reference to the letters by Messrs. Darwin and Hawksley in the current number of NATURE (p. 286), I may say that I am very strongly "left-legged" (also strongly right-handed), but so far as I am aware there is not the slightest difference in the lengths of the two limbs. I became aware of the peculiarity when a child, by noticing that on a slide the other boys used to go right foot first, and I left foot. Subsequent attempts to break myself of the habit only resulted in my coming ignominiously to grief, and if I tried now to leap a ditch right foot first I would tumble headlong into it instead of clearing it. The next time I find occasion to kick I will try to remember which foot was used. It is right to state, however, that in my case I think there has probably existed from infancy a very slight natural weakness of the right ankle. Attempts with me to walk a straight line with the eyes shut seem invariably to result in my swerving to the left, which appears to be contrary to Mr. Darwin's experience.

Lewisham, January 25

R. MCLACHLAN

MIGHT not the longer step taken by one leg be explained as follows:—

Most people when standing at ease habitually throw their weight on one leg; but, whichever it be, its movement is more likely to disturb the balance of the body. It would therefore be more quickly replaced on the ground, and a shorter step would result.

The unequal steps would not necessarily effect a circular course, as may be easily shown by experiment. A divergence, say, to the right would be caused by the left leg swinging in its step towards the right, and such would be its natural movement if the body inclined to the right. Now a person who constantly stands more on the right leg than the left would have that inclination in his walk, in spite of the alternate removal of the burden from each leg. This tendency to lean towards the right would be still further encouraged by the ancestral or individual use of the walking-stick in the right hand.

The suggestion of Mr. G. H. Darwin (January 24, p. 286) that the mounting a horse on the left side may be accounted for by the sword is strengthened by the freedom of the sword-arm requiring that the left hand be used to grasp the reins, which is the first act in mounting. There would be a momentary want of control over the horse if, under these circumstances, it were mounted from the right side.

F. M. CAMPBELL

Rose Hill, Hoddesdon, January 28

IN a letter to you about another subject Mr. G. H. Darwin suggested last week that the British rule of the road for riding was justified by the advantage of having your sword hand towards a stranger, but why then should the rule of the road in walking be, what I understand it to be, the reverse of the rule in riding?

I would suggest that perhaps the rule in riding is adopted from the rule in driving, and that the latter results from the fact that a driver may be assumed to carry his whip in his right hand and therefore to sit to the right if there be two on the driving seat, and that when he is so seated he can see better how he is passing another vehicle if our rule is adopted.

This, like Mr. Darwin's suggestion, would leave us without explanation why most nations have adopted a rule the reverse of ours.

It would perhaps be hardly scientific to say it is because Englishmen are always right and foreigners always wrong, nor would it be much more so to say that it is because English drivers like to make a close shave and foreigners as a rule give an obstacle a wide berth, for the latter fact, if it be an observed fact, may be the effect, not the cause, of the rule of the road. Can it be that the foreign rule was adopted where it was customary for the driver to sit alone on his seat and could therefore see equally well on both sides, and at the same time wished to have freedom to use his whip.

STEPHEN A. MARSHALL

#### Diffusion of Scientific Memoirs

When, in reviewing Prof. Stokes' *Reprint*, I spoke of "the almost inaccessible volumes of the *Cambridge Philosophical Transactions*," I was referring expressly to the *Transactions* only, and to the period 1845-54. That there are now 120 "centres" in which "*Transactions* or *Proceedings*, or both" are accessible, is an interesting and important fact, but wholly beside the question raised by my remark. [I leave out of account copies sent to Honorary Fellows; for these are not more accessible than those obtained by Ordinary Fellows.]

The question at issue between the Secretary of the Society and myself is:—What was the state of matters in 1854? Mr. Glazebrook gives me data for the present time, and for 1869, only. From these it is not possible to obtain more than an approximate answer to the question. But, in default of further data, I assume that (in accordance with the published statistics of similar Societies) the number of Hon. Fellows of the C.P.S. has not changed since 1854; and that the increase of "centres" from 1854 to 1869 was nearly the same as from 1869 to the present time. It follows from Mr. Glazebrook's data that the number of "centres" in 1854 must have been about 40 only.

But I referred to *Transactions* alone, not to "*Transactions* or *Proceedings*, or both." To obtain a rough idea of the correction to be made on this account, I take the numbers for the *Royal Society of Edinburgh* (with which I am best acquainted, and which are at least as large as those for the *Royal Society*). In Mr. Glazebrook's form of statement, these numbers are at present

Hon. Fellows ... ..	56
Total number distributed ... ..	343

Deduct the first number, and there remains 287. But of these "centres" 96 (one-third, say) receive *Proceedings* only.

Hence it would appear that, in 1854 and previous years, to which alone I referred, the *Cambridge Philosophical Transactions* were to be found at some 27 "centres" only; say 10 at home and 17 abroad. Surely this would much more than justify the term "almost inaccessible"!

I cannot recollect having made any application for the C.P.S.'s publications, though I have often asked Cambridge friends why I did not get them regularly. But, according to Mr. Glazebrook's view, I should either have received all, or none.

The state of matters, in the three Edinburgh "centres" to which Mr. Glazebrook alludes, is at present as follows:—

All three "centres" have the *Transactions* complete; except the University Library, which wants vol. xiii. parts 1 and 2.

The Advocates' Library has not the *Proceedings*; the Royal Society wants vols. i. and ii., all but a few pages; and the University Library wants vol. iv. parts 1, 2, 3, 4, 5. Thus one "centre" has no *Proceedings*, another has almost half, and the third three-fourths.

I must, in concluding, repeat my hope that NATURE may do a new and great service to science by collecting full statistics as to the "centres" at which the publications of the various scientific Societies are accessible.

P. G. TAIT

College, Edinburgh, January 26

#### Water in Australia

REFERRING to my letters in NATURE of May 12, 1881, and March 30, 1882, on the underground water supply of Australia, it is interesting to observe that the search for it is being actively carried on by some energetic colonists, and that their efforts are successful. The following extract from *The Queenslander* of May 26, 1883, shows what can be done:—

"The subterranean waterflow now proved to exist beneath the vast arid plains of the west has been tapped at yet another