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A BULL ON THE TRACK.

When George Stephenson was before a committee who were inquiring into the nature of his locomotive, one farmer committee man, after hearing that probably the unexampled speed of twelve miles an hour would be attained, and realizing that the machine could not leave its rails, sagely remarked: "But, Mr. Stephenson, supposing cows should get on your track, before your engine?" "Well," replied the inventor quietly, "it would be bad for the cows."

If the questioner had framed his query to refer to bovines of the masculine gender, subsequent experience has shown that Stephenson's reply might well have been otherwise; for while the average cow is not run over, as a rule, except involuntarily, bulls have over and over again scorned to fly from locomotives, and, while being killed themselves, have wrecked the aggressive train. A remarkable instance of this happened recently in Virginia, just as a heavy freight train was approaching a bridge. A bull, with mane and tail erect, placed himself in the middle of the track, breathing fierce defiance. The engineer put on the brakes and blew his whistle; but the brute lowered his head and refused to stir. It was impossible to stop, and the engine struck the animal just as it was passing on the bridge, left the rails, and was precipitated on the trestle work, which gave way. The locomotive, tender, and six freight cars went down into the abyss, the boiler exploded, and the bridge and cars in a few moments were in flames. The bridge, which was 120 feet long, was entirely consumed, the locomotive of course was ruined, and the engineer was mortally injured. The loss to the railroad company amounts to over \$8,000. What became of the bull is not stated.

Mr. Herbert Spencer, in discussing the subject of the distinction which brutes are capable of making between animate and inanimate objects, says that, where intelligence rises beyond the merely automatic, the motion implying life begins to be distinguished from other motion by spontaneity. That the spontaneity of motion serves as a test, he considers, is clearly shown "by the behavior of tame animals, and even of wild animals, in presence of railway trains. In the early days of railways, they showed great alarm; but after a time, familiarized with the roar and swift motion of this something, which, appearing in the distance, rushed by and disappeared in the distance, they became regardless of it." This implies that the knowledge acquired by cattle in the early days of the locomotive is hereditary, which is in accordance with Mr. Darwin's well known deductions from observation of other traits, transmitted from generation to generation, in hunting dogs and other trained animals. But in the case of brutes in which there exists great pugnacity, such as bulls, it would seem that the sentiment of anger is, as in the case of man, strong enough to overpower the knowledge which is analogous to reason. There can be traced in man, besides, the same tendency to think, in moments of rage, that objects, which he knows to be inanimate, are animate. Made angry by resistance to his efforts, he may in a fit of anger swear at some senseless thing, or dash it to the ground, or kick it. "But," to quote Mr. Spencer again, "the obvious interpretation is that anger, like every other strong emotion, tends to discharge itself in violent muscular actions, which must take some direction or other;" and the same author goes on to show that, as generally the object of wrath is a living object, to the injury of which the muscular exertions are directed, so this same muscular discharge is, by force of association, turned upon an inanimate thing. The similarity of behavior under such like peculiar conditions, between man and the brutes, seems to add another link to that connection between human beings and the lower orders which the evolution theory aims to establish.

DUAL LIFE.

We have already discussed in some detail the curious mental condition of persons who apparently possess two distinct mental lives. To such individuals the events of the abnormal life are a blank while existing in normal state, and vice versa. Dr. Brown-Séquard has advanced the hypothesis that this phenomenal condition is a consequence of our two brains, of which he believes we ordinarily use but one, leaving the other nearly unemployed.

The Greenlanders have a queer belief that the shadow, which by day accompanies us wherever we go, at night wanders away and has adventures. This odd superstition regards the duality of life from another standpoint than the almost purely physically one of Dr. Séquard; and Mr. Herbert Spencer, in his new work on "Synthetic Philosophy," devotes some close reasoning to the primitive idea of our possessing an alter ego, and to the question of whether we do not form a conception of a mental self through the incomprehensible experiences of dreams. Dreams, he says, cannot be interpreted as we interpret them, in the absence of the hypothesis of mind as a distinct entity; and this hypothesis cannot exist before the experiences suggesting it. There are dream experiences, which seem to imply two entities; and such a supposition involves the notion that the second entity differs from the first simply in being absent and active at night while the other is at rest. Only as this supposed duplicate, once thought of as like the original in all things, becomes gradually modified by the dropping of physical characters irreconcilable with the fact, does the hypothesis of a mental self become established.

It is a notable fact that this belief in the duality of self is constantly found among savages, and that they bring the same forward in explanation of the peculiar states known as swoon, catalepsy, etc., in which animation is suspended—as

well as for sleep. Insensibility following a blow or violent exertion, the Fijian believes, is due to the duplicate self wandering away from the body; and as the desertion is more determined than in the case of sleep, the return of the duplicate is followed by silence as to what has been seen or done in the interval. In our own common speech, we show the way in which syncope yields seeming verification of the primitive notion of duality. We speak of one who revives from a fainting fit as "coming back to himself;" we use the term "absent-minded" or "abstracted," literally meaning drawn away. "Wits gone wool-gathering" is an apt vulgarism in point. All of these terms clearly express the idea of something having departed from the present self, for a time.

In apoplexy, the patient suddenly falling betrays a "total loss of consciousness, of feeling, and of voluntary movement;" there is snoring as in deep sleep. Yet the sufferer cannot be "brought back to himself" by ordinary means, and the savage witnesses such effects, and, recalling his dream experiences, believes that the second self has gone away for a time beyond recall. Some time afterwards there is a like prolonged insensibility, and then revival, and another silence as to what has happened in the interval; on the third time, the absent something does not return.

Similar in the suddenness with which it commences, but otherwise dissimilar, is the state of insensibility called catalepsy. Instantaneous loss of consciousness is followed by a state in which the patient "presents the air of a statue rather than that of an animated being," and control of the members is lost. There is no recollection of occurrences during the attack; and interpreting the facts according to their primary meanings, the wandering other self will give no account of its adventures. The Chippewas, believing in the journeying of souls, think that those of persons in a trance, "being refused a passage, return to their bodies and reanimate them."

There is still another state of insensibility which has shown itself repeatedly of late among persons who have been profoundly impressed by the religious revivals. We refer to ecstasy, in which the subject shows that he is "not himself," and seems to have vivid perceptions of things elsewhere. During this state, in which the muscles are often rigid, and there is a total suspension of voluntary motion, visions of an extraordinary nature occasionally occur. These phenomena tend to strengthen the primitive belief that each man is double. All the various phases of coma, from a state of slight drowsiness up to permanent and profound stupor, are similarly interpretable.

It will be seen, from Mr. Spencer's reasoning before given, that the supposition peculiar to the savage is not without some justification; and if the prevalence of a hypothesis is any support, this is certainly one most widely extended. The Fijian may sometimes be heard to bawl out lustily to his own soul to return to him. Among the Karens, a man is constantly in fear lest his other self should leave him: sickness or languor being regarded as signs of its absence. Among the northern Asiatic tribes, disease is ascribed to the soul's departure. By the Algonquin Indians, a sick man is regarded as having his "shadow" "unsettled or detached from his body." Like interpretations are met with among the Australians and Tartars. A remarkable instance of the survival of the primitive idea that the soul leaves the body during sleep is instanced among certain Jewish sects: where the prayer on awakening is one of thanks for the return of the soul, and an immediate duty is the washing of hands and face to cleanse away the impurities of this minor death.

THE CENTENNIAL SURPLUS.

Congress, prior to the opening of the Centennial, appropriated \$1,500,000 toward defraying the expenses of the same, and provided that, after the debts of the Exhibition had been paid, the United States should be reimbursed before any profits should be distributed among the stockholders. After the Exposition was over, the Centennial Board of Finance declined to refund the above sum to the National Treasury out of the funds on hand, on the ground that the same could be reclaimed by the United States only after the accruing of profits, and that, as no profits had accrued, the Exhibition not having paid expenses, the United States was barred from taking any part of the balance in the hands of the Board, and that said balance was the property of the stockholders and was divisible only among them. Issues were framed, and the controversy put in action in the United States Circuit Court, which rendered decision in favor of the stockholders. The Government then appealed, and the judgment of the Supreme Court, delivered by the Chief Justice, reverses that of the court below, mainly on the ground that the act of 1876 "appropriated moneys to be paid back under certain circumstances, and the accepting of them only by the Board of Finance created a liability to repay it by the act of 1872." The assets of the corporation were to be divided among the stockholders only after the payment of all liabilities; and unless the contract entered into otherwise provides, it is clear the United States must be paid in full before the stockholders can claim distribution among themselves. The million and a half of dollars will therefore be paid into the United States Treasury.

This decision will, it is said, materially affect the interests of the permanent Exhibition in Philadelphia, as the subscription to that enterprise consisted in large part in Centennial stock worth some \$500,000 at par. It was expected that \$300,000 could be realized thereon; but now it seems that its value is but 30 cents on the dollar, so that the available capital, including \$130,000 in cash, amounts to but