

arriving at the spot. Some ladies describe a remarkable sensation accompanying the process: a sort of "all-overishness," or even faintness, so much so that the lady first alluded to on one occasion staggered, and could not proceed at all.

It appears to me to be a very peculiar psychological phenomenon well worthy of investigation, if possible, but too well known to be disputed.

GEORGE HENSLOW

6, Titchfield Terrace, Regent's Park, N.W.

P.S.—Since writing the above I have heard of a much more remarkable case than the preceding. The operators sat in a circle, silent, but determinately "willing" that a certain lady should do what they had resolved upon. She stood in the centre, and was not blindfolded or touched by any one. In every case she did it correctly. One thing that was agreed upon was for her to take a bottle of wine from one table, carry it to another, and pour out a definite quantity of wine. This she did, not exceeding the amount predetermined. On a second occasion she had to find a key hidden away behind some books. As she approached the place she became very excited and hysterical, but at once extracted the key.

The above cases clearly show that as far as they are concerned "thought-reading" is an incorrect expression, as the person operated upon is a passive automaton, while others, as it were, force their wills upon her. "Will-imparting" would seem to be a better term.—G. H.

Notes of the Cuckoo

IN a letter appearing in NATURE, vol. xxii. p. 76, I stated that—"All the cuckoos here intone in a minor key except one, which alone does not flatten the 3rd of the tonic. The key is in all cases precisely D of concert pitch, as proved by a tuning-fork, and the first note is F on the fifth line." This year I find that, while the cuckoos here generally intone in D minor, as above, there is one again that intones in D major, and two others in C major and C minor respectively. Some that I casually heard in other places in the neighbourhood intoned in D minor.

Millbrook, Tuam, June 1

JOHN BIRMINGHAM

Notes on the Indian Glow-Fly

HAVING failed to find any critical description of these interesting insects, it is possible that the notes I am now able to send you may cause others to enter the field of inquiry. Situated some 2900 feet above the sea, and in Central Southern India amidst hills, valleys, and streams, I have had peculiar opportunities for observing them.

They are not to be seen during the daytime, but so soon as darkness steals upon twilight, so surely do these small natural lanterns become visible, and their numbers rapidly increase, much indeed as the visibility of the stars increases as the evening passes into midnight.

The fire-fly, when examined individually, is by no means a pretty-looking insect, and comparing it to other insects and flies, it is certainly both large and ungainly. An ordinary house fly is five-sixteenths of an inch in total length and weighs .25 grains, but the subject of my notice has a total length of nine-sixteenths of an inch and weighs .66 of a grain; we thus at once learn something as to his size and weight. The glow-fly—or beetle as I should term it—has a black head and antennæ; the thorax and abdomen are of a yellow-red colour. This latter part of the insect's body is divided into six rings, and, counting from the thorax, it is the fourth ring that emits the light. There is a rectangular opening in this ring which is merely covered by a very thin skin; it is in fact a *window* from which the light emerges. The insect has only one pair of wings: these are small, most delicate and thin, and are sheathed. It is worthy of careful notice that these insects fly both rapidly and slowly, but make no noise or buzz in the air. To test this further I have frequently liberated several of these glow-beetles in my bedroom, and in the dark they have only appeared as *fairy stars*, as no humming could be detected.

As regards the character and quantity of the light, I have to observe that one insect enables me to see the time by a white-faced watch when four inches distant; twelve of them placed in a glass jar enable me to read a book with ease, and are equal to a small Geissler's tube. The light is of an exceedingly beautiful colour—a sombre yellow tinged with green, but at intervals it is brilliant. A preliminary examination of the light in the spectroscopic (a large one made for me by Browning) shows a distinct

clear continuous spectrum, no lines or bands of any kind being visible.

The insect made to crawl on a card placed over the poles of a powerful compound permanent magnet showed no signs of uneasiness or change of light. Similarly placed over an electromagnet (ten Grove cells) and rapidly alternating the current caused no change. Placed within a coil of covered wire, no change. Blowing very gently, my breath on the insect caused no change; this was also tried with a blowpipe. Cold air at 50° caused a distinct diminution of the light; on the other hand, air at 100° caused an increase of light.

I now placed several of the insects in a bell-jar, and gave them a good supply of clean oxygen gas; the luminosity at once increased fully 25 per cent. On a dead insect (which still sheds light) oxygen gave similar results, and on extracting the luminous part and blowing oxygen upon it the light was much increased.

It will prove interesting to mention that, so soon as darkness has fairly set in, millions of these insects invade the trees, and as my bungalow is near to a stream and level with the tops of the trees, I am able to notice them with much care. The curious pulsation or flashing of their light is remarkable: the insects resting on the tree all act in perfect concert, *i.e.* five seconds of no light, then seven rapid flashes; five seconds, no light, seven flashes; and so the game continues throughout the dark hours.

At first I had reason to believe that the insect when flying only emitted light; this however is not the case; for when observing the Pole Star for variation with my theodolite, it occurred to me during a passing cloud to turn a telescope on to the glowing tree. At once I had the field of view filled with tiny stars, but both fixed and wandering.

It is also worthy of special notice that all the glow-insects on a dozen or more trees will continue to keep up the most perfect time as to the flashing of their light and the interval of pause, and this for many consecutive hours; but this singular agreement as to the time relates to close clusters of trees only. Thus distinct groups of trees separated by one or more hundred yards may not agree, and do not do so as a rule.

I have been informed on safe authority that the Indian bottle-bird protects his nest at night by sticking several of these glow-beetles around the entrance by means of clay; and only a few days back an intimate friend of my own was watching three rats on a roof rafter of his bungalow when a glow-fly lodged very close to them; the rats immediately scampered off.

In conclusion, these insects see by day as well as by night, and I incline to the idea that the beautiful light they carry serves as a means of intimidation or protection, and certainly as a means whereby to recognise friends.

As I gaze from my verandah down the Nadgani Valley into the dark night I see the pulsations of light here, there, and everywhere! and as my optical powers increase so do these gaseous, nebulous patches become resolved into real living stars!

H. A. SEVERN

Wynaad, India, May 5

Birds Suffering from Cold

THE unusually severe weather (5° – 12° Réaumur) of these last twelve days struck heavily on the swallows of our country. They have been found dead by hundreds. The distress of the poor animals must have been extreme. Suffering from hunger and cold, they pressed against the windows, and being brought in suffered to be petted and fed, but died from exhaustion. In Kopidno about 300 took shelter under a balcony, and the cold growing more and more intense towards night, they clustered on each other like bees until morning, when thirty were found dead. I have been walking this afternoon in the suburbs of Prague, where a fortnight ago I have seen swallows skipping on the river and hunting in gardens, but although the weather was now clear and warm, I could not see a single one. Tidings of suffering swallows come from the country, where people have been kind to them, feeding them on ants' eggs and flies, but they would not eat, and died. In some nests the young ones were found starved alone, in others their mothers were with them.

J. V. SLÁDEK

Prague, June 16

An Optical Illusion

THE illusion of the inverted pin was shown me about the year 1846-47, and I well remember, when I was at Cambridge,

working out the explanation inductively. In the autumn of 1847 I was spending an evening with Dr. P. M. Roget, at his house in Woburn Square, when among other subjects we conversed upon was that of optical illusions. The inverted pin was one of his illustrations, and I think he mentioned having explained it in some scientific serial.

Some years ago the late Mr. Becker, formerly scientific foreman to Messrs. Elliot Brothers, constructed for me a binocular apparatus for showing the union of two shadows, one on each retina. To my surprise I found the resulting phantom did not differ in position from the single shadow. C. M. INGLEBY

Athenæum Club

How to Prevent Drowning

I ONLY write in the interests of humanity. Let those who will go in for swimming, and I wish sincerely that every one could swim. Treading water however conducts at once to swimming. Every one can tread water who likes. It is just as easy, if we only knew it, to tread water as to tread the earth, and proximately just as safe. Men and women might walk into the deep sea and out again when they pleased. Nature has not been so niggard with us as some persons imagine. Why are we not as safe in water as is the dog? It is simply because he treads water, and we do not. As often as I chose to chuck my stick into the Causey surge my dog brought it out. I could have done the same; any one could do the same who chose. But assuredly I should have paddled water as the dog did. In treading water the body is erect, or nearly so; in swimming we sprawl, and are comparatively helpless. The admirals, both of them, have given valuable testimony as regards the efficacy of treading water. Before the present pier at the Cape was built, vessels in bad weather could not communicate with the shore, even by boats. Men, then, treading water amid the mountain seas, carried communications to and fro in oilskin caps. I have heard it was the same at Madras. Young Gordon, apprentice to the sea, fell into mid-ocean while fisting a sail. The poor fellow's heart sank when he saw the ship sailing away. But, as he afterwards told me, he trod water, and kept up till the boat reached him. I have trodden water again and again with a big boy on my back. Any one might do the same. Not one woman in ten thousand, not one man in a thousand, I suppose, can swim. They do not know they can tread water when they fall in, and of course drown, as two fine young women who had got a little out of their depth in this place did last year. But ignorance and prejudice cannot always rule, and the day will surely come when human beings, better instructed, shall enjoy the same immunity in the water that other animals not human beings, now enjoy.

HENRY MACCORMAC

Bournemouth, June

Buoyancy of Bodies in Water

A propos of the question of drowning, as the same is now raised in NATURE, and especially so as to the alleged "fact that men are very different in buoyancy," allow me to say that when stationed many years ago at Pembroke Dock, South Wales, two soldiers were drowned there within a few days of each other. One of these casualties occurred off an island named the Stack Rock, in Milford Haven, that was garrisoned by invalided artillery, while the other took place in the creek that separates the town and dockyard from the huts. In the former instance the body of the (drowned) man remained floating upright in the water, "bobbing up and down with every wave"—as an eyewitness assured me—for a considerable time, or until it was lost to sight or recovered (I forget which just now). In the latter the body—that of a healthy, muscular man—was picked up a day or so afterwards by a passing boat as it was floating out with the tide to sea; and I have since seen several fresh bodies floating in the Ganges. Indeed the survivors always attach weights to the remains of even the poorest of their kindred ere they deposit them in that sacred stream; but this may be for the purpose of counteracting the current; and it is, I think, generally assumed in books and courts of law that all bodies, human and bestial, sink as a rule in water as soon as life is extinct; in other words, it is stated that they remain submerged till decomposition sets in, or sets up such an amount of gas within them as enables them to overcome all resistance from above, and float. If such be the case we must either suppose that the corpses referred to within possessed some special attributes of their own, or that "men are very different in buoyancy" after death than they were during

life. Assuredly these men could not have been lost in this way had their bodies been able to float in the one state as well as they were in the other; and I heartily agree with Mr. Hill when he says that "no amount of coolness or presence of mind will either supersede the art of swimming or alter the laws of gravity."

Ashton-under-Lyne

W. CURRAN

Resonance of the Mouth-Cavity

THE observation of Mr. John Naylor, forwarded to you by Mr. Sedley Taylor (p. 100), admits of being made with more striking (because louder) results than by the method described, and so far from being a "discovery," is well known to most schoolboys. Tap with the thumb-nail upon the front teeth, and at each tap alter the shape of the mouth-cavity so as to produce the note desired; any tune may then be played loud enough to be heard at the other end of a large room. It is remarkable that without previous practice one instinctively shapes the mouth-cavity so as to produce, in almost every case, the exact note required.

GEORGE J. ROMANES

Thunder Storm at the Cape

A YOUNG man of my acquaintance, who some time ago joined the Cape Mounted Rifles, has just forwarded to me an account of a severe storm which occurred on the evening of Thursday last, April 14.

C. TOMLINSON

Highgate, N., June 13

"The storm set in about 6 p.m., whilst the men were at stables, and was accompanied by loud thunder and vivid flashes of lightning. At 6.15 there was a fearful roll of thunder, accompanied by a most vivid flash, which lit up the square for at least thirty seconds. It struck the barracks at the upper end, ran past a room to the stables, which have iron roofs; it ran along the course of the roofs into the stables, striking down two men in the doorway. It then ran along the iron of the manger, flooring all the horses, nineteen in all, and so went to ground. One man was struck in the left shoulder bone, the fluid passing from there under the left arm to his watch in the left-hand trousers pocket, and burnt a hole clean through the silver case. From the watch it struck again six inches below, and travelled round the leg under the knee, and from thence probably to the spurs, as no burn was found below the knee. The extremities of both tracks were marked by large burns, and each track by a burn two inches over. The surgeon says it was the most miraculous escape he ever saw, the watch having saved the man's life. The second man was merely stunned, and lost the use of his legs for some hours; he was standing in the stable behind the first, and although only slightly burnt, is still unable to walk. The other is doing well, but is rather dazed. Ten other men were floored, but soon regained their legs. As to the horses, one was struck dead in the forehead: two others, blind in both eyes, were shot yesterday; and four more blind in one eye are condemned. A horse in town was struck, and his fore-leg broken in four places.

"Within a hundred yards of the barracks is a powder magazine full of powder, fitted with conductors which were struck several times. This occasioned great alarm to the inhabitants, as it contains many tons of powder.

"JOHN P. CUNNINGHAM

"King William's Town, South Africa, April 18"

A Six-Fingered Family

IT may interest some of your readers to hear that there is at present living in Brown's Town, Jamaica, a family in whom the possession of six fingers has been hereditary for at least four generations. Unfortunately they consider the sixth finger a deformity, and always amputate it, so that there is very little opportunity of observing it. There is a little girl there however upon whom this operation has not been performed, and I much regret that, as her parents had taken her up into the hills to work in their provision grounds, I could not see her. As I am informed, the sixth finger springs from the little finger knuckle at right angles to the little finger, and when it is free of it, it turns up parallel to the rest, being a little shorter than the little finger, but quite perfect, with nail and two joints. It is bent and extended with the rest on opening or closing the fist.

Another fact, which I daresay however is usual in such cases,